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# Sosyoekonomi

Vol. 32(62) October 2024

ISSN 1305-5577

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Peer-Reviewed, Scientific, Quarterly Hakemli, Bilimsel, Süreli  
Sosyoekonomi Society Sosyoekonomi Derneği

October 2024, Vol. 32(62) ISSN 1305-5577

www.sosyoekonomijournal.org

<b>Publisher / Derginin Sahibi</b> <b>Editor-in-Chief / Yayın Kurulu Başkanı</b> <b>(Sorumlu Yazı İşleri Müdürü)</b>	:	On Behalf of Sosyoekonomi Society / Sosyoekonomi Derneği Adına <b>Ahmet Burçin YERELİ</b> editor@sosyoekonomijournal.org
<b>Co-Editors-in-Chief /</b> <b>Yayın Kurulu Bşk. Yrd.</b> <b>(Sorumlu Yazı İşleri Müdür Yrd.)</b>	:	<b>Emre ATSAN</b> <b>Mehmet Fatih ÇAPANOĞLU</b> <b>Ali Gökhan GÖLÇEK</b> info@sosyoekonomijournal.org
<b>Title of Journal /</b> <b>Yayının Adı</b>	:	Sosyoekonomi Journal Sosyoekonomi Dergisi
<b>Type of Journal /</b> <b>Yayının Türü</b>	:	Periodical Yaygın, Süreli Yayın
<b>Frequency and Language /</b> <b>Yayının Şekli ve Dili</b>	:	Quarterly, English & Turkish 3 Aylık, İngilizce & Türkçe
<b>Directorial Address /</b> <b>Yayının İdare Adresi</b>	:	Sosyoekonomi Derneği, Cihan Sokak, 27/7 06430 Sıhhiye / ANKARA Tel: +90 312 229 49 11 Fax: +90 312 230 76 23
<b>Printing House /</b> <b>Basım Yeri</b>	:	Sonçağ Yayıncılık Matbaacılık Reklam San. Tic. Ltd. Şti. İstanbul Caddesi, İstanbul Çarşısı, 48/48, İskitler / ANKARA Tel: +90 312 341 36 67
<b>Place and Date of Print /</b> <b>Basım Yeri ve Tarihi</b>	:	Ankara, 31.10.2024
<b>Abstracting-Ranking-Indexing /</b> <b>Dizin</b>	:	<i>Emerging Sources Citation Index (ESCI), Tübitak - ULAKBİM TR Dizin, Scopus, EconLit, EBSCO, SOBIAD, ProQuest, RePEc (Research Papers in Economics), IDEAS, EconPapers.</i>

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## Executive Summary

The 62<sup>nd</sup> issue of *Sosyoekonomi Journal* presents a rich collection of 25 research articles covering various aspects of socioeconomic development and financial performance. The first article by Aydın, Ateş, and Öztürk explores Türkiye's UAV (Unmanned Aerial Vehicle) export competitiveness in a dynamic framework. Analysing the trade and production data of the top 20 countries in UAV production between 2012 and 2021, the study finds that Türkiye holds strategic superiority in two of the four UAV product groups examined, showcasing its growing prominence in this sector.

In the second article, Dinçer, Dikkaya, and Özel-Özcan investigate the socio-economic adjustment of Syrians living in specific neighbourhoods of Ankara. The study reveals that Syrians' legal and economic challenges significantly hinder their social adjustment, highlighting the intertwined nature of economic and social integration. In the third article, Çilek evaluates the financial performance of development and investment banks in Türkiye using the CAMELS analysis framework. Based on financial ratios from 2020 to 2022, the study identifies Golden Global Investment Bank as the top performer in 2020, Diler Investment Bank in 2021, and GSD Investment Bank in 2022, with BankPozitif consistently ranking at the bottom. The fourth article by Azazi, Arık, and Akcan uses Fourier tests to examine the impact of exchange rate shocks on inflation in Türkiye between 2003 and 2022. The findings indicate that while inflation spikes during currency shocks, appropriate policy adjustments can prevent long-term inflationary effects, disproving the concept of inflation hysteresis in Türkiye's case.

Çakır and Dereli use spatial logit and probit models to examine female employment in Türkiye from 2018 to 2020. Their research highlights that higher education levels positively influence female employment, while income inequality and long durations of unemployment have a detrimental effect on employment rates. The sixth article by Doğan, Ablay, and Ağca examines the relationship between technological development and employment in Türkiye from 2004 to 2019. The authors use R&D expenditures and patent data as technological development indicators and employ linear and Bayesian regression analyses. The study concludes a significant positive relationship between technological development and employment, offering insights for countries aiming to enhance job creation through technological innovation. Demir and Avcı, in the seventh article, explore the mediating role of psychological ownership in the relationship between perceived managerial support and individual work performance among nurses in Osmaniye, Türkiye. The mixed-method study uses structural equation modelling (SEM) for quantitative analysis and content analysis for qualitative data. The findings reveal that psychological ownership partially mediates this relationship, highlighting its importance in improving performance through managerial support.

The eighth article by Kazak, Akcan, and İyibildiren investigates the relationship between foreign direct investment (FDI) and economic growth in the Turkic Republics (Kazakhstan, Uzbekistan, Azerbaijan, Türkiye, and Kyrgyzstan) from 1993 to 2022. The study uses panel data analysis and the Fourier Toda Yamamoto test to identify a bidirectional causality between FDI and economic growth, particularly in Azerbaijan, while finding that FDI drives growth in Uzbekistan. The panel cointegration test confirms long-term relationships between these variables across all countries. In the ninth article, Baktemur examines the interactions between exchange rates, gold prices, and the BIST100 index in Türkiye from 2003 to 2022. Using a non-linear causality test, the study demonstrates a unidirectional causality from the BIST100 index to exchange rates, offering valuable insights into the dynamics of financial markets in the Turkish economy. The tenth article by Akçelik and Üstün explores social mobility strategies across different social classes in Ankara, Türkiye, in the tenth article. Based on in-depth interviews with parents and their children, the study reveals that social class plays a crucial role in shaping educational and vocational choices. Families with more cultural capital, such as professionals, leverage education to maintain privileged class positions, while labourer families face challenges in providing educational guidance. The authors suggest establishing counselling centres to help mitigate these social inequalities by guiding families and children in making informed academic and career decisions.

The eleventh article by Hacıköylü and Karal-Önder examines taxpayers' literacy concerning financial obligations related to real estate in Türkiye. The study, conducted via surveys with 500 participants from Istanbul, Ankara, and Izmir, finds that real estate tax (RET) literacy is at 30%. Gender, age, and income significantly influence taxpayers' understanding of fiscal rights related to property, revealing a gap in tax literacy that policymakers might address to enhance taxpayer education. Kartal and Özdil, in the twelfth article, analyse the financial performance of eight insurance companies listed on the BIST-500 insurance index from 2013 to 2022 using the TOPSIS, VIKOR, and MOORA methods. The study shows that while the performance rankings of the companies vary across different evaluation methods, similar results are obtained when the leverage ratio is minimised. This analysis provides valuable insights for investors and decision-makers in the insurance sector. In the thirteenth article, Ateş and Sunar explore the role of destination safety in shaping tourists' perceptions, focusing on Istanbul and Antalya. Using data from 1,299 survey responses, the study finds that residents' attitudes toward tourists significantly influence safety perceptions. The authors emphasise the importance of ensuring a positive social climate to maintain the attractiveness of tourist destinations, particularly for international visitors.

Akyürek and Ural-Uslan, in the fourteenth article, investigate the relationship between social trust, institutional trust, and life satisfaction using data from the World Values Survey conducted in Türkiye between 2017 and 2020. Their findings indicate a strong positive correlation between trust levels and life satisfaction, even after controlling for other variables. The study underscores the importance of trust in societal well-being and calls for further research into trust-building interventions. The fifteenth article by Akin and Aktan evaluates the financial performance of four healthcare enterprises listed on the Istanbul Stock Exchange for 2021 and 2022. Using the entropy model and grey relational analysis, the authors conclude that liquidity ratios, net working capital turnover, and profitability indicators are critical determinants of financial performance. Their findings highlight the financial dynamics healthcare companies must consider to remain competitive. In the sixteenth article, Erentürk, Çakır-Yıldız, and Şarkaya-İçellioglu examine the opinions of residents in collective housing complexes regarding the necessity of professional complex management and its impact on real estate value. The study, conducted in 26 TOKİ housing complexes in Istanbul, reveals that residents with higher education and income levels believe professional management is essential and increases property value. This

study contributes to the literature by highlighting the relationship between facility management and real estate value, offering valuable insights for investors and professionals in the real estate sector.

Murat and Esenlikci's seventeenth article focuses on the impact of organised industrial zones (OIZs) on regional development. They developed the 'Organized Industrial Zones Perception Scale' and applied it to 600 participants in Trabzon's Arsin, Akçaabat, and Beşikdüzü districts. Their findings, supported by SPSS analysis, confirm the significant role of OIZs in promoting regional economic growth and provide empirical evidence of their effects on local communities. In the eighteenth article, Saylam, Özdemiray, and Uçar-Kocaoğlu explore the potential of the nudge theory in increasing electronic citizen participation in Turkish public administration. The study outlines vital factors influencing e-participation and presents suggestions based on nudge theory to enhance participation. Recommendations include simplifying registration processes, focusing on present benefits, and making messaging more noticeable. This research highlights the application of behavioural economics to improve citizen engagement in governance. Yuvalı and Ay, in the nineteenth article, investigate the relationship between financial constraints and tax planning tendencies among firms in Türkiye. Based on regression analysis of interviews with 35 companies, the study finds a positive and significant correlation between financial constraints and tax planning. Additional variables such as company size, type, and turnover further strengthen this relationship. The study provides insights for businesses looking to optimise tax planning under financial pressure.

Aykaç and Kaya, in the twentieth article, explore the rise of non-standard employment (NSE) and its relationship with income poverty following the collapse of the Fordist production system and the spread of neoliberal policies. The study adopts a comparative approach, arguing that NSE workers face a higher risk of poverty. The authors recommend identifying and addressing the inadequacies of decent work in NSE through policy changes and further research to combat the growing concern over labour market polarisation and the proliferation of low-quality jobs. In the twenty-first article, Kurt analyses the non-linear effects of green policy stringency on carbon emissions using panel threshold regression. The study reveals that stringent environmental policies can reduce carbon emissions when urban population and environmental technologies patents are used as regime-dependent variables. However, the service sector's growth increases emissions under a high green policy stringency regime. Interestingly, when market-based green fiscal policies (like environmental taxes) are examined, no threshold effect is observed for various variables. This research provides crucial insights into how different green policies impact carbon emissions in Türkiye. In the twenty-second article, Keskin and Aytüre investigate herding behaviour in the stock markets of Croatia, Poland, and Romania using three models from 2013-2023. When using the first model, the study finds that herding behaviour is present in upward market conditions in all three countries. In contrast, the second model shows no evidence of herding in these markets. However, emotional herding is detected in extreme downward market conditions in Romania, revealing interesting behavioural patterns among regional investors.

In the twenty-third article, Ceylan, Yazgan, and Karademir test the convergence hypothesis for inflation rates across 26 NUTS-2 regions in Türkiye using the Nahar-Inder (2002) convergence test. The study finds strong inflation convergence among these regions from 2004 to 2022, indicating the success of Türkiye's monetary policies in harmonising inflation rates across different territories. This method, used for the first time in the literature for such an analysis, offers a novel approach to studying regional economic trends in Türkiye. In the twenty-fourth article, Yavuzer and Hotunluoğlu analyse the effects of tax policy and its fluctuations on economic growth in G7 and E7 countries from 2001 to 2020 using the Panel ARDL method. Their findings suggest that while tax policies positively affect growth in both groups, policy fluctuations negatively impact growth in G7 countries. In contrast, E7 countries appear more resilient to these fluctuations. The 2008 crisis had a more pronounced negative effect on G7 countries, highlighting the differential impacts of economic instability on developed and emerging economies. Finally, İstar-İşıklı and Kaya, in the twenty-fifth article, explore the concept of "homoislamicus" behaviour in participation banks in Türkiye. This study develops a "Homoislamicus Scale" based on Sabahattin Zaim's framework, encompassing six dimensions related to ethical economic behaviour. Survey data from 293 participating bank employees reveal regional differences in homoislamicus behaviour, with higher scores observed in Central Anatolia, Black Sea, and Eastern Anatolia. The study concludes that demographic variables like education, marital status, and age do not significantly influence Islamic human behaviour scores, offering valuable insights for understanding ethical behaviour in Islamic banking.

I would like to extend my heartfelt gratitude to all the authors, reviewers and editorial board members who have dedicated their time and effort to the *Sosyoekonomi Journal*. Their unwavering commitment has been instrumental in shaping the journal's success. I firmly believe that the studies presented in this issue will significantly contribute to the field of science. I sincerely thank our readers and followers for their continuous support and interest.

**Dr. Emre ATSAN**  
Co-Editor-in-Chief

## Editörün Notu

Sosyoekonomi Dergisi'nin 62. sayısı, sosyoekonomik gelişim ve finansal performansın çeşitli yönlerini ele alan 25 araştırma makalesinden oluşan zengin bir koleksiyon sunuyor. Aydın, Ateş ve Öztürk'ün yazdığı ilk makale, Türkiye'nin insansız hava aracı (İHA) ihracat rekabetçiliğini dinamik bir çerçevede inceliyor. 2012-2021 yılları arasında İHA üretiminde önde gelen 20 ülkenin ticaret ve üretim verilerinin analizine dayanan çalışma, Türkiye'nin incelenen dört İHA ürün grubundan ikisinde stratejik üstünlüğe sahip olduğunu ve bu sektördeki artan önemini gösteriyor.

İkinci makalede, Dinçer, Dikkaya ve Özel-Özcan, Ankara'nın belirli mahallelerinde yaşayan Suriyelilerin sosyoekonomik uyumunu araştırıyor. Çalışma, Suriyelilerin hukuki ve ekonomik zorluklarının sosyal uyumlarını önemli ölçüde engellediğini ortaya koyarak ekonomik ve sosyal entegrasyonun iç içe geçmiş doğasını vurguluyor. Üçüncü makalede, Çilek, Türkiye'deki kalkınma ve yatırım bankalarının finansal performansını CAMELS analiz çerçevesinde değerlendiriyor. 2020-2022 yıllarına ait finansal oranlara dayanan çalışma, 2020 yılında Golden Global Yatırım Bankası'nı, 2021 yılında Diler Yatırım Bankası'nı ve 2022 yılında GSD Yatırım Bankası'nı en iyi performans gösteren bankalar olarak belirlerken, BankPozitif'in sürekli olarak en alt sıralarda yer aldığını tespit ediyor. Azazi, Arık ve Akcan'ın yazdığı dördüncü makale, 2003-2022 yılları arasında Türkiye'de döviz kuru şoklarının enflasyon üzerindeki etkisini Fourier testleri kullanarak inceliyor. Bulgular, döviz kuru şokları sırasında enflasyonun arttığını, ancak uygun politika ayarlamalarıyla uzun vadeli enflasyonist etkilerin önlenebileceğini ve Türkiye örneğinde enflasyon histerisi kavramının geçerli olmadığını ortaya koyuyor.

Çakır ve Dereli, 2018-2020 yılları arasında Türkiye'deki kadın istihdamını mekânsal logit ve probit modelleriyle inceliyor. Araştırmaları, eğitim seviyesinin kadın istihdamı üzerinde olumlu bir etkisi olduğunu, gelir eşitsizliği ve uzun süreli işsizliğin ise istihdam oranlarını olumsuz etkilediğini ortaya koyuyor. Altıncı makalede, Doğan, Ablay ve Ağca, 2004-2019 yılları arasında Türkiye'de teknolojik gelişme ve istihdam arasındaki ilişkiyi araştırıyor. Yazarlar, teknolojik gelişme göstergeleri olarak Ar-Ge harcamaları ve patent verilerini kullanarak doğrusal ve Bayesyen regresyon analizleri yapıyor. Çalışma, teknolojik gelişme ile istihdam arasında önemli bir olumlu ilişki olduğunu sonucuna vararak, teknolojik yeniliklerle iş yaratmayı artırmayı hedefleyen ülkelere yol gösterici öneriler sunuyor. Yedinci makalede, Demir ve Avcı, Osmaniye'deki hemşireler arasında algılanan yönetici desteği ile bireysel iş performansları arasındaki psikolojik sahiplenmenin aracılık rolünü araştırıyor. Karma yöntemli çalışmada nicel analiz için yapısal eşitlik modellemesi (YEM) ve nitel veriler için içerik analizi kullanılıyor. Bulgular, psikolojik sahiplenmenin bu ilişkiyi kısmen aracılık ettiğini ve yönetici desteği yoluyla performansı artırmada önemli olduğunu gösteriyor.

Sekizinci makalede, Kazak, Akcan ve İyibildiren, 1993-2022 yılları arasında Türk Cumhuriyetlerinde (Kazakistan, Özbekistan, Azerbaycan, Türkiye ve Kırgızistan) doğrudan yabancı yatırımlar (DYY) ile ekonomik büyüme arasındaki ilişkiyi araştırıyor. Çalışma, panel veri analizi ve Fourier Toda Yamamoto testi kullanılarak özellikle Azerbaycan'da DYY ile ekonomik büyüme arasında çift yönlü bir nedensellik olduğunu ve Özbekistan'da ise DYY'nin büyümeyi tetiklediğini belirliyor. Panel eşbütünlük testi, bu değişkenler arasında tüm ülkelerde uzun vadeli ilişkiler olduğunu doğruluyor. Dokuzuncu makalede, Baktemur, 2003-2022 yılları arasında Türkiye'de döviz kurları, altın fiyatları ve BIST100 endeksi arasındaki etkileşimleri inceliyor. Doğrusal olmayan nedensellik testi kullanılarak, BIST100 endeksinden döviz kurlarına tek yönlü bir nedensellik olduğu gösteriliyor ve Türkiye ekonomisindeki finansal piyasaların dinamiklerine ilişkin değerli bilgiler sunuluyor. Onuncu makalede, Akçelil ve Üstün, Ankara'daki farklı sosyal sınıflarda sosyal hareketlilik stratejilerini inceliyor. Ebeveynler ve çocuklarıyla yapılan derinlemesine görüşmelere dayanan çalışma, sosyal sınıfın eğitim ve meslek seçimlerini şekillendirmede kritik bir rol oynadığını ortaya koyuyor. Daha fazla kültürel sermayeye sahip aileler, örneğin profesyoneller, ayrıcalıklı sınıf konumlarını korumak için eğitimi kullanırken, işçi aileleri eğitim rehberliği sağlama konusunda zorluklarla karşılaşılıyor. Yazarlar, ailelere ve çocuklara bilinçli akademik ve kariyer kararları vermelerinde rehberlik edecek danışmanlık merkezlerinin kurulmasını öneriyor.

Hacıköylü ve Karal-Önder'in on birinci makalesi, Türkiye'de gayrimenkulle ilgili mali yükümlülükler konusunda mükelleflerin okuryazarlığını inceliyor. İstanbul, Ankara ve İzmir'den 500 katılımcıyla yapılan anket çalışmasında, gayrimenkul vergisi (RET) okuryazarlığının %30 seviyesinde olduğu ortaya çıkıyor. Cinsiyet, yaş ve gelir, mükelleflerin mülkiyetle ilgili mali hakları anlama düzeyini önemli ölçüde etkilerken, vergi okuryazarlığındaki bu açığı politika yapıcılar tarafından ele alınması gerektiğini ortaya koyuyor. Kartal ve Özdil, on ikinci makalede, 2013-2022 yılları arasında BIST-500 sigorta endeksinde listelenen sekiz sigorta şirketinin finansal performansını TOPSIS, VIKOR ve MOORA yöntemlerini kullanarak analiz ediyor. Çalışma, şirketlerin performans sıralamalarının farklı değerlendirme yöntemlerine göre değişiklik gösterdiğini, ancak kaldıraç oranı en aza indirildiğinde de benzer sonuçlar elde edildiğini gösteriyor. Bu analiz, sigorta sektöründeki yatırımcılar ve karar vericiler için değerli bilgiler sunuyor. Ateş ve Sunar, on üçüncü makalede, turistlerin algılarını şekillendirmede destinasyon güvenliğinin rolünü İstanbul ve Antalya'ya odaklanarak araştırıyor. 1.299 anket yanıtına dayanan çalışma, yerel halkın turistlere karşı tutumlarını güvenlik algılarını önemli ölçüde etkilediğini ortaya koyuyor. Yazarlar, özellikle uluslararası ziyaretçiler için turizm destinasyonlarının cazibesini korumak amacıyla olumlu bir sosyal ortamın sağlanmasının önemini vurguluyor.

Akyürek ve Ural-Uslan, on dördüncü makalede, sosyal güven, kurumsal güven ve yaşam memnuniyeti arasındaki ilişkiyi 2017-2020 yılları arasında Türkiye'de yapılan Dünya Değerler Araştırması verilerini kullanarak araştırıyor. Bulgular, diğer değişkenler kontrol edilmesine rağmen güven seviyeleri ile yaşam memnuniyeti arasında güçlü bir pozitif korelasyon olduğunu gösteriyor. Çalışma, toplumsal refah açısından güvenin önemine dikkat çekiyor ve güven inşa edici müdahalelere yönelik daha fazla araştırma yapılması çağrısında bulunuyor. Akın ve Aktan'ın on beşinci makalesi, 2021 ve 2022 yıllarında İstanbul Borsası'nda işlem gören dört sağlık işletmesinin finansal performansını değerlendiriyor. Entropi modeli ve gri ilişkisel analiz yöntemlerini kullanarak yazarlar, likidite oranlarını, net işletme sermayesi devir hızını ve kârlılık göstergelerinin finansal performansın belirleyici faktörleri olduğunu belirtiyor. Bulgular, sağlık şirketlerinin rekabetçi kalabilmesi için dikkate alınması gereken finansal dinamikleri ortaya koyuyor. On altıncı makalede, Erentürk, Çakır-Yıldız ve Şarkaya-İçellioğlu, toplu konutlarda yaşayanların profesyonel site yönetimi gerekliliği ve bunun gayrimenkul değeri üzerindeki etkisi hakkındaki görüşlerini inceliyor. İstanbul'daki 26 TOKİ konut kompleksinde yapılan çalışma, eğitim ve gelir düzeyi yüksek olan sakinlerin profesyonel yönetimin gerekli

olduğunu ve mülk değerini artırdığını düşündüğünü ortaya koyuyor. Bu çalışma, tesis yönetimi ile gayrimenkul değeri arasındaki ilişkiyi vurgulayarak, gayrimenkul sektöründeki yatırımcılar ve profesyoneller için değerli bilgiler sunuyor.

Murat ve Esenlikci'nin on yedinci makalesi, organize sanayi bölgelerinin (OSB) bölgesel kalkınma üzerindeki etkisine odaklanıyor. 'Organize Sanayi Bölgeleri Algı Ölçeği'ni geliştirip Trabzon'un Arsin, Akçaabat ve Beşikdüzü ilçelerinde 600 katılımcıya uygulayan yazarlar, OSB'lerin bölgesel ekonomik büyümeyi teşvik etmede önemli bir rol oynadığını ve yerel topluluklar üzerindeki etkilerini SPSS ile destekleyen ampirik kanıtlar sunduğunu belirtiyor. On sekizinci makalede, Saylam, Özdemiray ve Uçar-Kocaoğlu, nudge teorisinin Türk kamu yönetiminde elektronik vatandaş katılımını artırmadaki potansiyelini araştırıyor. Çalışma, e-katılımı etkileyen temel faktörleri ortaya koyarak, katılımı artırmak için nudge teorisine dayalı öneriler sunuyor. Öneriler arasında kayıt süreçlerinin basitleştirilmesi, mevcut faydalara odaklanılması ve mesajların daha görünür hale getirilmesi yer alıyor. Bu araştırma, vatandaş katılımını artırmak için davranışsal ekonominin uygulanabilirliğini vurguluyor. Yuvalı ve Ay, on dokuzuncu makalede, Türkiye'deki firmalar arasında finansal kısıtlar ve vergi planlama eğilimleri arasındaki ilişkiyi araştırıyor. 35 şirketle yapılan görüşmelere dayanan regresyon analizi, finansal kısıtlamalar ile vergi planlaması arasında pozitif ve anlamlı bir ilişki olduğunu ortaya koyuyor. Şirket büyüklüğü, türü ve ciro su gibi ek değişkenler bu ilişkiyi daha da güçlendiriyor. Çalışma, finansal baskı altındaki işletmelerin vergi planlamasını optimize etmeye yönelik bilgiler sunuyor.

Aykaç ve Kaya, yirminci makalede, Fordist üretim sisteminin çöküşü ve neoliberal politikaların yayılması sonrasında standart dışı istihdamın (SDİ) yükselişi ile çalışan yoksulluğu arasındaki ilişkiyi inceliyor. Çalışma, karşılaştırmalı bir yaklaşım benimseyerek SDİ çalışanlarının daha yüksek bir yoksulluk riskiyle karşı karşıya olduğunu savunuyor. Yazarlar, SDİ'deki insana yakışır işin eksikliklerini belirlemek ve ele almak için politika değişikliklerini ve daha fazla araştırmayı öneriyorlar. Büyüyen iş gücü piyasası kutuplaşması ve düşük kaliteli işlerin yaygınlaşması endişesini azaltmak amacıyla, daha fazla araştırma ve politika değişikliklerine ihtiyaç duyulduğunu vurguluyorlar. Yirmi birinci makalede, Kurt, panel eşik regresyonunu kullanarak çevre politikalarının sıklığı ile karbon emisyonları üzerindeki doğrusal olmayan etkileri analiz ediyor. Çalışma, şehir nüfusu ve çevre teknolojileri patentleri bağımlı değişkenler olarak kullanıldığında, sıkı çevre politikalarının karbon emisyonlarını azaltabileceğini ortaya koyuyor. Ancak, hizmet sektörünün büyümesi, yüksek çevre politikası sıklığı rejimi altında emisyonları artırıyor. İlginç bir şekilde, çevre vergileri gibi piyasa bazlı yeşil mali politikalar incelendiğinde, çeşitli değişkenler için bir eşik etkisi gözlemlenmiyor. Bu araştırma, Türkiye'deki farklı yeşil politikaların karbon emisyonları üzerindeki etkilerine dair önemli bulgular sunuyor. Yirmi ikinci makalede, Keskin ve Aytüre, 2013-2023 yılları arasında Hırvatistan, Polonya ve Romanya borsalarındaki sürü davranışını üç model kullanarak inceliyor. İlk model kullanıldığında, çalışmada her üç ülkede de piyasanın yukarı yönlü olduğu durumlarda sürü davranışı gözlemleniyor. Buna karşın, ikinci modelde bu pazarlarda sürü davranışına dair herhangi bir kanıt bulunmuyor. Ancak Romanya'da aşırı aşağı yönlü piyasa koşullarında duygusal sürü davranışı tespit ediliyor ve bu, bölgesel yatırımcıların ilginç davranış kalıpları sergilediklerini ortaya koyuyor.

Yirmi üçüncü makalede, Ceylan, Yazgan ve Karademir, Türkiye'deki 26 Düzey-2 bölgesinde enflasyon oranları için yakınsama hipotezini Nahar-Inder (2002) yakınsama testi ile test ediyor. Çalışma, 2004-2022 yılları arasında bu bölgeler arasında güçlü bir enflasyon yakınsaması tespit ederek, Türkiye'nin para politikalarının enflasyon oranlarını farklı bölgeler arasında uyumlaştırmada başarılı olduğunu gösteriyor. Bu yöntemin, bu tür bir analiz için literatürde ilk kez kullanılması, Türkiye'deki bölgesel ekonomik eğilimlerin incelenmesine yönelik yeni bir yaklaşım sunuyor. Yirmi dördüncü makalede, Yavuzer ve Hotunluoğlu, 2001-2020 yılları arasında G7 ve E7 ülkelerinde vergi politikalarının ve dalgalanmalarının ekonomik büyüme üzerindeki etkilerini Panel ARDL yöntemiyle analiz ediyor. Bulgular, vergi politikalarının her iki grup ülkede de büyümeyi olumlu etkilediğini, ancak politika dalgalanmalarının G7 ülkelerinde büyümeyi olumsuz etkilediğini gösteriyor. Buna karşılık, E7 ülkeleri bu dalgalanmalara karşı daha dayanıklı görünüyor. 2008 Krizi, G7 ülkelerinde daha belirgin bir olumsuz etkiye sahip olup, ekonomik istikrarsızlığın gelişmiş ve yükselen ekonomiler üzerindeki farklı etkilerini ortaya koyuyor. Son olarak, İhtar-İşıkli ve Kaya, yirmi beşinci makalede Türkiye'deki katılım bankalarında "homoislamicus" davranışını inceliyorlar. Sabahattin Zaim'in çalışmalarına dayanan "Homoislamicus Ölçeği"ni geliştirerek, etik ekonomik davranışla ilgili altı boyutu ele alıyorlar. 293 katılım bankası çalışanından elde edilen anket verileri, homoislamicus davranışında bölgesel farklılıklar olduğunu ve İç Anadolu, Karadeniz ve Doğu Anadolu'da daha yüksek puanlar gözlemlendiğini ortaya koyuyor. Çalışma, eğitim, medeni durum ve yaş gibi demografik değişkenlerin İslami davranış puanlarını anlamlı bir şekilde etkilemediğini belirterek, İslami bankacılıkta etik davranışın anlaşılmasına yönelik değerli içgörüler sunuyor.

Sosyoekonomi Dergisi'nin bu sayısına katkı sağlayan tüm yazarlar, hakemler ve editör kurulu üyelerine içten teşekkürlerimi sunuyorum. Özerimli çalışmalarını, derginin başarısının şekillenmesinde büyük rol oynamıştır. Bu sayıda sunulan çalışmaların bilim alanına önemli katkılar sağlayacağına içtenlikle inanıyorum. Okuyucularımıza ve takipçilerimize yıllardır süregelen destek ve ilgileri için de içtenlikle teşekkür ediyorum.

**Dr. Emre ATSAN**

Yayın Kurulu Başkan Yardımcısı





## Comparative And Dynamic Analysis of Türkiye's Competitiveness in Unmanned Aerial Vehicles<sup>1</sup>

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### İnsansız Hava Araçlarında Türkiye'nin Rekabet Gücünün Karşılaştırmalı ve Dinamik Analizi<sup>2</sup>

#### Abstract

The study aims to determine the competitiveness of Türkiye's UAV exports in a dynamic framework. The analysis used data from the first 20 countries with the largest share in the production and trade of products designated as UAVs by the Harmonic System six-digit and by the European Commission for 2012-2021. Within the scope of the study, it is determined that some countries have high competitiveness in 4 product groups examined with five different foreign trade indexes. It is concluded that Türkiye has strategic and dynamic superiority in two of the four product groups.

**Keywords** : UAV, International Trade, International Economics, Revealed Comparative Advantage Indices, NRCA.

**JEL Classification Codes** : F00, F01, F14.

#### Öz

Çalışmanın amacı; Türkiye'nin İHA ihracatının rekabet gücünü dinamik bir çerçevede belirlemektir. Analizde, 2012-2021 dönemi, Harmonik sistem altı hane ve Avrupa Komisyonu tarafından İHA olarak belirlenen ürünlerin üretimi ve ticaretinde en büyük paya sahip ilk 20 ülkenin verileri kullanılmıştır. Çalışma kapsamında 5 farklı dış ticaret endeksiyle incelenmiş olan 4 ürün grubunda bazı ülkelerin rekabet güçlerinin yüksek olduğu belirlenmiştir. Türkiye'nin ise dört ürün grubunun ikisinde stratejik ve dinamik üstünlüğe sahip olduğu sonucuna varılmıştır.

**Anahtar Sözcükler** : İHA, Uluslararası Ticaret, Uluslararası İktisat, Açıklanmış Karşılaştırmalı Üstünlük Endeksleri, NRCA.

<sup>1</sup> The Dokuz Eylül University Scientific Research Coordination Unit has supported this study. Project Number: SBA-2023-3050.

<sup>2</sup> Bu çalışma, Dokuz Eylül Üniversitesi Bilimsel Araştırma Koordinasyon Birimi tarafından SBA-2023-3050 proje numarasıyla desteklenmiştir.

## 1. Introduction

Unmanned Aerial Vehicles (UAVs) are vehicles that do not have a pilot, can be controlled remotely, or can fly autonomously on a determined route (Kurt & Ün, 2015). They can also be aircraft that do not have a pilot, can carry different equipment depending on the purpose of use, are managed in a specific management centre, or can move spontaneously on a predetermined route (Akkamış & Çalışkan, 2020).

UAVs were initially designed to serve military purposes. However, especially in recent years, they have begun to be widely used for civilian purposes. For military purposes, UAVs are used for reconnaissance, surveillance, tracking, border and coastal security, and offensive purposes. For civil purposes; they are used for many purposes, such as; remote sensing applications in agriculture (Akkamış & Çalışkan, 2020; Türkseven et al., 2016; Del Cerro et al., 2021), detection of pests and diseases in plants and forests (Akgül et al. 2016), cargo transportation, visualising and making 3D models of historical buildings (Mirdan & Yakar, 2017), hobby photography, weather forecasting, prediction of natural disasters such as forest fires, earthquakes, landslides, etc. and carrying out work during the event, creating traffic simulations to prevent traffic jams and accidents (Wang et al., 2016), selecting the most suitable location for a project, carrying out city planning, etc.

Armed Unmanned Aerial Vehicles (UCAV) are UAVs that carry ammunition to attack specified targets. They are managed from a specific command centre or can autonomously destroy predetermined targets. The number of countries using UCAV worldwide for military and civilian purposes is rapidly increasing. While the number of countries owning UAVs was 60 in 2010, this number has reached 102 in 2020 (Gettinger, 2020). Some of the reasons for this increase include UAVs' particular features, such as being able to be produced at low cost, having low costs of maintenance-repair and fuel, being able to perform tasks that humans cannot do or tasks that would be dangerous for humans to do, being able to produce sensitive and high-quality data, and having low emissions (Yılmaz et al., 2018). The advantages of UAVs used in the military field are that there is no risk of pilot loss, there are no human-related restrictions (e.g., working hours, sleep requirements, etc.), low cost, fuel and maintenance-repair costs compared to warplanes and enemy radars due to their small size. They can be considered difficult to detect by researchers (Nişancı et al., 2018).

While using UAVs has many advantages, it also has some disadvantages. The first of these is that UAVs have limited airtime. This situation sometimes creates a disadvantage, especially in activities carried out in large areas. Furthermore, UAVs are negatively affected by wind and rain, affecting the mission's quality. Third, electronic communication and data flow must be ensured for UAVs to be used effectively. Interruption of this flow due to environmental or defence measures may cause negative consequences (Dikmen, 2015). Fourth, UAVs can be used for services such as espionage and attacks in the hands of terrorist organisations or malicious individuals. Fifth, trained users are needed to use UAVs effectively. For this purpose, lengthy and costly training must be provided. Finally,

according to some experts, UAVs have software and hardware vulnerabilities and are vulnerable to cyber attacks, so the reliability of UAVs is questioned.

Business Insider Intelligence says worldwide UAV sales exceeded 12 billion dollars in 2020. In addition, UAV sales have increased by an average of 7.6 per cent annually since 2016 (Business Insider Intelligence, 2020). As can be seen from these data, the UAV market is proliferating. Türkiye also wants to get a high share of this market.

Türkiye is a country that has been the target of terrorism for many years. For this reason, the development of UAV technology in Türkiye has been carried out mainly for military purposes. The first UAV used in the Turkish Armed Forces was the Banshee system, produced by Meggitt company, which started to be used in 1989. The İHA-X1-Şahit project, the first project Türkiye developed to produce domestic UAVs, was launched in March 1990 (Aksan, 2020). Although two X1-Şahit UAVs were made and flown successfully, mass production was not started due to budget problems. In 1993, 5 CL-89 UAVs were donated to Türkiye by Germany. However, these UAVs were removed from the inventory due to logistical difficulties and accidents. Türkiye imported GNAT-750 UAVs from the USA in 1994, used on active duty between 1994 and 1998. Türkiye purchased ten Herons from Israel in 2008 (Yanarocak, 2020). Türkiye could not get the desired efficiency from imported UAVs for various reasons.

For this reason, Türkiye has taken steps to produce domestic UAVs in parallel with importing the UAVs it needs. As a result of this, Turkish Aerospace Industries (TUSAŞ) made the following uncrewed aerial vehicles respectively Turna-Keklik (1996), Pelikan-Martı (2003), Öncü (2008), Şimşek (2012) and ANKA (2010). Bayraktar Mini UAV, produced by Baykar in 2007, entered the Turkish Armed Forces inventory. This UAV was exported to Qatar in 2012, becoming the first domestic UAV. Later, Baykar produced Malazgirt (2009) and Bayraktar TB2 (2014). In addition, the production of Bayraktar AKINCI TİHA (Assault Unmanned Aerial Vehicle) and Bayraktar DİHA was carried out. In particular, Bayraktar TB2s were equipped with weapon systems in 2015 and were used effectively in Türkiye's Euphrates Shield (2016), Olive Branch (2018), Peace Spring (2019) and Spring Shield (2020) operations (Urcosta, 2020). In addition, Bayraktar TB2s were used by the Ukrainian army in the 2nd Karabakh War, in which Azerbaijan won a victory, and in the war that started with Russia's military intervention in Ukraine on February 24, 2022. Apart from these, many UAVs/SIHAs are produced by domestic companies in Türkiye. While TAI is developing the ANKA series, Baykar company continues to develop MIUS (Combat Unmanned Aircraft System), officially known as Kızılelma. Türkiye has become a UAV exporter considering the extent that it has reached regarding UAV production. According to the 2022 data of the Turkish Exporters Assembly (TİM), the number of countries Türkiye exports UAVs has exceeded 30. Türkiye's involvement in UAV production and exports will help both fight against terrorism and reduce the current account deficit by increasing its exports. It also contributes significantly to Türkiye's increase in economic growth. For this reason, Türkiye is trying to gain a competitive advantage in UAV production and exports. In this context, the study aims to measure the international

competitiveness of Türkiye's UAV exports. For this purpose, the study used Revealed Comparative Advantage (RCA3), Normalized Revealed Comparative Advantage (NRCA), Dynamic Revealed Comparative Advantage (DRCA), Revealed Symmetric Comparative Advantage Index (RSCA) and Trade Balance Index (TBI), all of which are widely used in the literature in competitiveness analyses. In the study, in addition to these indices, the Product Mapping application was carried out by using RSCA and TBI indices.

A literature review on the subject is included in the first part of the study. In the second part, the conceptual information about UAVs is given under Unmanned Aerial Vehicle. In the third part, information is given about the UAVs and UCAVs produced by Türkiye under the title of UAVs Produced by Türkiye. The methods and indices used in the study are explained in the fourth section. The fifth chapter explains the findings obtained from the analysis. Finally, the findings are aggregated, and policy recommendations are made in the conclusion.

## **2. Literature Review**

This part of the study includes a literature review of academic studies on UAVs. It has been observed that the number of scholarly studies on UAVs has increased rapidly, especially in recent years. The literature review included the studies conducted with UAVs in Türkiye and the studies investigating the place of UAVs in international trade. Kahvecioğlu and Oktal (2014) have analysed the UAVs that Türkiye is developing and the future of UAV production in Türkiye. As a result, it is predicted that Türkiye's development of independent UAV systems will reduce production costs. Thus, Türkiye will be able to act more freely when using UAVs. Kahveci and Can (2017) have inquired about the situation regarding civilian usage areas, the purposes of UAVs, and the legislation in Türkiye and the world. They concluded that measures should be taken to prevent using UAVs for malicious purposes in Türkiye and the world. However, it was emphasised that using UAVs should not be restricted while taking these measures. In Bakır's (2019) study, the Turkish UAV sector, which has shown significant development, especially in recent years and has become an export item, was analysed. He concluded that the UAV sector is crucial in reducing foreign dependency on the defence industry and becoming a technology-producing country. Yeşilay and Macit (2019) attempted to analyse the place of UAVs in the economy, which has shown significant development recently. They stated that the developments in the UAV sector will positively impact the country's economies today and in the future. Düz (2020) has evaluated the past, present, and future of Türkiye's UAV sector from military, industrial, and geopolitical perspectives. This study found that Türkiye has increased its military capacity with UAVs and is competitive in the world's UAV sector. Türk (2020) has evaluated Türkiye's UAV industry and presented the problems seen in Türkiye's UAV industry and suggested solution suggestions, among which especially the importance of developing artificial intelligence is emphasised. The attack potential of UAVs and the measures that can be taken against UAVs have been analysed by Şen and Akarşlan (2020). Giving examples from Türkiye, they emphasised that UAVs have a high attack potential and that taking defensive measures against UAVs is extremely important, especially within the

scope of the fight against terrorism. Ateş (2021) has analysed the competitiveness of Türkiye's UAV exports. The study calculated Revealed Comparative Advantage and Revealed Competitive Advantage Indices and Export Specialization Index (ES). According to the calculation results, Türkiye's export concentration in the UAV field has increased.

### **3. Theoretical Background**

The concept of competitiveness is a complex notion. There is no consensus about the meaning of the notion of competitiveness in international trade (Siudek & Zawojka, 2014: 91). According to Barker and Köhler (1998), under free and fair conditions, the degree of a country's competitiveness belongs to producing goods and services which are approved in international markets while simultaneously maintaining and expanding the real incomes. Krugman (1990; 1994) said that competitiveness in international economics is strongly related to production productivity. According to the European Commission (2001) and World Economic Forum (1996), the competitiveness of a country creates its nation's rise in life standards and economic growth.

A highly competitive country is thought to get a higher share of international markets. With the increase in globalisation, countries need to determine their competitiveness in products subject to foreign trade, and it has become essential for them to take positions accordingly. A country's competitiveness can be defined as its position in international markets for a particular good or service. The position of countries in global markets in specific products belongs to their production productivity (Lee & Karpova, 2018: 193).

Theoretically, the concept of competitiveness is associated with three leading theories in international economics. The first is Adam Smith's concept of "absolute advantage", which states that every country should produce and export products at the most minor cost and import at a high price. The second one is David Ricardo's concept of "comparative advantage", which states that there is only a need for comparative differences in production costs in international trade. The last one is Heckscher-Ohlin's theory, which explains that a country should specialise in producing and exporting those commodities that require relatively intensive use of locally abundant factors of production. Consequently, we can say that the concept of competitiveness relates to production costs and productivity.

### **4. Empirical Application**

#### **4.1. Data Set**

There are different opinions about the classification of UAVs (Mohsan et al., 2022: 7). In the literature, it has been observed that two views predominate regarding the classification of UAVs. The first is a regular performance-based classification which evaluates weight, distance, speed, number of wings, etc. The second is the classification based on Arjomandi's study (2007), which evaluates their intended use, such as military, civilian, observation, etc. In this study, the UAV classification was made based on weight.

Since the UAV output was examined in the study, the Harmonized System (HS) from the systems of global products was used.

This study aims to determine which countries have competitive power in world trade in products defined as unmanned aerial vehicles (UAV) by the European Parliament. Various indices in the literature were used to measure trade competitiveness, balance of trade, and intra-industry trade to reach this aim. These indexes consist of comparative advantage (RCA3), Normalized Revealed Comparative Advantage (NRCA), Dynamic Revealed Comparative Advantage (DRCA), Revealed Symmetric Comparative Advantage Index (RSCA), and Trade Balance Index (TBI). The purpose of using the RCA3 index in this study is its general use in the literature and its traditional index for measuring comparative advantages. The NRCA index was used in this study because it provided a new perspective for measuring competitive advantages and answered the RCA3 index in the literature. This study used the DRCA index to compare and show the changes in comparative advantage over time. Lastly, the RSCA and the TBI indexes were used in this study to make a product mapping analysis.

According to the European Commission, the dataset used in this study consists of the products accepted as UAVS. According to the European Commission decision, six products were accepted as UAVs in the Harmonized System (HS) (Europe Commission, 2017). These products can be seen in Table 1;

**Table: 1**  
**Table of Product Groups Including UAVs According to HS Classification**

Product Codes and Names	Included in the Study or Not
880211- "Helicopters with a curb weight not exceeding 2000 kg".	Included
880212- "Helicopters with curb weight between 2000 kg and 15000 kg".	Included
880220- "Airplanes and other aircraft with a curb weight not exceeding 2000 kg".	Included
880230- "Airplanes and other aircraft with a curb weight between 2000 kg and 15000 kg."	Included
852580- "Television cameras, digital cameras and video camera recorders".	Not Included
950330- "Tricycles, scooters, pedal cars and similar wheeled toys; baby carriages, dolls; other toys, small (scale) models and similar recreation models, working or not; puzzles of all kinds."	Not Included

Source: Own editing.

In this study, two product groups (852580 and 950330) included in the classification of the European Commission were excluded from the analysis. The reason for not including these two product groups mentioned in the analysis is that the share of UAVs within these groups is considered low. The data used in this study included the top 20 importer countries of 4 products in 2021 (880211, 880212, 880220, and 880230). The data was gathered from the UN COMTRADE database and the annual data term between 2012 and 2021. The reason for concentrating on this period in this study is that the UAV technologies have been highly advanced during this term.

## 4.2. Revealed Comparative Advantage Index (RCA3)

The Balassa Index specifies that one country has a comparative advantage for a related product or industry (Balassa, 1965: 105). This study has used one of the Balassa

Indexes, RCA3. The reason for using this index is that RCA3 uses export and import data. If the results of the RCA3 index are higher than 1, the country has a comparative advantage in this product or industry. The RCA3 index is formulated as in equation 1;

$$RCA3 = \frac{X_{ij}/X_{it}}{M_{ij}/M_{it}} = \frac{X_{ij}/M_{ij}}{X_{it}/M_{it}} \quad (1)$$

In this formula,  $X_{ij}$  represents country  $i$ 's exports of goods  $j$ ;  $X_{it}$  expresses country  $i$ 's exports of goods  $t$ ;  $M_{ij}$  represents country  $i$ 's imports of goods  $j$ ;  $M_{it}$  expresses country  $i$ 's imports of goods  $t$ .

### 4.3. Normalized Revealed Comparative Advantage (NRCA)

The Balassa index shows comparative advantages only at a particular moment. For this reason, the Balassa index has received criticism from the related literature (Hillman, 1980; Dardorff, 1994; Hoen & Oosterhaven, 2006). The Normalized Revealed Comparative Advantage (NRCA) index has been proposed to answer this criticism. The NRCA index is derived from a need to gain dynamism to the Balassa index. Yu et al.'s (2009) paper put forward the NRCA index. Yu et al. (2009) proposed three types of NRCA indexes. These are comprised of cross-commodity comparison, Cross-country comparison, and Temporal comparison. In this study, this type of NRCA index is used to demonstrate a change for that temporally in comparative advantages. The index is calculated as in equation 2;

$$\begin{aligned} \Delta NRCA_{j,t+1}^i &\equiv NRCA_{j,t+1}^i - NRCA_{j,t}^i \\ &= \left( \frac{E_{j,t+1}}{E_{t+1}} - \frac{E_{j,t}^i}{E_t} \right) - \left( \frac{E_t^i E_{j,t}}{E_{t+1} E_{t+1}} - \frac{E_{t+1}^i E_{j,t+1}}{E_{t+1} E_{t+1}} \right) \end{aligned} \quad (2)$$

Since the NRCA's total value, mean value, and distribution properties are time-invariant, it may be compared throughout time. The change of NRCA scores country  $i$ 's  $j$  goods between time  $t+1$  and  $t$  can be shown as  $\left( \frac{E_{j,t+1}}{E_{t+1}} - \frac{E_{j,t}^i}{E_t} \right)$  shown as change.  $\frac{E_t^i E_{j,t}}{E_{t+1} E_{t+1}}$  and  $\frac{E_{t+1}^i E_{j,t+1}}{E_{t+1} E_{t+1}}$ , represent the expected export level of product  $j$  of country  $i$ 's under the comparative advantage-neutral situation at times  $t$  and  $t+1$ , respectively;  $\left( \frac{E_t^i E_{j,t}}{E_t E_t} - \frac{E_{t+1}^i E_{j,t+1}}{E_{t+1} E_{t+1}} \right)$  represents the comparative advantage-neutral situation between time  $t$  and  $t+1$ . Therefore, the temporal comparison of comparative advantage compares a country's actual change in the level of exports of a particular good with the amount of exports of that good the country would be expected to have under a neutral state of comparative advantage (Demir, 2019: 323). While  $\Delta NRCA_{j,t+1}^i > 0$  (or  $\Delta NRCA_{j,t+1}^i < 0$ ) shows the growth in the actual export level of country  $i$  in commodity  $j$ ; (measured by  $\frac{E_{j,t+1}}{E_{t+1}} - \frac{E_{j,t}^i}{E_t}$ ) It is determined by the equation (measured by  $\frac{E_t^i E_{j,t}}{E_t E_t} - \frac{E_{t+1}^i E_{j,t+1}}{E_{t+1} E_{t+1}}$ ) whether the expected growth required for country  $i$  to



maintain its comparative advantage-neutral level in this good is higher or lower than the expected growth rate (Demir, 2022: 911). Consequently,  $\Delta NRCA_{j,t+1}^i > 0$  (or  $\Delta NRCA_{j,t+1}^i < 0$ ) shows that country i's comparative advantage in good j increases (or decreases) between time t+1 and time t (Yu et al., 2009: 275).

#### 4.4. Dynamic Revealed Comparative Advantage (DRCA)

The DRCA index originates from the RCA index. RCA index static form fails for the catch to changing comparative competitiveness during in time (Tunca & Güneş, 2021: 410). To solve this problem, Edward and Schoer (2002) offered the DRCA index. Dynamic Revealed Comparative Advantage index, which was constituted by Edward and Schoer (2002), is calculated as in equation 3;

$$\frac{\Delta RCA_{ij}}{RCA_{ij}} = \frac{\Delta(X_{ij}/X_i)}{X_{ij}/X_i} - \frac{\Delta(X_{wj}/X_w)}{X_{wj}/X_w} \quad (3)$$

In equation 3, the  $\Delta$  symbol denotes the difference between two years. Therefore, the first term in this formula displays the change in product j's export from nation i over two years. As a result, the first term on the right-hand side of this equation represents growth in the RCA index of country i, whereas the second term on the left-hand side shows growth in world exports in the j<sup>th</sup> product.

#### 4.5. Revealed Symmetric Comparative Advantage Index (RSCA)

One of the biggest criticisms of the Balassa index is the difficulty in comparing the results. Since the results obtained with the Balassa index are between 0 and 1, some problems are encountered in its interpretation. To address this deficiency, Dalum et al. (1998) and Laursen (1998) put forward the Revealed Symmetric Comparative Advantage (RSCA) index in their studies (Widodo, 2009: 68). The index is calculated as equation 4.

$$RSCA_{ij} = \frac{RCA_{ij}-1}{RCA_{ij}+1} \quad (4)$$

In Equation 4,  $RCA_{ij}$  is the Balassa index score of country i goods j. RSCA index values range from -1 to +1. If the index value is positive, the country in question has a comparative advantage in that sector; If it is negative, it is interpreted as having no comparative advantage.

#### 4.6. Trade Balance Index (TBI)

The Trade Balance Index (TBI) is used to determine whether a country specialises in exporting (as a net exporter) or importing (as a net importer) for a specific category of items. This index was proposed in Lafay's (1992) study. It is calculated using equation 5. The index has values between -1 and +1. If a country just imports, the TBI is extremely -1; yet, if a country only exports, the TBI is extremely +1.

$$TBI_{ij} = \frac{x_{ij} - m_{ij}}{x_{ij} + m_{ij}} \quad (5)$$

Equation 5,  $TBI_{ij}$  represents the TBI index score country  $i$  goods  $j$ .  $X_{ij}$  symbolises the country  $i$ 's export of product  $j$ , and  $m_{ij}$  represents the country  $i$ 's import of product  $j$ . The index has values between -1 and +1. If a country just imports, the TBI is extremely -1; yet, if a country only exports, the TBI is extremely +1. When the value of TBI is negative for a specific group of products, a country is referred to as a "net-importer," when the value of TBI is positive, it is referred to as a "net-exporter."

In addition to the above indexes, the products mapping analytical tool was used in this study. This analytical tool was proposed in Widodo's study (2009). Widodo (2009) states that the tools used must be RSCA and TBI indexes. In this analytical tool, the RSCA index represents international competitiveness; the TBI index represents trade balance, shown in the Cartesian coordinate system (Widodo, 2009: 66).

Table 3 shows that Group A's products have comparative advantages and export specialisation. In contrast, the products in Group B have a comparative advantage but no export specialisation. The products in Group C have export specialisation but no comparative advantage, and the products in Group D have neither comparative advantage nor export specialisation (İzğü & Kavacık, 2023: 1113).

**Table: 3**  
**Product Mapping**

RSCA > 0	<b>Group B:</b> Comparative Advantage Net-importer (RSCA > 0 and TBI < 0)	<b>Group A:</b> Comparative Advantage Net-exporter (RSCA > 0 and TBI > 0)
RSCA < 0	<b>Group D:</b> Comparative disadvantage Net-importer (RSCA < 0 and TBI < 0)	<b>Group C:</b> Comparative disadvantage Net-exporter (RSCA < 0 and TBI > 0)
	TBI < 0	TBI > 0

Source: Widodo T., *Comparative Advantage: Theory, Empirical Measures and Case Studies*. 2009: 67.

## 5. Empirical Results

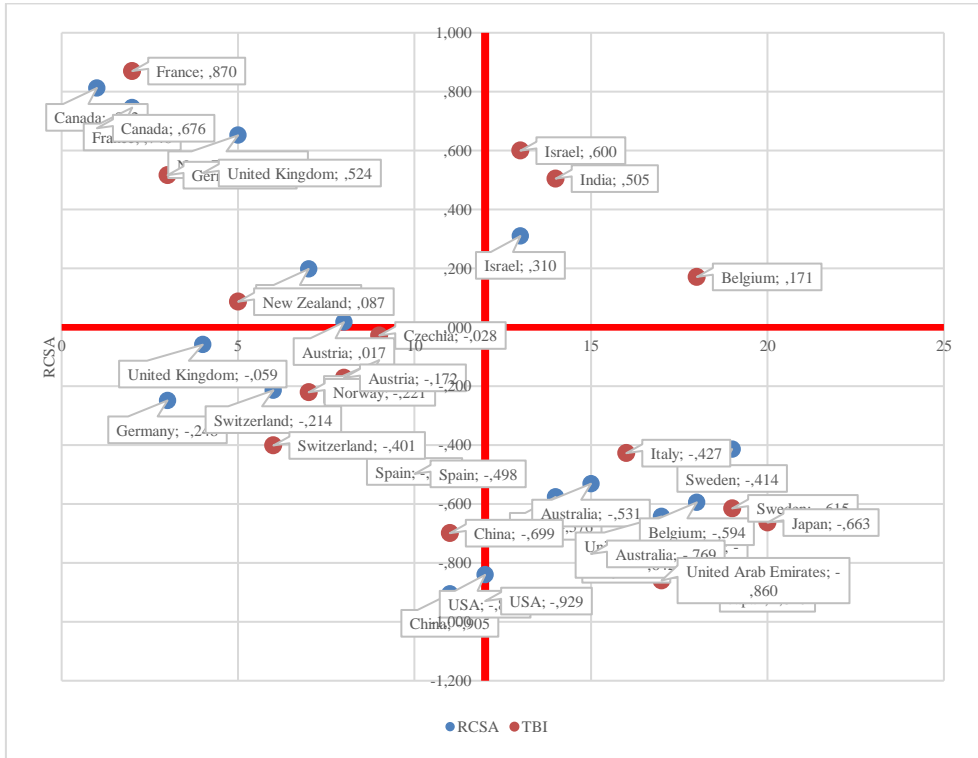
This research section summarises the results according to the four product groups included in the study. Analysis results are shown in two stages. Firstly, product mapping, which belongs to related products, appears in Figures 1-4. Secondly, RCA3, DRCA, and NRCA index results can be seen in Appendixes 1-4.

### 5.1. 880211- Helicopters with a curb weight not exceeding 2000 kg

The result of product mapping can be seen in Figure 1. Additionally, the results of the RCA3, DRCA, and NRCA indexes can be seen in Appendix 1. According to the results, Israel has a comparative advantage and is a net-exporter country. France and Canada have a comparative advantage, but they are net importers. These results show that France and Canada could become net exporters in the long run. Australia, Italy, Japan, Sweden, and the United Arab Emirates do not have a comparative advantage but are net exporters. These

results demonstrate that these countries could be transformed from net exporters to importers. Switzerland, Spain, and China are net importers with no comparative advantage on related products. These countries could be significant markets for exporter countries in this product.

**Figure: 1**  
**880211 Product Mapping**



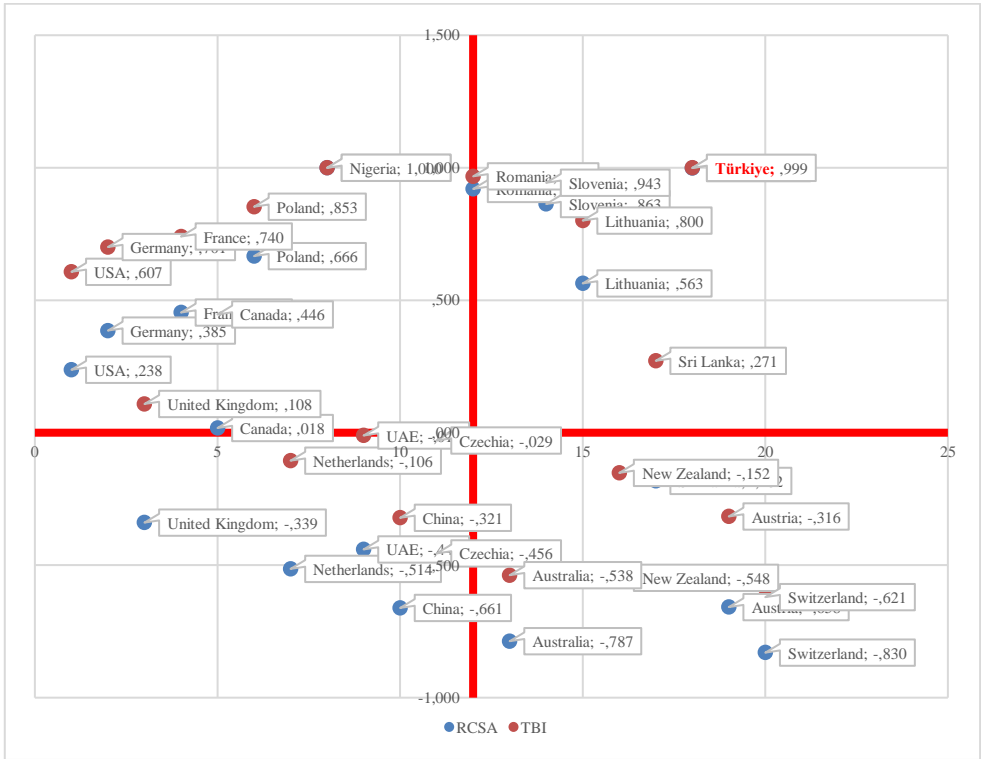
Source: Own calculations.

### 5.2. 880212- Helicopters with curb weight between 2000 kg and 15000 kg

The result of product mapping belongs to the product 880212, which can be seen in Figure 2. Additionally, the results of the RCA3, DRCA, and NRCA indexes can be seen in Appendix 2. According to the analyses, Türkiye, Slovenia, and Lithuania have a comparative advantage in this product and are net-exporter countries. Nigeria, Poland, Germany, the USA, and France also have a comparative advantage but are net importer countries. These results demonstrate that they could be transformed from net importers into net exporters in the long run. Australia, New Zealand, Austria, and Switzerland do not have a comparative advantage but are net exporters. These findings show that these nations might become net

importers instead of exporters. Lastly, The Netherlands and China have no comparative advantage on related products and are net importers. It might be argued that these nations represent sizable export markets for this commodity.

**Figure: 2**  
**880212 Product Mapping**



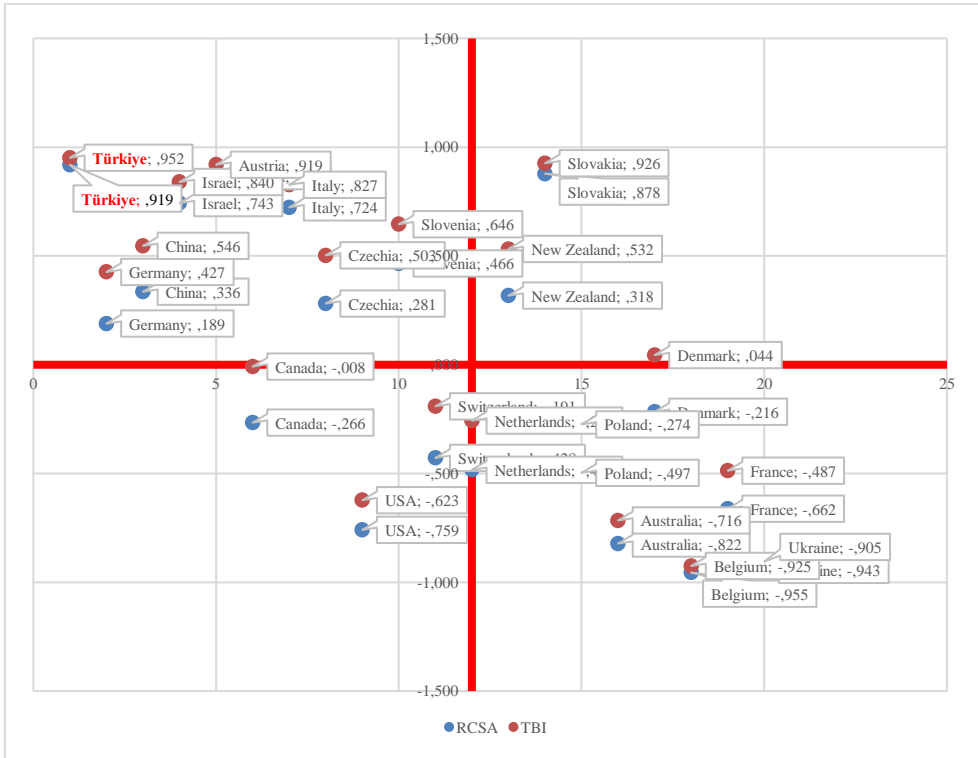
Source: Own calculations.

### 5.3. 880220- Airplanes and other aircraft with a curb weight not exceeding 2000 kg

The product 880212 is represented by the product mapping result in Figure 3. The results of the RCA3, DRCA, and NRCA indexes are additionally displayed in Appendix 3. According to the analyses, Slovakia and New Zealand have a comparative advantage and are net exporters of this product. Türkiye, Israel, Italy, Czechia, Germany, China, and Slovenia have a comparative advantage but are net importer countries of this product. These findings show that they could eventually turn from net importers into net exporters. The Netherlands, Poland, France, Australia, Belgium, and Ukraine do not have a comparative advantage but are net exporters. These findings show that these nations might lose their comparative

advantages on this product. Lastly, the USA and Switzerland have no comparative advantage on related products and are net importers. It might be argued that these nations could serve as significant export markets for this product.

**Figure 3**  
**880220 Product Mapping**



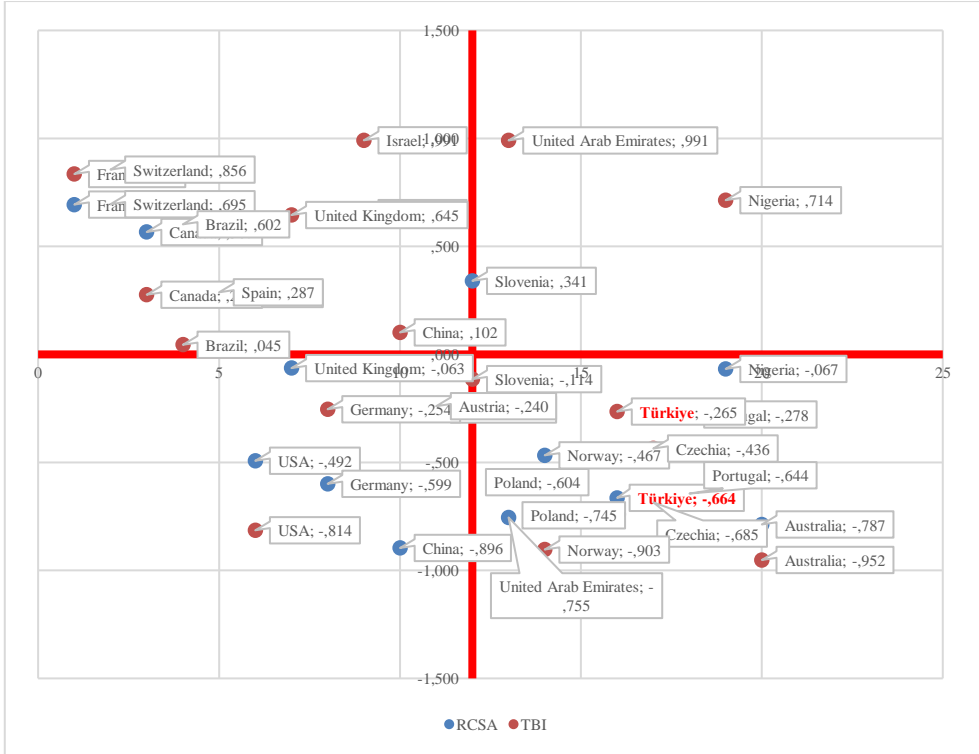
Source: Own calculations.

#### 5.4. 880230- Airplanes and other aircraft with a curb weight between 2000 kg and 15000 kg

The product mapping result in Figure 4 represents the product 880230. Appendix 4 further displays the outcomes of the RCA3, DRCA, and NRCA indices. According to the analyses, no country has comparative advantages and is not a net product exporter. France, Switzerland, Canada, Brazil, and Israel have comparative advantages but are net importers. These results indicate that they may eventually become net exporters instead of net imports. Türkiye, Australia, Portugal, Norway, and Czechia have no comparative advantage but are net exporters. These results indicate that these countries may gain a comparative advantage in this commodity. Austria, Germany, and the USA are net importers with no comparative

advantage on related products. There is a chance that these countries will become important export destinations for this commodity.

**Figure: 4**  
**880230 Product Mapping**



Source: Own calculations.

## 6. Discussion and Conclusion

This research aims to answer the question, "Which countries have comparative advantages in the rising UAV markets?". UAVs can be multi-tasking tools that aim to take photographs in historical places, predetermine forest fires, or follow migrating animals. However, UAVs are used predominantly for military purposes, like reconnaissance, hitting particular targets, or attacking enemy personnel or vehicles. Although previously used on a limited basis, this type of UAV has increased due to the success of the 2020 Second Nagorno-Karabakh War. Azerbaijani Armed Forces used UAVs very effectively against the Armenian Armed Forces, which has changed the way of thinking about using UAVs on the battlefields (Köker, 2020; Özgen, 2021). Afterwards, UAVs showed their ability for military purposes during the Ukrainian-Russian War in 2022 (TRTHaber, BBC News Türkçe). This

process has caused increasing interest in many countries in UAVs. Türkiye is one of the pioneer countries in developing UAVs. Türkiye's process of developing UAVs goes back to the beginning of the 1990s. As a result, Turkish UAVs have received attention in the UAV market.

The results of this research manifest that Türkiye has no place in the top 20 exporter countries for the product 880211. Türkiye has a comparative advantage and is also a net-exporter country for the product 880212. For the product 880220, Türkiye has a comparative advantage but is also a net-importer country. Lastly, for the product 880230, Türkiye has no comparative advantages but is a net-exporter country. As a result, it can be said that the Turkish drone industry is concentrated on drone scales below 2000 kg and 2000-15000 kg.

These results prove that Türkiye has followed a correct and effective policy in the 880212 product, in which Türkiye has a comparative advantage and is also a net exporter country. Improving and preserving Türkiye's gains and advantages in this product will further increase its competitiveness. Developing policies that will reduce Türkiye's import dependency for the 880220 product, which has a comparative advantage but is a net importer, will be beneficial in terms of reducing its foreign trade deficit and increasing its comparative advantage. For the 880230 product, where Türkiye does not have a comparative advantage but is a net exporter, and for the 880211 product, where Türkiye is not among the top 20 producer and exporter countries, Türkiye should follow the right policy and strategy for these products as it did for the 880212 product. These products should also turn to new markets where they can use their export potential more. In summary, Türkiye started developing UAV technology at an early period. In this way, Türkiye obtains benefits such as becoming a country that produces and develops technology, reducing foreign dependency in the defence industry, ensuring the advancement of technology in other sectors thanks to the technology created, and reducing foreign trade deficits through exports. Türkiye needs to continue developing UAVs and provide some incentives to facilitate development to maintain the comparative advantage achieved in UAVs.

On the other hand, in this study, foreign trade indices were used to determine the competitiveness of Türkiye's UAV exports in a dynamic framework. In future studies, econometric models can be designed to measure the impact of factors determining competitiveness or the projection of Türkiye's UAV trade, which can be estimated using an autoregressive moving average model.

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## Appendix: 1 Product of 880211

		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
8802211											
Canada	RCA3	2.95	2.80	4.06	9.54	6.49	4.28	3.55	5.91	3.77	4.91
	NRCA	-0.21	-0.20	-0.24	-0.35	-0.19	-0.20	-0.25	-0.37	-0.33	-0.34
	DRCA		-0.01	0.10	0.39	-0.36	0.03	0.24	0.37	-0.05	0.00
France	RCA3	15.37	20.89	26.46	11.96	10.41	13.42	24.38	12.96	12.27	13.68
	NRCA	-0.32	-0.29	-0.36	-0.28	-0.23	-0.20	-0.14	-0.22	-0.23	-0.27
	DRCA		-0.06	0.16	-0.15	-0.13	-0.12	-0.23	0.35	0.06	0.19
Germany	RCA3	12.71	16.50	5.91	6.66	10.91	16.80	3.74	4.13	1.03	2.98
	NRCA	-0.07	-0.04	0.01	0.07	0.01	-0.07	0.04	0.04	0.06	0.05
	DRCA		-0.15	-0.24	-0.38	0.70	0.70	-0.53	0.00	-0.17	0.05
UK	RCA3	0.00	0.00	0.35	0.84	0.71	0.18	0.51	0.83	0.96	3.04
	NRCA	0.05	0.05	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.00
	DRCA		0.00	0.00	1.09	0.23	-0.19	0.02	-0.21	-0.08	1.30
New Zealand	RCA3	0.54	0.52	0.40	0.40	0.58	0.26	0.15	0.36	0.27	1.13
	NRCA	-0.01	-0.01	-0.01	-0.01	-0.02	0.00	0.00	-0.01	0.00	-0.02
	DRCA		-0.22	0.11	0.12	0.60	-0.85	0.13	0.94	-0.56	1.36
Switzerland	RCA3	0.30	0.34	0.33	0.65	0.31	0.89	0.45	0.77	0.42	0.41
	NRCA	0.02	0.03	0.02	0.02	0.02	0.00	0.01	0.01	0.01	0.01
	DRCA		-0.32	0.42	0.27	-0.22	2.41	-0.32	0.11	-0.15	0.00
Norway	RCA3	0.94	0.47	0.11	0.78	0.66	0.57	1.09	0.47	0.69	0.61
	NRCA	0.00	0.01	0.01	0.00	-0.01	0.00	-0.04	-0.01	-0.02	-0.01
	DRCA		-0.41	-0.30	1.71	0.95	-0.56	4.50	-0.46	0.54	-0.58
Austria	RCA3	1.73	1.13	4.55	1.10	0.78	0.76	3.06	0.35	0.97	0.67
	NRCA	0.01	0.01	0.00	-0.01	0.01	0.00	0.00	0.00	-0.01	0.00
	DRCA		0.29	0.22	0.66	-0.50	0.67	0.13	-0.01	0.58	-0.44
Czechia	RCA3	7.46	13.41	7.33	4.05	2.66	3.69	0.63	0.40	1.26	0.90
	NRCA	-0.03	-0.05	-0.05	0.00	-0.02	-0.02	0.00	0.00	-0.02	0.00
	DRCA		0.53	-0.08	-0.63	0.80	0.10	-0.49	-0.21	1.09	-0.55
Spain	RCA3	0.00	5.42	0.44	0.50	0.26	0.47	0.03	0.25	1.35	0.32
	NRCA	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.03	0.00	0.02
	DRCA		-0.01	-0.39	-0.36	0.59	0.50	-0.97	7.73	4.51	-0.53
China	RCA3	0.00	0.00	0.04	0.25	0.00	0.00	0.02	0.04	0.06	0.17
	NRCA	0.20	0.21	0.21	0.20	0.22	0.22	0.22	0.22	0.24	0.25
	DRCA		0.00	17.61	3.95	-0.88	-0.53	7.10	0.24	0.43	0.54
USA	RCA3	0.00	0.01	0.00	0.00	0.16	0.44	0.65	0.00	0.00	0.03
	NRCA	0.15	0.14	0.15	0.15	0.10	0.05	-0.01	0.15	0.14	0.12
	DRCA		6.60	-0.82	0.00	0.00	1.26	0.55	-0.86	-0.95	0.00
Israel	RCA3	3.54	0.13	1.18	2.00	31.28	0.02	0.23	0.33	3.49	3.80
	NRCA	0.00	0.01	0.00	0.00	-0.06	0.01	0.00	0.00	0.00	0.00
	DRCA		-1.01	0.50	2.43	10.20	-1.15	1.13	0.34	7.09	0.22
India	RCA3	0.79	0.28	1.77	0.07	0.09	0.32	0.86	0.00	1.07	2.89
	NRCA	0.02	0.03	0.02	0.02	0.03	0.03	0.02	0.03	0.02	0.02
	DRCA		-0.53	0.32	-0.44	-0.23	0.09	1.18	-0.86	76.22	2.44
Australia	RCA3	0.00	0.00	0.00	0.07	0.16	0.21	0.12	0.40	0.27	0.12
	NRCA	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.02
	DRCA		0.19	1.12	0.00	0.33	-0.15	-0.18	1.10	-0.27	-0.47
Italy	RCA3	1.01	7.69	1.62	2.10	2.42	0.63	1.07	0.52	1.02	0.38
	NRCA	0.03	-0.04	0.04	0.02	0.03	0.04	0.03	0.03	0.01	0.04
	DRCA		4.35	-0.74	1.73	-0.33	-0.24	0.20	0.21	1.20	-0.79
UAE	RCA3	0.03	2.03	0.00	0.13	0.72	21.57	5.55	4.01	0.34	0.07
	NRCA	0.03	0.03	0.03	0.03	0.02	0.02	-0.03	0.00	0.02	0.03
	DRCA		6.38	-0.82	0.00	16.87	-0.23	4.17	-0.45	-0.52	-0.46
Belgium	RCA3	0.43	0.66	0.75	1.96	1.07	0.15	0.07	0.50	1.24	1.34
	NRCA	0.03	0.03	0.03	0.02	0.02	0.03	0.03	0.03	0.01	0.02
	DRCA		0.15	-0.35	2.98	-0.40	-0.91	0.28	0.61	5.49	-0.59
Sweden	RCA3	1.20	0.25	2.10	0.77	1.46	1.05	0.62	0.82	1.73	0.23
	NRCA	0.00	0.01	-0.01	0.00	-0.03	-0.01	0.00	0.00	0.00	0.01
	DRCA		-0.95	4.67	-0.26	2.09	-0.64	-0.33	0.12	-0.32	-0.41

Japan	RCA3	0,06	0,03	0,06	0,21	0,17	0,06	0,07	0,09	0,15	0,19
	NRCA	0,07	0,06	0,06	0,06	0,06	0,07	0,06	0,06	0,06	0,05
	DRCA		-0,32	0,70	0,43	-0,06	-0,74	0,74	-0,23	0,45	1,21

## Appendix: 2 Product of 8802212

8802212		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
USA	RCA3	0,65	1,09	1,41	2,41	6,17	1,61	0,93	1,92	1,75	1,62
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-0,18	-0,43	0,02	0,09	0,33	-0,07	-0,45	0,30	-0,18
Germany	RCA3	9,64	4,38	2,00	3,29	5,40	13,33	5,31	2,11	0,84	2,25
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		0,34	-0,04	0,24	0,27	-0,28	-0,27	1,56	-0,17	0,34
UK	RCA3	0,00	0,00	0,34	0,27	0,33	0,68	1,69	1,79	1,07	0,49
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-0,16	-0,45	0,75	1,12	0,37	-0,08	-0,52	0,21	0,06
France	RCA3	0,00	36,12	74,49	3,37	3,98	7,84	4,14	1,33	2,94	2,66
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		0,00	0,00	-0,10	0,02	0,27	-0,09	-0,10	0,03	-0,27
Canada	RCA3	4,83	1,88	0,89	0,95	1,30	0,99	0,98	0,88	0,79	1,04
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-0,23	0,28	-0,34	-0,45	-0,05	1,37	-0,66	0,09	-0,23
Poland	RCA3	53,94	6,31	2,25	0,11	0,08	1,17	1,28	0,64	1,28	4,99
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-0,30	-0,34	-0,26	-0,43	0,47	-0,39	-0,15	0,10	-0,41
Netherlands	RCA3	0,01	0,23	0,10	0,00	0,00	0,00	0,84	0,00	10,92	0,32
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-0,24	-0,48	-0,96	-0,09	6,20	1,88	-0,76	0,08	0,00
Nigeria	RCA3	0,00	16,43	0,52	0,00	0,00	0,00	0,27	25175,9	8,31	4310,2
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		17,93	-1,33	38,35	-0,94	0,00	0,00	-1,25	37,86	-0,10
UAE	RCA3	0,07	0,16	1,70	1,71	0,31	0,00	1,02	7364,4	0,22	0,39
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		3,73	0,37	5,29	-0,94	0,00	-0,89	9,60	3,06	-0,51
China	RCA3	0,39	0,29	0,20	0,10	0,00	0,06	0,01	0,06	0,14	0,20
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-0,22	-0,49	0,40	-0,27	-0,61	0,00	-1,44	5,62	9,55
Czechia	RCA3	0,00	0,32	1,94	0,00	0,06	0,49	0,52	0,21	0,33	0,37
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		0,73	-1,06	0,07	-0,94	0,00	-0,86	6,10	1,55	0,10
Romania	RCA3	0,00	2,64	5,38	840,21	0,00	0,00	0,00	0,05	0,62	23,98
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		0,00	-0,19	-1,06	0,00	13,83	0,67	-0,88	0,02	0,53
Australia	RCA3	0,00	0,00	0,00	0,14	0,05	0,13	0,26	1,29	0,08	0,12
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		0,00	-0,63	-0,84	-0,03	0,03	-1,00	0,00	0,77	1,00
Slovenia	RCA3	0,00	0,00	0,00	0,00	0,00	0,30	0,53	0,10	0,42	13,60
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		0,77	-0,19	-0,71	4,15	0,07	0,26	1,42	-0,75	0,43
Lithuania	RCA3	3,37	0,85	41,84	0,00	3,28	5,35	1,02	0,58	0,69	3,58
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		0,00	0,00	0,00	0,00	0,00	0,92	-0,99	1,14	-0,15
New Zealand	RCA3	0,06	0,02	0,11	0,03	1,37	1,34	0,15	0,09	0,66	0,29
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-0,99	0,95	-1,06	0,00	-0,02	-0,07	-0,28	-0,01	0,55
Sri Lanka	RCA3	0,00	0,00	0,00	8,39	0,00	0,00	0,00	0,00	0,00	0,69
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-0,45	0,59	-0,72	1,38	0,55	-0,57	-0,43	1,05	0,32
Türkiye	RCA3	0,03	0,01	0,04	0,03	0,02	0,17	0,43	0,02	0,37	1550,95
	NRCA	-0,02	-0,02	-0,02	-0,01	-0,01	-0,02	-0,02	-0,02	-0,02	-0,01
	DRCA		-1,16	0,00	0,00	-0,84	-0,61	0,00	0,00	0,00	-0,71
Austria	RCA3	1,49	0,28	0,35	0,25	0,00	0,00	0,18	0,83	0,00	0,21
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-0,81	2,27	-0,53	-0,68	7,54	1,95	-1,16	-0,23	0,71
Switzerland	RCA3	0,16	0,07	0,37	0,51	0,00	0,22	0,08	0,25	0,24	0,09
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-0,38	1,52	-0,70	-0,94	0,00	0,00	-1,44	68,64	-0,65

### Appendix: 3 Product of 880220

8802220		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Türkiye	RCA3	0,50	0,00	0,02	0,03	0,01	0,01	0,27	30,12	10,62	23,77
	NRCA	-0,01	-0,02	-0,02	-0,02	-0,02	-0,02	-0,02	0,20	0,23	0,42
	DRCA	-1,19	3,36	1,12	1,12	-0,74	-0,39	1,45	265,21	0,14	0,92
Germany	RCA3	1,84	1,94	1,37	6,12	1,33	1,01	2,47	1,09	1,05	1,47
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		0,27	-0,59	0,84	-0,77	0,12	0,49	-0,96	0,38	-0,10
China	RCA3	0,21	0,01	0,37	1,61	3,39	4,20	0,71	0,51	0,86	2,01
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-1,17	107,68	6,86	0,85	0,12	-0,25	-0,52	0,41	-0,42
Israel	RCA3	16,38	24,05	25,05	6,37	4,21	3,25	12,66	22,02	3,47	6,78
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-0,29	-0,23	-0,99	0,24	-0,59	1,04	1,58	-0,27	-0,34
Austria	RCA3	8,45	2,91	5,41	3,31	4,05	2,00	15,14	13,13	35,56	14,06
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-0,48	0,44	-0,64	0,19	-0,25	0,77	-0,05	-0,23	-0,46
Canada	RCA3	0,40	0,30	0,16	0,57	0,39	0,10	0,52	0,82	0,80	0,58
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-0,13	-0,81	1,68	-0,37	-0,57	1,27	-0,19	0,39	-0,61
Italy	RCA3	9,77	4,01	2,76	1,23	1,77	3,16	15,66	3,88	4,26	6,24
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-0,61	-0,01	-0,37	-0,28	-0,08	0,72	-0,42	-0,12	-0,40
Czechia	RCA3	4,40	5,10	1,12	0,67	1,05	0,65	2,25	1,38	1,96	1,78
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-0,34	-0,41	-0,27	-0,20	-0,13	0,55	-0,81	0,30	-0,32
USA	RCA3	0,54	0,27	0,02	0,07	0,02	0,13	0,19	0,15	0,05	0,14
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-0,34	-1,44	3,67	-0,87	5,79	0,14	-0,30	-0,55	1,09
Slovenia	RCA3	2,14	5,20	3,49	2,72	6,31	7,50	3,49	1,54	2,84	2,74
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		0,25	-0,46	-0,36	-0,53	0,68	0,40	-0,88	0,35	-0,20
Switzerland	RCA3	1,35	5,01	11,85	2,26	0,86	0,21	0,61	0,87	0,49	0,40
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		2,34	0,90	-0,99	-0,97	-0,67	0,37	1,08	-0,58	-0,21
Netherlands	RCA3	0,45	0,64	0,56	0,48	0,39	0,32	1,06	0,65	0,79	0,35
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-0,07	0,83	-0,45	-0,26	-0,42	0,52	-0,13	0,36	-0,94
New Zealand	RCA3	1,74	0,39	0,21	0,44	0,71	0,20	1,02	0,34	0,20	1,93
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-0,69	-0,81	0,53	0,45	-0,59	0,90	-1,03	-0,52	0,69
Slovakia	RCA3	5,22	3,93	3,20	0,51	1,63	0,40	4,21	2,68	4,27	15,41
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		0,14	-0,85	-0,44	0,16	-0,35	1,01	-0,81	0,33	-0,07
Poland	RCA3	0,60	0,62	0,10	0,25	0,26	0,16	0,27	0,25	0,17	0,34
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-0,47	-0,95	0,01	-0,43	0,04	0,29	0,11	-0,17	0,10
Australia	RCA3	0,15	0,18	0,17	0,10	0,07	0,05	0,20	0,22	0,18	0,10
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-0,17	-0,38	-0,18	-0,25	-0,53	1,21	-0,40	-0,13	-1,00
Denmark	RCA3	1,51	0,07	0,24	0,05	0,10	0,02	1,47	0,22	0,47	0,64
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-1,15	0,62	-0,55	1,51	-0,64	3,30	-1,09	0,39	5,01
Belgium	RCA3	0,51	0,06	0,61	0,14	0,21	0,15	0,20	1,81	0,26	0,02
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-1,12	4,12	-0,72	0,55	0,11	0,00	1,86	-0,04	-0,09
France	RCA3	0,11	0,13	0,04	0,15	0,14	0,07	0,46	0,15	0,20	0,20
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-0,39	-0,65	1,32	-0,49	-0,42	3,29	-1,25	1,16	-0,70
Ukraine	RCA3	0,39	1,30	0,51	0,40	0,06	0,17	0,94	0,05	1,60	0,03
	NRCA	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	DRCA		-0,25	-0,58	0,70	-0,76	-0,45	2,58	-0,41	0,74	-0,69

**Appendix: 4**  
**Product of 880230**

8802230		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
France	RCA3	5.10	4.33	4.81	6.43	3.42	4.99	5.10	10.28	6.86	12.97
	NRCA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	DRCA		0.07	0.13	-0.15	-0.01	-0.09	0.23	0.01	-0.06	0.07
Switzerland	RCA3	1.85	1.44	2.66	3.98	2.71	3.69	5.61	7.47	7.79	14.95
	NRCA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	DRCA		-0.66	0.99	0.43	-0.28	0.12	0.63	0.08	-0.13	0.51
Canada	RCA3	3.43	2.32	4.29	4.04	5.27	3.01	4.16	3.49	6.13	2.05
	NRCA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	DRCA		-0.32	-0.03	0.39	-0.07	-0.09	0.27	-0.30	0.18	-0.23
Brazil	RCA3	1.93	1.19	1.15	2.01	5.90	2.29	2.53	1.95	1.92	1.27
	NRCA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	DRCA		-0.38	-0.08	0.47	0.10	-0.31	0.15	0.20	0.15	-0.25
Spain	RCA3	17.12	8.79	56.40	10.79	4.86	1.60	1.94	3.52	3.29	2.10
	NRCA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	DRCA		1.53	-0.60	-0.37	-0.14	-0.51	-0.12	1.03	0.38	-0.04
USA	RCA3	0.05	0.02	0.04	0.04	0.06	0.20	0.09	0.18	0.18	0.12
	NRCA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	DRCA		-0.63	0.69	0.23	0.30	1.52	-0.34	0.78	-0.03	-0.23
UK	RCA3	0.00	0.00	1.58	2.07	2.39	10.57	3.14	2.85	1.50	5.40
	NRCA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	DRCA		0.00	0.00	0.04	0.36	0.40	-0.48	-0.28	-0.34	0.32
Germany	RCA3	0.55	0.51	0.54	0.56	0.24	0.27	0.43	0.40	0.74	0.69
	NRCA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	DRCA		-0.17	0.01	-0.09	-0.52	0.26	0.05	0.43	0.29	0.35
Israel	RCA3	1.91	2.66	13.06	5.56	8.18	27.12	0.55	203.92	54.22	266.58
	NRCA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	DRCA		-0.17	9.25	-0.21	-0.74	1.07	-0.63	-0.63	29.30	0.65
China	RCA3	0.17	0.20	0.18	0.51	0.90	1.30	0.70	0.31	1.20	1.43
	NRCA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	DRCA		-0.08	-0.03	-0.09	0.77	0.02	-0.13	-0.57	0.09	0.54
Austria	RCA3	0.24	0.55	0.33	0.72	0.41	0.25	0.26	0.16	0.14	0.71
	NRCA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	DRCA		-0.22	-0.04	0.51	-0.66	0.30	0.10	-0.55	0.62	1.25
Slovenia	RCA3	0.35	0.46	0.18	0.98	0.67	0.81	0.66	0.96	1.22	0.92
	NRCA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	DRCA		-0.17	-0.79	6.29	0.04	0.45	-0.18	2.70	-0.46	0.27
UAE	RCA3	0.02	0.00	0.20	0.00	0.26	0.00	0.00	0.02	1.75	248.21
	NRCA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	DRCA		-1.18	0.00	30.16	-0.99	0.69	-0.75	0.00	154.79	26.91
Norway	RCA3	0.00	0.00	0.00	0.01	0.01	0.00	0.02	0.01	0.05	0.06
	NRCA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	DRCA		0.00	0.00	0.00	0.49	-0.83	0.00	-0.63	3.70	-0.18
Poland	RCA3	0.35	5.87	0.98	1.39	0.07	0.11	0.25	1.10	0.34	0.29
	NRCA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	DRCA		-0.15	-0.39	-0.42	-0.90	6.35	-0.28	2.52	-0.48	0.57
Türkiye	RCA3	0.16	0.01	0.61	0.68	0.16	0.68	0.34	1.88	0.06	0.68
	NRCA	-0.02	-0.02	-0.02	-0.02	-0.01	-0.01	-0.01	0.00	-0.02	-0.01
	DRCA		-1.08	49.93	-0.76	-0.33	0.08	-0.59	0.96	-0.56	6.00
Czechia	RCA3	0.54	1.38	1.22	1.25	1.34	1.83	0.90	1.16	3.83	0.46
	NRCA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	DRCA		0.76	-0.18	-0.52	0.66	0.10	-0.10	0.14	0.27	-0.66
Portugal	RCA3	0.85	1.12	0.95	0.20	0.63	0.32	0.12	0.10	2.57	0.25
	NRCA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	DRCA		1.61	0.29	-0.72	4.40	-0.57	-0.53	-0.71	18.79	-0.72
Nigeria	RCA3	0.00	0.47	0.66	4.36	0.00	0.00	5.57	41.87	0.00	6.98
	NRCA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	DRCA		0.00	0.49	6.58	-0.99	0.00	0.00	-0.09	-0.72	0.00
Australia	RCA3	0.00	0.00	0.00	0.57	0.25	0.02	0.13	0.04	0.02	0.03
	NRCA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	DRCA		-0.87	0.56	0.01	0.22	-0.34	2.05	-0.36	-0.09	-0.36

## Analysing the Socio-Economic Adjustment of Syrians under Temporary Protection: The Case of Ankara<sup>1</sup>

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### Geçici Koruma Kapsamında Bulunan Suriyelilerin Sosyoekonomik Uyumunun Analizi: Ankara Örneği<sup>2</sup>

#### Abstract

The socio-economic adjustment of Syrians residing in Ulubey, Alemdağ, and Önder neighbourhoods in the Altındağ district of Ankara is the subject of this study. The study aims to examine the factors affecting the socio-economic adjustment of Syrians under temporary protection and the impact of the economic adjustment process on the social adjustment process within the framework of a mixed research method. The findings reveal that Syrian participants' legal and economic problems in the economic adjustment process affect their social adjustment process. The study is thought to shed light on the solution to these problems by providing scientific data based on the field research findings on Syrians' socio-economic adjustment process and adjustment problems.

**Keywords** : Economic Adjustment, Social Adjustment, Labor Market, International Migration.

**JEL Classification Codes** : F020, F660, J110.

#### Öz

Ankara'nın Altındağ ilçesinde bulunan Ulubey, Alemdağ ve Önder mahallelerinde ikamet eden Suriyelilerin sosyo-ekonomik uyumu bu çalışmanın konusunu oluşturmaktadır. Çalışmada geçici koruma kapsamında bulunan Suriyelilerin sosyo-ekonomik uyumunu etkileyen faktörler ve ekonomik uyum sürecinin sosyal uyum süreci üzerindeki etkisinin karma araştırma yöntemi çerçevesinde incelenmesi amaçlanmıştır. Bulgular Suriyeli katılımcıların ekonomik uyum süreçlerinde karşılaştıkları yasal ve ekonomik sorunların sosyal uyum süreçlerini etkilediğini ortaya koymaktadır. Çalışmanın Suriyelilerin sosyo-ekonomik uyum süreci ve uyum sorunlarına yönelik gerçekleştirilen saha araştırması bulgularına dayalı olarak bilimsel veriler sunarak, bu sorunların çözümüne ışık tutacağı düşünülmektedir.

**Anahtar Sözcükler** : Ekonomik Uyum, Sosyal Uyum, İş Gücü Piyasası, Uluslararası Göç.

<sup>1</sup> This article is derived from a PhD dissertation entitled "An Investigation on the Refugees' Socio-Economic Adjustment: The Case of Ankara".

<sup>2</sup> Bu makale "Suriyeli Sığınmacıları Sosyo-Ekonomik Uyumuna Yönelik Bir Araştırma: Ankara Örneği" başlıklı doktora tezinden üretilmiştir.



## 1. Introduction

Migration is one of the most basic human rights phenomena that has been going on for centuries. By nature, man is a being that moves with the intention of improving the environment and conditions in which he lives. In this respect, the phenomenon of international migration has always had an important place among the states that are the main actors in the system. This situation also creates a susceptible area depending on recent developments. In this respect, Türkiye, which is the examination area of the study, is a valuable area in terms of migration and migrants in the context of its geopolitical and strategic importance. Due to its geographical location on the transit route between Asia and Europe, Türkiye has been one of the countries where migration mobility has been intense from the past to the present (Pusch & Wilkoszewski, 2010). Especially after the end of the Cold War in the 1980s, political and economic instability in neighbouring countries increased migration to Türkiye. The crises in the international arena following the collapse of the Soviet Union and, of course, the main conflict areas in the Balkan geography have been international examples that accelerated migration. However, the process was not limited to the 20<sup>th</sup> century. With the 2010 Arab Spring, Türkiye faced mass and irregular migration movements that it had never experienced. According to the Directorate General of Migration Management (DGMM) data, there are 3,535,898 Syrians under temporary protection in Türkiye in 2022. While only 47,467 of the Syrian population live in temporary accommodation centres, 3,453,497 live in different cities of Türkiye outside of temporary accommodation centres (DGMM, 2023). In recent years, migration mobility from Syria has spread to all four corners of Türkiye. In this context, the migration wave and mass migration movements experienced by Türkiye have brought along debates on adjustment. This issue was initially predicted to be short-term and temporary. Still, it is long-term, contrary to expectations and has revealed the necessity of solution-oriented official policies regarding the adjustment of Syrians under temporary protection. In addition, the Syrian migration, the most critical mass migration movement that Türkiye has faced, has also drawn attention to how functional the policies implemented in the past on migration have been.

The adjustment process, which has a multidimensional structure including social, economic, social, and cultural, refers to the processes of inclusion of migrant individuals in the system existing in the country they migrate to. At the same time, this multidimensional structure constitutes a holistic view that interacts with each other. Economic adjustment is a process that covers social and legal dynamics in the host country (Battır, 2021). This process encompasses many issues, such as economic adjustment, employment, gaining economic independence, access to regular income, language skills, housing, and self-employment. At this level, ensuring a successful adjustment process for the host society and the individuals migrating to the relevant country is very important. For the host country, economic adjustment can contribute to economic growth by reducing the burden on social services, while for migrant individuals, it allows them to rebuild their lives and provide access to employment, education, and other opportunities (Üzümcü, 2020). Therefore, the economic adjustment process cannot be considered independently from the social adjustment process.

This study analyses migration policies in the context of Türkiye's position and responsibilities within the framework of the international migration phenomenon and the situation of Syrians under temporary protection in Altındağ district of Ankara. The primary motivation here is to analyse the success or deficiencies of the capital city in migration and immigration policies. In this context, the social and economic adjustment processes of Syrians under temporary protection residing in Ulubey, Alemdağ, and Önder neighbourhoods in Ankara constitute the main framework of the study. The factors affecting the social and economic adjustment of Syrians under temporary protection in Türkiye and the impact of the economic adjustment process on the social adjustment process are among the issues to be investigated within the scope of the study. In the literature, many studies have been conducted on the adjustment processes of Syrians. These studies focus on the adjustment processes of Syrians living in different provinces such as Istanbul, Gaziantep, Kilis, etc. In this study, Ulubey, Alemdağ, and Önder neighbourhoods in the Altındağ district of Ankara, which attracts attention as a clustering area for Syrians, were preferred. The field research was conducted in this region because the Syrian population is spatially concentrated and because it is an advantageous region that stands out in terms of housing, employment opportunities, and social aid. The neighbourhoods offer cheap accommodation to Syrians within the scope of urban transformation, provide easy access to work and employment due to their proximity to the Sıteler region, and stand out in social relationship networks as a clustering area of the Syrian population. These issues influenced the selection of the study subject and application area. In the study, the conceptual and theoretical framework will first be mentioned. Then, information about the methodology and method of the study will be given. Finally, the findings of the survey conducted with 384 Syrians residing in Ulubey, Alemdağ, and Önder neighbourhoods in the Altındağ district of Ankara and the findings of the interview study conducted with 30 Syrians will be presented.

## **2. Theoretical Framework**

Migration is studied in many disciplines, such as sociology, psychology, geography, economics, and history. Each discipline defines migration differently, considering its field (Battır, 2021: 8). Since migration is the subject of study of different disciplines, it has not been possible to agree on a single definition of migration. According to Marshall (1999: 685), migration refers to the movement of individuals or groups beyond their symbolic, geographical, or political borders toward new living spaces. According to Lee (1969: 285), migration is the voluntary or forced departure of a person or a community from the geographical and socio-cultural environment in which they live and their permanent or semi-permanent settlement in another environment. Martin and Zurcher (2008: 3) define migration as the movement or movement of individuals from one place to another. Ballyn (2011: 6) defined migration as the act of moving temporarily or permanently from one's place of birth to another place.

It is impossible to focus on a single point about the causes of the phenomenon of migration, which has been a part of the lives of individuals from the past to the present. It is healthier to make evaluations of the causes of migration by considering the conditions and

socioeconomic and sociocultural structure of the period (Battır, 2021). Factors affecting a person's migration decision can be analysed through macro, micro, and intermediate factors. Factors independent of the individual, such as war, persecution, dictatorships, development of the country of origin, and environmental changes, constitute macro factors. Factors closely related to the individual but not entirely under the control of the individual, such as social networks, the ethnic group or religious communities to which the individual belongs, and communication technology, constitute intermediate factors. Factors that determine personal characteristics and behaviours, such as age, gender, health, education, religion, and language, constitute micro factors and are effective in individuals' migration decisions (Castelli, 2018: 3-7). In migration movements from Syria to Türkiye, it is seen that the determining factor is based on compulsory reasons such as war and conflict.

Adjustment involves including migrant individuals into the existing system of the country they migrate to in social, economic, and cultural dimensions (Güllüpinar, 2019). Several different definitions draw attention to various aspects of the concept of adjustment. Indeed, Ager and Strang (2008) addressed the adjustment issue by emphasising the importance of social connections in facilitating the inclusion of migrant individuals in host societies. In this sense, Ager and Strang (2008) draw a specific framework for adjustment and analyse adjustment in terms of social relations and ties. Again, according to Ager and Strang, there are four crucial points for adjustment. These are (2008: 166): i) access to employment, health, education, and housing, ii) practices related to citizenship and rights, iii) social connection with the community, and iv) language, culture, and environment that affect the relevant structural barriers. Garcés-Mascreñas and Penninx (2016) emphasised different aspects of adjustment by addressing adjustment in depth. Garcés-Mascreñas and Penninx (2016) addressed the issue in the context of religious and cultural belonging. They emphasised the importance of the religious and cultural identities of migrant individuals in shaping their adjustment experiences. Erdoğan (2020), on the other hand, approaches the concept of adjustment from the perspective of border protection and security. Therefore, understanding the different dimensions and factors affecting adjustment can help policymakers and society to create more inclusive and equitable societies that facilitate the inclusion and well-being of migrants. Adjustment involves integrating migrants into the existing system of the country of origin in social, economic, and cultural dimensions.

On the other hand, the United Nations High Commissioner for Refugees (UNHCR) states that adjustment is a two-way strategy: the adjustment of migrants into the country of origin in all respects and the tolerance of the receiving society towards the newcomers. In addition, UNHCR draws attention to three specific dimensions of adjustment. Firstly, adjustment is a legal process that grants various rights to migrants. Secondly, adjustment refers to the ability of economically mobile individuals to access sustainable livelihoods and thus contribute to the economic life of the host country. Thirdly, adjustment is a social and cultural process that refers to the adjustment of migrant individuals into the society they migrate to, the culture of coexistence, and their participation in social life in the host country without being subjected to discrimination or exploitation (UNHCR, 2013: 14-15).

In this context, considering all components of adjustment, innovative and solution-oriented policies should be implemented to adjust individuals migrating to Türkiye, and weak areas in terms of adjustment should be strengthened. In this sense, scientific studies on adjustment are critical in making the problems visible and shedding light on the solution of these problems. The Migrant Integration Policy Index (MIPEX) provides data on migrant adjustment in 56 countries. There are eight policy areas for multidimensional analysis. These policy areas include access to citizenship, anti-discrimination, education, health, labour market mobility, family reunification, permanent residence, and political participation. The policy areas developed by MIPEX allow for comparing adjustment policies across countries and the development of adjustment policies. Regarding migration intensity, Türkiye's migrant labour mobility policy score in 2020 is 22, and Türkiye ranks 51<sup>st</sup> among 56 MIPEX countries (MIPEX, 2020). Labour market mobility policies affect the development of educational and professional skills, language learning, and social acceptance of migrants. In addition, well-developed labour market mobility policies help society to break the perception of competition and threat against migrants. In addition to this theoretical background, field studies are also critical. These studies reveal the nature of the relationship between migrant individuals and the host society in terms of economic and social adjustment. Therefore, various factors, including legal status, cultural differences, and economic conditions, can shape the integration process of migrants. Policies and social attitudes towards migrants can also play an essential role in shaping these relationships. In his study on international migration and the labour market, Bauder (2006) found that labour supply and competition increase in countries where migrants are concentrated. Stating that migrant labour is exploited here, Bauder drew attention to a fragmented labour market in countries with high migrant mobility. A fragmented labour market is based on division and hierarchy in employment. In a study by Colic-Peisker and Tilbury (2007) on the economic integration of migrants, it is pointed out that migrants face many legal obstacles in their access to the labour market in the countries they migrate to. The same authors made some policy recommendations for adapting migrant groups to the labour market, such as preventing informal employment, expanding vocational training, and creating new professional job mobility that they can access. In another study, Cheung and Phillimore (2014) examined the role of social capital in facilitating employment and labour market integration for migrants in the UK. A significant relationship was found between social capital and employment outcomes for migrants. However, Delgado Wise (2013) pointed out that the working and living conditions of migrants make them the most vulnerable class, especially during global crises that intensify migration. The segmented nature of migrant labour also contributes to the growth of precarious labour markets worldwide. These studies highlight the complex challenges migrants face in accessing the labour market and integrating into the host society. They suggest various policy interventions and social factors to facilitate economic and social adjustment and see migrants as an economic opportunity (Üzümcü, 2020).

In a study conducted by Damette and Fromentin (2013) on the interaction between migration and the labour market in 14 Organisation for Economic Cooperation and

Development (OECD) countries, it was concluded that migrants increase wages in the short run in the countries where they migrate, while in the long run, no results were found on the negative impact of migration movements on unemployment except for Anglo Saxon countries and in their qualitative study on the entrepreneurship of migrants, Shneikat and Alrawadieh (2019) emphasised that the entrepreneurial activities of individuals migrating to Türkiye help them to integrate into the socio-economic fabric of the country of origin. The findings of these authors reveal that the desire of migrant individuals to survive and gain independence affects their motivation to engage in entrepreneurship.

International migration is a critical issue for Türkiye as it is an important destination and transit country for migrants. Türkiye is currently hosting individuals migrating mainly from Syria. For this reason, there are many migration studies in the field. Academic studies on the adjustment of migrants are related to mass migration from Syria to Türkiye and other countries. Kaypak and Bimay (2016) examined the economic, social, and cultural effects of Syrians living in Batman. In the study, it was observed that Syrians have limited job opportunities. The concentration of the Syrian population in Batman has increased informal employment in low-paid and unskilled jobs. In addition, this situation has made it difficult for local people to compete with Syrian labour. As a result, local people react against them. In the interview study conducted by Lordoğlu and Aslan (2018) with Syrian children and their families in three provinces (Istanbul, Şanlıurfa, and Mardin) where Syrians are densely populated, it was stated that Syrian children between the ages of 6-14 had to work in unfavourable working conditions in jobs that are not suitable for their age due to economic difficulties.

The primary focus of literature studies is to see the pattern and impact of migration. In the 21<sup>st</sup> century, problems such as socioeconomic inequalities, war, conflict, and human rights violations have increased international migration mobility. Migrant individuals, who are the most vulnerable group to struggle, have ultimately turned into an army of labourers who can work cheaply. Paksoy et al. (2015), in a field study conducted with local people on the economic, social, and commercial effects of the Syrian population living in Kilis on Kilis, concluded that Syrians are employed unregistered in Kilis with meagre wages, which makes it difficult for local people to be used in the labour market. Another study was conducted by Aygül (2018) among different immigrant groups living in Isparta. The study examined the economic adjustment process and discussed conditions such as education level, job skills, and language level. In the study, it is stated that migrant groups with low skills take part in employment by accepting to work in heavy and dangerous jobs with low wages and precarious work. In the same study, the fact that migrants must work to survive has caused them to become the precariat of the labour market. Koç et al. (2018) addressed the employment problems of the Syrian population in Türkiye. The study includes recommendations for creating the necessary infrastructure for the employment of Syrians. Şahankaya Adar (2018) draws attention to the fact that as the exploitation of the labour of migrant individuals increases, wages, job security, and working conditions deteriorate. The labour force has become precarious, and the Syrian population, whose number has been

steadily growing in Türkiye since 2010, has been defined as the new precariat of the Turkish labour market.

### 3. Research Methodology

The social and economic adjustment of Syrians under temporary protection is a critical issue that requires continuous attention and support from host countries, international organisations, and civil society. Therefore, this research analyses the adjustment processes of Syrians under temporary protection, considering social and economic adjustment indicators. In this context, a face-to-face survey was conducted with 384 Syrians residing in Ulubey, Alemdağ, and Önder neighbourhoods in the Altındağ district of Ankara, and an interview study was conducted with 30 Syrians.

In the application part of the study, the limitation of space and sampling is focused on Ankara. Ankara was defined as the population, and Ulubey, Alemdağ, and Önder neighbourhoods in the Altındağ district, where Syrians live in Ankara, were defined as the sub-universe. The population of the study was limited to Syrians over the age of 18 residing in Ulubey, Alemdağ, and Önder neighbourhoods in the Altındağ district of Ankara, who migrated to Türkiye compulsorily since 2011. Before the population and sampling process, data such as the number, age, and gender distribution of Syrians according to the districts of Ankara were obtained from Ankara DGMM. Using this data, the districts and neighbourhoods in Ankara where the Syrian population is concentrated were identified, and the study sample was determined. According to DGMM data, 101,858 Syrians resided in Ankara under temporary protection in 2021. In 2021, 47,247 Syrians resided in Altındağ district of Ankara, and Altındağ district of Ankara is the district where the highest number of Syrians reside in Ankara with 47,247 Syrians. Therefore, by comparing the number of Syrians living in the districts of Ankara, it has been determined that the Syrian population is mainly concentrated in the Altındağ district of Ankara, and in the Altındağ district, they are primarily concentrated in Ulubey, Alemdağ, and Önder neighbourhoods. Based on these data, the study's sample size was determined as 384 with an acceptable margin of error of  $\pm 5$  and a confidence interval of 95%. Limiting factors such as time, cost, and ease of access to data by the researchers were also decisive in determining the study sample in this way.

Considering the multidimensional structure of the migration issue based on the individual, a 'mixed research method' in which quantitative and qualitative research methods are used together was preferred in the study. The mixed research method uses quantitative and qualitative data sets together in the research, and the results obtained are blended and interpreted. This method combines quantitative statistical data with qualitative data supported by personal experiences and life stories. Thus, the problems and hypotheses of the study are approached from both sides (Creswell, 2021: 2). Therefore, this study aims to support the scientific results put forward with the data obtained from the quantitative survey study with the data obtained because of the qualitative interview study, which helps to reveal the experiences of real life from different aspects. Quantitative and qualitative data can be obtained simultaneously or sequentially using the mixed research method. In the axis

of the purpose and basic problems of the study, the 'sequential explanatory design' method, which Creswell (2003) stated is among the designs of mixed method research, was preferred. Within the sequential explanatory design method framework, quantitative survey data were first obtained, and qualitative interview data were obtained to enrich the quantitative data. After the quantitative and qualitative data were obtained, they were combined in related sections and presented in the study.

Questionnaires and interview techniques were used as data collection methods in the study. The study, the survey with 384 Syrians aged 18 and over residing in Ulubey, Alemdağ, and Önder neighbourhoods in the Altındağ district of Ankara, and the interview study with 30 Syrians were carried out by the researcher himself and with the help of an Arabic interpreter between 01.12.2021/01.06.2022, 3 days a week, for approximately six months. In the study, survey data were obtained using the snowball sampling method. The snowball sampling method is not based on probability (Altunışık et al., 2022). This method, known as snowball sampling or chain sampling, is used when the universe is quite large, and it is not easy to reach the units that make up the universe. Firstly, individuals who are thought to have information about the universe are reached, and other participants are reached with the guidance of these individuals. The study continues to grow in this way (Creswell, 2003).

Academic studies, doctoral theses, reports, and data prepared by public and private organisations were used to prepare the questions in the questionnaire form. The questionnaire includes questions on the participants' demographic characteristics, socioeconomic status, migration processes, and socio-economic adjustment processes. Each participant was informed before the survey and interview study was carried out, and their permission was obtained by stating that the study was within the knowledge of official institutions. In the questionnaire form, a scale was used only in the questions aiming to measure the participants' satisfaction with social services, education, and health services in Türkiye. The reliability Cronbach Alpha coefficient was analysed for the questions measuring the social satisfaction levels of the participants. In Likert-type scales, the Cronbach Alpha coefficient is used to question the relationship and consistency of the items with each other. If the Cronbach Alpha coefficient has a value in the range of 0.40-0.60, it indicates low reliability; if it is in the range of 0.60-0.80, it indicates a highly reliable level; and if it is in the range of 0.80-1.00, it indicates that the scale items have high reliability (Tabachnick & Fidell, 2013). The Cronbach Alpha reliability coefficient for the question statements in the social satisfaction scale related to the study was calculated as 0.69. Hair et al. (2009) state that the social satisfaction scale is reliable.

In addition, the qualitative interview technique was used to investigate and reflect on the migration experiences, daily lives, fears, security concerns, future expectations, socio-economic conditions, and difficulties faced by Syrians in detail. Qualitative research technique is a technique that aims to objectively explain the life of individuals and the experiences of the social world, without any statistical calculation, directly reflecting the opinion of the individuals participating in the research (Creswell, 2021). Thirty Syrian participants residing in Ulubey, Alemdağ, and Önder neighbourhoods in the Altındağ district

of Ankara were asked 14 open-ended questions in the semi-structured interview form. Some participants were interviewed at their workplaces, and some at their homes. Each interview form took approximately 1 hour to answer to collect detailed information on the migration experiences of Syrian participants, their daily lives, fears and security concerns, future expectations, socio-economic adjustment processes, and the problems they face. The necessary permission was obtained from Ankara Provincial Directorate General of Migration Management to carry out the survey and interview study in the region. In addition, a certificate of approval that the questions in the questionnaire are by ethical rules was obtained from the Kırıkkale University Social and Human Sciences Ethics Committee.

#### 4. Participants

In this section, the implications of the methodological results of the study will be discussed. The demographic findings of the study are important. This is because demographic data reveals the employment area of the people included in the research and details on socio-economic adjustment such as language proficiency and income level. At the same time, the findings on demographic characteristics are discussed first to evaluate the cross-relationships between the other parts of the study and the results given under the title of demographic characteristics. Firstly, the proportion of female participants in the survey is 19%, while the number of male participants is 81%. In the interview study, 20 male participants and ten female. This shows that men are more active in the process in terms of the labour force. In previous studies, it has been pointed out that Syrian women's participation in the labour market is limited due to factors such as not knowing the native language of the country they migrated to, having children and family elders to care for and take care of at home, and the lack of women's work culture in Syria (Buz, 2006; Kaypak & Bimay, 2016; Bakioğlu, 2018).

**Table: 1**  
**Demographic Characteristics of Participants**

	N	%
<b>Gender</b>		
Female	73	19,0
Male	311	81,0
<b>Age</b>		
18-27 years	96	25,0
28-38 years	174	45,3
39-49 years	95	24,7
50 years and above	19	4,9
<b>Education Level</b>		
No literacy	79	20,6
Primary school graduate	118	30,7
Secondary school graduate	122	31,8
High school graduate	49	12,8
University graduate	16	4,2
<b>Marital Status</b>		
Married	246	64,1
Single	138	35,9
<b>Number of People in the Family</b>		
1-4 people	146	38,0
5-8 people	229	59,6
Nine people and above	9	2,3



When the age groups are analysed, participants over 50 have the lowest rate with 4.9%. This rate is highest in the 28-38 age group with 45.3%. While conducting surveys and interviews in the field, it is noteworthy that young people are more involved in employment among the participants. In the family, children, usually young, contribute to the household income by working rather than elders such as father and mother. If the household income is insufficient to cover the expenses, family elders such as fathers must work in such cases. The fact that the sectors in which Syrians work in Ankara and the jobs they do require more energy and strength, the ability of young people to adapt quickly to harsh conditions in the labour market, and their more developed language skills make it easier for young Syrians to gain a place in the labour market.

Another critical issue is the education level of the participants. 62.3% of the participants are primary and secondary school graduates. This level of education is thought-provoking. The participants' rate of high school and university graduates is 16%. Similarly, 20 of the 30 participants in the interview study are primary and secondary school graduates, while six are illiterate. This situation points to a fundamental problem at the educational level in terms of a qualified labour force in the context of educated international migration. Another issue in education is that after migrating to Türkiye, these people prefer to work instead of going to school due to economic opportunities. The 19-year-old Syrian female participant in the interview study stated that she could not go to school due to the war and had to work. The 20-year-old Syrian male participant said he could not attend school and had to work many jobs. On the other hand, the interview study's findings show that the participants' education level was limited to primary or secondary school before they migrated to Türkiye. Therefore, it is noteworthy that the Syrian population residing in the addressed neighbourhoods has a low level of education. In terms of family structure, 64.1% of the participants are married. When the number of household members is analysed, it is seen that 59.9% of them live in the range of 5-8 people. This number shows the average number of people living in the household as 5.05.

## 5. Findings

Employment and access to the labour force are among the most researched economic adjustment issues. Access to employment and the labour force shapes many behaviours, such as gaining economic independence, planning, language skills, self-confidence, and social interaction (Ager & Strang, 2008). In this respect, economic and social adjustment processes are affected by each other, and the interaction of migrant individuals with society will increase. This will accelerate the social and economic adjustment process between migrants and the people of that country. On the other hand, being unable to find a job as an immigrant and thus unable to take part in employment can lead to isolation from society, anxiety about the future, and an inability to self-realise (Aygül, 2018: 206). For example, in studies conducted in the UK and Australia, language insufficiency, lack of human capital, low education level, and total labour force are prominent factors preventing migrants from accessing employment (Wooden, 1991; Bloch, 2008). It is similar to the studies conducted in Türkiye. Low education level, total labour force, language insufficiency, and lack of

human capital constitute the main problem areas in Türkiye (Aygül, 2018; Harunoğulları, 2018; Bakioğlu, 2018; Geyik-Yıldırım, 2020; Şahankaya-Adar, 2020). However, the situation is slightly different for the Syrians residing in the region addressed in this study because the Syrian population primarily resides in this region, and even if they are not involved in employment, their interactions in their daily lives are mainly with other Syrians.

The participants' jobs and occupations within the research scope are given in Table 2. When Table 2 is examined, it is seen that 19.5% of the participants are not working in any job, while 80.5% are actively working. Of the 309 participants working here, 55 are employed in different jobs. Therefore, the participants have various jobs and occupations in Ankara. Due to the diversity of the jobs and professions of the Syrian participants, the jobs and occupations of the participants were classified using the ISCO-08 code list, which is the International Occupational Classification System used by the SSI and İŞKUR. The distribution of working participants according to the occupations in the ISCO-08 code list: i) 24.2% in the office and furniture stores manufacturing sector, ii) 12.8% in the food sector, iii) 12.5% in the construction sector, iv) 7.6% in the garment sector and v) 2.9% in the agriculture sector. In addition, there are shops such as grocery stores, butchers, spice shops, barbers, hairdressers, Syrian food and beverages, restaurants and dessert shops, and Syrian merchants that meet the needs of the Syrian population living in Ulubey, Alemdağ, and Önder neighbourhoods. This situation shows that all the products used by Syrians in Syria are sold in the region (Savrat & Sat, 2019: 298).

**Table: 2**  
**Working Status of Participants and Sectors in Which They Employ**

	N	%
Are you working now?		
Yes	309	80,5
No	75	19,5
<b>SUM</b>	<b>384</b>	<b>100</b>
Sectors in which they Employ		
Office and furniture stores manufacturing	93	24,2
Food	49	12,8
Construction	48	12,5
Garment	29	7,6
Agriculture	11	2,9
Junkman	11	2,9
Scrap Collector	10	2,6
Metal material and machine production	9	2,3
Barber	7	1,8
Cleaning staff	7	1,8
Translator	5	1,3
Goods transport worker	3	0,8
Tradesmen (silversmith)	3	0,8
Tradesmen (jeweller)	3	0,8
Teacher	3	0,8
Auto maintenance repairer	2	0,5
Car wash worker	2	0,5
Automotive body worker	2	0,5
Patient care worker	2	0,5
Electrical mechanic	2	0,5
Glass balcony systems installer	2	0,5
Real estate agent	1	0,3
Tradesmen (white goods spotters)	1	0,3
Tradesmen (hardware)	1	0,3
Tradesmen (barber)	1	0,3
Tradesmen (glassware)	1	0,3
Repair worker	1	0,3
<b>SUM</b>	<b>309</b>	<b>80,5</b>

Five participants who participated in the interview study need to be fixed. The other 25 participants work different jobs, such as construction, daily work, furniture, cleaning, and scrap collection. In addition, detailed information was obtained about the process of finding a job and the jobs they worked after migrating to Türkiye;

- “When I first came to Ankara, I was working at a construction site, and when the boss did not pay me, I started working at another construction site...” (Participant 4).
- “I earn money by collecting scrap. I collect the scrap I find in the garbage and sell it. I earn around 2,000 TL per month. With the money I earn, I pay the house rent, buy food, and spend it on house expenses, but most of the time, the money I earn is not enough...” (Participant 9).
- “I used to work as a driver in Syria. Now, if I can find a job, I work in Ankara in daily jobs. Sometimes, I work in agriculture. I earn 150 TL per day. I plant crops, do hoeing, and load bales. One day, I fell while loading goods on a truck and broke my leg. I could not work for a month until I recovered...” (Participant 15).
- “If there is work, I work in the field for 100 TL daily. Working long hours in the summer heat is very difficult...” (Participant 12).

- “When I first came to Ankara, I worked in a vegetable shop, carrying crates of vegetables and earning a daily wage. I am collecting scrap...” (Participant 11).
- “I have worked in many different jobs in Ankara. I used to work in an auto repair shop for 50 TL per week. Later, I started carrying carboys of water to houses, earning 15 TL daily. I currently work for a hairdresser and have started learning about this job...” (Participant 3).

Another situation is the sectors where Syrian participants are mainly employed. These are; i) 24.2% in the office and furniture stores manufacturing sector, ii) 12.8% in the food sector, iii) 12.5% in the construction sector, and iv) 7.6% in the garment sector (Graph 1). These four sectors constitute 57% of the Syrian respondents. In addition, another sector where Syrians can easily find a job in Ankara is manufacturing offices and furniture stores. As a result, it is noteworthy that Syrian migrants live in neighbourhoods close to offices and furniture stores concentrated in the Sitaler district of Ankara.

When the participants' employment status by gender is analysed, 64% (48) of the 73 female participants are unemployed. On the other hand, 36% (27) of the 311 male participants were not employed. Five of the ten female participants in the interview study needed to be fixed. According to the research findings, the participation of Syrian women participants in employment could be much higher. It is seen that 25 female Syrian participants who participated in employment are primarily employed in the ready-to-wear, agriculture, and food sectors as cleaners, patient care staff, agricultural workers, cooks, hairdressers, and tailors.

**Graph: 1**  
**Distribution of Participants According to the Sectors They Employ (Top 4 Sectors)**

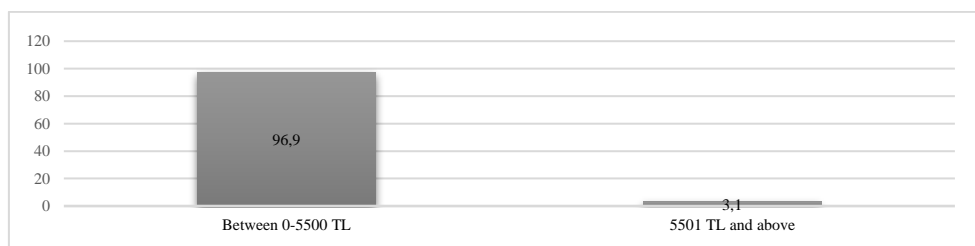


When the findings regarding the channels used by the participants in a job search are analysed, it is seen that the participants are directly involved in the job search process. According to 67.2% of the respondents, this rate shows they seek a job. In addition, 25.5% of them search for a job through relatives and acquaintances and 3.1% through media such as newspapers and the Internet. The lowest rate is İŞKUR, with 1.6%. In addition to getting a job, another situation is leaving a job. Most respondents (87.2%) do not have a work permit. Similarly, a significant portion of the participants in the interview study do not have a work permit. This issue points to an unregistered situation in labour and employment. Another problem is in question for employers. It can be said that employers tend to employ

Syrians, who are concentrated in the region and do not have work permits, according to the wages and working conditions they determine.

Income is undeniably the linchpin of business life. This is particularly true for the majority of Syrian migrants, who often migrate as families. The presence of numerous families in the household accentuates the significance of stable and regular income. The income earned must be not just substantial, but also consistent. The presence of economically self-sufficient migrants undoubtedly bolsters the economic adjustment process. The research, conducted when the minimum wage was 5500 TL, categorizes the income status of the participants into two groups: 0-5500 TL and 5500 TL and above.

**Graph: 2**  
**Distribution of Participants' Income According to Minimum Wage Ranges**



On the other hand, 96.9% of the participants have an income between 0-5500 TL, with only 3.1% earning 5501 TL and above. The continuity of this income is a pressing issue, as only 25% (96) have a regular monthly income. When grouping the income levels of the participants, those without a regular monthly income were included in the 0-5500 TL range. The monthly income level of the participants ranges from a minimum of 0 TL to a maximum of 7000 TL, with an average of 2262 TL. The fact that this average income is below the minimum wage at that time suggests that some employers are paying below the legal minimum. This issue is a key indicator of problem areas in the labour market and working conditions.

When Table 3, which includes the income levels of the participants by gender, is analysed, it is seen that all of the female participants have an income level of minimum wage and below. All participants with income levels above the minimum wage are male. According to the research findings, there are differences between the gender of the participants and their income levels. Syrian women participants have limited participation in employment and do not have regular income. Considering that having a sustainable and regular income is very important for the success of economic adjustment, it is seen that Syrian women participants constitute a more disadvantaged group.

**Table 3**  
**Income Levels of Participants by Gender**

Income Level	Female		Male	
	N	%	N	%
Between 0-5500 TL	73	19,6	299	80,4
5501 TL and above	0	0	12	100,0

In addition, as can be seen in Table 4, when the findings regarding the number of people working in the households of the participants are analysed, 55.2% (212 people) of the participants have only one person working. The rate of two people working in the household is 38.5% (148 people). The rate of three people working in the household is 6.3% (24 people). In addition, the monthly income level of 96.3% of the participants is below the minimum wage and this wage level. However, despite this rate, the rate of those who stated that only one person works in the household is 55.2%. The findings regarding the income status of the participants according to the number of people working in the household are thought-provoking. This structure, where the minimum wage is paid and less than one person in the family works, exposes people to poverty. Here, 75% of the participants with an income of 5501 TL and above the minimum wage level have three people working in the family. The rate of two people working in the family is 25%. Only one person works in 54.6 % of those with an income between 0-5500 TL, minimum wage, and below.

**Table 4**  
**Income Levels of the Participants According to the Number of People Working in the Household**

Income Level	Only One People Working		Two People Working		Three People Working	
	N	%	N	%	N	%
Between 0-5500 TL	203	54,6	145	39,0	24	6,5
5501 TL and above	0	0	3	25,0	9	75,0

An important factor affecting the adjustment processes of migrants is their legal status in the country of origin. While legal status offers important opportunities for social and economic adjustment, it also brings obstacles. The 1951 Geneva Convention is the first international document that contains detailed information on the legal status of refugees and defines refugees. In the years following the Geneva Convention, many international instruments on refugee rights were published. Although international conventions guarantee the socio-economic rights of refugees, it is observed that refugees face some restrictions on access to the labour force and employment in the countries they migrate to. Economic regulations for access to the labour force and employment in the countries where refugees seek asylum are very important for a successful social and economic adjustment process.

When the findings on the work permit status of the participants are analysed, it is seen that a significant majority of the participants, 87.2%, do not have a work permit. Although foreigners under temporary protection status can obtain work permits in Türkiye according to the laws and regulations, the prevalence of unregistered employment in Türkiye and the existence of legal restrictions such as quotas in securing work permits make it easier

for Syrians to take part in jobs in unregistered sectors under unfavourable working conditions. According to Ministry of Labor and Social Security data, only 168,103 foreigners were granted work permits in 2021. Of this number, 91,500 were Syrian nationals (ÇSGB, 2022). In addition, Syrians who benefit from Social Cohesion Assistance (ESSN) are not inclined to obtain a work permit due to their concern that this assistance will be cut off when they get a work permit.

When the distribution of the participants according to how they entered Türkiye is analysed, 82.8% of them entered Türkiye illegally. On the other hand, 17.2% entered Türkiye legally. All 30 participants in the interview study stated that they entered Türkiye illegally. The participants who participated in the interview study and entered Türkiye illegally stated that they contacted human traffickers and crossed the border with the foreign currency they paid to human traffickers. It is noteworthy that the foreign currency paid to human traffickers varies according to year. While the Syrian participants who came to Türkiye illegally from Syria between 2011-2014, when the war started, stated that they paid between \$100 and \$200 per person to human smugglers, the participants who came in 2015 and later years indicated that they paid \$300 and more per person to human smugglers.

When the findings regarding the opinions of the participants on whether the wages paid to Syrians working in similar jobs in the labour market and local people are the same or not are examined, it is seen that a significant majority of the participants, 96.9%, think that the wages paid to Syrians working in similar jobs in the labour market and local people are not the same. The low level of education and inexperience of migrants force them to work under precarious, harsh conditions and low wages in the country of asylum. These conditions isolate migrants from the social and communal life in the country of asylum, forcing them to live in poorly maintained slums far from the city centre and to struggle with poverty (Aygül, 2018: 181).

When the findings regarding the insured employment status of the participants are analysed, it is seen that 67.7% of the participants work without insurance. At this point, it is seen that a significant majority of Syrian participants are employed in the labour market without insurance and are precarious. When the findings regarding the problems faced by the participants in working life are examined, it is seen that 53.5% of the participants experience difficult working conditions, 41.6% experience low wages, 9.7% experience discrimination, and 5.3% experience language problems. It is seen that difficult working conditions and low wages are the most critical problem areas the participants face in their working lives. When the findings regarding the problems faced by the participants in Ankara, the city where they live, are examined, it is seen that 53.8% of the participants experience economic problems, 19.1% discrimination, 14.1% housing problems, and 12.8% language problems. According to the research findings, it is noteworthy that the participants experience economic problems in their city.

When the findings regarding the working conditions of the Syrian participants in the interview study are examined, it is seen that they face problems such as difficult working

conditions, low wages, and not being paid for their labour. The 18-year-old Syrian female participant who participated in the interview study and worked in seasonal agricultural work expressed the difficulty of working conditions and the fact that the wage for their labour was not paid after work as follows;

- "We worked with my sisters in the orange orchard in Adana. It was tough to work in hot weather. We went early in the morning and worked until late. We were told that we would be paid daily. But our wages were not paid, we could not reach the boss after the work ended, and he did not answer our calls. We also worked in a cucumber factory in Antalya in the summer. We worked from 7.00 a.m. until 8.00 p.m. We earned 1500 TL per month. We worked without insurance. Many Syrians were working in the same factory. We worked there for three months in the summer and saved money, then returned to Ankara..." (Participant 10).

The 44-year-old male Syrian participant in the interview study, who works in the white goods repair business, expressed the working conditions as follows;

- "There is not always work. They call me when there is a repair job. I work for 100 TL per day. I wish my job was regular. The money I earn is very little. I pay 500 TL rent with the money I earn..." (Participant 13).

The 35-year-old male Syrian participant in the interview study, who works as a tailor, expressed the problems he encountered in the labour market as follows;

- "I also work as a tailor in Ankara. I did not have any difficulty finding a job, but the wage paid is quite low. My money is insufficient to cover our expenses..." (Participant 1).

In the migration process from Syria to Türkiye, social networks such as family, kinship, and acquaintances come to the fore. Migration networks play an important role, especially in the continuity of irregular migration movements. The factors that cause the spatial clustering of Syrians in Ulubey, Alemdağ, and Önder neighbourhoods in the Altındağ district are the social relationship networks established by Syrians. They have formed migration networks through the communication they have established among themselves. These migration networks have continued to function from 2011, when the civil war started in Syria, until today. Social relationship networks and migration networks are a determining factor in the preference of Ulubey, Alemdağ, and Önder neighbourhoods in the Altındağ district of Ankara by Syrians. Since the number of Syrians living in Ulubey, Alemdağ, and Önder neighbourhoods in the Altındağ district is relatively high, the participants in the interview study stated that they do not meet with their Turkish neighbours much and spend more time with their Syrian acquaintances and neighbours living in the same neighbourhood. The fact that Syrians living in Ulubey, Alemdağ, and Önder neighbourhoods have similar social, economic, and cultural values, as well as the kinship and social relationship networks they have formed among themselves, may cause them to feel like they are in Syria.



When the reasons why the participants preferred Ankara as their city of residence are analysed, 42.6% of the participants stated that they preferred Ankara because of the high number of job opportunities, 33.7% because they have relatives and acquaintances in Ankara, 22% because it is the city where Syrians are concentrated, and 1.5% because the house rents are cheap. In addition, many of the Syrian participants in the interview study had working and living experiences in different cities of Türkiye before coming to Ankara. The migration networks established with the guidance of acquaintances such as family, relatives, and friends have been very effective in the process of coming to Ankara and settling in Ankara. In addition, a significant majority of the Syrians who settled in Ankara are Syrians from Aleppo, where the war was intense. Before the war, Aleppo was one of the cosmopolitan cities with a dense population in Syria. During the migration process from Aleppo to Türkiye, it is seen that the migration movements in the form of sequential migration and the influence of Syrians on each other because of the migration networks they established with each other are determinants in the preference of Syrians for Ankara.

When the distribution of the participants according to their level of speaking and understanding Turkish is analysed, 42.2% speak and understand Turkish at a moderate level, 25% at a reasonable level, and 20.9% at a very low level. The rate of those who cannot speak and understand Turkish at all among the participants is relatively low at 2.3%.

An independent samples t-test was conducted to measure the participants' speaking and understanding of Turkish according to gender. The results revealed that the participants' speaking and knowledge of Turkish differed statistically significantly according to gender. It is seen that the level of speaking and understanding Turkish of male participants ( $M = 3.3$ ,  $SD = .91$ ) is considerably higher than the level of speaking and understanding Turkish of female participants ( $M = 2.6$ ,  $SD = .85$ )  $t(382) = -5.79$ ,  $p = .00$ . Based on the observations made in the field, it is thought that this difference may be due to the limited participation of female participants in employment, their social interactions being limited to the neighbourhoods where they live and the lack of suitable environments where they can improve their language proficiency.

One-way ANOVA was conducted to determine the mean difference between the participants' level of speaking and understanding of Turkish and the channels of finding a job in Türkiye. According to the results, one-way ANOVA revealed that there was a statistically significant difference between the participants' Turkish speaking and comprehension levels and the channels of finding a job ( $F(3, 350) = [5.33]$ ,  $p = .01$ ). Accordingly, participants who used newspapers or the internet to find a job ( $M = 4.08$ ,  $SD = 1$ ;  $p = .01$ , 95% C.I. = [3.45, 4.72]) were able to speak or understand Turkish better than participants who found a job through friends or relatives ( $M = 3.35$ ,  $SD = .88$ ;  $p = .01$ , 95% C.I. = [3.17, 3.52]).

When the distribution of the participants according to their level of satisfaction with social services in Türkiye is analysed, it is seen that a significant portion of the participants, 63%, are satisfied with social services in Türkiye. 10.7% of the participants stated they were

delighted with social services in Türkiye, 14.8% were undecided, and 11.2% were unsatisfied. When the distribution of the participants according to their level of satisfaction with educational services in Türkiye is analysed, it is seen that 50% of the participants are satisfied with educational services in Türkiye. It is seen that 14.8% of the participants are delighted with education services in Türkiye, 24% are undecided, and 11.2% are unsatisfied. When the distribution of the participants according to their level of satisfaction with health services in Türkiye is analysed, it is seen that 55.7% of the participants are satisfied with health services in Türkiye, while 35.2% are delighted with health services in Türkiye. It is seen that Syrian participants have high satisfaction levels with education, health, and social services in Türkiye.

The t-test for independent samples was conducted to analyse whether the satisfaction levels of the respondents with social services, education, and health services in Türkiye differ according to their marital status. According to the results of the analysis, the mean satisfaction level of married individuals with social services ( $M = 3.8$ ,  $SD = .74$ ) is higher than the mean satisfaction level of single individuals with social services ( $M = 3.5$ ,  $SD = .9$ )  $t(382) = 2.29$ ,  $p = .02$ . Similarly, the mean satisfaction level of married individuals with educational services ( $M = 3.75$ ,  $SD = .8$ ) is higher than the mean satisfaction level of single individuals with educational services ( $M = 3.5$ ,  $SD = .8$ ) is higher than the mean of single individuals' satisfaction with education services ( $M = 3.75$ ,  $SD = .8$ )  $t(382) = 2.24$ ,  $p = .02$ . It is thought that these results may be because married individuals are more satisfied with social services and education services than single individuals due to the aid received from the Red Crescent per capita and the presence of children benefiting from education services in the households of married individuals. No difference was observed in health services according to marital status  $t(382) = 0.32$ ,  $p = .07$ .

The t-test for independent samples was conducted to analyse whether the satisfaction levels of the participants with social services, education, and health services in Türkiye differed according to whether they would like to be Turkish citizens. The participants who stated that they would like to be a Turkish citizen if possible, the mean of their satisfaction with social services in Türkiye ( $M = 3.8$ ,  $SD = .7$ )  $t(382) = 4.25$ ,  $p = .00$ ., the mean of their satisfaction with educational services ( $M = 3.74$ ,  $SD = .8$ )  $t(382) = 3.99$ ,  $p = .00$ . and the mean of their satisfaction with health services ( $M = 4.26$ ,  $SD = .7$ )  $t(382) = 3.20$ ,  $p = .00$ . It is seen that the mean of satisfaction with social services ( $M = 3.05$ ,  $SD = 1.07$ ), the mean of satisfaction with education services ( $M = 3.15$ ,  $SD = .8$ ) and the mean of satisfaction with health services ( $M = 3.87$ ,  $SD = .8$ ) are significantly higher than the mean of satisfaction with social services ( $M = 3.05$ ,  $SD = 1.07$ ).

The t-test for independent samples was conducted to analyse whether the satisfaction levels of the participants with social services, education, and health services in Türkiye differed according to whether they received aid in Türkiye or not. According to the results of the analyses, there is a significant difference between the satisfaction levels of the participants with social services and health services in Türkiye regarding whether they receive aid. The mean of the participants' satisfaction with social services ( $M = 3.96$ ,  $SD =$

.6),  $t(382) = 3.58$ ,  $p = .00$ . and the mean of their satisfaction with health services ( $M = 4.35$ ,  $SD = .7$ ),  $t(382) = 2.01$ ,  $p = .04$ . The mean satisfaction with social services ( $M = 3.66$ ,  $SD = .8$ ) and the mean satisfaction with health services ( $M = 4.18$ ,  $SD = .7$ ) were significantly higher than the mean satisfaction with social services ( $M = 3.66$ ,  $SD = .8$ ).

When the distribution of the participants according to whether they want to return to their country when the war ends or not is analysed, it is seen that a significant majority of the participants, 71.4%, do not want to return to their country when the war ends, while a minimal number, 28.6%, want to return to their country when the war ends. The findings obtained from the interview study reveal that Syrians' reluctance to return to their country is influenced by the fact that they do not have a house to shelter in when they return, they do not have a job to work, and there is no healthy environment in Syria where they can continue their lives.

In conclusion, it is seen that Syrians living in Ankara face many problems in their social and economic adjustment processes. In addition, it can be said that Syrians' adjustment processes have improved as they have become permanent, parallel to the prolongation of their stay in Türkiye. In addition, the findings reveal that the economic adjustment process is effective in the social adjustment process. In this sense, mechanisms should be established to include Syrians living under temporary protection in Türkiye in the decision-making process by defining them not as guests but as people who will continue to live here. In this sense, adjustment policies must be functionalised and implemented to solve existing problems. It should not be forgotten that not implementing and ignoring adjustment policies will pose a greater risk (Erdoğan, 2019: 26).

## **6. Conclusion**

Since 2011, foreign migration movements experienced at a compulsory and mass level have paved the way for countries to face many problems regarding their effects and consequences. In this study, external migration movements, which have a multifaceted structure including economic, social, social, cultural, and political, are analysed in terms of their social and economic dimensions. In this study, the mass and forced external migration movements from Syria to Türkiye are examined in the context of Syrians residing in Ulubey, Alemdağ, and Önder neighbourhoods in the Altındağ district of Ankara. The aim is to explore the socio-economic adjustment processes and adjustment problems experienced by Syrians under temporary protection after the forced migration process using quantitative and qualitative research methods. For this purpose, a survey was conducted with 384 Syrians residing in Ulubey, Alemdağ, and Önder neighbourhoods, and an interview study was conducted with 30 Syrians. The results of the field research were subjected to statistical analyses, and determinations were made regarding the socio-economic adjustment processes of Syrian participants. Despite its limited scope, the location of the study in the capital emphasises the central focus of the problem.

It can be said that the adjustment processes of Syrian participants in Türkiye have improved as they have become permanent in Türkiye, parallel with the prolongation of their stay. The findings of the research also support this. According to the research findings, the participants were reluctant to return to their countries. It is seen that the factors determining their tendency to return to their countries consist of socio-economic factors such as whether they have a place to shelter when they return, whether they have a job to work when they return, security, and war concerns. Therefore, as adjustment increases, the tendency of the Syrian population to return to their country decreases. At this point, it can be said that the return issue has turned into a vicious circle.

According to the research findings, a significant portion of the participants speak and understand Turkish well. It has been determined that factors such as gender, employment status, and the channels used in job search are effective on the level of speaking and understanding Turkish. It is seen that language is the most important condition for both social and economic inclusion. The language factor comes to the fore as a factor that facilitates and, at the same time, complicates the economic and social adjustment process. Similarly, Cheung and Phillimore (2014) concluded that the language proficiency of migrants living in the UK is a factor that significantly affects access to employment.

The study results show that a significant portion of the participants are satisfied with health services, social services, and education services in Türkiye. Satisfaction with health services is higher than satisfaction with education and social services. On the other hand, factors such as marital status, obtaining Turkish citizenship, and receiving aid significantly affected the satisfaction levels of the participants with social services, health services, and education services in Türkiye.

According to the research findings, female participants' economic and social adjustment processes progressed more slowly than male participants. It is seen that the participation of female participants in employment is quite limited compared to male participants. In addition, female participants also experience various problems in accessing regular and sustainable income. In addition, it is observed that the level of speaking and understanding Turkish by female participants is considerably lower than that of male participants. Therefore, there is a need for policies that will accelerate and improve the socio-economic adjustment processes of Syrian women independently from men.

According to the research findings, the problems faced by the participants in their working lives stem from their legal status. Participants face certain legal restrictions when obtaining a work permit, especially when accessing formal employment. For the economic and social adjustment process to be successful, it is essential to regulate the functioning of the legal procedure for obtaining a work permit in line with the needs. Similarly, Ager and Strang (2008), in their study on the case of the UK, emphasise that for the success of social adjustment, asylum seekers should be given the right to work legally.

In the economic adjustment process for the Syrian population in Türkiye, legal barriers should be removed, and solution-oriented policies should be implemented. Although the legal process is not functionally adapted to the increasing Syrian population, control and internal audits should be evaluated at the level of the neighbourhood and local points. Apart from the cities where Syrians are registered under temporary protection, legal arrangements can be made to enable them to access registered employment to the regional needs of other cities. In addition, legal opportunities such as removing travel restrictions in access to work permits and registered employment, accessible information on obtaining a work permit, easing the quota application, and facilitating legal procedures for Syrian entrepreneurs who want to start their businesses can be provided.

The findings that draw attention in the context of this environment and social area, which constitutes the study's examination area, can be handled under several headings.

Firstly, the adjacent neighbourhoods are a region that attracts attention as an agglomeration area for the Syrian population. It is called 'Little Aleppo' due to this agglomeration. The high number of Syrians in these neighbourhoods and the fact that it is a region where the Syrian population with similar social and economic conditions live stands out as a factor that facilitates the social adjustment process in terms of spatial belonging. It is seen that this situation causes the participants to feel like they are in Syria in the neighbourhoods where they live and facilitates their adjustment to social life. On the other hand, it is noteworthy that the participants do not encounter many problems in their relations with the local people; their attitudes towards them are positive, but their social ties with them are limited. In this respect, realising projects that will increase social interaction between the Syrian population and the local people may contribute to the mutual acceleration of the adjustment process. In addition, the concentration of the Syrian population in a particular region may lead to the ghettoisation of the region and pave the way for the emergence of various security problems. For this reason, measures can be taken to prevent new migration movements towards the areas where the Syrian population is concentrated. Projects can be implemented to encourage the Syrian population in the current region to disperse to the different areas and establish a life.

Secondly, the sectors where Syrian participants are primarily employed in Ankara are: i) 24.2% in the office and furniture stores manufacturing sector, ii) 12.8% in the food sector, iii) 12.5% in the construction sector, and iv) 7.6% in the garment sector. These four sectors account for 57% of the Syrian respondents. A vital sector where Syrians can easily find a job in Ankara is the office and furniture stores manufacturing sector. Office and furniture stores are concentrated in the Sitaler district of Ankara. Ulubey, Alemdağ, and Önder neighbourhoods, which constitute the study area, are the neighbourhoods close to the Sitaler region and are preferred as living spaces by the Syrian population due to the ease of access to work and employment. On the other hand, studies (Paksoy et al., 2015; Aygül, 2018; Bakioğlu, 2018; Harunoğulları, 2018) point out that the economic adjustment processes of the Syrian population and their access to work and employment differ according to the regional needs of the city they live in. Considering the labour market structure of

Ankara, it is seen that the 'Office and Furniture Stores Manufacturing sector, the 'Metal Products Industry and the Machinery and Equipment sectors come to the forefront, and there is a need for a qualified labour force in these sectors. In this framework, considering Ankara's regional labour market structure, a labour force can be created by providing vocational training for the Syrian population. Using the Syrian labour force in the sectors in need by expanding vocational training courses sectorally can prevent the expansion of unregistered employment. In addition, the training and practices can facilitate the economic adjustment processes of the Syrian population by enabling them to access regular, sustainable income and employment. At this point, to meet the need for qualified personnel in the relevant sectors at the local and regional levels, policymakers should not ignore the issue of evaluating the Syrian population in the labour market and the work on vocational training.

Thirdly, the fact that the most critical problem areas faced by the participants in their social lives in the region where they live are due to economic inadequacies reveals that the economic adjustment process is decisive in the success of the social adjustment process. It is seen that the participants face many different problem areas in their working lives, such as long daily working hours, non-payment of overtime wages, regular non-payment of the salaries they deserve, differentiation of wages and working conditions paid to the local population and Syrians doing similar jobs, employment of Syrian participants without insurance and work permit, reluctant behaviour of employers and Syrians in obtaining work permits, and problems experienced by Syrian women in accessing employment. It is seen that these problem areas come to the forefront as factors that complicate the social adjustment processes as well as the economic adjustment processes of Syrian participants. At this point, it is urgently necessary to improve the economic conditions of the Syrian population, ensure their access to basic needs, and implement practices that include solutions to the legal obstacles encountered in the economic adjustment process.

In general, the study emphasises that the difficulties faced by Syrians under temporary protection should be addressed to ensure economic and social adjustment. The study's findings reveal that the problems Syrian participants face in the economic adjustment process also affect the social dimension of adjustment. The lack of sustainable policies in Türkiye regarding the adjustment of the Syrian population, especially in education, shelter, and employment, raises questions about the course of the adjustment process in the future. Uncertainties on the subject reveal the urgent need to implement innovative and solution-oriented policies for the adjustment of Syrians under temporary protection in Türkiye, the need to strengthen weak areas in terms of adjustment, and the importance of sustainable adjustment policies. In this sense, studies on adjustment are critical in making the problems visible and shedding light on the solution of these problems.

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## Measurement of the Financial Performance of Banks for Development and Investment in Türkiye by CAMELS Analysis

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### Türkiye’de Kalkınma ve Yatırım Bankalarının Finansal Performanslarının CAMELS Analiziyle Ölçümü

#### Abstract

Using the CAMELS analysis approach, this study examines the financial performance of banks operating in Türkiye for development and investment. Accordingly, a comparative performance evaluation has been conducted using the financial data of 12 banks for development and investment, comprising three state-owned, seven privately owned, and two foreign-owned banks, for 2020-2022, with 22 financial ratios. At the end of the analysis, it was observed that Golden Global Investment Bank Inc. exhibited the best financial performance in 2020, Diler Investment Bank Inc. in 2021, and GSD Investment Bank Inc. in 2022, among the other banks for development and investment. The worst financial performance, however, was demonstrated in all three years by BankPozitif Credit and Development Bank Inc.

**Keywords** : Banks for Development and Investment Bank, Financial Performance, CAMELS Analysis.

**JEL Classification Codes** : E40, G24, G32.

#### Öz

Bu çalışma, Türkiye’de faaliyette bulunan kalkınma ve yatırım bankalarının finansal performanslarını CAMELS analizi yaklaşımı ile araştırmaktadır. Bu doğrultuda 3 kamu sermayeli, 7 özel sermayeli ve 2 yabancı sermayeli toplam 12 kalkınma ve yatırım bankasının 2020-2022 yılları arasındaki finansal verileri kullanılarak 22 finansal oranla karşılaştırmalı bir performans değerlendirmesi yapılmıştır. Analiz sonucunda diğer kalkınma ve yatırım bankaları içerisinde en iyi finansal performansı 2020 yılında Golden Global Yatırım Bankası A.Ş., 2021 yılında Diler Yatırım Bankası A.Ş. ve 2022 yılında GSD Yatırım Bankası A.Ş. göstermiştir. En kötü finansal performansı ise her üç yılda BankPozitif Kredi ve Kalkınma Bankası A.Ş. göstermiştir.

**Anahtar Sözcükler** : Kalkınma ve Yatırım Bankaları, Finansal Performans, CAMELS Analizi.

## 1. Introduction

Development and investment banks aim primarily to provide project and investment contributions, attract funds from external investors interested in investing, sustain efficiency, creativity, productivity, profitability, growth, and development through forthcoming programs, and provide technical support, especially in developing economies (Martinez & Vicente, 2012: 10). The relevant banks supporting industrial and economic development not only identify relatively strategic investment areas but also provide technical, financial, and organisational contributions to enhance the capacities of organisations operating in these fields, encouraging them to develop innovative projects. Hence, development and investment banks can contribute to social welfare by directing local resources and channelling resources obtained from international markets into efficient projects (Karahanoğlu, 2017: 168).

An enterprise's continuity and growth are related to its competitive strength. The healthy determination of competitive strength depends on the measurement of financial performance (Acar, 2003: 21). Through the measurement of financial performance, information is obtained not only regarding the extent to which resources are effectively utilised and profitability levels are determined but also about cost control processes and the measurement of firm activities (Özçelik & Kandemir, 2015: 98). The outputs obtained from financial performance measurement have an impact on decisions such as investments, credits, and company mergers, making them significant for top-level management responsible for making decisions related to the enterprise (Karaoğlu & Şahin, 2018: 63-64). The data necessary for financial performance measurement is mainly obtained from financial statements, and measurement is generally conducted using tools such as ratio analysis, horizontal evaluation, trend evaluation, and vertical evaluation (Ceyhan & Demirci, 2017: 279).

As one of the methods developed to analyse the performance of banks, the CAMELS evaluation system initially consisted of five components; however, with the inclusion of sensitivity to market risks into the system after 1997, the system comprises six components represented by its initial letters. The components that make up the CAMELS concept represent "C-capital adequacy", "A-asset quality", "M- management quality", "E-earnings", "L-liquidity", and "S-sensitivity to market risks" (Öztürk-Karaçor et al., 2017: 49).

This study uses the CAMELS analysis technique to examine the financial performance of 12 development and investment banks operating in Türkiye, comprising three state-owned, seven privately-owned, and two foreign-owned banks, between 2020 and 2022. The study used ratios of capital adequacy (4 pcs), ratios of asset quality (4 pcs), ratios of management quality (4 pcs), ratios of profitability (4 pcs), ratios of liquidity (3 pcs), and market risk sensitivity ratios (3 pcs) as the leading indicators of the analysis. The financial performance of banks in terms of development and investment has been comparatively evaluated using the CAMELS analysis based on a total of 22 financial ratios.

The study's expected contribution to the literature can be summarised as follows: i) The CAMELS analysis has been used for the first time in measuring the financial performance of banks for development and investment from 2020 to 2022. ii) The financial performance measurement in the banking sector for development and investment has revealed the financial situation of the banks. iii) The study provides an opportunity for comparison between the year 2020, when the COVID-19 pandemic was first seen in Türkiye, the year 2021, which was heavily affected by the pandemic, and the year 2022 when the effects of the pandemic diminished. iv) Development and investment banks were classified according to their ownership structure, and an analysis was conducted by comparing their performance scores.

The first section of the study provides fundamental information about the development and investment banking business. The second section will give a literature review summarising the findings of earlier studies on the performance of banks using the CAMELS method. The third section introduces the dataset and provides a detailed explanation of the methodology used in the study. In the fourth section, the CAMELS analysis was conducted to establish the performance scores of development and investment banks. The fifth section, which evaluates the study's results, concludes the paper.

## **2. Literature Review**

Here is a brief international and national literature survey on studies using the CAMELS method that examined the performance of commercial banks and development and investment banks.

Çinko & Avcı (2008) evaluated the applicability of the CAMELS rating method to the Turkish commercial banking system and analysed data covering 1996-2000 for 44 banks. Between 1997 and 2001, 19 banks from the sample were transferred to the SDIF. According to the results, the research using typical CAMELS ratios cannot predict a bank's transfer to the SDIF. In particular, the CAMELS scores of many banks transferred to the SDIF are higher than those still in operation. Arçelik (2010) evaluated the performance of commercial banks operating between 2002 and 2009 using the CAMELS analysis approach. The evaluation of CAMELS components found that liquidity, management quality and asset quality increased the most in the 2002-2009 period, while the sensitivity to market risk component did not significantly change. When the overall CAMELS score is analysed, it is concluded that the CAMELS score of 7 banks increased while six banks decreased. Using the CAMELS approach, Şen & Solak (2011) analysed how the vulnerability of deposit banks changed between 1995 and 2008. The study categorises public, private and foreign capital banks in ownership structure using 24 financial parameters based on six essential components. Before the 2001 financial crisis, state-owned banks performed much worse than other banks, but their performance improved significantly after the crisis. During the global financial crisis, foreign-owned banks underperformed other bank groups regarding liquidity quality, profitability, and capital adequacy. Private capital banks outperformed the sector average in every period. Kandemir & Arıcı (2013) compared the operating results of

Turkish deposit banks between 2001 and 2010 by classifying them according to ownership arrangements. Using the CAMELS analysis method, it is determined that deposit banks have strong liquidity ratios and capital adequacy; foreign-capitalised deposit banks perform better than other bank groups regarding management quality and asset quality and have more market risk sensitivity than other groups. Ege et al. (2015) used the CAMELS method to analyse the performance of state-owned, commercial, and foreign-owned deposit banks using data from 2002 to 2010. In the study, 25 reference indicators were selected and compared on a group basis. The results indicate that state-owned deposit banks performed better than other banks regarding market risk sensitivity, capital adequacy, and management efficiency. Private-owned deposit banks performed better in profitability, while foreign-owned deposit banks performed better in liquidity and asset quality components. Emir & Akyüz (2018) conducted a study using the CAMELS analysis, in which they created performance indices for the deposit banks operating in Türkiye using data from 22 deposit banks from 2003:Q3 to 2016:Q2. The banks were subjected to the CAMELS analysis at the overall and group levels. It was determined that state-owned deposit banks exhibited the highest performance in management capability and profitability components, privately-owned deposit banks in the market sensitivity component, and foreign-owned deposit banks in the liquidity components, asset quality and capital adequacy. Uslu (2019) evaluated the performance of 12 foreign capital banks in Türkiye using the CAMELS analysis established for auditing and supervision between 2010 and 2016. According to the results, the top three banks with the most improved performance were Deutsche Bank, Citibank, and Turkland Bank, while it was determined that Deutsche Bank's performance score was more fragile than other banks. Additionally, it was found that 50% of the banks experienced a decline in performance in 2016 compared to 2010. Kaygusuz et al. (2020) evaluated the financial performance of the top 10 banks in terms of total assets from 2008 to 2017. They used the Technique for Order of Preference by Similarity to the Ideal Solution (TOPSIS) approach to analyse the financial performance of banks using financial ratios obtained from the CAMELS evaluation components. The study was conducted in two stages, and as a result, the financial performance outcomes of the banks were ranked. Denizbank A.Ş. ranked first in overall total financial performance between 2008 and 2017, while Türkiye Halk Bankası A.Ş. ranked last. Yazıcıoğlu & Uygurtürk (2023) evaluated deposit banks' financial performance and participation in banks operating in Türkiye from 2017 to 2021 using the CAMELS analysis method. According to the findings, it was determined that Ziraat Bank from state-owned banks, İş Bankası from privately-owned banks, Garanti Bankası from foreign-owned banks, and Vakıf Katılım from participation banks demonstrated the highest performance.

Wanke et al. (2016) evaluated the efficiency of the dual banking system in Malaysia, analysing the development of potential input savings and output growth between 2009 and 2013 using the Dynamic Slack-Based Model (DSBM). In the second stage of the study, the CAMEL rating system and the Generalized Linear Mixed Models (GLMM) were combined with the Monte Carlo Markov Chain (MCMC) method and DSBM results to evaluate the relative efficiency of Islamic and conventional banks in Malaysia. This was done to create a

model with effective predictive capabilities for assessing banking performance. As a result, it is reported that Islamic banks are less efficient compared to conventional banks. Additionally, international banks' lower efficiency levels than their domestic counterparts are considered legal and cultural barriers. Barboza & Vasconcelos (2019) evaluated the impact of the Brazilian Development Bank on the total investments and whether market failures could be resolved using a Bayesian Vector Autoregressive (VAR) model between 2002 and 2016. The findings determined that the Development Bank loans positively and statistically significantly affected Brazil's gross fixed capital formation. Additionally, it was found that a 1% increase in development bank loans led to a 0.46% increase in investments. Shaddady & Moore (2019) conducted a study utilising Data Envelopment Analysis (DEA) and CAMELS analysis. The dataset covered the years 2000-2016 and included 2210 European banks. The main empirical findings indicate that the capital regulation index factors positively influence stability. The findings also reiterate the need for sufficient capital for bank stability. Additionally, the study highlights the detrimental effects of activity constraints on stability and demonstrates how restrictions on non-traditional financial activities lead to a lack of diversity, endangering bank stability. Other regulatory and supervisory factors emerge as a source of fluctuation. Banks in high stability categories are more responsive to regulatory and supervisory shocks. Gaul & Jones (2021) examined CAMELS evaluations, information content, and influencing factors from 1984 to 2020. They determined that individual management component ratings and composite CAMELS risk ratings have a significant predictive value for future bank performance and risk criteria that are important for banking regulators and supervisors. The results indicate that as the proportion of high-risk composite CAMELS scores increases in the banking sector, overall bank lending decreases significantly, and the country's unemployment rate rises.

Koç et al. (2016) examined the performance of banks for development and investment in Türkiye from 2002 to 2012 using Johansen Cointegration Analysis. It was found that state-owned banks exhibited performance based solely on asset profitability, while private and foreign-owned banks exhibited performance based solely on equity profitability in the long run. Additionally, it was determined that Basel criteria positively impacted the banks' capital adequacy. Karataş & Akhisar (2017) analysed the performance of development and investment banks in Türkiye from 2011 to 2015 using the Analytic Network Process (ANP) method. The performance of 6 banks for development and investment was ranked based on 13 evaluation criteria. According to the findings, state-owned banks ranked high due to their high capital adequacy ratios, while the rankings of privately owned banks varied over the years. Karahanoğlu (2017) aimed to determine the factors affecting the asset profitability of 10 banks for development and investment in Türkiye from June 2005 to October 2016 using panel data analysis. The study found that the non-performing loan ratio, unemployment, capital adequacy ratio, and increase in foreign exchange were negatively related to banks' profitability for development and investment. Additionally, it was found that profitability had a positive relationship with loans received, loans extended, other expenses per interest expense, other expenses per employee, and the industrial production index. Şenel & Şekeroğlu (2019) studied the efficiency of development

and investment banks in Türkiye using Data Envelopment Analysis (DEA) between 2013 and 2017. According to the results, most banks for development and investment were efficient during 2013-2015, while the inefficient ones showed an increasing trend in efficiency starting from 2016. Işık (2020) assessed the performance of the public capital banks for development and investment in Türkiye using the SD-based MABAC and WASPAS methods from 2013 to 2018. During the analysis period, it was determined that Turkish Eximbank A.Ş., İller Bankası A.Ş., and Türkiye Yatırım ve Kalkınma Bankası A.Ş. demonstrated the highest performance, respectively. Mustafayeva (2020) evaluated the performance of 13 banks for development and investment in Türkiye over 2013-2018 using the CAMELS analysis method. The performance of banks for investment and development was compared with commercial banks, and the findings indicated that the performance of banks for development and investment was higher than that of commercial banks. Gardi (2020) used the ARDL boundary test to examine the influence of capital adequacy on the profitability of Turkish development and investment banks from 1961 to 2016. The results indicated a long-term negative relationship between bank profitability and capital adequacy. Additionally, it was concluded that the growth of the Turkish economy would lead to a decline in bank performance due to improvements in total bank assets. Özgür (2021) evaluated the financial performance of 9 banks for development and investment in Türkiye, comprising three state-owned and six privately owned banks, from 2009 to 2019. This evaluation was conducted using the CAMELS analysis, which involved 21 financial ratios determined across six components. The indicator values for CAMELS were used to determine the negative and positive values of the development and investment banks and their trends over time. Karadağ Ak et al. (2022) analysed the financial performance of public, private, and foreign-owned banks for development and investment in Türkiye between 2010 and 2019 using the Entropy-based ARAS approach. According to the findings of the study, Diler Investment Bank and Merrill Lynch Investment Bank ranked at the top, while Türkiye Sınai Kalkınma Bankası and Aktif Investment Bank were at the bottom. Akkaynak (2022) examined the causal relationship between the financial performance of 12 banks for development and investment in Türkiye and securities issued by the public and private sectors using the Dumitrescu and Hurlin panel causality tests from 2014 to 2022. The study's findings support the idea of a causal relationship between financial performance and specific types of securities, such as government domestic debt securities, precious metal deposit accounts, stock issuance, private sector debt instrument issuance, asset-backed securities, warrants, and certificates. Yavuz et al. (2023) compared and evaluated the performance of 11 banks for development and investment during 2010-2020, taking into account ownership structure. Their performance efficiency was analysed using the MULTIMOORA method with 17 ratios under seven components. The analysis findings demonstrate that the performance of banks for development and investment operating in Türkiye did not follow a stable trend. However, during the periods examined, Pasha Investment Bank Inc. and Nurol Investment Bank Inc. were among the bottom three, while Turk Eximbank and Bank of America Investment Bank Inc. were among the top three. Çetinbakış & Bektaş (2023) measured the efficiency levels of 8 banks for development and investment from 2010 to 2021 using the Data Envelopment Analysis (DEA) method. The findings indicate that based

on the annual average technical efficiency results, the banks were inefficient during the mentioned period. Diler Yatırım Bankası has been identified as the most technically efficient bank among the relevant institutions throughout all the years. Öksüzkaya & Atan (2023) ranked the financial performance of banks' development and investment in Türkiye from 2016 to 2021. In the study, which used six evaluation criteria, three of which were cost-oriented and three of which were benefit-oriented, the criteria were weighted using the CRITIC method. Performance rankings were made using the MABAC method. According to the findings, during the evaluation period, it was determined that Türkiye Kalkınma ve Yatırım Bankası demonstrated the highest performance, while İller Bankası demonstrated the lowest performance.

### 3. Data and Methodology

This section includes explanations of the dataset used in the study and the methodology.

#### 3.1. Data

This study evaluated the financial performances of 12 development and investment banks operating in Türkiye, including foreign-owned, privately owned and state-owned institutions, using the CAMELS method, covering a three-year period from 2020 to 2022. Table 1 shows the foreign-owned, privately-owned, and state-owned banks for development and investment included in the study.

**Table: 1**  
**Banks Involved in the Study**

Order	Bank	Capital Status
1	"İller Bank Inc."	Public Capital
2	"Turk Eximbank Inc."	Public Capital
3	"Turkish Development and Investment Bank Inc."	Public Capital
4	"Aktif Investment Bank Inc."	Privately Owned
5	"Diler Investment Bank Inc."	Privately Owned
6	"Golden Global Investment Bank Inc."	Privately Owned
7	"GSD Investment Bank Inc."	Privately Owned
8	"Istanbul Settlement and Custody Bank Inc."	Privately Owned
9	"Nurol Investment Bank Inc."	Privately Owned
10	"Industrial Development Bank of Türkiye Inc."	Privately Owned
11	"BankPozitif Credit and Development Bank Inc."	Foreign-Owned
12	"Pasha Investment Bank Inc."	Foreign-Owned

The study's research relied on data from three state-owned, seven privately owned, and two foreign-owned development and investment banks in Türkiye. The financial statistics for the banks included in the study were collected from the Banks Association of Türkiye's website (Banks Association of Türkiye, 2023). Microsoft Office Excel 2016 was utilised to apply the CAMELS approach to evaluate the financial performance of banks for development and investment.



### 3.2. CAMELS Method

The CAMELS analysis is a rating technique that combines ratio analysis and mathematical calculations. The internationally renowned CAMELS Rating System is used as an audit framework by many regulatory agencies and governments to examine the financial stability of banks. The Federal Financial Institutions Examination Council (FFIEC) began using the CAMELS analysis in the United States in 1979, and it quickly became a widespread audit tool for assessing the financial soundness of financial institutions. Banking Regulation and Supervision Agency uses the CAMELS analysis to rate banks, but the findings are not disclosed to the public (Altemur et al., 2018: 60). The CAMELS rating model, which has a broad application area on a country-by-country basis, has gained widespread acceptance in both domestic and foreign academic circles (Özkan, 2019: 910).

When the CAMELS system was first established, it had five components. However, after 1997, sensitivity to market risks was added, making the system comprised of six components. The components in question are as follows (Öztük et al., 2017: 50-51);

- Capital adequacy (C) ensures that banks are protected in unforeseen circumstances. In this context, bank capital is crucial for ensuring the safety of depositors, meeting necessary fixed capital investments, and sustaining bank operations in the face of risks.
- One of the key components is asset quality (A), which is considered in terms of the nature of loans. In this case, an increase in non-performing loans is the most critical risk factor.
- Management competence (M) refers to the ability and capacity of the management. This component questions the effectiveness of recognising potential risks.
- Earnings (E) is one of the conditions necessary for banks to perform their functions systematically. This component assesses how profitable banks are.
- Liquidity (L) indicates banks' ability to meet unforeseen cash outflows and short-term debt obligations. The key factor influencing the liquidity level is how banks manage their funds.
- Sensitivity to market risk (S) is a method for examining economic factors such as interest rates, stock prices, commodity prices, and exchange rates that can significantly affect banks.

The CAMELS analysis examines the banking system, income statements, and balance sheets. As a result of the CAMELS analysis, banks identified as unfavourable are not classified as failed. Market participants focus on these banks and try to assess their financial stability using the results of the CAMELS analysis as an early warning system. The findings reveal both banks with a strong financial structure, and those with an inadequate financial structure (Abdullayev, 2013: 98). The assessment criteria for the CAMELS components during the bank audit are shown in Table 2.

**Table: 2**  
**Factors to Consider in CAMELS Analysis**

<b>C - (Capital)</b>	Assessment of the financial situation considering the sizes of the banks
	Evaluation of the risks posed by off-balance sheet transactions
	Disaggregation of the asset structure of the balance sheet to include various risks
	Banking plans concerning growth
	Size of undistributed profits
	The state of funding resources in cases where additional capital is needed
	Profitability situation
	The status of risky assets, provision adequacy for these risks, and revaluation terms
<b>A - (Asset)</b>	Conditions for accessing capital markets and other capital sources
	The current state of loan provisions, as well as the allocation of provisions for prospective losses
	The terms of the loan disbursement process, administrative evaluation criteria, whether a necessary risk assessment is conducted during loan disbursement, and securing collateral accordingly
	Examination of the loan and investment portfolio
	Identification, monitoring, and successful collection of non-performing assets
	Success in the collection of non-performing assets
	Assessment of derivative transactions, collateral provided in off-balance sheet activities, credit limits, and credit risk levels
	Asset concentration analysis
<b>M - (Management)</b>	The state of management and internal audit information systems
	The desire of bank management to consider the evaluations and warnings of auditors and contribute to the establishment of a compliant banking system
	Risk profile and overall performance of banks
	The structure, scale, and adequacy of banks' risk, management, and information systems according to their areas of operation
	The level of establishment of appropriate policies in their areas of operation and the adequacy of internal control systems
	Compliance with regulations
	Distribution of authority in senior management and the board of directors and the quality of governance
	The management's and board of directors' strategies, adaptability to industry developments, adoption of new products and services, success in controlling operational risks, and their capacity for leadership
<b>E - (Earnings)</b>	Conditions for supporting bank decisions by the board of directors
	Success and depth of management
	Whether sufficient capital for the bank is provided through undistributed profits
	The source and quality of earnings
	Earnings sensitivity to market risk
	Assessment of the status of earnings in terms of trend dependency and stability
	Examination of asset concentration
	The status of revaluation and provision systems
<b>L - (Liquidity)</b>	Assessment of management information system and budgeting system
	The situation of diversification of funding sources
	Level of dependence on short-term volatile funds
	Assessment of current and future liquidity sources and meeting the liquidity needs
	Assessment of liquidity, including management information systems and liquidity strategies
	Development and stability of deposits
	Conditions for accessing money and similar fund markets
	The condition of assets to be converted into securities and the conditions for their sale
<b>S - (Sensitivity to Market Risk)</b>	The situation of market risk arising from foreign exchange and trading operations
	Sensitivity of capital value and earnings to adverse market changes
	The structure of interest rate risk exposure in non-trading operations
	The management's success in identifying and controlling the market risk exposure

Source: Kaya, 2001: 2-4; Sakarya, 2010: 15-16; Ege et al., 2015: 112-113.

Various calculation processes determine banks' performance and CAMELS rating. In this context, the CAMELS rating is calculated after determining the reference value, index value, deviation value, overall factor-weighted value, and CAMELS composite score. Table 3 provides comprehensive explanations and steps for calculating the CAMELS rating.

**Table: 3**  
**Application Steps for CAMELS Analysis**

Step	Explanation	Application
Step 1:	Determination of Financial Ratios of General Factor Components	Financial ratios of general factors are determined by considering the literature.
Step 2:	Determining the Direction of the Effect of Ratios	It is evaluated if a change in the financial ratio positively or negatively impacts the overall factor.
Step 3:	Determination of General Factor Importance Weighting	The importance and weight of each factor in the total application are determined.
Step 4:	Determination of Financial Ratio Importance Weights	The importance of the weight of the financial ratio in the related factor is determined.
Step 5:	Determination of Reference Values	The sector average of banks for development and investment for 2020-2022 has been taken.
Step 6:	Calculation of Index Value	The financial ratio is divided by the reference value, and the result is multiplied by 100.
Step 7:	Calculation of Deviation Value	If the direction of effect is positive, it is calculated as (index value-100); if it is negative, it is calculated as (100-index value).
Step 8:	Calculation of Weighted Values	It is determined by multiplying the deviation value by the weight value of the corresponding financial ratio.
Step 9:	Calculation of General Factor Weight Value	It is calculated by multiplying the weighted values calculated for each financial ratio by the general factor impact ratio.
Step 10:	Calculation of CAMELS Indicator Value	It is calculated by summing the weighted values of each general factor.
Step 11:	CAMELS Score	The CAMELS indicator value calculated for each bank is scored on a scale of 1-5, and its performance is determined relative to that of other banks.

Source: Kandemir & Arıcı: 2013, 73; Akçüz et al., 2020:153; Özgür, 2021: 3214.

The CAMELS analysis gives ratings on a scale of 1 to 5. An increase in the rating indicates a worsening situation, with '1' representing the best-performing bank (Ahmedov & Mehmedov, 2017: 100-101). The points shown in Table 4 are determined according to the ranges;

**Table: 4**  
**CAMELS Score and Rating**

CAMELS Score	CAMELS Rating
$-\infty - -30]$	5
$(-30 - -10]$	4
$(-10 - 10]$	3
$(10 - 30]$	2
$(30 - \infty$	1

Source: Daver, 2015.

- “1” Banks that are strong in every aspect (Each component should be rated as 1 or 2 for the bank),
- “2” Generally strong banks (Each component value should not be less than 3),
- “3” Underperforming banks,
- “4” Banks with severe management and financial issues and the overall decline in financial health,
- “5” They are referred to as banks with severe managerial/financial problems.

#### 4. Findings

The financial ratios to be primarily used in the study have been determined. Based on the literature review, financial ratios commonly used in CAMELS analysis have been preferred to determine the financial ratios. These financial ratios consist of 22 ratios in six different groups. The information regarding these financial ratios is presented in Table 5. Table 5 includes the code of the financial ratios used in the study, the direction of impact,

the importance weight awarded to the ratios, and the weight awarded to the component. Importance weight ratings can vary from person to person. Researchers can determine the importance of weight values differently. The direction of impact of financial ratios indicates the positive or negative relationship between the components. If there is a positive relationship, it affects the component positively; otherwise, it affects it negatively.

**Table: 5**  
**CAMELS Components, Determined Financial Ratios, and Importance Weights**

Components and Ratios	Codes of the Ratios	Direction of Relationship	Weight Assigned to Ratios
<b>C</b>			<b>20</b>
Capital Adequacy Ratio	C1	Positive	25
Equity/Total Assets	C2	Positive	25
(Equity-Fixed Assets)/Total Assets	C3	Positive	25
Net Balance Sheet Position/Equity	C4	Positive	25
<b>A</b>			<b>20</b>
Financial Assets (Net) / Total Assets	A1	Negative	25
Total Loans / Total Assets	A2	Positive	25
Non-performing Loans / Total Loans	A3	Negative	25
Fixed Assets/Total Assets	A4	Negative	25
<b>M</b>			<b>15</b>
Net Interest Income After Specific Provisions / Total Assets	M1	Positive	25
Non-Interest Income (Net) / Total Assets	M2	Positive	25
Interest Income / Total Revenues	M3	Positive	25
Interest Expenses / Total Expenses	M4	Negative	25
<b>E</b>			<b>15</b>
Return on Average Assets	E1	Positive	25
Return on Average Equity	E2	Positive	25
Pre-Tax Income / Total Assets	E3	Positive	25
Net Income (Loss) / Paid-in Capital	E4	Positive	25
<b>L</b>			<b>15</b>
Liquid Assets / Total Assets	L1	Positive	35
Liquid Assets / Short-term Liabilities	L2	Positive	35
TL Liquid Assets / Total Assets	L3	Positive	30
<b>S</b>			<b>15</b>
TL Assets / Total Assets	S1	Negative	35
FE Assets / FE Liabilities	S3	Negative	35
FE Liabilities / Total Liabilities	S2	Negative	30

The sector average value of financial ratios for banks for development and investment has been taken as the benchmark, and the reference values for 2020-2022 are shown in Table 6.

**Table: 6**  
**Reference Values for 2020-2022**

Components and Ratios	2020	2021	2022
<b>C</b>			
Capital Adequacy Ratio	25,8	22,6	23,0
Equity/Total Assets	13,7	10,4	11,6
(Equity-Fixed Assets)/Total Assets	12,3	9,2	10,3
Net Balance Sheet Position/Equity	-6,9	-5,1	-16,3
<b>A</b>			
Financial Assets (Net) / Total Assets	19,8	22,1	28,7
Total Loans / Total Assets	73,6	72,6	64,0
Non-performing Loans / Total Loans	1,1	1,0	0,9
Fixed Assets/Total Assets	1,4	1,2	1,3
<b>M</b>			
Net Interest Income After Specific Provisions / Total Assets	1,8	1,7	2,6
Non-Interest Income (Net) / Total Assets	0,8	0,8	1,3
Interest Income / Total Revenues	84,7	84,0	82,9
Interest Expenses / Total Expenses	85,2	85,1	88,2

<b>E</b>			
Return on Average Assets	1,8	2,0	3,0
Return on Average Equity	12,5	16,9	27,2
Pre-Tax Income / Total Assets	1,9	2,0	3,2
Net Income (Loss) / Paid-in Capital	16,7	23,5	41,6
<b>L</b>			
Liquid Assets / Total Assets	15,9	17,5	22,7
Liquid Assets / Short-term Liabilities	112,2	101,7	97,5
TL Liquid Assets / Total Assets	10,5	10,8	15,6
<b>S</b>			
TL Assets / Total Assets	31,3	25,7	44,5
FE Assets / FE Liabilities	70,8	75,2	57,8
FE Liabilities / Total Liabilities	97,1	98,7	96,1

Table 7 shows the next step after determining the reference values: the steps followed for calculating CAMELS component values. The calculations provided in Table 7 are related to the 2022 CAMELS composite value of Iller Bankasi A.S. These calculations were performed separately for 12 participating banks each year. The steps outlined earlier were used to calculate the CAMELS results.

**Table: 7**  
**Calculation of CAMELS Score for Iller Bankasi A.S. for the Year 2022**

Components and Ratios	Direction of Impact	Weight Assigned to Ratios	Bank Value	Reference Value	Index Value	Deviation Value	Total Weight Value of Ratios	Weight Value of the Group	CAMELS Value
<b>C</b>		<b>20</b>					<b>149,96</b>		
C1	+	25	34,7	23,0	150,92	50,92	12,73	<b>29,99</b>	<b>36,75</b>
C2	+	25	38,2	11,6	327,62	227,62	56,90		
C3	+	25	33,2	10,3	321,71	221,71	55,43		
C4	+	25	-0,1	-16,3	0,42	99,58	24,89		
<b>A</b>		<b>20</b>					<b>-61,79</b>		
A1	-	25	43,0	28,7	150,01	-50,01	-12,50	<b>-12,36</b>	
A2	+	25	49,2	64,0	76,96	-23,04	-5,76		
A3	-	25	0,0	0,9	0,00	100,00	25,00		
A4	-	25	4,9	1,3	374,13	-274,13	-68,53		
<b>M</b>		<b>15</b>					<b>40,81</b>		
M1	+	25	5,6	2,6	212,08	112,08	28,02	<b>6,12</b>	
M2	+	25	1,5	1,3	120,19	20,19	5,05		
M3	+	25	82,7	82,9	99,76	-0,24	-0,06		
M4	-	25	60,7	88,2	68,78	31,22	7,81		
<b>E</b>		<b>15</b>					<b>-10,66</b>		
E1	+	25	4,3	3,0	142,57	42,57	10,64	<b>-1,60</b>	
E2	+	25	10,5	27,2	38,72	-61,28	-15,32		
E3	+	25	4,8	3,2	147,77	47,77	11,94		
E4	+	25	11,8	41,6	28,29	-71,71	-17,93		
<b>L</b>		<b>15</b>					<b>104,23</b>		
L1	+	35	43,0	22,7	189,12	89,12	31,19	<b>15,63</b>	
L2	+	35	165,1	97,5	169,26	69,26	24,24		
L3	+	30	40,9	15,6	262,64	162,64	48,79		
<b>S</b>		<b>15</b>					<b>-6,92</b>		
S1	-	35	83,6	44,5	188,09	-88,09	-30,83	<b>-1,04</b>	
S3	-	35	16,4	57,8	28,38	71,62	25,07		
S2	-	30	99,8	96,1	103,84	-3,84	-1,15		

Tables 8-19 display the calculated CAMELS scores banks for development and investment for 2020-2022.

**Table: 8**  
**Iller Bank Inc. CAMELS Scores for 2020-2022**

	2020	2021	2022
<b>Iller Bank Inc.</b>	<b>60,47</b>	<b>56,39</b>	<b>36,75</b>
<b>C (Capital)</b>	36,57	41,70	29,99
<b>A (Asset)</b>	-11,29	-20,10	-12,36
<b>M (Management)</b>	12,65	12,72	6,12
<b>E (Earnings)</b>	11,90	9,14	-1,60
<b>L (Liquidity)</b>	16,09	20,77	15,63
<b>S (Sensitivity to Market Risk)</b>	-5,45	-7,84	-1,04

Table 8 displays the CAMELS score for Iller Bank Inc. for 2020-2022. Over the three years, the CAMELS score has generally shown a decreasing trend, with positive values in all years. In 2020 and 2021, the capital adequacy, management quality, profitability level, and liquidity level contributed positively to the CAMELS score, while asset quality and susceptibility to market risk had a negative impact. In 2022, the capital adequacy, management quality, and liquidity level contributed positively to the CAMELS score, while profitability level, asset quality and market risk sensitivity contributed negatively.

**Table: 9**  
**Turk Eximbank Inc. CAMELS Scores for 2020-2022**

	2020	2021	2022
<b>Turk Eximbank Inc.</b>	<b>7,69</b>	<b>-0,17</b>	<b>5,78</b>
<b>C (Capital)</b>	4,38	-3,84	0,79
<b>A (Asset)</b>	13,00	13,44	14,46
<b>M (Management)</b>	-4,63	-4,42	-3,85
<b>E (Earnings)</b>	-3,72	-1,01	-2,06
<b>L (Liquidity)</b>	-3,23	-6,78	-3,83
<b>S (Sensitivity to Market Risk)</b>	1,89	2,44	0,27

Table 9 displays the CAMELS score for Turk Eximbank Inc. for 2020-2022. The CAMELS score was positive in 2020 and 2022 and negative in 2021. In 2020 and 2022, market risk sensitivity, asset quality, and capital adequacy contributed positively to the CAMELS score, while management quality, profitability level, and liquidity level contributed negatively. In 2021, market risk sensitivity and asset quality contributed positively to the CAMELS score, while capital adequacy, management quality, profitability level, and liquidity level contributed negatively.

**Table: 10**  
**Development and Investment Bank of Türkiye Inc. CAMELS Scores for 2020-2022**

	2020	2021	2022
<b>Development and Investment Bank of Türkiye Inc.</b>	<b>37,45</b>	<b>14,22</b>	<b>-14,03</b>
<b>C (Capital)</b>	4,15	12,74	-14,39
<b>A (Asset)</b>	3,30	-0,90	1,43
<b>M (Management)</b>	-0,09	-0,67	-2,70
<b>E (Earnings)</b>	5,92	4,03	1,14
<b>L (Liquidity)</b>	22,83	-2,30	0,28
<b>S (Sensitivity to Market Risk)</b>	1,33	1,33	0,22

Table 10 displays the CAMELS score for the Development and Investment Bank of Türkiye Inc. for 2020-2022. Over the three years, the CAMELS score has generally decreased, being positive in 2020 and 2021 and negative in 2022. In 2020, asset quality,

capital adequacy, profitability, market risk sensitivity and liquidity contributed positively to the CAMELS score, while management quality contributed positively. In 2021, market risk sensitivity, profitability and capital adequacy contributed positively to the CAMELS score, while liquidity level, management quality and asset quality contributed negatively. In 2022, market risk sensitivity, liquidity, profitability and asset quality contributed positively to the CAMELS score, while capital adequacy and management quality contributed negatively.

**Table: 11**  
**Active Investment Bank Inc. CAMELS Scores for 2020-2022**

	2020	2021	2022
<b>Active Investment Bank Inc.</b>	<b>-53,21</b>	<b>-4,11</b>	<b>-9,40</b>
<b>C (Capital)</b>	-37,38	10,00	-12,41
<b>A (Asset)</b>	-21,80	-22,79	-16,44
<b>M (Management)</b>	7,06	5,87	7,99
<b>E (Earnings)</b>	10,11	10,07	17,76
<b>L (Liquidity)</b>	-8,52	-4,60	-6,19
<b>S (Sensitivity to Market Risk)</b>	-2,67	-2,67	-0,11

Table 11 displays the CAMELS score for Active Investment Bank Inc. for 2020-2022. The CAMELS scores were negative over the three years. In 2020 and 2022, management quality and profitability contributed positively to the CAMELS score, while market risk sensitivity, liquidity, management, asset quality and capital adequacy contributed negatively. In 2021, profitability, management quality, and capital adequacy contributed positively to the CAMELS score, while market risk sensitivity, liquidity and asset quality contributed negatively.

**Table: 12**  
**Diler Investment Bank Inc. CAMELS Scores for 2020-2022**

	2020	2021	2022
<b>Diler Investment Bank Inc.</b>	<b>114,36</b>	<b>207,83</b>	<b>71,30</b>
<b>C (Capital)</b>	69,95	107,43	57,16
<b>A (Asset)</b>	-14,21	-7,57	-2,18
<b>M (Management)</b>	21,94	66,22	20,81
<b>E (Earnings)</b>	7,46	47,68	-1,28
<b>L (Liquidity)</b>	34,89	6,40	-2,23
<b>S (Sensitivity to Market Risk)</b>	-5,68	-12,32	-0,98

Table 12 displays the CAMELS score for Investment Bank Inc. for 2020-2022. The CAMELS scores were positive over the three years. In 2020 and 2021, capital adequacy, management quality, profitability, and liquidity contributed positively to the CAMELS score, while market risk sensitivity and asset quality contributed negatively. In 2022, capital adequacy and management quality contributed positively to the CAMELS score, while market risk, liquidity, profitability and sensitivity asset quality contributed negatively.

**Table: 13**  
**Golden Global Investment Bank Inc. CAMELS Scores for 2020-2022**

	2020	2021	2022
<b>Golden Global Investment Bank Inc.</b>	<b>144,90</b>	<b>59,69</b>	<b>90,26</b>
<b>C (Capital)</b>	75,78	14,31	15,43
<b>A (Asset)</b>	-42,73	-14,11	-10,05
<b>M (Management)</b>	61,72	43,75	38,41
<b>E (Earnings)</b>	18,68	2,13	32,16
<b>L (Liquidity)</b>	35,66	13,72	13,58
<b>S (Sensitivity to Market Risk)</b>	-4,21	-0,11	0,73

Table 13 displays the CAMELS score for Golden Global Investment Bank Inc. for 2020-2022. The CAMELS scores were positive over the three years. In 2020 and 2021, capital adequacy, management quality, profitability, and liquidity contributed positively to the CAMELS score, while market risk sensitivity and asset quality contributed negatively. In 2022, market risk sensitivity, liquidity, profitability, management quality, and capital adequacy contributed positively to the CAMELS score, while asset quality contributed negatively.

**Table: 14**  
**GSD Investment Bank Inc. CAMELS Scores for 2020-2022**

	2020	2021	2022
<b>GSD Investment Bank Inc.</b>	<b>119,22</b>	<b>123,18</b>	<b>134,14</b>
<b>C (Capital)</b>	39,00	43,93	44,79
<b>A (Asset)</b>	8,37	11,59	13,11
<b>M (Management)</b>	46,01	44,86	49,17
<b>E (Earnings)</b>	39,65	41,27	42,13
<b>L (Liquidity)</b>	-10,26	-14,80	-14,44
<b>S (Sensitivity to Market Risk)</b>	-3,55	-3,68	-0,63

Table 14 displays the CAMELS score for GSD Investment Bank Inc. for 2020-2022. Over the three years, the CAMELS scores have taken positive values and followed an increasing trend. From 2020 to 2022, management quality, asset quality, capital adequacy, and profitability contributed positively to the CAMELS score, while market risk sensitivity and liquidity contributed negatively.

**Table: 15**  
**Istanbul Settlement and Custody Bank Inc CAMELS Scores for 2020-2022**

	2020	2021	2022
<b>Istanbul Settlement and Custody Bank Inc.</b>	<b>60,89</b>	<b>59,48</b>	<b>46,07</b>
<b>C (Capital)</b>	2,64	2,11	-1,75
<b>A (Asset)</b>	-14,58	-11,02	-7,25
<b>M (Management)</b>	4,97	4,30	0,41
<b>E (Earnings)</b>	22,58	25,31	23,48
<b>L (Liquidity)</b>	49,59	45,49	31,99
<b>S (Sensitivity to Market Risk)</b>	-4,30	-6,70	-0,81

Table 15 displays the CAMELS score for Istanbul Settlement and Custody Bank Inc. for 2020-2022. Over the three years, the CAMELS scores were positive, yet they followed a decreasing trend. In 2020 and 2021, capital adequacy, management quality, profitability, and liquidity contributed positively to the CAMELS score, while market risk sensitivity and asset quality contributed negatively. In 2022, management quality, profitability, and



liquidity contributed positively to the CAMELS score, while market risk sensitivity, asset quality and capital adequacy contributed negatively.

**Table: 16**  
**Nurol Investment Bank Inc. CAMELS Scores for 2020-2022**

	2020	2021	2022
<b>Nurol Investment Bank Inc.</b>	<b>-89,02</b>	<b>54,74</b>	<b>29,05</b>
<b>C (Capital)</b>	-64,19	70,58	-14,92
<b>A (Asset)</b>	-30,24	-33,50	-10,75
<b>M (Management)</b>	6,98	7,47	16,90
<b>E (Earnings)</b>	9,76	10,32	41,46
<b>L (Liquidity)</b>	-8,95	1,52	-3,34
<b>S (Sensitivity to Market Risk)</b>	-2,39	-1,65	-0,30

Table 16 displays the CAMELS score for Nurol Investment Bank Inc. for 2020-2022. The CAMELS score was positive in 2021 and 2022, while it was negative in 2020. In 2020 and 2022, management quality and profitability contributed positively to the CAMELS score, while market risk sensitivity, liquidity, asset quality and capital adequacy contributed negatively. In 2021, liquidity, profitability, management quality, and capital adequacy contributed positively to the CAMELS score, while market risk sensitivity and asset quality contributed negatively.

**Table: 17**  
**Industrial Development Bank of Türkiye Inc. CAMELS Scores for 2020-2022**

	2020	2021	2022
<b>Industrial Development Bank of Türkiye Inc.</b>	<b>-60,19</b>	<b>-72,22</b>	<b>-26,70</b>
<b>C (Capital)</b>	-33,70	-59,39	-17,20
<b>A (Asset)</b>	-19,46	-15,24	-17,09
<b>M (Management)</b>	-2,41	-1,81	-0,35
<b>E (Earnings)</b>	1,54	1,28	13,88
<b>L (Liquidity)</b>	-6,46	2,31	-6,11
<b>S (Sensitivity to Market Risk)</b>	0,29	0,63	0,17

Table 17 shows the CAMELS score for Industrial Development Bank of Türkiye Inc. for 2020-2022. The CAMELS score was negative over the three years. In 2020 and 2022, market risk sensitivity and profitability contributed positively to the CAMELS score, while liquidity, management quality, asset quality and capital adequacy contributed negatively. In 2021, profitability, market risk sensitivity and liquidity contributed positively to the CAMELS score, while management quality, asset quality and capital adequacy contributed negatively.

**Table: 18**  
**Bankpozitif Credit and Development Bank Inc. CAMELS Scores for 2020-2022**

	2020	2021	2022
<b>Bankpozitif Credit and Development Bank Inc.</b>	<b>-152,95</b>	<b>-110,97</b>	<b>-85,85</b>
<b>C (Capital)</b>	18,13	16,28	33,72
<b>A (Asset)</b>	-138,59	-124,04	-162,04
<b>M (Management)</b>	2,10	11,33	37,42
<b>E (Earnings)</b>	-26,79	-7,37	4,43
<b>L (Liquidity)</b>	-7,60	-6,59	0,16
<b>S (Sensitivity to Market Risk)</b>	-0,20	-0,59	0,45

Table 18 displays Bankpozitif Credit and Development Bank Inc.'s CAMELS scores from 2020 to 2022. Over the three years, the CAMELS scores have been negative but show an increasing trend. In 2020 and 2021, capital adequacy and management quality contributed positively to the CAMELS score, while asset quality, profitability, liquidity, and market risk sensitivity contributed negatively. In 2022, market risk sensitivity, liquidity, profitability, management quality, and capital adequacy contributed positively to the CAMELS score, while asset quality contributed negatively.

**Table: 19**  
**Pasha Investment Bank Inc. CAMELS Scores for 2020-2022**

	2020	2021	2022
<b>Pasha Investment Bank Inc.</b>	<b>-38,37</b>	<b>-33,83</b>	<b>0,01</b>
<b>C (Capital)</b>	13,68	5,62	9,06
<b>A (Asset)</b>	-42,61	-27,58	-11,19
<b>M (Management)</b>	1,03	0,46	3,11
<b>E (Earnings)</b>	-4,68	-5,14	2,81
<b>L (Liquidity)</b>	-5,47	-6,76	-4,35
<b>S (Sensitivity to Market Risk)</b>	-0,32	-0,42	0,57

Table 19 presents the CAMELS scores of Pasha Investment Bank Inc. for 2020 to 2022. While the CAMELS scores were negative in 2020 and 2021, they became positive in 2022, following an upward trend from 2020 to 2022. In 2020 and 2021, capital adequacy and management quality contributed positively to the CAMELS score, while asset quality, profitability, liquidity, and market risk sensitivity contributed negatively. In 2022, capital adequacy, management quality, profitability, and market risk sensitivity contributed positively to the CAMELS score, while asset quality and liquidity contributed negatively.

The analysis reveals that not all CAMELS findings fall within the range of 1 to 5. In this respect, it can be interpreted that investment and development banks with a positive CAMELS value exhibited a higher financial performance compared to the sector, whereas those with a negative CAMELS value demonstrated a poorer financial performance compared to the sector.

## 5. Conclusion

This study compares the financial performance of 12 development and investment banks operating in Türkiye between 2020 and 2022. The banks comprise three state-owned, seven privately owned, and two foreign-owned banks. The analysis method used for this comparison was the CAMELS analysis, which is based on 22 financial ratios. The fundamental indicators of the study were the capital adequacy ratios, asset quality ratios, management quality ratios, profitability ratios, liquidity ratios, and market risk sensitivity ratios identified through a comprehensive literature review. Over three years, the research has provided insight into the financial evolution of twelve development and investment banks.

When comparing the financial performance of development and investment banks based on the CAMELS score from 2020 to 2022, Golden Global Investment Bank Inc.

performed best in 2020, Diler Investment Bank Inc. in 2021, and GSD Investment Bank Inc. in 2022. On the other hand, BankPozitif Credit and Development Bank Inc. exhibited the worst financial performance in all three years. When evaluated as a whole over the three years, it has been determined that Diler Investment Bank Inc. (207.83) has the highest CAMELS score, while BankPozitif Credit and Development Bank Inc. (-152.85) has the lowest CAMELS score. It has been concluded that the development and investment banks with the highest performance are privately owned. Furthermore, CAMELS scores of foreign-owned development and investment banks are lower than those of publicly and privately-owned development and investment banks.

When analysing the banks with the best financial performance components regarding capital adequacy, Golden Global Investment Bank in 2020 and Diler Investment Bank in 2021 and 2022 showed the highest performance. In terms of asset quality, Turkish Eximbank, in all years, in terms of management quality, Golden Global Investment Bank in 2020, Diler Investment Bank in 2021, and GSD Investment Bank in 2022, exhibited the best performance. Regarding profitability, GSD Investment Bank showed the best performance in 2020 and 2022, and Diler Investment Bank in 2021. Regarding liquidity, Istanbul Clearing and Settlement Bank exhibited the highest performance of all the years. Regarding market risk sensitivity, Turk Eximbank demonstrated the highest performance in 2020 and 2021, while Golden Global Investment Bank exhibited the highest performance in 2022. When the banks with the lowest performance based on financial performance components are evaluated, Nurol Investment Bank in 2020 and Industrial Development Bank of Türkiye in 2021 and 2022 showed the lowest performance in capital adequacy. BankPozitif Credit and Development Bank showed the lowest performance in all years regarding asset quality, and Turk Eximbank showed the lowest performance in all years regarding management quality. Regarding profitability, BankPozitif Credit and Development Bank in 2020 and 2021 and Turk Eximbank in 2022 showed the lowest performance. Regarding liquidity, GSD Investment Bank performed the worst in all years, while in terms of sensitivity to market risk, Diler Investment Bank performed the worst in 2020 and 2021, and İller Bank performed the worst in 2022.

The CAMELS ratings of state-owned development and investment banks declined in 2021, the year most hit by the COVID-19 epidemic, with Türk Eximbank even receiving a negative score. It has been determined that in 2021, the CAMELS scores of 4 privately owned development and investment banks decreased while the scores of 3 banks scaled up. Although the CAMELS scores of foreign-owned development and investment banks were generally negative during the examined period, it was observed that there was an increasing trend during the Covid-19 period.

CAMELS findings show that specific development and investment banks received positive values in all years, some received negative values in all years, and some received positive values in some years and others. Development and investment banks with negative CAMELS values should examine the financial indicators that negatively affect their CAMELS scores and take necessary actions accordingly. In this context, the management

of banks for development and investment is provided with the opportunity to evaluate these results while making financial decisions.

The results of this study have an original structure that includes the analysis of the CAMELS method, using secondary data obtained from the financial statements of 12 banks for development and investment operating in Türkiye. Therefore, it is important not to generalise or interpret the obtained results for other banks or bank types and related companies. The conclusions reached only provide information for the period from 2020 to 2022; therefore, it is impossible to predict the upcoming periods based on these results.

The CAMELS analysis in the study can be applied to banks operating in other countries for investment and development, allowing for international comparisons. Additionally, the financial performance of banks for development and investment, which hold significant positions nationally and internationally, can be analysed using different methods by diversifying the financial ratios used in future studies.

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## The Situation of Inflation Hysteresis in Türkiye: Analysis with Traditional, Fourier and Fractional Frequency Fourier Tests

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### Türkiye’de Enflasyon Histerisinin Durumu: Geleneksel, Fourier ve Kesirli Frekans Fourier Testleri ile Analiz

#### Abstract

This study investigates the impact of exchange rate shocks on pricing and whether the values normalise after the shock ends. Accordingly, the study tests the existence of inflation hysteresis. Goods and services sector inflation figures are used in the evaluation, and the data for the Turkish sample between February 2003 and December 2022 are analysed. The data are analysed by subjecting them to Traditional Fourier and Fractional Frequency Fourier tests. The methods used in the study minimise the margin of error as they include sine and cosine values as well as structural breaks in the analysis and are considered to be one of the most up-to-date analysis methods. According to the study’s findings, the increase in inflation rates in Türkiye does not show a permanent feature after appropriate policy adjustments.

**Keywords** : Goods Inflation, Services Inflation, Hysteresis, Fourier.

**JEL Classification Codes** : E30, E31.

#### Öz

Çalışmada, döviz kuru şoklarının fiyatlar üzerindeki etkisi ve şok sonrasında fiyatların şok öncesine göre sahip olduğu düzey incelenmektedir. Bu doğrultuda, çalışmada enflasyon histerisinin varlığı test edilmektedir. Ticari mal ve hizmet sektörlerindeki enflasyon oranları çalışma dahilinde değerlendirilmiş olup, Türkiye özelinde Şubat 2003-Aralık 2022 tarihleri arası dikkate alınarak analiz gerçekleştirilmiştir. Analiz, verilerin geleneksel Fourier ve Kesirli Frekanslı Fourier testine tabi tutulması ile gerçekleştirilmiştir. Çalışmada kullanılan yöntemler, serilerin sinüs ve kosinüs değerlerinin yanı sıra yapısal kırılmaları da analize dahil ederek hata payını en aza indirmekte ve literatürdeki en güncel analiz yöntemleri arasında kabul edilmektedir. Çalışma sonucunda, uygun politik düzenlemelere gidildiği taktirde Türkiye’de enflasyon oranlarındaki artışın kalıcı bir özellik göstermeyeceği çıktısına ulaşılmıştır.

**Anahtar Sözcükler** : Ticari Mal Enflasyonu, Hizmet Enflasyonu, Histeri, Fourier.



## 1. Introduction

Macroeconomic factors significantly impact a country's economy's quantitative and qualitative development. The interpretation of a country's economic performance results from evaluating factors such as unemployment, inflation, economic growth and economic development. When assessing a country's economy, following the upward and downward movements of the macroeconomic variables' indicators and providing output by commenting on the change is important. Factors such as growth, inflation, unemployment, income distribution, and poverty frequently examined in the literature and form the basis of more than one research can be observed as basic macroeconomic difficulties in countries' economies. These economic problems can become chronic in developing countries and, therefore, have a shaping effect on the political economy of countries. Inflation, one of the chronic problems, is one of the biggest obstacles to economic growth, which involves quantitative variables, and thus development, which involves qualitative variables.

The concept of hysteresis is frequently examined in the economic literature. It aims to investigate how the variable it examines changes in the event of a shock and whether the variable returns to its previous position when the shock's effect disappears.

The concept of hysteresis, which is the primary analysis concept of the study, was first used in the literature by (Tobin, 1995) to analyse the effect of the changes in unemployment rates on the economy. In his study, Tobin (1995) stated that the concepts of inflation and unemployment, which are among the macroeconomic problems, are among the critical issues for countries and that the importance of these concepts has not changed despite the changing political structure. In the study, although it is stated that the natural rate hypothesis is not valid, it is commented that unemployment rates remain constant even if the extraordinary situation that occurs is eliminated. This situation enables the study to be stated as the first to include the concept of hysteresis since it is the definition of the concept of hysteresis. The related study (Blanchard & Summers, 1986, 1988; Brunello, 1990) can also be mentioned among the studies analysing the concept. Although the concept of hysteresis entered the literature with unemployment studies, inflation has also been examined within the framework of this concept. The integrated examination of the concept of hysteresis with macroeconomic variables aims to test whether the macroeconomic problems, economic shocks, bottlenecks, etc., can return to their previous level if the conditions are eliminated. This study tests whether the increase in inflation, especially in developing countries, returns to its previous level with the economic recovery after the political arrangements will change the view of economic arrangements and will create an impetus to take measures if necessary.

When the literature is examined, the studies in which the hysteresis effect is most frequently used have been observed in the field of unemployment, and it has been discussed how much a shock in the economy increases unemployment rates and how unemployment changes when the relevant shock situation disappears (Akcan, 2019; Önal, 2021; Telli-Üçler, 2022). The fact that unemployment rates are an important indicator of national growth and

development and that employment is the first factor to be affected by economic problems explains the more frequent examination of unemployment hysteresis.

In addition to unemployment, the effect of inflation, which provides information about the purchasing power of the country's currency and is an indicator of the competitiveness of the country under study in the international arena, is among the issues that should be examined within the framework of the concept of hysteresis. Inflation hysteresis, which is the subject of fewer studies in the literature compared to the concept of unemployment hysteresis, contributes to the economy in terms of evaluating the recoverability of inflation rates in the analysed country. Inflation is dynamic, and its impact factors can be different parameters. Policies that control inflation, which is determined by more than one parameter, may lead to wrong results if they are not chosen correctly.

To combat the adverse effects of inflation, the country's economies develop policies to ensure price stability and the appreciation of the national currency against foreign currencies. It aims to minimise or eliminate the emergence of economic crises and the problems encountered afterwards through the appreciation of the country's currency and a stable price mechanism. Most of the studies in the literature have investigated the hysteresis effect after crises and aimed to determine the extent to which post-shock stabilisation is achieved (Öztürk, 2021). Studies in the literature show that the cause of inflation in Türkiye is rising cost items. Azazi (2022) supported the conclusion in his research on the source of inflation in Türkiye. In another study, Selim and Güven (2014) revealed that inflation in Türkiye is cost-oriented and related to the exchange rate. In this regard, it is among the study results that changes in exchange rates can cause sudden changes in inflation. When examining exchange rate shocks, it can be stated that the hysteresis effect is lower, while the hysteresis effect lasts longer for the inflation variable. In this regard, it is deemed necessary to evaluate the resilient structure of inflation, focus on inflationary policies, and evaluate their results in different ways.

At this point, the aim of determining the hysteresis effect is to analyse the shock, crisis, etc., occurring in the relevant country to minimise the after-effects. The resilient nature of the hysteresis effect in inflation may lead to an increase in the negative factors that will occur in the country in the long run (Özcan, 2022; Roache, 2014).

In this respect, the study analyses the existence of inflation hysteresis by aiming to test whether the increase and decrease in inflation rates can return to their previous level when the factor causing the increase and decrease is removed. Türkiye was selected as the sample country for the analysis. The choice of Türkiye can be explained by the fact that the country is an inflationary and developing country, and therefore, inflation rates are affected by any shock, crisis, etc. The existence of inflation hysteresis is analysed in this study, and the year range is 2003-2022. While determining the existence of inflation hysteresis in the relevant year interval, new generation analysis methods are applied in addition to traditional unit root tests. Augmented Dickey-Fuller (ADF) unit root test and Fourier ADF unit root test, which is an improved version of the test and considers sine and cosine values, are

applied. The Fractional Frequency Fourier Augmented Dickey-Fuller Unit Root Test, which considers structural breaks, was also used in the study following the related tests.

The realisation is that the study aims to test the existence of hysteresis in Türkiye. If hysteresis is mentioned, it seeks to make policy recommendations that minimise the negative impact of inflation. In line with the outputs obtained, the study aims to make suggestions that will contribute to the regulations to be implemented in the field of political economy to control inflation and to positively affect variables such as economic growth, employment, unemployment, budget deficit, budget surplus, etc., which are among the macroeconomic indicators in the following processes. It is thought that this study will make a difference and contribute to the literature with its structure that minimises the margin of error of the applied methods and its timeliness, as well as other studies in the literature.

## **2. Literature Review**

This section presents studies that analyse the effects of inflation hysteresis, unemployment and interest rates. Studies examining the hysteresis effect are included, and information on the scope of the relevant studies is provided. Since there are few studies on inflation hysteresis in the literature and the Fourier analysis, a new generation analysis method is inadequate, and this study is expected to contribute to the literature.

A literature review on inflation hysteresis reveals that Dibooglu & Kibritcioglu (2001) ranks first. The study is among the first to examine the field, and its results indicate that monetary shocks will cause permanent increases in inflation. Determining the existence of inflation hysteresis in the related study, in which Türkiye is selected as a sample, is also important in showing that policy arrangements in this direction are inadequate.

While studies on price stickiness and the permanence of inflation after the 2008 crisis in Türkiye focused on the permanence of inflation, Tunay (2009) examined consumer price inflation for Türkiye between 1994 and 2007 and evaluated the permanence of inflation. The study revealed a result opposite to Kibritcioglu's (2001) study, and an evaluation was made on the point that the policies implemented in the country in the relevant years yielded successful results.

The report by Roache (2014) can be described as another study providing output in the field. This report was created to compare the persistence of inflation in Brazil with the example of countries that use inflation expectations to target inflation. According to the report's findings, the persistence of inflation in Brazil increased until the beginning of 2013, primarily due to "upward" persistence, unlike many countries that implement inflation targeting. The analysis also shows that the 2013 rate hike cycle may have contributed to the persistence of the recent decline. Situations in which existing indicators are negatively affected after sudden shocks and crises and some variables cannot return to their previous state at the same pace even if market conditions improve have been discussed in terms of

different macroeconomic variables in the literature. Most studies have focused on unemployment hysteresis, closely related to inflation.

Tekin (2018) aimed to compare the natural unemployment rates and the hysteresis effect in the Turkish economy. Within the scope of the study, the author considered the period between 2005 and 2017 and carried out an examination specifically for Türkiye. The study contributed to the literature by proving the existence of unemployment hysteresis.

Öztürk (2021) revealed in his study that, taking into account structural breaks, a hysteresis effect was observed in consumer and price indices; prices showed hysterical characteristics and could not return to pre-shock levels. Although Türkiye was chosen as the sample in the study, the data obtained as of January 2003 was examined until July 2021.

Özcan (2022) aimed to explain inflation stickiness in Türkiye. In the study, traditional unit root tests and Fourier tests were performed using data from 01:2002 - 03:2022. The analysis results determined the periods in which inflation stickiness was experienced in Türkiye in the last ten years, and it was concluded that unit root tests that take into account a single structural change are not functional for Türkiye.

Çiçen (2021) aimed to analyse the unemployment hysteresis that emerged in unemployment rates during the 2008 Global Crisis regarding gender and age groups. In his study, he tried to explain the situation by applying the Fourier KPSS stationarity test, using monthly unemployment rate data between 2005 and 2014. He concluded that hysteresis effects have different binding effects in the context of gender and between age groups.

Çiçen (2020) discussed the Global Crisis period and investigated whether the crisis had a permanent effect on unemployment in Türkiye and concluded that the Global Crisis had a hysterical impact in Türkiye. Again, Çiçen (2021) aimed to examine the change in unemployment rates in Türkiye according to gender and marital status due to the 2008 global crisis, and in his study, the Fourier KPSS stationarity test was applied using monthly unemployment data for the period 2005-2014. According to the test, it has been observed that single men and married women experience unemployment hysteresis.

Azazi (2022) discussed hysteresis in Türkiye with the gender variable. In his study, the author tested the existence of the hysteresis effect by examining the data analysed from January 2005 until May 2022. The study concluded that men have more unemployment hysteresis than women.

Telli-Üçler et al. (2023) conducted a similar study, which obtained the opposite results of Azazi (2022). The difference between the two studies is that Telli-Üçler et al. (2023) analysed the gender hysteresis of young people. For this purpose, monthly data from 2014-2022 was used. According to the study results, it was determined that young women experience more unemployment hysteresis than young men.

Özen-Atabey (2024) analysed the unemployment hysteresis with more comprehensive econometric methods. According to the results of the analyses, it can be concluded that young people in some tests and men in some tests do not have unemployment hysteresis. In the econometric methods applied in the study, it was found that women have unemployment hysteresis.

Akcan (2018); Akkuş & Topuz (2019); Özen-Atabey (2023); Özen-Atabey & Karakuş (2023); Baştav (2019); Daştan (2024); Ergül (2024) and Karataş, (2024). Many studies have investigated unemployment hysteresis. However, the literature has also investigated whether variables such as money substitution and interest rate have a hysteresis effect. However, the number of these studies is quite limited.

Another interesting variable is the hysteresis effect, which has been investigated in Türkiye. Şengül (2021) focused on the interest rate hysteresis in Türkiye in his study and, referring to the period after 2016, concluded that the monetary policies implemented by the central bank caused negativities in the market, causing the hysteresis effect. As can be seen, the panic effect has emerged as one of the most critical factors to be considered in crisis economies. The rules established during and after the crisis are practices aimed at eliminating the problem of hysteresis. In this example, the use of current econometric modelling to examine the hysterical effects, especially inflation, in Türkiye, where the study will focus, makes the study important. The study is also expected to help policy solutions to the ongoing inflation crisis.

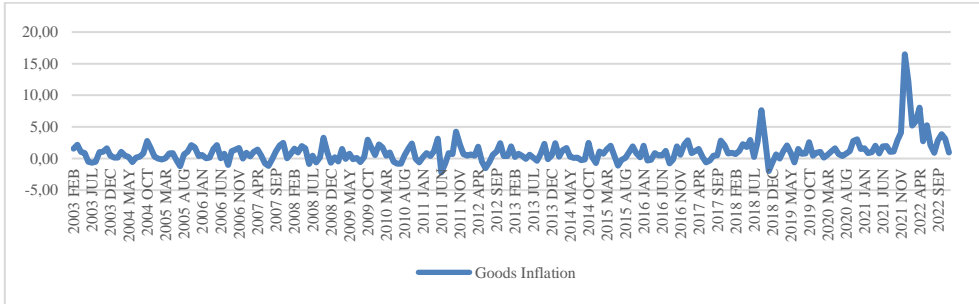
The money substitution variable is another economic variable in which the hysteresis effect is analysed. Bayat & Taş (2021) found that money substitution hysteresis was experienced using monthly data for Türkiye between 2011 and 2020.

The reviewed literature shows that the concept of hysteresis is generally investigated in relation to unemployment. Therefore, our study, which investigates inflation hysteresis, is expected to contribute to the literature.

### **3. Data and Methodology**

In the third part of the study, the tests and test formulations to be applied to determine whether inflation hysteresis, which is the main subject of the study, exists in Türkiye at the relevant year interval are stated. The study analyses the data between February 2003 and December 2022 in Türkiye. The data analysed are inflation data, expressed as goods and services inflation. The choice of Türkiye in the study can be explained by the country being developing and inflationary. In this direction, it is thought that making appropriate policy recommendations in the light of the data obtained from the study will contribute to the national economy. The series to be analysed are shown in Chart 1 and Chart 2.

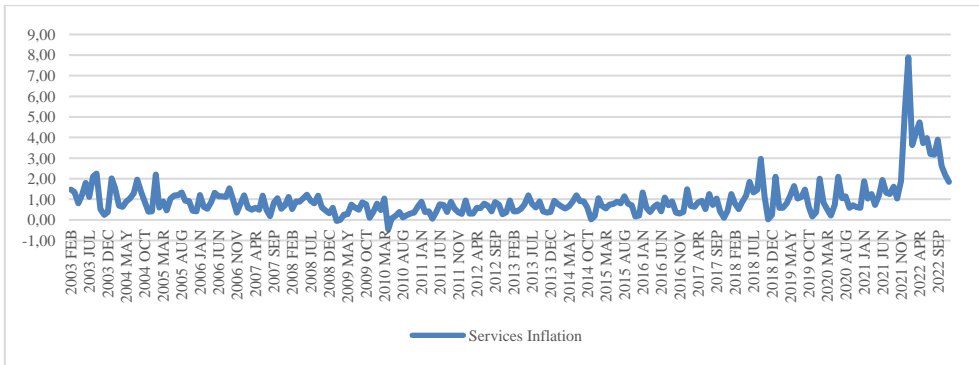
**Chart: 1**  
**Development of Goods Inflation**



Source: TÜİK, <<https://data.tuik.gov.tr/Kategori/GetKategori?p=Enflasyon-ve-Fiyat-106>>.

The graph above shows that Türkiye has commodity inflation that has fluctuated throughout history and stabilised. Commodity inflation data, collected monthly since 2003 after the crisis, followed an unusually dynamic and unstable course until the end of 2022. However, it is observed that there were severe and adverse breaks in the first and fourth quarters of 2018. With the measures taken in the economic arena, efforts have been made to improve the increasing instability by the end of 2022. An analysis of the graph reveals that inflation increased at a higher rate in September compared to the last 15 years. In addition to the fact that the related increase is felt in all items of the economy, the inadequacy of the political arrangements implemented explains this situation. (Eğilmez, 2018a). The dysfunctionality of the monetary policy was realised with the inflation observed in that month, and inflation rates were subsequently reduced, as seen in the graph. When the period between 2003 and 2022 is analysed, it is seen that the highest increase was met with an inflation rate of 16.48 in December 2021. It can be said that incomplete political arrangements and fluctuations in exchange rates accompany this situation.

**Chart: 2**  
**Development of Services Inflation**



Source: TÜİK, <<https://data.tuik.gov.tr/Kategori/GetKategori?p=Enflasyon-ve-Fiyat-106>>.

An analysis of the services inflation graph reveals that services inflation in Türkiye has fluctuated within a specific range since 2003 throughout the period analysed. Although 2018 slightly increased, the inflation rate tested its highest level with 5,27 in December 2021 and 7,89 in January 2022.

In addition to the data on commodity inflation and services inflation shown in Charts 1 and 2, Table 1 explains how these variables are named in the study, how their abbreviations will be expressed, what period they will be discussed, and from which database they were obtained.

**Table: 1**  
**Variables Subjected to Analysis**

Variable(s)	Abbreviation	Period	Source
Service Inflation	SRV	February 2003-December 2022	TURKSTAT
Goods Inflation	GDS	February 2003-December 2022	TURKSTAT

Table 1 shows the variables utilised in the study. While SRV reflects service inflation, GDS represents goods inflation. The study's data were gathered from TURKSTAT data, and both variables span the monthly periods between February 2003 and December 2022.

**Table: 2**  
**Descriptive Statistics**

	SRV	GDS
Mean	0,976318	1,08318
Median	0,77	0,79
Maximum	7,89	16,48
Minimum	-0,46	-2,2
Std. Dev	0,913438	1,840692
Skewness	3,392996	3,927472
Kurtosis	20,02803	28,66722
Sum	233,34	258,88
Sum Sq. Dev	198,5798	806,3786
Observations	239	239

Table 2 presents the statistical values defining the variables. It is seen that a total of 239 data were analysed for both variables. Descriptive statistics also show the highest and lowest values of the SRV and GDS series. As observed in Charts 1 and 2, the highest rate for services inflation is 7,89, and for goods inflation, it is 16,48.

When the studies examining the inflation hysteresis are discussed, it is seen that in addition to the Augmented Dickey-Fuller unit root test (Dickey & Fuller, 1979, 1981), Phillips-Perron (Phillips & Perron, 1988) and Zivot-Andrews (Zivot & Andrews, 1992) tests are among the applications. In the study (Öztürk, 2021), which is among these studies, the variables defining the consumer price index were subjected to analysis. The test applied is the conventional unit root test.

The existence of a relationship between the variables analysed by the unit root test is determined. Unit root tests are used to analyse the stationarity of series. Determining the stationarity of the series forms the basis for other tests and is considered necessary. Dickey-

Fuller Unit Root Test, which was first described in the literature in 1979, was applied to determine that the series are stationary, that is, they do not contain unit roots, and is the most common unit root test in the literature (Taş et al., 2017).

This study contributes to the literature by applying the Fourier ADF test, the integrated version of the traditional unit root test, and the Augmented Dickey-Fuller unit root test with the new generation Fourier analysis method. Besides the Fourier ADF test, the study also applies the Fractional Frequency Fourier ADF, an improved version of the Fourier ADF. Critical values in these tests are assessed against data from (Bozoklu et al., 2020).

The Fourier ADF test, which will be applied to test the relationship between the variables in the study, has been used in the literature with the study of Enders-Lee (2012). The method minimises the error margin by adding sinus and cosine values to the traditional ADF test formulation. Although Fourier function unit root analysis cannot predict structural breaks early, it allows for more effective analysis than traditional methods. At this point, the aim is to increase the reliability of the study's outputs with Fourier analysis among the new generation analysis methods. (Enders & Lee, 2012; İltaş & Demirgüneş, 2020; Tatar, 2021).

Following the reduction of the margin of error with the Fourier ADF test, the related formulation was developed, and the method's reliability was increased with the "Fractional Frequency Fourier Augmented Dickey-Fuller Unit Root Test". This test contributes by taking structural breaks into account.

The formula to be applied in the study is shown in Table 3.

**Table: 3**  
**Equations to be Applied in the Study**

<i>Method</i>	<i>Equation</i>
ADF	$y_t = \alpha + \rho y_{t-1} + e_t$
Fourier ADF	$\Delta y_t = c_0 + c_1 \sin\left(\frac{2\pi kt}{T}\right) + c_2 \cos\left(\frac{2\pi kt}{T}\right) + c_3 y_{t-1} + \sum_{i=1}^p a_i \Delta y_{t-i} + e_t$
Fractional Frequency Fourier ADF	$y_t^* = \alpha_0 1_t^* + \beta_0 t_t^* + \lambda_1 \sin_{1,t}^* + \lambda_2 \cos_{1,t}^* + u_t, \quad t = 1, 2, 3, \dots, T$

The above formulae can be expressed as the standard formula of the ADF analysis method, the Fourier ADF method developed by adding sine and cosine values, and finally, the Fractional Frequency Fourier ADF method, which considers structural breaks.

#### 4. Findings

The study aims to seek an answer to the question of whether the existence of inflation hysteresis is valid in Türkiye in the relevant year interval by analysing the variables of goods inflation and services inflation. As a result of the analysis, it is concluded that if inflation rates do not return to their previous level after an extraordinary situation such as a shock, there is an inflation hysteresis. There is a natural rate hypothesis if they return to their prior level.



The analysis results are expressed in Tables 4, 5, and 6. The relevant outputs in Table 4 are traditional unit root test outputs, those in Table 5 are Fourier-augmented Dickey-Fuller outputs, and those in Table 6 are Fractional. Thus, the analysis results can be expressed as Frequency Fourier-augmented Dickey-Fuller Unit Root Test outputs.

**Table: 4**  
**Augmented Dickey-Fuller Unit Root Test Results**

Variables	GDS	SRV
Trend and Constant Term Model		
1% Critical Value	-3,99918	-3,99708
%5 Critical Value	-3,42983	-3,42882
%10 Critical Value	-3,13845	-3,13785
Test Statistics Value	-2,42498	-8,76111
Prob.	0,3656	0,000

Table 4 analyses inflation hysteresis in the goods and services sector according to the traditional Augmented Dickey-Fuller unit root test. According to the study results, while there is no inflation hysteresis in the service, it is seen that there is inflation hysteresis in the goods. The relevant evaluation is carried out according to the probability values calculated as a result of the analysis. When interpreting the unit root test result,  $H_0$  indicates a unit root in the series, which is non-stationary, while the  $H_1$  hypothesis suggests that the series does not contain a unit root and is stationary. When evaluated in this direction, the probability value of the goods inflation variable is greater than the constraint value of 0.3656. The probability value of the services inflation series is smaller than the constraint value. This confirms the existence of goods inflation.

**Table: 5**  
**Fourier Augmented Dickey-Fuller Unit Root Test Results**

Variables	GDS	SRV
Trend and Constant Term Model		
1% Critical Value	4,35	-4,35
%5 Critical Value	-3,76	-3,76
%10 Critical Value	-3,46	-3,46
Test Statistics Value	-5,2077***	-3,9678**

Fourier analysis results were obtained by including sinus and cosine values in the equation and testing the variables in the analysis performed with the ADF test. The evaluation is done by analysing the relationship between test statistic and critical values. Thus, if the test statistic value is more significant than the necessary values, it is concluded that the series does not contain a unit root and is stationary. While the values show that the series is stationary at all critical values for goods inflation, the corresponding result for services inflation is stationary at 5% and 10%. Fourier ADF test results show that, unlike the traditional test, there is no inflation hysteresis in the goods and services sectors.

**Table: 6**  
**Fractional Frequency Fourier Augmented Dickey-Fuller Unit Root Test Results**

Variables	GDS	SRV
Trend and Constant Term Model		
k	0,1	0,1
Min. KKT	515,6791	85,93882
F Test Statistics	6,766004	11,04002
Appropriate Delay	6	14
%1 Critical Value	-4,76837	-4,76837
%5 Critical Value	-4,21683	-4,21683
%10 Critical Value	-3,93332	-3,93332
Test Statistics Value	-5,67058***	-4,87993***

Table 6 shows the Fractional Frequency Fourier ADF unit root test results, a more advanced version of the Fourier ADF test. When the results are evaluated by comparing the test statistic value and the significance level values of 1,5 and 10 %, the statistic values are more significant than the significance levels. The observed results indicate that the series are stationary and do not contain unit roots. The results of this test are parallel to the results of the Fourier ADF test. According to the analysis results, there is no inflation hysteresis in the goods or service sectors.

The study simultaneously used traditional and Fourier tests, which are improved versions of traditional tests. The reason for this is that while the traditional tests do not consider the sine and cosine values, the Fourier test can eliminate the margin of error of the traditional test with new generation methods. In addition to the Fourier ADF test, applying the Fractional Frequency Fourier ADF test, which considers structural breaks, increases the reliability of the findings obtained in the study. In the conclusion section of the study, the findings obtained will be interpreted, and policy recommendations will be made.

## 5. Conclusion

Turkish economy is a developing country that struggles with two main macroeconomic problems. These problems are unemployment and inflation. Unemployment and inflation show the ability of the citizens of that country to earn income and provide information about purchasing power. In countries with high unemployment rates, employment problems are observed, and current unemployment is an obstacle for people to meet their needs. The decline in labour force participation negatively affects the labour input in production processes and creates a handicap for economic growth. The importance of economic growth in terms of increasing the competitiveness of countries has led to the concepts of unemployment and inflation being among the issues studied both academically and politically. Inflation is analysed in terms of its effect on the purchasing power of the country's citizens. The increase in inflation rates causes depreciation of the country's currency, increases income inequality, increases import costs and negatively affects investments.

When academic studies are analysed, it is seen that there is more than one study examining macroeconomic variables. In addition to the studies examining the importance of inflation and unemployment variables, which are among the macroeconomic variables, some

studies examine the impact of these changes on the economy by following the increases and decreases in the relevant variables. At this point, the concept of hysteresis is assessed by monitoring the change of the variable subjected to analysis in the sampled country over a certain period. The evaluation determines the change in the rate of variables, such as unemployment, inflation, etc., observed in the country under scrutiny following an extraordinary situation and the ability of this change to return to its previous level when the state of emergency is lifted. At this point, two concepts appear in the literature. These concepts are categorised as "natural rate hypothesis" and "hysteresis". While the natural rate hypothesis states that the rates of macroeconomic variables that change following a shock, etc., in the relevant economy return to their previous levels in the natural order if the current situation disappears, the concept of hysteresis argues that the rates do not return to their previous levels and cause permanent damage to the economy. The importance of both situations for the economy cannot be denied, and political planning should be done by determining which concept Türkiye is close to and considering the possibility of any situation in this direction under the concept of prudence in the economy. In economies where there is no inflation hysteresis, or the hysteresis effect is low, it can be concluded that the monetary policies implemented are successful, whereas in the opposite case, it should be stated that it is necessary to review the policy arrangements.

Based on the stated necessity, among the studies on unemployment and inflation in the literature, studies analysing unemployment hysteresis are more common, while studies on inflation hysteresis are relatively less common. In this respect, it can be stated that there is a deficiency in the literature. In this regard, this study evaluates the inflation of goods and services in Türkiye between February 2003 and December 2022 and investigates whether there is inflation hysteresis in the country between the relevant years. Based on this purpose, the Augmented Dickey-Fuller unit root test, which is the traditional unit root test, and the Fourier Augmented Dickey-Fuller unit root test, which increases the reliability of the output by taking into account the sine and cosine values of the same test, were used in the study. As a result of the study, it was determined that there was no inflation hysteresis for either the goods sector or the service sector.

The literature provides a comprehensive output when the study is evaluated in terms of the actuality of the methods applied and the range of years examined. The study's contribution to the literature is also evident in the fact that the result obtained differs from other studies. There are studies in the literature that conclude that inflation hysteresis exists between 1980-2002 (Dibooglu & Kibritcioglu, 2004), January 2003-July 2021 (Öztürk, 2021), January 1998-December 2000 (Metin-Özcan et al., 2004). This study examines Türkiye and reveals no hysteresis effect between February 2003 and December 2022. Even when the data on the variables analysed in the study are analysed, it is observed that the rising inflation values in both goods and services series return to their previous levels in the following years. This situation can be explained by the functionality of the monetary policies implemented after the increase. When the inflation values calculated for commercial goods are analysed, it is observed that the increase, which reached 7.62 in September 2018, declined in October and recovered to a level lower than its previous level in November under

the natural rate hypothesis. The highest rate for the related inflation item tested was 16.48 in December 2021, dropped to 12.22 in January 2022, and regained its previous level in February. This is attributed to the success of the monetary policy implemented following the increase in inflation. When the research was carried out, among the reasons for the September inflation jump observed in 2018, showed that the exchange rates for the dollar and the euro, which were 4.61 and 5.37 for the dollar and the euro, respectively in July, rose to 6.63 and 7.71 in September, and the subsequent recovery in exchange rates can be attributed to the exchange rates falling back to the old level. Among the factors other than exchange rate changes, the decline in oil prices, tax cuts and changes in domestic demand (Eğilmez, 2018b) should be mentioned among the reasons. Similar factors are observed when the December 2021 inflation increase and the decline in the following months are analysed. When the data on the services inflation variable are analysed, it is determined that there were decreases in inflation in the same period, and the reasons are evaluated in the same way as in goods inflation.

In this respect, it can be stated that there is no inflation hysteresis in Türkiye in the analysed year interval, and the reasons for the absence of hysteresis are exchange rates, oil prices and tax rates, respectively. Accordingly, determining appropriate monetary policies to control the inflation increases observed following an extraordinary situation such as a shock and returning it to its previous level in a short time, and strengthening the forecasts on exchange rates by accurately observing the political economy conjuncture will lead to a healthy response to a possible inflationary change. Examples of measures that can be taken in this direction include tax cuts for citizens by reducing taxes on essential consumption goods and for producers by reducing taxes on production, stabilising exchange rates by intervening in increases and decrease with appropriate monetary policies, minimising the impact of fluctuations in oil prices by turning to alternative energy sources, or making appropriate arrangements to reduce inflation by regulating fuel prices. The study is thought to guide future studies with both the outputs obtained and policy recommendations.

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## Analysis of Female Employment Rates in Türkiye with Duration Variable Spatial Logit and Duration Variable Spatial Probit Models

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### Türkiye’de Kadın İstihdam Oranlarının Süre Değişkenli Mekânsal Logit ve Mekânsal Probit Modelleri ile Analizi

#### Abstract

Female employment holds significant importance in achieving sustainable economic growth. In this regard, initiatives aimed at increasing female employment are among the fundamental goals of countries. Studies on female employment are expected to assist in developing strategies and policies that guide countries in reaching their relevant objectives. This study aims to investigate the spatial interactions and determinants of female employment rates in Level-2 regions in Türkiye during the 2018-2020 period using duration variable spatial logit and duration variable spatial probit models. The analysis revealed findings indicating a positive impact on education levels and a negative impact of the Gini coefficient and the duration variable on female employment rates. The findings related to the duration variable suggest a decreasing likelihood of female employment rates being above the median value during the 2018-2020 period.

**Keywords** : Female Employment, Spatial Data Analysis, Duration Variable, Spatial Qualitative Choice Models.

**JEL Classification Codes** : C21, E24, D33.

#### Öz

Kadın istihdamı, sürdürülebilir ekonomik büyümenin sağlanması hususunda oldukça büyük önem arz etmektedir. Bu doğrultuda kadın istihdamının artırılmasına yönelik girişimler, ülkelerin temel hedefleri arasında yer almaktadır. Kadın istihdamı üzerine yapılacak çalışmaların, ülkelerin ilgili hedeflere ulaşmaları hususunda yol gösterici olacak strateji ve politikaların geliştirilmesinde yardımcı olması beklenmektedir. Bu bağlamda çalışmanın amacı, 2018-2020 döneminde Türkiye’de Düzey-2 bölgelerinde kadın istihdam oranlarının mekânsal etkileşimlerini ve belirleyicilerini, süre değişkenli mekânsal logit ve mekânsal probit modelleri ile araştırmaktır. Analiz neticesinde, kadın istihdam oranları üzerinde eğitim düzeylerinin pozitif, Gini katsayısı ile süre değişkeninin ise negatif etkiye sahip olduğuna yönelik bulgular tespit edilmiştir. Süre değişkenine dair elde edilen bulgu, 2018-2020 dönem aralığında kadın istihdam oranının medyan değer üzerinde olma olasılığının giderek azaldığını göstermektedir.

**Anahtar Sözcükler** : Kadın İstihdamı, Mekânsal Veri Analizi, Süre Değişkeni, Mekânsal Nitel Tercih Modelleri.



## 1. Introduction

One of the crucial indicators used to determine the level of development in countries is the female employment rate. However, in Türkiye, classified as a developing country, it is known that the female employment rates lag behind those of men, which is attributed to gender inequality. According to data from the World Economic Forum, Türkiye ranks 130<sup>th</sup> out of 153 countries in the Global Gender Gap Index and holds the 136<sup>th</sup> position for economic participation and opportunity equality (World Economic Forum, 2020: 343). At this point, to reduce gender inequality and ensure sustainable economic growth in Türkiye, efforts should be made to increase employment opportunities, and necessary social strategies should be developed.

Another significant reason for emphasising female employment rates is that it is a crucial tool in reducing informal employment. The increase in employment opportunities for women in fields where they can work under favourable conditions is expected to prevent informal employment (Aksu, 2022: 161).

Education is crucial in both women's and men's employment rates. It is noted that education has a higher impact on female employment rates (TÜSIAD, 2002: 52). However, the effects of education on female employment vary between countries (Steiber et al., 2016: 246). In this context, the study aims not only to identify the impact of different education levels on female employment in Türkiye but also to profile the educational portfolios of women in employment.

It is emphasised that when making model predictions by disregarding the spatial distributions of certain factors, such as unemployment, poverty, wages, and other labour market-related elements, and assuming that units are independent of each other, encountering inevitably inaccurate statistical results is unavoidable (Stops et al., 2012: 2). In this context, the primary objective of the study is to identify the effects of different education levels and income distribution inequality on female employment in Türkiye, while additionally aiming to explore spatial interactions within Level-2 regions.

When reviewing the existing literature on spatial qualitative choice models, it is commonly noted that the temporal dependence between observations needs to be noticed. However, the omission of this dependence has a negative impact on the accuracy of prediction results. Therefore, the study aims to contribute meaningfully to the relevant literature by employing duration variable spatial qualitative choice models. Two key factors influenced the study's selection between 2018 and 2020. Firstly, regional data is limited in Türkiye. Secondly, the study distinguishes itself by underscoring the significance of incorporating duration variables in spatial qualitative choice models. It is a distinctive approach compared to other studies utilising longer time intervals, marking a stage still in development.

## 2. Economic Theory

### 2.1. The Structure of Female Employment in Türkiye

There are various definitions of the concept of employment in the literature. The Turkish Statistical Institute (TÜİK), which provides one of these definitions, explains the concept of employment as follows: "Those who engage in economic activities for at least one hour during the reference week and earn income from this activity (including unpaid family workers) or those who are temporarily not at work for any reason but still have a connection with their jobs are considered employed" (TÜİK, 2022: 8).

Employed individuals are divided into two groups based on their job motivations. Individuals with intrinsic job motivation carry out their work with a desire for personal development, while those with extrinsic job motivation see their work as a means to an end (Gesthuizen & Verbakel, 2011: 264). Ester et al. (2006) state that if individuals in employment have intrinsic job motivation, society can have a much higher strength in competition with other countries in the globalised economy (Ester et al., 2006: 93-94).

Employment rates that enhance a country's competitiveness are crucial in eliminating gender inequalities between women and men. The non-employment of women leads to an increase in gender inequality and prevents women from achieving economic freedom (Ecevit, 2008: 118). However, it is anticipated that the employment increase brought by women working in low-paid and insecure conditions will not negatively affect gender inequality. On the contrary, it is expected to worsen the social status of women within society (İgde, 2011: 152).

Table 1 provides employment rates for Level-2 regions in Türkiye from 2018-2020.

**Table: 1**  
**Employment Rates**

District	2018			2019			2020		
	F	M	T	F	M	T	F	M	T
TR10	32	68,6	50,2	30,5	67,1	48,9	28	62,1	44,8
TR21	35	75	55,3	34	71,3	53	33,6	67,9	50,9
TR22	29,8	63,3	46,3	28,8	60,8	44,3	28,4	59,9	44
TR31	31,2	66,1	48,5	30,8	63,8	47,2	27,2	58,9	42,9
TR32	38,2	68,2	53	37,5	65,2	51,2	31,4	60,9	46,2
TR33	32,7	68,1	50,3	30,9	64,9	47,6	29,2	63,7	46,4
TR41	30,5	65,8	48,2	28,5	62,6	45,5	27,4	61,6	44,5
TR42	29,1	68,9	49,3	28,6	65,4	46,8	26,1	63,1	44,4
TR51	28	66,7	47,2	27,6	63,7	45,3	25,7	60,6	42,8
TR52	27,7	69	47,7	27,6	67,7	46,9	25,2	65,1	44,7
TR61	34,1	66,4	50,3	33,9	64,6	49,2	32,6	61,5	47
TR62	27,4	62,4	44,5	27,5	60,3	43,6	23,9	57,8	40,6
TR63	24,2	61,7	42,4	22,1	57,5	39,2	20,7	54,9	37,5
TR71	27,2	65,6	45,9	27,4	62,9	44,5	23,9	60,2	41,9
TR72	21,4	62,8	41,6	21,2	60,1	40,6	21,4	57,4	39,2
TR81	30,1	62,5	45,9	31,8	61	46,2	27,8	57,9	42,8
TR82	40,4	67,7	53,7	36,1	63,2	49,3	34	60,9	47,2
TR83	36,8	67,2	51,7	34,6	65,2	49,4	30,5	62,1	45,9
TR90	37,7	65,4	51,3	38,6	63,7	50,8	34,7	61,5	48
TRA1	25,6	64,2	44,6	24,5	61,3	42,5	24,5	61,2	42,5
TRA2	29,6	65	47,6	28	56,8	42,8	25,5	52,6	39,1

TRB1	30,4	66,6	48,1	30,5	63,2	46,4	24,5	59,9	41,7
TRB2	19,5	56,9	38,2	20,1	55,4	37,8	20,1	52,4	36,4
TRC1	19,2	62,6	40,9	20,7	60,3	40,2	20,4	62,5	41,6
TRC2	20,3	58,6	38,9	19,7	52,2	35,7	15,1	46,9	30,7
TRC3	11,9	50,8	30,5	12,4	49,4	30	12,6	40,4	26
<b>Average</b>	<b>29,4</b>	<b>65,7</b>	<b>47,4</b>	<b>28,7</b>	<b>63,1</b>	<b>45,7</b>	<b>26,3</b>	<b>59,8</b>	<b>42,8</b>

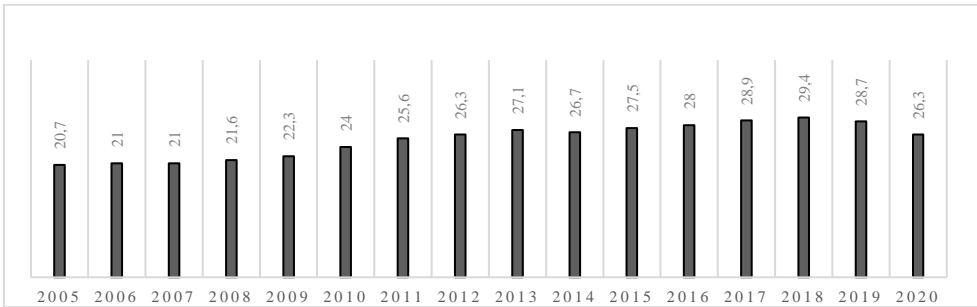
Note: F: Female, M: Male, T: Total.

Source: Türkiye İstatistik Kurumu, 2023.

When evaluating the employment rates of women and men for 2018, 2019, and 2020 in Table 1, it is evident that women lag significantly behind men, indicating gender inequality in employment. This situation is attributed to social gender inequality as the cause of gender disparity in employment.

Figure 1 illustrates the trend of female employment rates over 15 years for a more comprehensive interpretation.

**Figure: 1**  
**Female Employment Rates in Türkiye**



Source: Türkiye İstatistik Kurumu, 2023.

Figure 1 shows a general upward trend despite declining female employment rates in 2019 and 2020. Özar (2009) emphasises the impact of the increase in women working in less skilled and lower-paid jobs on the overall rise in female employment in Türkiye, drawing attention to the unfavourable conditions behind the employment increase. She attributes this situation to the patriarchal system in Türkiye, stating that employers tend to hire women for low-wage and low-skilled jobs (Özar, 2009). Özer and Biçer (2003) provide supporting evidence, noting that women in Türkiye are more present in rural labour markets than urban labour markets, with many working as unpaid family workers in these markets (Özer & Biçer, 2003: 56). This situation is reflected in the employment rates in the agricultural sector obtained from the TÜİK database and presented in Table 2.

**Table: 2**  
**Employment Rates in the Agricultural Sector**

2018		2019		2020	
F	M	F	M	F	M
26,1	14,9	25,1	14,9	22,8	15,3

Note: F: Female, M: Male.

Source: Türkiye İstatistik Kurumu, 2022b: 107.

In Table 2, women are more employed in the agricultural sector than men; however, the employment rates in the agricultural sector decreased over the relevant years, similar to the overall employment rates.

In Türkiye, particularly in recent years, the decline in the employment rates in the agricultural sector has made it increasingly challenging for women working in low-skilled jobs to participate in the labour force in other sectors and urban markets. This situation has resulted in a decrease in female employment rates. Women who find employment often transition to the service sector, working in low-skilled jobs. In this context, it is stated that the simultaneous decrease in employment in the agricultural sector and the increase in urbanisation rates have led to a decline in female employment (Kızılgöl, 2012: 89; Pekel, 2018: 40).

Unsurprisingly, women living in large cities with higher education levels than the general population may prefer to refrain from participating in employment when they cannot find jobs that meet their desired standards. In other regions, it is noted that women with relatively lower education levels tend to turn to low-skilled jobs under challenging conditions (Özvarış, 2015: 42). Particularly in these regions, where women, often with low levels of education, are reported to work as unpaid family workers in the agricultural sector, it is stated that they contribute to a virtual increase in employment. The data from Table 1, indicating that two of the top three regions with the highest female employment rates in Level-2 regions in the respective years (TR82 and TR90) are also the regions with the highest agricultural employment rates according to TÜİK data, support this observation.

## **2.2. Effects of Education and Income Distribution Inequality on Female Employment**

There is a consensus in the literature that education enhances employment rates, regardless of gender. Education is expected not only to improve individuals' abilities but also to increase overall welfare within society. Chatterjee et al. (2018) mention that in developed countries, there is an increase in the labour force and, indirectly, in employment with education. However, due to complex socio-economic phenomena, different outcomes can be encountered in low and middle-income countries. They emphasise factors such as gender inequality, traditional structures, and family dynamics as fundamental reasons for these variations (Chatterjee et al., 2018: 858).

Several studies argue for an inverse relationship between female employment rates and income inequality. Increasing female employment is suggested to be more effective than fiscal policies in reducing income inequality (Özcan, 2023: 163; Goulart et al., 2023).

While many societal factors disrupt income distribution equality, more than limiting income inequality solely to employment and unemployment issues will be required to solve this problem. Wage inequality and its demographic impacts are crucial determinants of income distribution inequality (Aktaş, 2022: 4). In addition to wage inequality, education,

social factors, and government policies also play significant roles in income distribution inequality (Özcan, 2023: 163). Furthermore, education positively impacts economic growth and mitigates income distribution inequality (Kumar, 2023: 2).

Due to the multifaceted nature of educational inequality, which affects both individuals and society, it is emphasised that ensuring equal distribution of educational opportunities between women and men and achieving equality in education are as crucial as ensuring income distribution equality. Educational equality is important for economic development and employment rates (Kumar, 2023: 2).

### **3. Literature Review**

The labour force concept encompasses not only those currently employed but also individuals who are prepared to work but are not currently active and those actively seeking employment (Pekel, 2018: 49; Eroğlu, 2008). Starting from the notion that the labour force constitutes employment, studies examined factors influencing female labour force participation alongside female employment (Pekel, 2018: 49; Eroğlu, 2008).

The study conducted by Tansel (2002) investigated the factors determining women's labour force participation rates across 67 provinces in Türkiye during different periods and found that economic growth and an increase in educational levels contributed to higher rates of female labour force participation.

In their study examining factors influencing female employment in Chile, Contreras and Plaza (2010) asserted that, within the cultural framework, patriarchal structures, education level, marital status, and age played pivotal roles in determining employment outcomes. The study's conclusion highlighted that increased education levels were associated with higher employment rates. Conversely, being married was found to decrease the corresponding employment rate.

In Kızılgöl's (2012) study, conducted between 2002 and 2008 in Türkiye, the author examined the factors influencing the labour force participation of married and unmarried women in urban and rural areas through a logistic regression model. The study's findings indicated that education level, dependency ratio, household income, property ownership, and age influenced female labour force participation. Notably, the results revealed that an increase in education level positively impacted labour force participation for married and unmarried women, while an increase in household income had the opposite effect. Additionally, it was observed that the impact of education on women living in urban areas was significantly higher than that of women living in rural areas.

In their study investigating the determinants and spatial interactions of female employment rates in Nigeria, Gayawan and Adebayo (2015) utilised data from the 2008 Population and Health Survey. The researchers identified regional interactions in female employment and highlighted age, marital status, and educational level as critical determinants of female employment.

Mollaibrahimoğlu (2016), in her examination of female employment in Türkiye, emphasised that lack of education and low educational attainment posed significant obstacles to female participation in the labour force and that marriage and motherhood negatively impacted female employment rates.

In a study spanning from 1989 to 2018 in Türkiye, Aksoy et al. (2019) employed the ARDL bounds testing approach to analyse the determinants of female employment. Their findings revealed that the most influential factors on employment rates were the number of married women and unemployment.

Güriş et al. (2019) utilised panel qualitative choice models to examine the determinants of female employment in OECD countries from 2004 to 2016. The analysis concluded that the increased number of women enrolled in higher education positively impacted female employment.

In his study investigating the effects of female labour force participation on income inequality in Türkiye during the period 1988-2015 through the ARDL bounds testing approach, Arda Özalp (2021) found that an increase in the rate of female labour force participation resulted in a reduction in inequality.

Gönülaçan Özer and Karcı (2022) endeavoured to pinpoint regional disparities in Türkiye's employment landscape in their study. Utilising the data from 2017, they conducted a spatial econometric analysis specifically focused on Level-2 regions. The spatial data analysis revealed a positive spatial dependence regarding female employment rates among regions.

Sarı's (2022) study used a time-series analysis to investigate the relationship between female employment rates and income distribution inequality in Türkiye. The results indicated that the increase in female employment during 2004-2015 contributed to a reduction in the Gini coefficient, a measure of income inequality.

In her study spanning the period 2006-2020 and focusing on selected European Union member states, Türkiye, Özcan (2023) asserted that a high female employment rate had corrective effects on income inequality and that the female employment rate differentially reduced income inequality in countries belonging to distinct income groups.

Özocaklı and Khanalizadeh (2023) examined the socio-economic variables influencing female employment in Türkiye from 2010 to 2022. Their research found that including the higher education graduation rate as a socio-economic variable in the model increased female employment rates for women aged 15-24 and those aged 25 and above.

#### 4. Methodology

The spatial effects of interactions between locations are categorised into spatial dependence and heterogeneity. Spatial dependence is defined as the similarity of location values due to proximity (Anselin, 1988:16).

Despite the scarcity of studies addressing spatial interactions in qualitative choice models, it's crucial to understand that neglecting spatial effects can significantly undermine the statistical reliability of estimators. Therefore, in qualitative choice models, considering spatial effects is important and necessary for obtaining reliable estimation results, especially when such effects are present.

The need for more spatial linear probability models to explain spatial effects has led the literature on spatial qualitative choice models to predominantly evolve through spatial logit and spatial probit models. This evolution underscores the need for alternative models, such as the spatial probit model, which is considered more popular and is often preferred over the spatial logit model.

In the literature on spatial interactions, spatial autoregressive dependence (SAR) reigns supreme regarding interactions between locations. With their informative nature regarding spatial spreads, these models are the cornerstone of spatial interactions, emphasising and highlighting the dominance of models that involve spatial autoregressive dependence (Billé & Leorato, 2017: 3).

The matrix representation of qualitative choice models incorporating spatial autoregressive dependence (SAR) is provided in Equation 1.

$$y^* = \rho W y^* + X\beta + \varepsilon \quad (1)$$

In the equation,  $W$  denotes the spatial weight matrix,  $y^*$  represents the unobservable dependent variable with dimensions  $n \times 1$ ,  $X$  is the vector of explanatory variables,  $\beta$  is the coefficient vector,  $\rho$  is the spatial coefficient for the dependent variable, and  $\varepsilon$  signifies the independent and identically distributed error term (Fleming 2004: 148).

Klier and McMillen (2008) introduced the Linearized Generalized Method of Moments (LGMM) as a prediction method for spatial qualitative choice models. LGMM applies to both spatial logit and spatial probit models and can be employed with large samples (Klier & McMillen, 2008: 460-461).

The general steps of the estimation procedure for the LGMM method are outlined below. In the LGMM method, the generalised logit residuals, denoted as  $(\tilde{u}_i)$ , in Equation 2, are estimated using initial values for parameters as in Equation 3.

$$\tilde{u}_i = y_i - P_i \quad (2)$$

$$\tilde{u}_i^0 = y_i - P_{i0} \quad (3)$$

$P_i$  in the equation represents the probability of an event occurring.

After determining the initial values for the generalised logit model, the gradient terms for  $\beta$  and  $\rho$ , as mentioned in Equation 4, are calculated (Klier & McMillen, 2008: 462).

$$G_{\beta_i} = P_i(1 - P_i) X_i^{**} \quad (4)$$

$$G_{\rho_i} = P_i(1 - P_i) \left[ H_i\beta - \frac{X_i^{**}\beta}{\sigma_i^2} \Lambda_{ii} \right]$$

$X^{**}$  in Equation 4 represents the normalized version of the variable  $X^*$  (where  $X^* = (I - \rho W)^{-1}X$ ), addressing the issue of varying variance.

Upon examining the equations, it can be observed that while calculating  $G_{\beta_i}$  is mathematically straightforward, the equation for obtaining  $G_{\rho_i}$  is complex due to the presence of the  $n \times n$  matrix represented by  $\Lambda_{ij}$  in Equation 5.

$$\Lambda = (I - \rho W)^{-1}W(I - \rho W)^{-1}(I - \rho W)^{-1} \quad (5)$$

At this point, Klier and McMillen (2008) propose linearising the model at the starting point by suggesting the equality  $\rho_0 = 0$  (Klier & McMillen, 2008: 462).

Following the linearisation process, the gradient terms, computed alongside the estimation of the classical logit model, are provided below.

$$G_{\beta_i} = \hat{P}_i(1 - \hat{P}_i) X_i \quad (6)$$

$$G_{\rho_i} = \hat{P}_i(1 - \hat{P}_i)H_i\hat{\beta}$$

Due to the linearization process,  $(I - \rho W)^{-1} = I$ , and the instrumental variables matrix is defined as  $H = WX$ .

In the final stage of the estimation procedure, first, the values  $\hat{G}_\beta$  and  $\hat{G}_\rho$  are obtained through the two-stage least squares method. Subsequently, the coefficients  $\beta$  and  $\rho$  are estimated using the equation  $\tilde{u}^0 + G'_\beta\hat{\beta}_0$  (Klier & McMillen 2008: 462).

Although the LGMM method may yield biased estimation results depending on the magnitude of the spatial correlation coefficient, its frequent preference in estimating spatial logit and spatial probit models is attributed to its lower mathematical computational burden, applicability to large samples, and versatility.

Before estimating spatial qualitative choice models, testing for spatial dependence in models is crucial. In spatial dependence, one should proceed to the estimation stage of the relevant models using the LGMM method. For this purpose, Kelejian and Prucha (2001) developed a version of Moran's I test specifically for investigating spatial dependence in



probit and tobit models (Qu & Lee, 2012: 431). It is noted that the developed Moran's I test provides reliable results for samples (Amaral et al., 2013: 100-101).

In qualitative choice models, when there is temporal dependence among observations, neglecting this dependency structure in the model diminishes the statistical reliability of the estimation results. Modelling temporal dependence among observations is crucial for estimation results. However, the methodology for spatial panel qualitative choice models that include the time dimension is still in the developmental stage. In this context, various approaches have been proposed in the literature to incorporate temporal dependence into the models. One such approach uses duration variables suggested by Beck et al. (1988) (Beck et al., 1998: 1269). Timely dependence can be added to models using pooled data through duration variables.

## 5. Data and Variables

The study aims to investigate the impact of education levels and income inequality on female employment in Level-2 regions in Türkiye during 2018-2020 and identify spatial interactions related to employment rates. The data for the variables used in the study were obtained from the Turkish Statistical Institute (TÜİK, 2022a) database.

Table 3 lists the Level-2 regions used in the study.

**Table: 3**  
**Level-2 Regions**

TR10	Istanbul	TR71	Kırıkkale, Aksaray, Niğde, Nevşehir, Kırşehir
TR21	Tekirdağ, Edirne, Kırklareli	TR72	Kayseri, Sivas, Yozgat
TR22	Balıkesir, Çanakkale	TR81	Zonguldak, Karabük, Bartın
TR31	Izmir	TR82	Kastamonu, Çankırı, Sinop
TR32	Aydın, Denizli, Muğla	TR83	Samsun, Tokat, Çorum, Amasya
TR33	Manisa, Afyon, Kütahya, Uşak	TR90	Trabzon, Ordu, Giresun, Rize, Artvin, Gümüşhane
TR41	Bursa, Eskişehir, Bilecik	TRA1	Erzurum, Erzincan, Bayburt
TR42	Kocaeli, Sakarya, Düzce, Bolu, Yalova	TRA2	Ağrı, Kars, Iğdır, Ardahan
TR51	Ankara	TRB1	Malatya, Elâzığ, Bingöl, Tunceli
TR52	Konya, Karaman	TRB2	Van, Muş, Bitlis, Hakkâri
TR61	Antalya, Isparta, Burdur	TRC1	Gaziantep, Adıyaman, Kilis
TR62	Adana, Mersin	TRC2	Şanlıurfa, Diyarbakır
TR63	Hatay, Kahramanmaraş, Osmaniye	TRC3	Mardin, Batman, Şırnak, Siirt

The dependent variable, female employment rates ( $Y_{WE}$ ), was transformed into a qualitative variable using the median value as the threshold. The choice of the median value as the threshold effectively provides reliable results against variations in the dataset. The definition of the created dependent variable in this regard is presented in Equation 7.

$$Y_{WE} = 1, \text{ if the female employment rate in the region is above the median value} \quad (7)$$

$$Y_{WE} = 0, \text{ If the female employment rate in the region is below the median value}$$

The regions where the dependent variable takes the value of 1 represent areas with high female employment rates, while the regions where it takes 0 indicate areas with low female employment rates.

The explanatory variables included in the model are listed in Table 4.

**Table: 4**  
**Explanatory Variables Included in the Model**

Variable Abbreviation	Variable Definition
Duration	Duration Variable
Ginicoef	Gini Coefficient as an Indicator of Income Inequality
Notgrad	Percentage of Literate Women Who Have not Completed Any School (% Ages 15-64)
Primarygrad	Percentage of Women with Elementary School Education (% Ages 15-64)
Secondarygrad	Percentage of Women with Secondary School Education (% Ages 15-64)
Universtygrad	Percentage of Women with University Education (% Ages 15-64)

In the study, a duration variable suggested by Beck et al. (1988) was employed to model the temporal dependence among observations. The duration variable, indicating the time elapsed since the female employment rates in regions surpassed the median value, was incorporated into the model using Philips' (2020) approach.

Table 5 provides descriptive statistics for the explanatory variables, excluding the duration variable in the model, to gain statistical insights into the data.

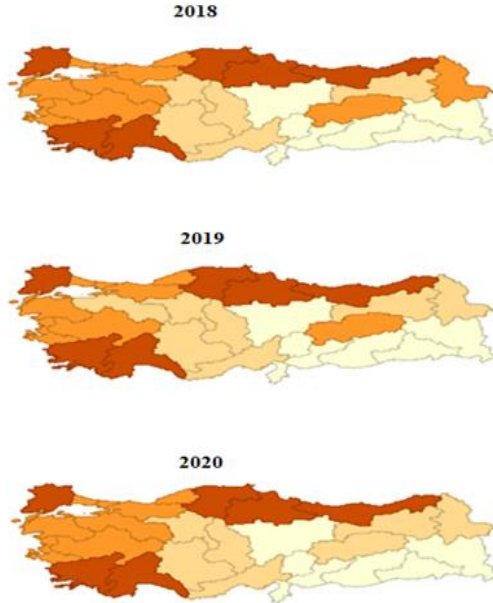
**Table: 5**  
**Descriptive Statistics**

	Mean	Standard Deviation	Minimum Value	Maximum Value
Ginicoef	0,35	0,03	0,28	0,45
Notgrad	7,31	3,13	2,99	17,26
Primarygrad	24,42	5,26	12,65	34,13
Secondarygrad	16,15	3,97	10,02	26,66
Universtygrad	13,70	3,44	7,78	23,45

According to the 2018-2020 data from the Turkish Statistical Institute (TÜİK), the average Gini coefficient, an indicator of income inequality, is 0.35. The highest Gini coefficient is observed in the TR10 region in 2020, while the lowest value in the TR81 region in 2019. During the 2018-2020 period, the average percentage of literate women who have not completed any school within the female population in Türkiye was 7.31, while the average percentage of women with elementary school education was 24.42. The regions with the highest rates of literate women who have not completed any school and women with elementary school education are TRC2 (2018) and TR22 (2018), respectively, whereas the lowest rates are observed in TR51 (2020) and TRC3 (2020). Similarly, the average percentage of women with secondary school education is 16.15, while the average percentage of women with university education is 13.70. The regions with the highest rates of secondary school and university graduates are TRC3 (2020) and TR51 (2020), respectively, while the lowest rates are observed in TR82 (2018) and TRB2 (2018).

In spatial data analysis, the creation of quantile maps, which allows the detection of spatial clustering and facilitates data visualisation, provides researchers with more information about variable-related data. In this context, Figure 2 presents quantile maps created for female employment rates in 2018-2020.

**Figure: 2**  
**Spatial Distribution of Female Employment Rates**



*Source: Created by the authors.*

In the quantile maps, regions shown in dark colour represent areas with the highest female employment rates (TR21, TR32, TR61, TR82, TR83, TR90), while light-coloured regions represent areas with the lowest rates (TRB2, TRC1, TRC2, TRC3, TR72, TR63). In this context, the gradient from dark to light indicates a decrease in the female employment rate.

## 6. Results

During this study's initial phase of the econometric analysis, the probability of the female employment rate exceeding the median value between 2018-2020 was estimated. This involved examining the effects of different education levels and income inequality using classical logit and probit models. In this regard, the estimated results of the models are presented in Table 6, and the marginal effects related to the coefficients are provided in Table 7.

**Table: 6**  
**Logit Model - Probit Model**

<b>Coefficients</b>	<b>Logit Model</b>	<b>Probit Model</b>
Intercept	-34,2286** (13,8171)	-19,9121*** (7,6353)
Duration	-4,7686*** (1,6071)	-2,7041*** (0,8815)
Ginicoef	-30,6530** (13,7128)	-18,1347** (7,7649)
Notgrad	0,9637** (0,4214)	0,5530** (0,2293)
Primarygrad	0,7990*** (0,2584)	0,4645*** (0,1400)
Secondarygrad	0,4556* (0,2472)	0,2741* (0,1411)
Universtygrad	1,2723*** (0,3995)	0,7373*** (0,2167)
AIC	47,209	46,622
Residual Deviance	33,209	32,622

Note: \*\*\*, \*\*, \* indicate significance at 1%, 5%, and 10%, respectively.

**Table: 7**  
**Marginal Effects**

<b>Coefficients</b>	<b>Logit Model</b>	<b>Probit Model</b>
Duration	-0,3125	-0,3069
Ginicoef	-2,0091	-2,0585
Notgrad	0,0631	0,0627
Primarygrad	0,0523	0,0527
Secondarygrad	0,0298	0,0311
Universtygrad	0,0833	0,0836

When examining the estimation results of the classical logit and probit models, it is observed that all coefficients in both models are statistically significant. The negative coefficient of the duration variable is considered an expected outcome due to the decline in female employment rates between the relevant years. All education variables included in the model positively influence the probability of female employment rates above the median, while the Gini coefficient negatively impacts them. When examining the marginal effects, it is observed that among the education variables, the university graduate rate has the most significant positive impact on employment levels in both models, while the least influential education variable is the secondary school graduate rate. This finding supports the assertion by Uğur and Saraç (2019) that women with secondary education and similar levels of education face higher unemployment issues compared to less educated women, leading to lower employment rates (Uğur & Saraç, 2019: 12).

The results of the logit and probit models are observed to be quite close to each other. The literature states that unless the sample size is enormous, producing similar results with logit and probit models is an expected outcome. However, when a general comparison between logit and probit models is desired, AIC (Akaike Information Criterion) and residual deviance values can be used in line with the literature. These criteria should have small values for model prediction results. When examining Table 6, it can be stated that the probit model, which obtained smaller values for both criteria, provides better prediction results than the logit model.

As mentioned in the methodology section, investigating spatial effects in models is crucial for the reliability of model prediction results. When spatial effects are identified in the qualitative choice model, appropriate spatial econometric approaches are necessary for the statistical reliability of prediction results.

Table 8 presents the result of Moran's I test developed by Kelejian and Prucha (2001) to detect spatial dependence in the probit model of qualitative choice models.

**Table: 8**  
**Spatial Dependence Test**

Test	Test Statistics
Moran's I <sub>(Kp)</sub>	1.7800*

Note: \*\*\*, \*\*, \* indicate significance at 1%, 5%, and 10%, respectively.

When examining the Moran's I test result, the null hypothesis of no spatial dependence is rejected, indicating the presence of spatial dependence in the model. Therefore, in the model where spatial dependence is detected, using approaches specific to spatial qualitative choice models is crucial for the reliability of the prediction results.

The literature considers choosing an appropriate spatial weight matrix a contentious issue. Hence, different neighbourhood criteria should be employed to create spatial weight matrices, and models should be estimated with these diverse spatial weight matrices (Gallo & Ertur, 2003: 177; Kubara & Kopczewska, 2024: 79).

The study created the spatial weight matrices using contiguity-based (queen neighbour criterion) and distance-based (k-nearest neighbour criterion) approaches. Standardised versions of the spatial weight matrices generated using these approaches were employed in the study. Tables 9 and 10 present the estimation results of the spatial logit and spatial probit models predicted through the LGMM method, one of the estimation methods of spatial qualitative choice models.

**Table: 9**  
**Estimation of SAR Logit Model with LGMM Method**

Coefficients	Queen Criterion	k-Nearest Neighbors Criterion
Intercept	-41.8242** (18.5711)	-35.6109** (18.1413)
Duration	-8.5772*** (2.9410)	-7.8297** (3.2491)
Ginicoef	-58.0077*** (20.3514)	-57.3538*** (19.3080)
Notgrad	1.5978*** (0.5719)	1.5528*** (0.5655)
Primarygrad	0.9769** (0.4137)	0.8429** (0.3856)
Secondarygrad	0.8623** (0.3477)	0.8973*** (0.3420)
Universtygrad	1.7994*** (0.5996)	1.5041*** (0.5668)
Rho ( $\rho$ )	0.6751* (0.4091)	0.7178** (0.3193)

Note: \*\*\*, \*\*, \* indicate significance at 1%, 5%, and 10%, respectively.

**Table: 10**  
**Estimation of SAR Probit Model with LGMM Method**

Coefficients	Queen Criterion	k-Nearest Neighbors Criterion
Intercept	-22,7477** (9,2063)	-21,3356** (9,2929)
Duration	-4,6986*** (1,3697)	-4,6388*** (1,4656)
Ginicoeff	-29,9570*** (10,2618)	-31,6038*** (9,6589)
Notgrad	0,8314*** (0,2952)	0,8681*** (0,3025)
Primarygrad	0,5239*** (0,1899)	0,5011*** (0,1863)
Secondarygrad	0,5109*** (0,1752)	0,5320*** (0,1755)
Universtygrad	0,9332*** (0,2960)	0,8697*** (0,2800)
Rho ( $\rho$ )	0,6089** (0,1174)	0,6434*** (0,2458)

Note: \*\*\*, \*\*, \* indicate significance at 1%, 5%, and 10%, respectively.

When examining Tables 9 and 10, which include the estimation results of the spatial logit and spatial probit models predicted using the LGMM method, it is observed that all variables in the models are statistically significant. Additionally, all coefficient signs are the same as in the classical logit and probit models. The negative coefficient of the duration variable in both models suggests a decrease in the female employment rates in Level-2 regions during the 2018-2020 period.

The statistical significance of the spatial autocorrelation coefficient ( $\rho$ ) in both spatial logit and spatial probit models using spatial weight matrices created with queen and nearest k neighbours criteria supports the result of Moran's I test, providing evidence of spatial dependence in the model. The positive sign of the coefficient  $\rho$  indicates the presence of positive spatial dependence. In line with the evidence of positive spatial dependence, an increase in the probability of female employment rates in neighbouring regions increases the likelihood of female employment rates in the respective area.

Although the prediction results of the models using the spatial weight matrices created with different neighbourhood criteria are similar, they are not identical. This is an expected outcome as model prediction results are sensitive to the choice of the spatial weight matrix. Moreover, the models estimated with both spatial weight matrices indicating positive spatial dependence provide information that the selected spatial weight matrices are appropriate for the respective model (Gallo & Ertur, 2003).

When estimating spatial qualitative choice models using the LGMM method, information about marginal effects on coefficients must be provided. Instead, interpretations of statistically significant coefficients are made based on their signs. In this context, similar to the results of classical qualitative choice models, spatial qualitative choice models observe that all levels of education, including the rate of those who have not completed any school, increase the likelihood of female employment rates being above the median value.

In addition to the positive impact of educational levels on the probability of female employment in the classical qualitative choice models, when examining the marginal effects of the coefficients, it is observed that the ratio representing those who can read and write but have not completed any school has a significant influence on the relevant probability, following university graduation rates. The variables indicating the rates of primary and secondary school graduates positively impact female employment, but compared to the other two variables, these effects are weaker. Uğur and Saraç (2019) state that the limited availability of job opportunities and lower qualifications and wages for existing jobs reduce women's employment rates with secondary education. On the other hand, women who can read and write but have not completed any school are generally considered part of the low-skilled labour force and often find themselves working under challenging conditions for low wages (Uğur & Saraç, 2019: 12; Aksoy, 2018: 98). This situation indicates that women with lower educational levels contribute positively to increasing the employment rate.

The findings regarding the impact of university graduation rates on female employment in the classical qualitative choice models support the studies of Özocaklı and Khanalizadeh (2023) and Güriş et al. (2019).

In addition to educational levels, another highly influential factor on female employment rates is the Gini coefficient, an indicator of income inequality. The fact that the Gini coefficient is the most influential variable among the considered variables not only demonstrates the undeniable impact of income inequality on female employment but also supports the idea, as stated in Aksu's (2022) study, that education alone is not the sole determinant of female employment rates.

The relevant finding regarding the Gini coefficient aligns with Sarı's (2022) and Özcan (2023) studies.

## **7. Conclusion**

While economic growth in Türkiye is observed not to provide sufficient employment, this situation leads to the issue of growth that does not create employment, which is considered one of the most significant macroeconomic problems in the country. It is expected that practices aimed at increasing the female employment rate, which is one of the decisive factors for employment rates, and improving job opportunities will have a remedial effect on the issue of employment shortage, which is considered one of Türkiye's most critical macroeconomic problems. The current problems related to female employment were increasingly emphasised in the literature. The study explores the effects of different education levels and income inequality on female employment rates in Level-2 regions of Türkiye between 2018 and 2020. In this context, spatial qualitative choice models, which are noted to be still in the developmental stage in the literature, were utilised. In the study, where spatial logit and spatial probit models were estimated, a duration variable was included in the model to capture temporal dependence. The inclusion of spatial interactions for female employment rates in the literature had not been addressed with spatial qualitative

choice models. Additionally, incorporating a duration variable to account for time effects distinguishes this study from others.

In the initial stage of the spatial econometric analysis, the classical logit and classical probit models were estimated. The prediction results of the classical logit and probit models were similar, indicating that all educational levels increased female employment rates. However, it was observed that the duration variable and the Gini coefficient, an indicator of income inequality, had a decreasing effect on the relevant rates. Considering the goodness-of-fit measures, the findings suggest that the probit model outperforms the logit model in terms of prediction accuracy.

The Moran's I test proposed by Kelejian and Prucha (2001) within the scope of the probit model was used to detect spatial dependence among Level-2 regions, and the test results confirmed the presence of spatial dependence in the model. Following the identification of spatial dependence, the spatial logit and spatial probit models were estimated using the LGMM (Linearized Generalized Method of Moments) method developed by Klier and McMillen (2008).

The negative sign of the coefficient associated with the duration variable modelling the time effect in the models indicates a decrease in the female employment rates from 2018-2020. When examining the model prediction results, it was determined that the variable with the most significant impact on the probability of the female employment rate being above the median was the Gini coefficient. The strong negative effect of income inequality, considered a global issue, on female employment rates emphasises the importance of identifying effective policies to address income inequality. At this point, the significance of policies in reducing gender inequalities in labour markets becomes evident. It was found that different levels of education had a positive impact on female employment. The increase in employment rates associated with women who can read and write but have not completed any school highlights the need to improve the quality of female employment in Türkiye. Suppose gender inequality for women is reduced and equal educational and wage opportunities are provided. In that case, it is expected not only to increase employment rates but also to enhance the quality of employment.

The identified positive spatial dependence in duration variable spatial qualitative choice models indicates that the female employment rates in Level-2 regions are not independent. This result is expected to contribute to developing strategies and policies to improve female employment rates.

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## Investigation of The Effects of Technological Development Indicators on Employment in Türkiye: A Bayesian Approach

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### Türkiye’de Teknolojik Gelişme Göstergelerinin İstihdama Etkisinin Araştırılması: Bayesian Yaklaşımı

#### Abstract

In this paper, the relationship between the employment and the technological development is determined. Technological development affects employment both positively and negatively. It is the common goal of the countries to direct this effect positively. The study examined the relationship between the employment rate and two variables, R&D expenditures and the number of patents (resident and non-resident), representing technological development indicators, with the data for the 2004-2019 period in Türkiye. Linear regression and Bayesian regression analysis have been used as the methodology. As a result of the study, it has been determined that there is a positive and significant relationship between technological development indicators and employment. Studies in this field can provide precious contributions to helping countries plan employment.

**Keywords** : Technological Development, Employment, Bayesian Regression Analysis.

**JEL Classification Codes** : O3, O20, C11.

#### Öz

Bu çalışmada temelde, istihdam ile teknolojik gelişim arasındaki ilişki tespit edilmeye çalışılmaktadır. Teknolojik gelişim istihdamı olumlu ve olumsuz olmak üzere iki yönlü etkilemektedir. Bu etkinin olumlu yönde yönlendirilebilmesi ülkelerin ortak gayesidir. Çalışmada 2004-2020 dönemine ait verilerle Türkiye’deki genel istihdam oranı (EMP) ile teknolojik gelişim göstergeleri olan Ar-Ge harcamaları (RD) ve patent sayısı (PA) arasındaki ilişki incelenmiştir. Çalışmada yöntem olarak, regresyon analizi ve Bayesyen regresyon analizi kullanılmıştır. Yapılan çalışma sonucunda teknolojik gelişim göstergeleri ile genel istihdam arasında pozitif yönlü ve anlamlı bir ilişki olduğu tespit edilmiştir. Bu alana yönelik çalışmaların istihdam konusunda ülke planlamasına yardımcı olması açısından önemli katkılar sağlayabileceği düşünülmektedir.

**Anahtar Sözcükler** : Teknolojik Gelişim, İstihdam, Bayesyen Regresyon Analizi.

## 1. Introduction

Employment is a process that is evaluated by considering the working relationship of individuals in a job. Individuals working in a workplace where their rights are regulated by contract or agreement continue to work in the positions determined by the workplace. In this way, everything from the employee's income to the social security they have and their status at the workplace is evaluated within the employment framework. Here, the employer could sometimes be private companies or public institutions. Employment, whether in the public or private sector, has advantages such as obtaining financial income, having social security, benefiting from the contribution provided to society, developing professional skills, and career advancement; in addition to these advantages, unemployment, economic crisis, etc. When it comes to specific situations, difficulties in providing employment are encountered. These difficulties in employment are the negative situations faced in case of sectoral change and insufficient job opportunities. In general, employment is a substantial factor in the development and welfare of the society and the country's economic growth (Doğaner, 2022: 353).

In developing countries such as Türkiye, employment or economic growth could fluctuate concerning other economic indicators, including but not limited to inflation, prices and exchange rates. To illustrate, some indicators can be shocked by technologies, labour allocations or sector changes. As a part of economic indicators in Türkiye, employment is a critical variable closely followed by all segments. Türkiye, which has significant workforce potential, employment rate, economic development, economic stability, and economic growth, is significantly affected by developing technology. Sectoral change, business policy, unemployment rate, education and skills, demographic factors, investment, technological development, economic growth, and other factors significantly impact employment (Vivarelli, 2013: 80-81). Since these values are necessary measurements that are widely used to measure the employment development of countries and the health status of employment, the World Bank, Turkish Statistical Institute (TUIK), and Turkish Employment Agency (İŞKUR) are the official sources where these data are collected and analysed. Some of these variables that official sources use to monitor and analyse employment growth are briefly explained below.

As mentioned above, sectoral change is an increase or decrease in employment among the sectors for various reasons. Due to technological, economic, and demographic factors in countries, some occupational groups and sectors lose their importance. It causes employment problems or the emergence of new occupational groups (Bayar & Öztürk, 2021: 120). Increasing consumer demand due to technological development and new job opportunities increases the employment rate (Cengiz & Şahin, 2020: 163). In this process, the need for skill development among employees and the problems of adapting to new situations may arise. This problem can be easily overcome by training and retraining opportunities for employees to update their skills and sometimes learn new ones.

On the other hand, another aspect of employment is business policy, which refers to the decisions taken by states to ensure the continuity and efficiency of the economic system. These decisions include employment incentives, employment regulations, education and skills development policies, unemployment benefits and employment services, workplace cooperation, and dialogue. Therefore, similar arrangements affect business policy's effects on employment productivity (Rubart, 2007: 47-71).

When it comes to the employment rate, whether it is accounted for by economic growth or not, one should always consider the unemployment rate, which is a measure obtained by dividing the working-age labour force population by the total labour force. A low unemployment rate is expected and desired by the entire business world. On the other hand, a high rate indicates that the potential job-seeking workforce needs help to find the job they are looking for and are faced with unemployment (Cressey & Jones, 1995: 1-3, 23-25).

While economic growth is on the negative side of the unemployment rate, according to Okun's Law, the country's gross domestic product needs to increase. Developing technological innovations, structural changes, and automation provide economic growth and thus increase employment (Cengiz & Şahin, 2020: 170). Economic growth will increase the spending tendency and demand of people with growing incomes. To respond to these demands, companies will tend to increase their employment to increase their production. In addition, this increase in employment contributes to economic growth.

Since economic growth could be affected by private investments via interest rates, which indirectly would cause inflation to change aggregate supply and demand, private investments are one of the factors that directly affect employment and cover issues such as the growth of enterprises, competitiveness, new job opportunities, development of workforce skills, and the continuation of the supply chain. In addition, since investments directly affect economic growth, employment is positively affected (Çelik, 2020:413-415).

It can be taken into account that one of the variables of economic growth is technological changes. Technological developments often have a two-way effect on employment. On the one hand, due to rapid advances in automation, software, and artificial intelligence, along with technological developments, some business branches have lost their effectiveness and caused the employment rate to decrease. On the other hand, new business areas and sectors are formed in light of these developments and increase employment (Cafri & Selci, 2020: 3268).

Another crucial pillar of employment is education. While countries are creating their education systems, they aim to train talented workforce according to the quality of the education applied. Workforce the qualified workforce trained for this purpose will inevitably contribute positively to the increase in employment (Cafri & Selci, 2020: 3275-3277). Because in a sound education system, the increase in the quality of the workforce will

increase employment thanks to skill development opportunities and applied vocational programs.

Skills can also result from demographic factors, including the population structure of countries, young, middle, and elderly population rates, migration, and working population rates. Here, the increase in the educated and young population provides an increase in employment, while the rate of the elderly population decreases employment (Bayar & Öztürk, 2021: 120).

The remainder of the study is structured as follows. The first part of the study shows a relationship between technological development and employment. The next part includes a literature review, including national and international studies. Then, information about the study method, the MCMC method, and the WinBUGS program are given. The next part mentions the findings and the inferences based on the findings and the comparison of the classical and Bayesian linear regression methods. The last part includes the conclusion, discussion, and suggestions.

## **2. Technological Development and Employment Relationship**

The relationship between technological development and employment is significant and wide-ranging. Along with technological development, the work done through automation systems, the emergence of new job opportunities, increased efficiency in business processes, the need for talent development, the formation of flexible working models, and similar changes (Aydın, 2018: 462-464). Technological development has enabled machines to do many jobs automatically. Technological advances such as robotic systems, artificial intelligence, and automation have paved the way for the machine to replace humans. This situation has brought about the creation of new job opportunities connected to the machine. With the development of technology, the need for a qualified workforce that can analyse big data, actively use artificial intelligence and have different cybersecurity abilities has increased. The needs in this field have positively contributed to employment with its qualified workforce. Along with the development of technological software and hardware, the operations performed in the computer environment accelerate and contribute to the increase in productivity. With the technological development in some jobs, the need to develop talents has arisen. To acquire and develop these new skills, it is vital to take advantage of access to adult learning opportunities. In parallel with these developments, working habits are changing, and remote working and freelancing are becoming more popular. With the development of technological infrastructure and internet access, any desired work has become possible (Şahin et al., 2015: 99-105). In addition, it is inevitable for employees to interact with technology in the institution where they work in the face of developing technology. Her work is integrated with technological devices, regardless of what she does. With the development of technology, this number will inevitably increase.

From this point of view, there is a direct relationship between technological development and employment, and this relationship has two aspects. On the one hand, the sectors in which some jobs take place lose their importance and negatively affect employment; on the other hand, the emergence of new job fields affects employment positively (Tiftik, 2021: 101). In this case, countries have to adapt to rapid change and adapt to change by constantly improving their skills to avoid problems in employment. If the adaptation process is well controlled, it is inevitable that there will be an improvement in the employment rate. Otherwise, the employment rate will show a negative trend if the process cannot be adopted.

R&D expenditures made in countries are strategic investments that significantly impact many areas, such as technological development and progress, innovation, increase in competitiveness, and improvement of employment conditions. With the support of innovative ideas and products, the competitiveness of countries and companies in new markets will increase and support growth. At the same time, these new products and discoveries will increase productivity and effective production (Inekwe, 2015: 729-732; Duman & Aydın, 2018: 50). Considering these developments, new qualified job opportunities will be created, and new skills will be learned due to interdisciplinary interaction. As a result, innovative companies established or renewed themselves because of R&D expenditures, which will contribute positively to developing the country's economy and employment.

Countries' patent data are used as a measure of technological development. In addition, with these patent data, we can interpret which areas the countries are heading and the competitiveness of the countries with each other. For sustainable economic growth to be possible, it is realised by following the innovations and developments in the world's countries and imposing and adapting these innovations within its own country. Patent applications made in this regard are necessary. In many studies, it has been concluded that patent applications are an essential variable in increasing the potential of innovation in the development of countries and in reaching the level of developed world countries or in maintaining and developing the level of development (Tekin & Demirel, 2022: 361-362).

The number of patent applications is crucial to maintaining a certain level of competitiveness among world states. Patent types can be diversified under the patent system and the utility model.

In the examination patent system published with the research report, inventions are made open to critical thinking after publication. Because of this process, whether they are patentable is determined by the score given by subjecting them to the test report.

The utility model comprises the part where the inventions are evaluated and registered, and the registered products are protected for ten years.



### 3. Literature Review

The studies examined the relationship between employment and R&D expenditures, technology exports, internet users, high-tech patent applications, and innovation variables. Only (Bulut & Yenipazarlı, 2020: 15; Cafri & Selci, 2020: 3265) studies included the variables in our study. To the best of our knowledge, no studies in the literature have examined the effects of technological development indicators on employment with our methods. Most literature studies have used panel data, Johansen cointegration, least squares, ARDL, and Quantile Regression methods. The most crucial difference between the study and the existing literature is the variables and methods used. From these perspectives, the study aims to provide valuable insights for policymakers. Some studies in the related literature are as follows.

Cantner and Kösters (2009) studied the effectiveness of R&D subsidies in the first three years for the employment growth and patent output of start-ups in Thuringia, part of East Germany. They found that increasing the subsidies would increase employment growth by around 65% and patent output almost threefold. They suggest policymakers should care about targeting R&D schemes and opting for successful ones.

In Lachenmaier & Rottmann's (2011) study, GMM was analysed using panel data to estimate the impact of innovation on employment. The analysis revealed a significant and positive relationship between innovation studies and employment.

In their paper, Buerger et al. (2012) analysed the lead-lag linkage between R&D, the growth rate of patents, and employment using panel data methods in 1999 and 2005 for German regions. As a result, they concluded that an increase in the growth rate of patents causes an increase in employment growth, especially in industries such as medicine, optical technology, electronics, and electronics. For the electric and electronics industries, the growth rate of patents also causes an increase in the growth of R&D. None of the effects mentioned couldn't be found significant for the chemical and transportation equipment industries.

Tamayo and Huergo (2016) conducted an empirical analysis using panel data techniques on data from Spanish companies to investigate the relationship between employment and R&D expenditures. The study determined a positive and significant relationship between the variables.

Şahinoğlu & Varıcı (2019) analysed the relationship between Türkiye's technological development and employment between 1989 and 2017 using the ARDL method in their study. The study developed three models: total employment, educated employment, female employment rates, and technological development. According to the analysis results, total jobs and female employment have a negative relationship with technological development, and there is a meaningless relationship between educated employment and technological development.

In Bulut & Yenipazarlı's (2020) study, the relationship between technology indicators and employment was analysed using the least squares method based on data from 81 countries. It has been determined that the effects of R&D expenditures and high technology exports on employment vary.

In the study of Cafri & Selci (2020), the effects of technological indicators on R&D expenditures, internet users, and the number of high-tech patent applications on women's employment were examined. In addition to technological variables, variables such as GDP, poverty, vocational training and internship, immigration, government effectiveness, and the level of women with primary and higher education levels were included as control variables, and the two-stage system was analysed with the GMM method. It was concluded that these variables have a positive effect on female employment.

In the study of Cengiz & Şahin (2020), Quantile Regression analysis was used to examine the impact of economic progress and R&D expenditures on employment in Türkiye between 1990 and 2018. As a result of this analysis, while there was a significant and positive relationship between employment and R&D expenditures, no significant relationship could be found between unemployment and economic growth.

Çelik (2020) analysed the effects of technology on employment in Türkiye between 2010 and 2017 with the GMM method. The relationship between the variables of R&D expenditures, higher education graduates, and employment was investigated separately, and a significant and positive relationship was found between the variables in both cases.

In Uyar (2020), the Johansen Co-integration test was used to examine the relationship between Türkiye's economic growth between 1984 and 2018, the total number of patents of the GDP dependent variable, and the foreign investment independent variables. The causality between the variables was measured with the help of the Granger causality test. As a result, it was determined that the relationship between these variables was significant and positive.

Bayar & Öztürk (2021) applied the vector autocorrelation model and Johansen cointegration analysis to test how technological development affects employment. In the study, it has been determined that exports of medium and advanced technology have a negative relationship with employment; in contrast, the number of patent applications and R&D expenditures have a positive relationship with employment.

Doğaner (2022), in her study, analysed the relationship between employment in Türkiye, the number of patent applications, and R&D expenditures among the technological development indicators between the years 2000 and 2020 using the ARDL method. As a result of the analysis, the cointegration effect between technological development indicators and employment was determined, and R&D expenditures had a negative relationship with employment. The number of patents had a positive relationship with employment.

In the study of Kiani, Sabir, Qayyum & Anjum (2023), some countries from South Asia and Southeast Asia were selected to investigate the impact of technological innovations on the environment between 1991 and 2018. The obtained data were analysed using a cointegration test, unit root test, and autoregressive distributed lag model to examine the impact of these countries' ecological footprints on GDP, number of patent applications, urbanisation, trade openness, and renewable energy consumption.

Some studies question not only the size of the employment but also the sign of the employment. In a recent paper by Babina and Howell (2024), the changes in corporate R&D investment would affect the mobility of labour in which direction. It is seen that the technologies, skills, and ideas that companies should give more importance to are carried to start-ups by employees. Those start-ups tend to be higher tech and high wages based on the changes in R&D.

As stated before, when looking at nexus studies in the literature, there is no specific study handling the effects of technological development indicators on employment using Bayesian regression. Although most of the studies have used R&D as a technological indicator, not only R&D but also the number of patents should be proxied as the technological development indicator. Moreover, the literature needs the Bayesian approach, primarily with datasets limited to periods. This study provides to establish a model with both linear and iterated datasets. However, further studies could permanently be opted in the case of different distribution structures or when considering non-linearity.

#### 4. Data, Model Specification and Methodology

Bayesian regression analysis is a method used in fields such as medicine, economics, finance, social sciences, and engineering, and its use is increasing with the development of technological infrastructure. In addition to making data-based predictions, it has an advanced mathematical framework structure that questions the model's reliability and tests the parameter effect. This method works depending on obtaining the posterior distribution by combining the prior knowledge with the available data (Bernardo & Smith, 2000: 14-18).

We use the density function to obtain the posterior distribution, with  $\theta$  the random variable parameter, the data  $y$ , and  $f(y|\theta)$  the similarity function.

$$h(\theta, y) = f(y|\theta). g(\theta) = g(\theta|y). f(y) \quad (1)$$

When the necessary adjustments are made in equation (1),

$$g(\theta|y) = \frac{f(y|\theta).g(\theta)}{f(y)} \quad (2)$$

Bayes' theorem is obtained. If the probability function  $\ell(\theta|y)$  is used instead of the similarity function and necessary adjustments are made,

$$\ell(\theta|y) = \ell(\theta|y) = f(\theta|y) = \prod_{i=1}^n f(y_i|\theta) \quad (3)$$

is,

$$g(\theta|y) = \frac{f(y|\theta).g(\theta)}{f(y)} = \frac{f(y|\theta).g(\theta)}{\int f(y|\theta).g(\theta)d\theta} \quad (4)$$

It is obtained in the form. The expression  $\int f(y|\theta).g(\theta)d\theta$  in the denominator of equation (4) is the normalization constant in the Bayesian approach, and its value is 1. If the normalization constant is not written and edited.

$$\begin{aligned} g(\theta|y) &\propto f(y|\theta).g(\theta) \\ g(\theta|y) &\propto \ell(\theta|y).g(\theta) \end{aligned} \quad (5)$$

It is obtained in the form. In the Bayesian approach, the ' $\propto$ ' symbol is proportional. The verbal equivalent of equation (5) is,

*posterior distribution  $\propto$  likelihood function  $\times$  prior distribution*

expressed as (Judge et al., 1985: 97-119).

Our study used the Markov chain Monte Carlo (MCMC) method and WinBUGS program for data analysis, which are widely used to solve statistical inference problems based on Bayesian theory. Accordingly, MCMC, a statistical method that works harmoniously with Bayesian theory, generates samples by navigating a parameter space based on Bayesian theory and estimates the probability distribution of parameters using these samples.

The data drawn from the last probability are derived by the Monte Carlo simulation method, allowing the final probability distribution to be obtained exactly or approximately (Ekici, 2005: 73). Here, the MCMC method, which will enable us to find samples independent from each other from the posterior distribution, as the sample size goes to infinity, our expected value gets closer to the actual value or we get the real value according to the law of large numbers (Hahn, 2014: 36-37).

The study focuses on the WinBUGS program, which can be practically calculated using Bayesian regression analysis. Although WinBUGS is an independent program, it provides the opportunity to work with other programs and can work in an integrated manner with the R program. In addition, it has practical use due to its wide range of probability distributions and its advantages in eliminating uncertainties in model predictions (McCarthy, 2007: 4-6).

In our study, the Bayesian regression method was applied with the help of the WinBUGS program to measure the effect of technological development indicators on employment in Türkiye. In this application, the model consists of the equation below.

$$EMP_t = \beta_1 + \beta_2 RD_t + \beta_3 PA_t + \varepsilon_i \quad (6)$$

They were formed in a linear form. The prior distribution, which does not give information, was used, and the posterior distributions were obtained with the help of the WinBUGS program by taking the logarithm of the data used.

## 5. Empirical Results

Informative prior distribution was used to obtain the posterior distribution of the data for Türkiye. Here,  $b[j]$ s are the uncertain a priori distribution with a mean of zero and a precision of 0.001, and the precision is a gamma distribution with a parameter value of 0.001,

$$b[j] \sim \text{dnorm}(0, 0.001)$$

$$\tau \sim \text{dgamma}(0.001, 0.001)$$

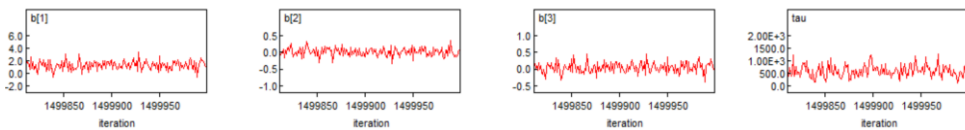
taken in the form. The tables and graphics obtained when these values and data are run with the help of the WinBUGS program are given below, and necessary explanations are made.

**Table: 1**  
**Descriptive Statistics**

Node	Mean	Sd	MC Error	2.5%	Median	97.5%	Start	Sample
b[1]	1.304	0.6415	5.173E-4	0.03028	1.304	2.577	1000	1499001
b[2]	0.01743	0.1084	8.716E-5	-0.198	0.01742	0.2326	1000	1499001
b[3]	0.04616	0.1364	1.101E-4	-0.2247	0.0463	0.3173	1000	1499001
$\tau$	610.8	239.2	0.2252	236.0	579.8	1161.0	1000	1499001

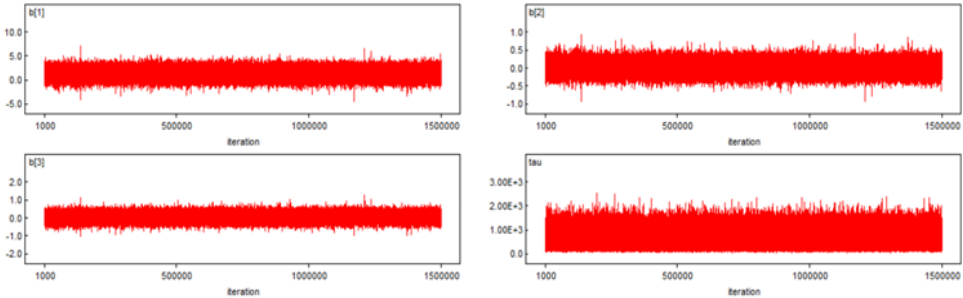
As can be seen in Table 1, it is indicated that the MC error is less than .05. Based on the sign, it shows that the relationship between the variables is significant, expectedly. Moreover, the effects of independent variables are both positive and high since the model's coefficients are 0.01743 and 0.04616 for  $b[2]$  and  $b[3]$ , respectively.

**Figure: 1**  
**Trace Drawing**



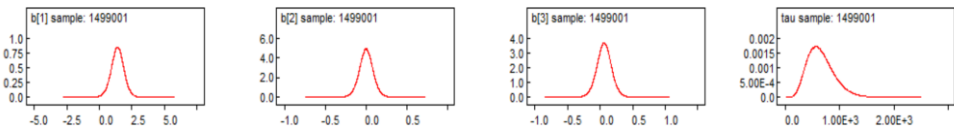
The movement of the last 200 iterations of the Markov chain is indicated in Figure 1. Based on the trace drawing, it can be interpreted that the search speed for  $b[1]$ ,  $b[2]$ ,  $b[3]$  and  $\tau$  is relatively fast.

**Figure: 2**  
**Multi-Chain Tracking Motion Graph; 1000-1500000**



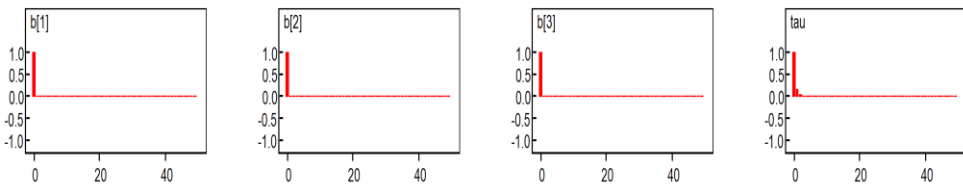
The multi-chain movement for all parameters in the range of 1000 to 1500000 in Figure 2 is highly intense and compatible with the Bayesian regression, in which it is observed that the chain movement produces values close to the posterior distribution and behaves consistently throughout the search. One can also see that the parameter values quickly search around the mean value by examining the same figure.

**Figure: 3**  
**Kernel Density Plot**



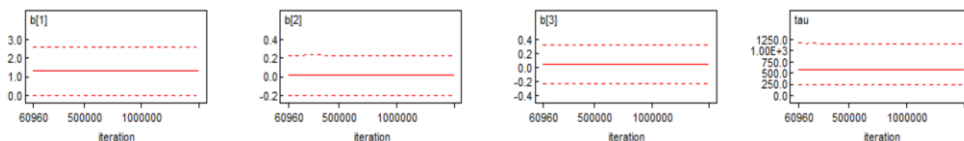
As Figure 3 shows, the Kernel density plots of the parameters indicate a normal distribution in the first three plots, and the precision shows a skewed distribution in the final plot.

**Figure: 4**  
**Autocorrelation Plot**



Due to its working principle, the WinBUGS program examines autocorrelation in the first 49 iterations. Figure 4 shows that the autocorrelation is zero. This indicates that chains work independently and gives information about chain efficiency (Hahn, 2014: 159-161). In addition, this situation will guide us in obtaining the maximum information about the posterior distribution we want to obtain.

**Figure: 5**  
**Working Quantities**



When Figure 5 is examined, the parameter values and precision remain constant within the 95% confidence interval. While this situation converges to the desired value, it behaves steadfastly (Hahn, 2014: 158-159). If the graph were not stationary, it could be interpreted as a shift in the mean values not converging to the desired value.

### *Comparison of Classical and Bayesian Linear Regression Methods*

Linear regression analysis was performed using the SPSS22 program to test the effect of the RD and PA independent variables on the EMP dependent variable and compare it with the Bayesian method. The results of the linear regression analysis and the Bayesian regression analysis are shown in Table 2.

**Table: 2**  
**Parameter Estimation by Classical and Bayesian Linear Regression Method**

Parameters	Parameter value and range	Linear regression analysis	Linear Bayesian regression analysis
b[1] value	1.399	1.399	1.399
range	(1.144, 1.653)	(1.144, 1.653)	(0.4149, 2.382)
b[2] value	0.002	0.002	0.002326
range	(-0.042, 0.047)	(-0.042, 0.047)	(-0.1687, 0.1732)
b[3] value	0.062	0.062	0.06239
range	(0.003, 0.121)	(0.003, 0.121)	(-0.166, 0.2906)

As Table 2 states, the analysis results obtained by the Bayesian method are similar to those obtained by the traditional linear regression method. This can indicate that the indefinite a priori Bayes method produces results similar to those of the linear regression model.

## **6. Discussion**

Being the MC error term significant, one can conclude that there is a linkage between the independent and dependent variables. Besides, the effect of R&D and the number of patents on the employment rate is high and positive. The movement of the Markov chain

iteration of the variables shows that the acceleration is smooth and speed is highly fast, which gives better knowledge about the data structure. The Bayesian regression model indicates that the model's parameters are expected when the precision has a right-tailed distribution. It also provides that there is no autocorrelation between the variables. When comparing the Bayesian regression model and linear model, R&D and the number of patents positively affect the employment rate. Therefore, the results are statistically significant. Considering the indefinite a priori Bayes procedure, one can use both the linear and Bayesian regression models. However, the Bayesian regression model is highly preferable regarding the need for more data. The iteration of restricted or limited data using Bayesian regression provides a breakthrough in this paper's empirical sample. Researchers should consider using Bayesian regressions within linear and non-linear time series analysis in economics, mathematics or management informatics studies.

## 7. Conclusion

The impact of technological development indicators in Türkiye on employment is significant. Our study shows that the coefficients of the model obtained by Bayesian regression analysis have positive signs. When the other variables in the model are kept constant, there is an increase of .06239 units in the number of patents and .002326 units in R&D expenditures against a one-unit increase in employment. In this case, it can be interpreted that the rise in technological development indicators contributes positively to creating new job opportunities and increasing employment opportunities in the labour market. The impact of technological development indicators in Türkiye on employment is significant. It has been obtained that these development indicators affect employment significantly and positively (Tamayo & Huergo, 2016: 1429-1430; Piva & Vivarelli, 2017: 1429-1430; Cafri & Selci, 2020: 3276-3277; Cengiz & Şahin, 2020: 167-170; Çelik, 2020: 421-426). (Şahinoğlu & Varıcı, 2019: 636-637; Doğaner, 2022: 359-363), Contrary to the discourse that the effects of technological development on employment are meaningless and negative, it is observed that the results obtained in this study affect employment positively and positively.

Countries can take the following measures and generalise them to solve the employment problem with the developing technology. Investment and industrial policy are critical points in a country's development. Investing in the country, developing industrial activities, and offering an investor-friendly opportunity is necessary. While creating industrial policies, it is important to prioritise those with sectoral specificity and high exports. Establishing the labour market policy should include balancing factors such as employment level and economic growth rate and each country's economic, social, and political conditions. The state should encourage regional development and employment and provide the necessary support to increase regional development and employment. Declaring certain regions as industrial zones and providing support and incentives to establish and operate facilities in the infrastructure service process and development process will increase employment. In this direction, state policies should be developed long-term, and existing policies should be constantly updated to adapt to technological innovation. The state and



necessary training should support entrepreneurship and business establishment support by developing encouraging policies. To create new opportunities for the workforce, incentive arrangements such as financial support packages, training programs, consultancy services, and tax regulation in favour of entrepreneurs should be made. In the education and skill development phase, education systems should be strengthened against the developing technological structure, and incentives and participation in needed skill development programs should be provided. Work-occupation compatibility and employability transitions to flexible employment models, including remote, part-time, and self-employment, can be achieved. In this way, employment will be increased in labour markets within the scope of technological development.

To maintain the suggestions above, policymakers can use Bayesian regression analysis as well as this paper, in which the effects of R&D and the number of patents on the employment rate are analysed, has tried to do. Moreover, it should be remembered that advancements in technology and software engineering would lead to economic growth and other economic indicators being more precise and successful. An achievement in technological improvements could always have a chance to achieve economic targets. Policymakers should consider this aspect of economic and technological changes.

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## The Mediator Role of Psychological Ownership in the Effect of Perceived Managerial Support on Individual Work Performance: A Research in the Health Care Sector

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### Algılanan Yönetici Desteğinin Bireysel İş Performansı Üzerine Etkisinde Psikolojik Sahiplenmenin Aracı Rolü: Sağlık Sektöründe Bir Araştırma

#### Abstract

The study aimed to determine the mediator role of psychological ownership in the relationship between nurses' perceived managerial support and individual work performance. The descriptive and cross-sectional study sample included Osmaniye provincial and district hospital nurses. A mixed analysis, including both quantitative (n=414) and qualitative (n=23) analysis methods, was used for the study. While the quantitative data were tested using the Structural Equation Model (SEM), content analysis was used to analyse the qualitative data. According to the findings, it was concluded that psychological ownership partially mediated the effect of perceived managerial support on individual work performance.

**Keywords** : Managerial Support, Individual Work Performance, Psychological Ownership, Mixed Analysis, Nurses.

**JEL Classification Codes** : I12, M10, M12.

#### Öz

Bu çalışmanın amacı, hemşirelerin algıladıkları yönetici desteği ile bireysel iş performansı arasındaki ilişkide psikolojik sahiplenmenin aracı rolünü belirlemektir. Tanımlayıcı ve kesitsel tipte tasarlanan araştırma örneklemini Osmaniye il ve ilçe devlet hastanelerinde görev yapan hemşireler oluşturmaktadır. Çalışma için hem nicel (n=414) hem de nitel (n=23) analiz yöntemlerini içeren karma analiz yöntemi kullanılmıştır. Elde edilen nicel veriler Yapısal Eşitlik Modeli (YEM) aracılığı ile test edilirken; nitel verilerin analizinde içerik analizinden yararlanılmıştır. Bulgulara göre algılanan yönetici desteğinin bireysel iş performansı üzerindeki etkisinde psikolojik sahiplenmenin kısmi aracılık rolü olduğu sonucuna ulaşılmıştır.

**Anahtar Sözcükler** : Yönetici Desteği, Bireysel İş Performansı, Psikolojik Sahiplenme, Karma Analiz, Hemşireler.

## **1. Introduction**

The nursing profession is critically important in increasing the quality and effectiveness of health care services. Unlike other service groups, nurses are indispensable in health care services (Schulz & Johnson, 1990), and they cannot be substituted or postponed for the whole society. Nurses are health care personnel who establish communication between patients and physicians, witness patients' troubles, spend a quite amount of time with patients and relatives (Tan et al., 2012), plan and implement patient care services, and thus increase the effectiveness of the treatment applied to patients while working in harmony with their colleagues (Karadağ et al., 2013). However, the ability of nurses to fulfil this vital role successfully depends on the quality of their work environment and the managerial support they receive.

In the literature, studies (Eisenberger et al., 2001; Shanock & Eisenberger, 2006; Casper et al., 2011) examine the effect of managerial support on individual work performance in the context of organisational support theory. These studies emphasise that the support received from managers will reduce individuals' stress levels, increase their work commitment and sense of ownership, and contribute to higher performance. The social exchange theory also supports this result. According to the social exchange theory, employees' developing a sense of ownership towards their work and workplaces can positively affect their work performance. Research has proven by research (Avey et al., 2009; Pierce & Jussila, 2011; Van Dyne & Pierce, 2004; Maphew et al., 2007) that psychological ownership contributes to individuals exhibiting a higher work commitment, taking responsibility and performing better. Supportive and encouraging attitudes of managers make individuals feel valuable and important. These feelings contribute to individuals developing a stronger sense of ownership towards their work (Avey et al., 2009). Although there are quantitative studies in the literature that examine the concepts of managerial support, individual work performance and psychological ownership with different variables and on different sample groups, there is no study investigating the mediator role of psychological ownership in the effect of managerial support on individual work performance. In this study, while examining the impact of managerial support perceived by nurses on their work performance, the mediator role of psychological ownership in this relationship was discussed in detail. In addition, this study differs from other studies in that it is supported by a qualitative method that enables the transfer of the experiences and opinions of nurses who take an active role in sudden life events. The quantitative and qualitative findings aimed to contribute to developing management strategies in health institutions and improving nurses' working conditions.

## **2. Conceptual Framework**

### **2.1. Managerial Support**

According to the organisational support theory, managerial support is defined as managers rewarding their employees' work efforts, meeting their approval requirements, and

recognising and validating their work (Eisenberger et al., 1986). This is because employees consider managers the most important representatives of the organisation, and they accept their support, considering that it is associated with the organisation (Rhoades et al., 2001; Shanock & Eisenberger, 2006). Bakker and Demerouti (2007) state that occupational resources such as perceived managerial support can motivate employees to achieve their goals and lead to positive occupational outcomes. Research has shown that employees with a high perception of managerial support have lower levels of intention to leave work (Maertz et al., 2007), burnout (Lloyd et al., 2002) and work stress, while they have a higher level of performance (Rhoades and Eisenberger, 2002), which show that it will lead to happier and more loyal employees. On the other hand, it is suggested that negative work behaviours will increase, and organisational performance will decrease in employees with a low perception of managerial support (Shoes et al., 2013).

## 2.2. Individual Work Performance

The individual work performance of the members of an organisation is one of the leading indicators of organisational performance, success and sustainability (Widyastuti & Hidayat, 2018). It also forms the basis of multiple organisational processes (Santalla-Banderali & Alvarado, 2022). Campbell and Brenton (2015), who conduct studies on work performance, define the concept of performance as "*behaviours that can be measured according to the level of contribution of employees to organisational goals and are consistent with the goals of the organisation*", stating that the level of performance of an individual depends on their beliefs, values, mental abilities and individual characteristics, as well as their desire to integrate for organisational goals.

Although individual performance is a situation related to the person, it also varies according to the understanding of management. The individual goals of the employees, sociodemographic characteristics (age, language, gender, educational level, etc.), psychological characteristics (perception, demands and tendencies), and competitive characteristics (interest and ability, personal characteristics, etc.) are considered among the individual factors affecting work performance (Sevim, 2015). The managerial factors affecting individual work performance include management style, working style, salary, communication, sense of appreciation, motivation, stress (Deniz & Arslan-Kalay, 2020), managerial support and team support (Khan & Mashikhi, 2017; Manzoor et al., 2011). Individual work performance is examined in three subscales. The first is *task performance*, which is based on responsibility, experience and abilities, representing the individual's competence to perform the tasks required by the job. The second is *contextual performance*, which is related to the components such as the quality of the work, communication between employees and motivation (Sevim, 2015). The third subscale of individual work performance is *anti-productivity work behaviour*, which is defined as *voluntary acts that harm the well-being of the organisation (Rotundo & Sackett, 2002), including off-duty behaviour*, complaining, deliberately performing tasks incorrectly, and abusing the opportunities offered (Koopmans et al., 2014).

### 2.3. Psychological Ownership

The concept of psychological ownership, which is symbolised as a psychological bond between an employee and an organisation, is defined as employees having a sense of ownership toward their work and organisation, although they have no legal or financial ownership (Vandewalle et al., 1995; Shukla & Singh, 2015). It is argued that in legal ownership, the object owned by the individual has legal limits, while in psychological ownership, it is considered adequate for the individual to be aware of what they own. Legal ownership is recognised by society, and the rights obtained through this ownership are protected by law. On the other hand, psychological ownership is recognised by the individuals themselves, and the person determines the rights obtained through this ownership (Pierce et al., 2003). Psychological ownership is the feeling of psychological attachment and ownership to an object. Research shows that ownership exists in human nature. People can feel ownership towards the material and spiritual values in their environment, and this ownership can have significant behavioural, psychological and emotional consequences (Pierce et al., 2001). Dawkins et al. (2017) state in their study that the psychological ownership in individuals may be toward the institution, as well as toward an application, a change, a task, an idea or a project. On the other hand, Mayhew et al. (2007) mention two types of psychological ownership in their studies: organization-based psychological ownership and job-based psychological ownership. Organization-based psychological ownership is when individuals feel a sense of psychological attachment and ownership toward the organisation. On the other hand, job-based psychological ownership represents individuals' ownership of their work. Ekber and Memedova (2017) state that psychological ownership contributes to the closer relationship of employees with their organisations and increases their commitment.

Psychological ownership is examined in four subscales: identification/self-integration, effectiveness, protective focus and internal responsibility (Uçar, 2018). *Identification/self-integration* refers to the efforts of individuals to describe themselves to other people through what they have, to express themselves and to ensure their self-continuity over time. *Effectiveness* is expressed as a result of the desire to control a goal. As with legal ownership, the rights brought by psychological ownership allow individuals to discover and change goals, and this sense of effectiveness creates internal and external satisfaction. *Protective focus* refers to an individual's desire to protect the boundary they have or are willing to have by spending energy and resources towards the goal to be embraced. Lastly, *internal responsibility* describes the development of a sense of responsibility that affects an individual's behaviour along with their psychological ownership of the goal. Therefore, the internal sense of responsibility is activated by spending extra time and effort towards the goal (Pierce et al., 2001).

### 3. Correlations between Variables and Hypothesis

Individual performance has become vital for organisations in a changing and global environment. Organisations need employees with high performance to achieve the necessary

effectiveness and efficiency. Adopting employees with high performance, making them feel like they are members of the organisation, including them in decision-making mechanisms, informing them about the mission and vision of the organisation, and creating environments where they can freely express their opinions will enable them to have a higher level of organisational ownership. Research shows that the sense of ownership and behavioural changes affected by this feeling do not occur only due to legal ownership, and a psychological sense of ownership can occur even in cases without legal ownership (Mustafa et al., 2015). In this study, concepts such as managerial support (Türkkan & Ülbeği, 2022; Ece & Gültekin, 2018; Casper et al., 2011; Stinglhamber & Vandenberghe, 2003; Yang et al., 2015; Shanock & Eisenberger, 2006; Pazy & Ganzach, 2009; Krongboonying & Lin, 2015; Pekdemir et al., 2013; Chen et al., 2021; Derelioğlu & Çapraz, 2022; Köse et al., 2023; Kara & Çetinel, 2023; Chen et al., 2008; Tenteriz & Tozkoparan, 2022; Uzun, 2018; Demir, 2019; Eisenberger et al., 2002), psychological ownership (Çıkmaz & Yeşil, 2020; Kalyoncuoğlu, 2018; Örucü et al., 2021; Işık & Uçar, 2019; Yavuz & Akgemci, 2021; Han et al., 2015; Aydoğan & Olguncelik, 2022; Van Dyne & Pierce, 2004; Han et al., 2010) and individual work performance (Turhan et al., 2018; Greenberg, 2006; Genç, 2018; Mercanlioğlu, 2021; Tims et al., 2014; Eşkin-Bacaksız et al., 2018; Mazzetti et al., 2021; Çetin et al., 2020; Sevim, 2015) were mentioned, which were discussed with different samples and variables in the literature. The study first hypothesised that the perception of managerial support in nurses positively affected psychological ownership. This assumption was considered to be consistent with the social exchange theory. The social exchange theory (Blau, 1986), an interdisciplinary approach including behavioural psychology, social psychology, anthropology and sociology issues and economic perspectives, aims to explain how employees take action to carry out certain activities within the framework of mutual obligations between colleagues and employers. The basic assumption of the theory is that a bond of mutual trust and affection is established through offering more rewards than earnings (Demir, 2009). According to the social exchange theory, employees tend to respond with a higher performance when they feel supported by their managers (Melian-Gonzalez, 2016). In other words, studies have observed that employees who receive the support of their manager are motivated and able to focus on producing high-quality occupational outcomes (DeConinck & Johnson, 2009). Managers direct the behaviour of individuals related to their work by making observations, providing feedback and evaluating the performance of employees (Griffin et al., 2001). Within the framework of the authority and responsibility assigned by the organisation, the individual perceives managers as representatives of the organisation. Therefore, the individual considers the manager a personalised extension of the organisation (Dawley et al., 2008). Accordingly, it is considered that the perceived managerial support, one of the support sources, will positively affect psychological ownership. As a result of the relevant literature review, the first hypothesis of the research was created as follows.

**H<sub>1</sub>:** Perceived managerial support has a significant positive effect on psychological ownership in nurses.



In social exchange theory, research indicates that psychological ownership increases individual work performance. Studies show that individuals with a high level of psychological ownership are willing to take on tasks and responsibilities and exhibit organisational citizenship behaviours (Avey et al., 2009; Liu et al., 2012; Van Dyne & Pierce, 2004; Han et al., 2010). In addition, Hsu & Kuo (2003) emphasise in their study that individuals with high levels of psychological ownership focus on high performance, their participation in voluntary work is high, their absenteeism and turnover intentions decrease, and thus their sense of responsibility increases. In this study, it was questioned whether psychological ownership had a positive effect on individual work performance.

**H<sub>2</sub>:** Psychological ownership in nurses has a significant positive effect on individual work performance.

Since employees consider their managers to be representatives of the organisation, they equate the support they receive from managers with the support they receive from their organisations (DeConinck & Johnson, 2009). Studies in the literature indicate that perceived managerial support positively increases employees' job satisfaction, motivation and performance (Aarons et al., 2009; Rhoades & Eisenberger, 2006; Chen et al., 2009). This study hypothesised that perceived managerial support positively affected individual work performance. The hypothesis was consistent with the leader-member interaction theory. According to the leader-member interaction theory, the quality of the relations between employees and their superiors will affect performance-related work outcomes, particularly for employees (Janssen & Yperen, 2004). Subordinates who have good relationships with their superiors will feel the support of their superiors and will demand more challenging tasks. Thus, their performance levels will also increase. Various studies have shown that there is a positive relationship between leader-member interaction and subordinates' work performance (Bauer et al., 2006; Schyns et al., 2005; Wang, 2023). This study questioned the effect of perceived managerial support on individual work performance.

**H<sub>3</sub>:** Perceived managerial support in nurses has a significant positive effect on individual work performance.

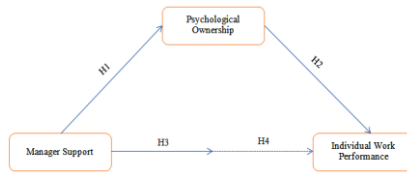
In today's world, with high levels of competition, educational levels, and expectations from the organisation, determining actions to increase the performance of employees is one of the main areas of study. Other researchers have discussed different theories on this subject. Self-determination theory is one of these theories. This theory aims to identify the conditions that enable individuals, groups and societies to develop efficiently and clearly define the factors that are effective in the development, integration and well-being process. The theory defines individuals as active organisms with a coherent self, with psychological development tendencies, and striving to overcome existing obstacles (Ryan & Deci, 2017). In addition to these inborn tendencies, the characteristics of the environment are also crucial in shaping individuals' behaviours. A supportive environment enables them to experience a sense of choice and fulfil their basic psychological needs (Deci et al., 2001). According to social exchange, organisational support, leader-member exchange and self-determination

theorists, managerial support allows individuals to develop their competencies. It also enables them to feel themselves as an important part of the organisation and take more ownership of their jobs (Avey et al., 2009; Mayhew et al., 2007; Zhang & Bartol, 2010; Wang et al., 2005). It is assumed that individuals with a high level of perception of managerial support and psychological ownership towards their organisations/professions have higher levels of work performance. Hypothesis 4, formed in this context, is given below.

**H4:** Psychological ownership has a significant mediator role in the effect of perceived managerial support on individual work performance in nurses.

The literature review resulted in Figure 1, which presents the research model proposed within the scope of this study.

**Figure: 1**  
**Recommended Research Model**



In this model, designed using the causal screening research pattern, one of the quantitative research methods, the effect of perceived managerial support on individual work performance was examined; it was questioned whether perceived psychological ownership assumed a mediator role.

#### 4. Methodology

The mixed analysis method was applied in the descriptive and cross-sectional type of the research. Research data were collected between June and July 2023. First, the correlations between the causal screening research pattern, one of the quantitative research methods, and the perceived managerial support, individual work performance and psychological ownership variables were tested using the SEM. Causal screening research is research conducted on individuals without any intervention to determine the causes of an emerging condition (Büyüköztürk et al., 2023). In such research patterns, the researcher usually attempts to examine the antecedent variables predicting a dependent variable, the possible successors of a variable, or both. In addition, the mediating and moderating effects between the two variables can also be investigated (Gürbüz & Şahin, 2018).

The “phenomenology” pattern (Baş & Akturan, 2017), which discusses the participant's personal (subjective) experiences, serves to examine their perceptions and the meanings they attach to events, was used to examine the perceived managerial support of nurses. In the qualitative research method, the manager profile perceived and/or expected to

be by nurses, the psychological ownership levels toward their current institutions and professions, and the reflections of these variables on work performance were aimed to be revealed with content analysis. Content analysis is a primary method used to explore individuals' understanding of everyday life phenomena and interpret the content of subjective data in textual forms. In this method, the data generated according to the participants' explanations can be encoded, summarised, and classified, and related themes can be extracted. Codes are extracted according to the units of meaning obtained from the participants' experiences and then classified according to their differences or similarities (Strauss & Corbin, 1990).

#### 4.1. Population and Sampling

The study population included nurses working in Osmaniye provincial and district public hospitals (n=910). The following formula (Gürbüz & Şahin, 2018) was used to calculate the sample size to be reached:

$$n = \frac{n_0}{1+n_0/N} \quad n_0 = \frac{t^2xs^2}{d^2}$$

N: Population Size

n: Sample size

t: table z value corresponding to the confidence level (1,96 for 0,05, 2,58 for 0,01 and 3,28 for 0,001)

s: Estimated standard deviation for the population (0,5)

d: Acceptable deviation tolerance (0,05)

$$n_0 = \frac{1.96^2 \times 0.5^2}{0.05^2} = 384,16 \quad n = \frac{384,16}{1+384,16/910} = 270,13$$

As a result of the calculation determined, the minimum acceptable sample size at a 95% confidence interval for the quantitative part of the research was at least 270 volunteer participants. The sampling technique suitable for the research was determined after determining the sample size to be reached. A purposive sampling technique was preferred, in which participants with specific characteristics that the researcher thought were appropriate for the research problem were selected based on the researcher's observations. The qualitative analysis participants were selected voluntarily among the quantitative analysis participants (n=23). At the end of the 23rd interview, it was seen that the responses were very consistent and did not differ; therefore, a total of 23 participants was found to be adequate.

Taking into account the research's confidence interval and acceptable error rates, feedback was obtained from 423 participants within the 95% confidence interval with an acceptable margin of error of 5%. Of the surveys to be collected, 414 questionnaires were included in the analysis since they were found to be scientifically applicable. The socio-demographic characteristics of nurses are given in Table 1.

**Table: 1**  
**Socio-Demographic Information of Nurses**

Socio-Demographic Variables		n	%	Socio-Demographic Variables		n	%
Gender	Female	294	71	Unit	Emergency Service	83	20
	Male	120	29		Intensive Care	238	57,5
Marital Status	Unmarried	148	35,7	Total Professional Experience	Operating Room	59	14,3
	Married	266	64,3		Less Than One Year	34	8,2
Age	20-29 age	159	38,4	Years of Experience in Current Institution	1-5 Years	42	10,1
	30-39 age	125	30,2		6-10 Years	94	22,7
	40-49 age	105	25,4		11-15 Years	103	24,9
	50-59 age	25	6		16 Years and Over	54	13
Education Status	High school	22	5,3	Level of Professional Satisfaction	Less Than One Year	121	29,2
	Associate graduate	67	16,2		1-5 Years	102	24,6
	Bachelor's graduate	306	73,9		6-10 Years	212	51,2
	Postgraduate	19	4,6		11 Years and Over	61	14,7
					Low	133	32,2
					Medium	232	56,0
					High	49	11,8

71% of nurses were female, 64,3% were married, 38,4% were between the ages of 20 and 29, 73,9% were bachelor's graduates, 57,5% were working in service (outpatient clinic) units, 29,2% had a total professional experience of 16 years and over, 51,2% had a total experience of 1-5 years in their institution, and 56% had a moderate level of professional satisfaction.

#### 4.2. Data Collection Instruments

In this study, perceived managerial support was an independent variable, while individual work performance was a dependent variable, and psychological ownership was a mediating variable. The following scales were used as data collection instruments.

*Personal Information Form:* Statements about gender, marital status, age, educational status, unit, total professional experience, total experience in the current institution, and professional satisfaction level of nurses were included.

*The Perceived Managerial Support Scale:* The scale was formed by Giray and Şahin (2012) by using seven different scales (Gant et al., 1993; Gillen et al., 2002; Jiang & Klein, 2000; Liden & Maslyn, 1998; Babin & Boles, 1996; Yoon & Lim, 1999; Karasek et al., 1982) and adapted to Turkish, consists of 11 items and one subscale. The Likert-type scale ranges between "1-Strongly disagree, 5-Strongly agree". Higher scores indicate a higher level of managerial support. There are no reverse-coded items. Giray and Şahin (2012) reported Cronbach's alpha value of the scale as 0,94 in the adaptation study. In this study, Cronbach's alpha value of the scale was 0,957 (Table 2).

*The Individual Work Performance Scale:* The scale was developed by Koopmans et al. (2013), and its Turkish adaptation study was carried out by Köroğlu Kaba and Öztürk (2021). The scale consists of 14 items and three subscales, including "task performance", "contextual performance", and "anti-productivity work behaviour". The Likert-type scale ranges between "5-Always and 1-Rarely". There are no reverse-coded items. Higher scores

indicate a higher level of individual work performance. Köroğlu Kaba and Öztürk (2021) reported Cronbach's alpha value of the scale as 0,80 in the adaptation study. In this study, Cronbach's alpha value of the scale was 0,855 (Table 2).

*Psychological Ownership Scale*: The scale, developed by Uçar (2018), consists of 15 items and four subscales, including "identification /self-integration", "effectiveness", "protective focus", and "internal responsibility". The Likert-type scale ranges between "1-Strongly disagree, 5-Strongly agree". There are no reverse-coded items. Higher scores indicate a higher level of psychological ownership. In the original study, Cronbach's alpha value of the scale was 0,922. In this study, Cronbach's alpha value of the overall scale was 0,907 (Table 2).

In the study, the individual work performance scale and the psychological ownership scale were discussed in a single dimension to ensure that the research was clearer and more understandable. The study was designed using a mixed method. Considering that the inclusion of separate scale subscales in the analysis may make the results more complex and difficult to interpret, the research hypotheses were based on a unidimensional structure.

In addition to the questionnaire consisting of three different scales, the interview technique, one of the qualitative research techniques, was also used in the study. A semi-structured interview form containing five open-ended questions was used to collect qualitative data. Taking into account the intensive work pace of the participants, an interview schedule was created for each participant, and the interviews were conducted face-to-face according to the calendar. No audio recordings were taken during the interviews, and detailed notes were kept for the participants' responses. Each interview was completed between 20-30 minutes.

### **4.3. Data Analysis**

Statistical Package for Social Science Version 26.0 (SPSS), Analysis of Moment Structures Version 24.0 (AMOS) and MAXQDA 22 programs were used to evaluate the data. Before proceeding to the analysis processes, the scale variables' conformity to normal distribution was examined to assess the quantitative data. The skewness and kurtosis values of the scale variables ranged between -2 and +2 (Table 2) and met the normal distribution criteria (George & Mallery, 2010). In data analysis, descriptive statistics, Cronbach's alpha coefficient, and inter-scale correlations were examined with the Pearson correlation coefficient to determine the reliability level of the scales. Confirmatory Factor Analysis (CFA) was used to test the validity of the scales. AMOS 24 program was used to test research hypotheses and analyse them using the SEM. The bootstrap (5000 bootstrap samples) method was preferred in the established model. The results were estimated in bootstrap confidence intervals, and the confidence interval was determined to be 95%. The statistical significance level was set at  $p < 0,05$ .

## 5. Results

### 5.1. Quantitative Analysis Findings

Table 2 gives the results of Pearson correlation analysis between perceived managerial support, individual work performance, psychological ownership, and the mean scale scores.

**Table: 2**  
**Pearson Correlation Analysis Results and Descriptive Statistics between the Scales**

Variables	Min-Max	$\bar{x}$ ±ss	Managerial Support	Psychological Ownership	Individual Work Performance
Managerial Support	1-5	2,75±0,93	1	,431** ,000	,125* ,011
Psychological Ownership	1-5	3,64±0,66	,431** ,000	1	,334** ,000
Individual Work Performance	1-5	2,97±0,60	,125* ,011	,334** ,000	1
Skewness			0,131	-1,013	0,542
Kurtosis			-0,423	1,222	0,903
Cronbach's alpha			,957	,904	,855
CR			0,96	0,94	0,94
AVE			0,70	0,52	0,54

\*\*  $p < 0,01$ , \*  $p < 0,05$ ,  $\bar{x}$ : Average, ss: Standard deviation, CR: Composite reliability, AVE: Average variance extracted.

As presented in Table 2, the internal consistency reliability of the structures, Cronbach's alpha coefficient, combined reliability coefficient (CR) and the average variance extracted (AVE) were considered. It is expected that all CR values for the scales should be greater than AVE values and AVE values should be greater than 0,5 for convergent validity, which indicates that the expressions related to variables are associated with each other and the factor they constitute (Kline, 2011). This study provided convergent validity since the AVE value was above 0,50, while the composite reliability was also provided with a CR value above 0,70. In addition, when the correlation values were examined, it was found that there was a positive significant correlation between the variables.

The score intervals in Table 2 were used to evaluate the responses to perceived managerial support, psychological ownership, and individual work performance. Score intervals were assumed to be equal, and arithmetic mean values ranged from 0,80. Score interval = (Highest value-Lowest value)/5 = (5-1)/5 = 0,80 (Ozturk et al., 2019). The evaluation interval of the arithmetic means is given in Table 3.

**Table: 3**  
**Mean Score Intervals of Perceived Managerial Support, Psychological Ownership, and Individual Work Performance (n=414)**

Evaluation Range		Managerial Support		Psychological Ownership		Individual Work Performance	
		n	%	n	%	n	%
1,00-1,80	Very low	56	13,5	10	2,4	7	1,7
1,81-2,60	Low	134	32,4	21	5,1	106	25,6
2,61-3,40	Middle	115	27,8	79	19,1	215	51,9
3,41-4,20	High	87	21,0	237	57,2	77	18,6
4,20-5,00	Very high	22	5,3	67	16,2	9	2,2

According to the mean score intervals obtained from the responses, 32,4% had a low level of perceived managerial support, 57,2% had a high level of psychological ownership, and 51,9% had a moderate level of individual work performance.

The mediator role of psychological ownership in the effect of perceived managerial support on individual work performance was tested using the Structural Equation Model (SEM). AMOS 24 package program was used to create SEM, and model fit index values (Hu & Bentler, 1999; Kline, 2011; Kwon & Marzec, 2016) were considered. The validity of the scales used in the study was tested with CFA and presented in Table 4. The goodness of fit values of the established SEM are shown in Table 4.

**Table: 4**  
**The Goodness of Fit Values of the Research Model**

	$\chi^2 /sd$	IFI	NFI	CFI	TLI	RMSEA
<b>Good fit</b>	$\leq 2$	$\geq .95$	$\geq .95$	$\geq .95$	$\geq .95$	$\leq .05$
<b>Acceptable fit</b>	$\leq 5$	$\geq .90$	$\geq .90$	$\geq .90$	$\geq .90$	$\leq .08$
<b>Obtained values</b>	2,504	.907	.905	.907	.900	.060
Managerial Support	3,746	.962	.972	.962	.972	.082
Individual Work Performance	3,978	.910	.931	.912	.930	.085
Psychological Ownership	4,125	.924	.941	.923	.941	.087

When Table 4 was examined, the established model's goodness of fit values were acceptable. The model created with the SEM is given in Figure 2.

**Figure: 2**  
**Structural Equation Model**

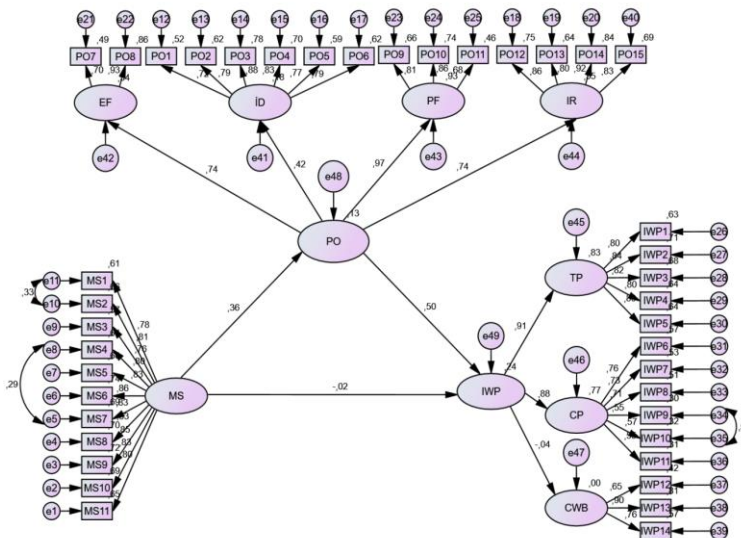


Table 5 presents the analysis results performed with the SEM according to the model established in Figure 2.

**Table: 5**  
**Mediating Effect Analysis Results**

Direct Effect			Unstandardised Coefficients	Standardised Coefficients (β)	Standard Error	C.R.	P	R <sup>2</sup>	Low Bound	Upper Bound	P Value
PO	←	MS	,214	,358	,037	5,789	***	,128	,270	,462	,008*
IWP	←	PO	,644	,500	,097	6,629	***		,393	,616	,012*
IWP	←	MS	-,014	-,018	,042	-,324	,746	,244	-,110	,097	,790
<b>Indirect Effect</b>											
IWP	←	MS	,138	,179	,036	3,833			,103	,250	,015*
<b>Total Effect</b>											
IWP	←	MS	,124	,161	,052	2,384			,074	,290	,008*

\*  $p < 0,05$ ; \*\*\*  $p < 0,001$ ; MS: Managerial Support; PO: Psychological Ownership; IWP: Individual Work Performance; C.R.: Unstandardised Coefficients/ Standard Error.

When direct effects were examined, perceived managerial support had a significant positive effect on psychological ownership ( $\beta = ,358$ ), and perceived managerial support explained about 13% of the change in psychological ownership ( $R^2 = ,128$ ). Psychological ownership significantly positively affected individual work performance ( $\beta = ,500$ ). It was observed that perceived managerial support had no significant effect on individual work performance ( $p > 0,05$ ). Baron and Kenny (1986) state that the existence of a direct effect is a prerequisite for mediating effect analyses. However, contemporary approach researchers such as Zhao, Lynch and Chen (2010) argue that the direct effect condition is not essential. According to the authors, the mediating effect can be mentioned if the indirect effects are significant. In this study, psychological ownership was found to have a mediator role according to the decision tree of mediating effect suggested by Zhao et al. (2010).

When indirect effects were evaluated, it was observed that perceived managerial support had a significant positive effect on individual work performance ( $\beta = ,179$ ). It was found that the direct effect of perceived managerial support on individual work performance ( $p = ,790$ ) was not significant, while the indirect effect ( $\beta = ,179$ ) was significant. After detecting the mediating effect, the significance of the effects can be tested using the "Sobel" test. However, this test has received severe criticism. Hair et al. (2017) suggest calculating the VAF (Variation Accounted For) coefficient instead of using the Sobel test. The VAF Formula is as follows:

$$VAF = \frac{\text{Indirect Effect}}{\text{Total Effect} + \text{Indirect Effect}}$$

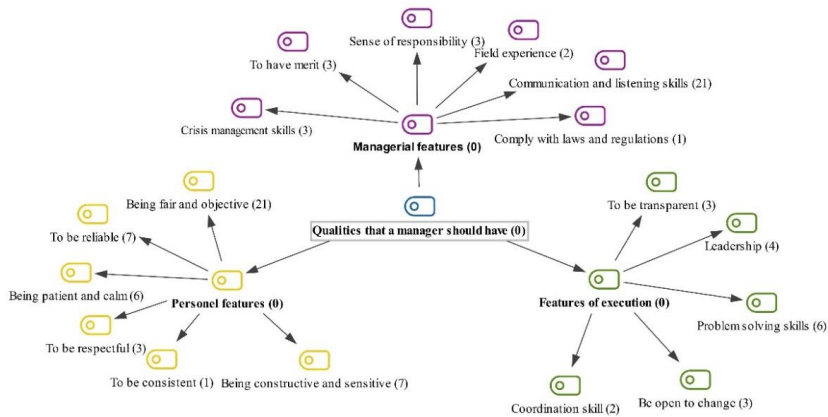
In this study, it was found that the  $VAF = 0,179 / (0,161 + 0,179) = 0,53$ . The VAF coefficient of  $> 0,80$  indicates a full mediating effect, and values between  $0,20 \leq VAF \leq 0,80$  indicate a partial mediating effect. In this study, the VAF value was calculated as 0,53, and it was found that psychological ownership had a partial mediator role.



## 5.2. Qualitative Analysis Findings

The MAXQDA 22 program was used to analyse qualitative data in the study. Based on the literature, a semi-structured interview form consisting of 5 open-ended questions was created. The first of the open-ended questions was designed to determine the characteristics expected of managers. The information obtained after analysing the questions and responses posed to the participants was shared in Figures 3, 4, and 5.

**Figure: 3**  
**Must-Have Features in a Manager**  
**(MAXQDA 22-Hierarchical Code-Sub-Code Model)**



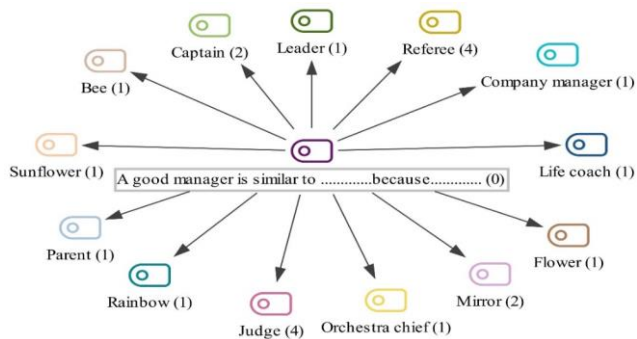
The participants were asked, "What do you think should be expected features in a good manager?". The responses were presented in Figure 3 using the hierarchical code-subcode model. The code that received the most interaction in terms of the personal features was "being fair and objective". Regarding the execution features, the code that received the most interaction was the "problem-solving skills". Finally, the code that received the most interaction regarding the managerial features was "communication and listening skills". The relevant statements of some participants were as follows:

*"A good manager should have merit. A qualified manager cares about being fair and treated equally. They know management is a science and know how to act according to moral norms. They are open to development, new ideas, and suggestions for solutions in their field and every subject. According to the institution they manage or the authority they are affiliated with, they should have a holistic approach toward employees. They should have self-confidence and a sense of responsibility. If they have doubts, they should be honest with themselves and be able to self-criticize. They should be able to predict the consequences of their decisions and the steps they will take in advance."* (P15)

*"They should be able to take actions for employee motivation, love their job, exhibit hardworking and exemplary behaviour, make employees feel valued, be open to criticism and solution-oriented, be fair and transparent to their employees, be a good listener and be successful in crisis management. They also should empathise with their employees and be tolerant, calm and polite. They also constantly improve themselves and are innovative."* (P19)

The second open-ended question was, "A good manager is similar to ....., because ....." Figure 4 was created by coding the concepts suggested by the participants about the manager within the responses.

**Figure: 4**  
**A good manager is similar to .....because.....**  
**(MAXQDA 22-Hierarchical Code-Sub-Code Model)**



According to the responses given by the participants, managers were found to resemble mostly judges and referees. The two concepts emphasised here represented justice. The opinions of some participants were as follows:

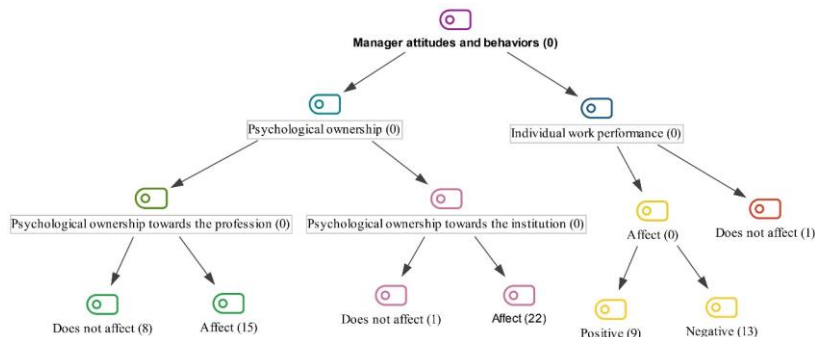
*"A good manager is like an impartial referee because they should be able to take care of the rights of the employee and the patient."* (P5)

*"A good manager is like a judge. Because they should not make decisions about their employees without evidence without listening."* (P9)

*"They are like captains. Because they know how to use what and where to take it. They deliver it safely to its destination without harming and protecting what's inside."* (P23)

The responses obtained as a result of the questions asked about the reflection of the managerial support perceived by the participants on their work performance and psychological ownership levels were graded by creating a hierarchical code-subcode map.

**Figure 5**  
**Reflection of Manager Attitudes and Behaviors on Psychological Ownership and Individual Work Performance (MAXQDA 22-Hierarchical Code-Sub-Code Model)**



As can be seen in Figure 5, it was found that most participants emphasised that perceived managerial support had a negative reflection on individual work performance. The relevant statements of some participants were as follows:

*“It makes me more irritated and insensible during the day.” (P7)*

*“My manager’s attitude and behaviour cause problems such as excessive physical fatigue, mental reluctance to work, excessive stress, a tense work environment, restlessness, and reduced work performance.” (P13)*

*“Of course, having a positive attitude and behaviour is nice; it will have a good effect. If they engage in negative behaviour, at least the situations and events will not directly impact my performance unless they are taken personally. It may reduce my desire to work in the institution.” (P23)*

On the other hand, it was found that the vast majority of the participants responded as “affects” to the question created to determine the reflection of the perceived managerial support (positive or negative) directed to the participants on their psychological ownership levels for the institution they work for. Some of the responses given to this question were as follows:

*“I have no sense of psychological ownership for my institution. The attitude of the managers has lowered our mood and motivation. We are like let’s go home as soon as we are done.” (P8)*

*“Psychological ownership towards the institution I work for reflects negatively on my perception. The number of personnel in the institution should be increased; on the contrary, it is decreasing even more. There is a staff shortage and high expectations. They don’t think about employees at all. Then, why should I have a high level of psychological ownership of my institution?” (P17)*

*"As long as the attitude and behaviour of our manager are good, my psychological ownership remains high."* (P22)

It was observed that the vast majority of the participants responded as "affects" to the question created to determine whether perceived managerial support affects the level of psychological ownership towards the profession, and the number of participants who said "no effect" also increased. Some of the responses given to this question were as follows:

*"The attitude and behaviour of the manager affect my psychological ownership of our profession. Poor management causes health workers to become disengaged from the profession and look for another job. Because they worry about how they will do a lifelong job in an unhappy and stressful environment. In an environment where the conditions are corrected by the trust and the management they support, it is ensured that they do the profession with passion, as attrition and unhappiness are minimised. A happy work environment supported by good management increases productivity and quality. It improves the health system."* (P6)

*"I think health managers don't value nurses. However, it is like a brief for the attitude that nurses, who are an important element of the team, are called "others" or "assistant medical personnel". I am in a bad situation in terms of psychological ownership. I think that knowledge, skills and labour are not valued anymore. Our profession has never been in such a bad situation."* (P15)

*"It never affects my perception of psychological ownership. I love my job very much, and I do it with love."* (P16)

*"I do not consider professional ownership in any specific manner to managers. If the manager makes me uncomfortable, it's not about my profession but the person in front of me. If I am unhappy where I work, I will change my place or ask for an assignment. This does not change the way I see my profession."* (P21)

## **6. Discussion and Conclusion**

The conditions and perceptions of individuals affect individual performance, which is the main element of organisational performance. The generally accepted opinion is that employees' positive perceptions toward their institutions are positively reflected in their performance, while negative perceptions lead to outputs such as burnout, stress and depression, resulting in poor performance. Therefore, the perceptions of employees both toward their institutions and their profession have ceased to be a negligible issue. Today, the relationship between employee perceptions and performance remains the subject of investigation, maintaining its importance in many areas. This study examined the relationship between the perceived managerial support, psychological ownership and individual work performance of nurses, a professional group with an important place among healthcare professionals. In previous studies, it was observed that these variables were examined with different variables in different sectors (Yang et al., 2015; Shanock & Eisenberger, 2006; Han et al., 2015; Hämmig, 2017; Mazzetti et al., 2021). The mixed analysis method, in which quantitative and qualitative methods are applied together, was

used in the research. The results of the hypothesis, created according to the research model and tested using the SEM, were presented (see Table 5).

According to the research findings, perceived managerial support significantly and positively affected psychological ownership, and hypothesis H<sub>1</sub> was confirmed. If the perceived managerial support among nurses is high, this situation is expected to reflect their psychological ownership perceptions positively. It was seen that this finding was compatible with the results of previous studies (Pierce et al., 2003; Van Dyne & Pierce, 2004; Çıkmaz & Yeşil, 2020). In his study, conducted in four service businesses operating in different sectors in Switzerland, Hämmig (2017) states that perceived managerial support affects outcomes such as emotions, attitudes, behaviour, and health of employees. He also emphasises that the feeling of burnout, health problems, job stress, intention to leave work, intention to leave the profession, and work-family conflict decrease in employees with a high perception of managerial support. The support nurses receive from their managers psychologically connects them more to their institutions, and they may thus make more contributions. Therefore, it is important to appoint nurse managers who can support their subordinates financially and morally in hospitals.

The second finding of the research was that psychological ownership had a significant positive effect on individual work performance, and hypothesis H<sub>2</sub> was confirmed. Previous studies (Van Dyne & Pierce, 2004; Aydoğan & Olguncelik, 2022) have confirmed the effect of psychological ownership on individual work performance, similar to the current study. Psychological attachment and ownership toward their organisations will lead to higher individual work performance.

It is predicted that individuals with a high level of perceived managerial support can perform beyond expectations since the needs of appreciation, respect, and social personality have been met (Krongboonying & Lin, 2015; Park et al., 2018). Accordingly, the hypothesis H<sub>3</sub> was rejected. In other words, the managerial support perceived by nurses did not directly affect individual work performance. This finding is not consistent with the results of previous studies (Rhoades & Eisenberger, 2002; Shanock & Eisenberger, 2006; Krongboonying & Lin, 2015). This finding may be associated with the sample's members continuing their nursing profession, requiring high sacrifice. The research data were collected after the earthquake centred in Kahramanmaraş on February 6.

According to the fourth finding of the research, psychological ownership had a mediator role in the effect of perceived managerial support on individual work performance, and hypothesis H<sub>4</sub> was confirmed. It was revealed that individual work performance increased due to the indirect effect of perceived psychological ownership. In other words, nurses with high perceived managerial support will also psychologically adapt to their institutions/organisations and have a sense of ownership. Individuals who own their organisations/institutions will positively reflect these feelings of ownership on their work performance.

Using the qualitative analysis method, the details of the manager profile perceived and/or expected by the participants, the psychological ownership levels toward their current institutions and professions and the reflections of these variables on work performance were attempted to be revealed. According to the analysis results, it was determined that the participants mainly emphasised the features that they would like to see in a manager whom they liken to a judge and a referee according to the frequency of interaction; "being fair and objective", "having problem-solving skills" and "having communication and listening skills". On the other hand, they stated that the managerial support perceived by the participants (positive or negative) was reflected in their individual work performance. This finding is supported by other findings in the literature, including reluctance to share ideas among employees (Ng & Feldman, 2012), a decrease in individual performance (Chen et al., 2009; Rhoades & Eisenberger, 2006), and an increase in intention to leave work (Fakunmoju et al., 2010), which are encountered in case of low level of perceived managerial support. It also aimed to determine the reflection of perceived managerial support on psychological ownership for the institution and the profession. While most participants stated that the perceived managerial support affected their psychological ownership perceptions toward their institution, almost half of the participants emphasised that it did not affect their psychological ownership perceptions toward the profession.

It is considered that this study contributes to the literature in various aspects. Firstly, the psychological ownership instrument was proposed as a variable to reveal the relationship between perceived managerial support and individual work performance using organisational support theory, social exchange theory and leader-member exchange theory. This study is expected to contribute to the literature by improving the academic community's perspective on the impact of perceived managerial support in the health sector on individual work performance. It is also considered a reference for future researchers on research methodology, research design, and measurement. In addition, the study may encourage further research to explore the variables and interventions that mediate or moderate the relationship between perceived managerial support and individual work performance in different sectors. Although the study was planned before the February 6 Kahramanmaraş earthquake, legal permissions for data collection could be obtained afterwards. Therefore, it is important to consider the changes that nurses may have experienced emotionally in the earthquake disaster they have experienced during both quantitative and qualitative data collection. This study may allow researchers to obtain a concrete output on how perceptions may change under different conditions with a similar study. The qualitative and quantitative findings implications for nurse managers and policymakers are listed below:

- Managing nurses can often pressure them with high demands and expectations. These demands increase their workload and lead to stress, negatively affecting performance. A busy work schedule and nursing shortage, in particular, create additional pressure on nurses. Regular communication with nurses and consideration of their needs and suggestions can prevent this pressure from being felt by nurses.

- Evaluating nurses' performance and providing feedback in a constructive and motivating manner will help nurses understand their areas of development and strengths.
- Listening to nurses' opinions and suggestions on issues such as working processes and policy changes will make them feel valued.
- Training programs can be organised for nurses to keep their knowledge and skills current, including professional and personal development issues.
- Psychological support programs (such as stress management training and meditation) can be planned to support the physical and mental health of nurses on the front line in disasters such as pandemics and earthquakes, in addition to routine conditions in providing health services.
- Legal regulations can be established to ensure that nurses feel safe and protect their occupational safety and rights.
- Arrangements can be made regarding nurses' working hours, rest and annual leave rights, considering work-life balance.

It is recommended that managers and practitioners reconsider decisions and processes based on the results obtained, considering nurses' expectations about how they perceive a manager and their managerial skills to improve individual work performance. On the other hand, it is essential to organise managerial development programs for manager candidates to ensure organisational success.

Although this study reveals new findings on perceived managerial support, individual work performance and psychological ownership, there are some limitations. It is primarily a study created using the mixed method; the responses given for both qualitative and quantitative statements depend on the participants' self-reports. In addition, since the study sample did not include nurses working outside of Osmaniye provincial and district public hospitals, it is limited to these hospitals. Modelling the research on the three mentioned variables constitutes another limitation. Therefore, future researchers are recommended to conduct studies related to individual work performance and psychological ownership variables with different variables (the effect of various leadership styles such as servant, transformational or autocratic leadership, communication styles, job design, etc.) in other professional groups where altruistic behaviours are prominent such as health care professionals (teachers, police, etc.). Finally, the study employed a cross-sectional design, and a detailed analysis of the variables studied over time can be achieved using a longitudinal approach.

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## The Relationship Between Economic Growth and Foreign Direct Investment in The Turkic Republics<sup>1</sup>

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### Türk Cumhuriyetlerinde Ekonomik Büyüme ve Doğrudan Yabancı Yatırımlar Arasındaki İlişki<sup>2</sup>

#### Abstract

This research examines the correlation between economic growth and foreign direct investment (FDI) data of the Turkic Republics, namely Kazakhstan, Uzbekistan, Azerbaijan, Türkiye, and Kyrgyzstan, over the period from 1993 to 2022 through a meticulous panel data analysis. The results of the panel, Fourier Toda Yamamoto test, reveal a reciprocal causality between economic growth and FDI, especially in Azerbaijan. In the case of Uzbekistan, the study finds that FDI plays a catalytic role in inducing economic growth. The panel Fourier cointegration test carried out for all the countries studied confirms a cointegration relationship among the variables in all the countries studied.

**Keywords** : Turkic Republics, Foreign Direct Investment, Economic Growth, Panel Data Analysis.

**JEL Classification Codes** : F21, F23, O53.

#### Öz

Bu çalışma, Türk Cumhuriyetleri olan Kazakistan, Özbekistan, Azerbaycan, Türkiye ile Kırgızistan'ın 1993-2022 dönemine ait ekonomik büyüme ve doğrudan yabancı yatırım (DYY) verileri arasındaki ilişkiyi bir panel veri analizi ile incelemektedir. Panel Fourier Toda Yamamoto testinin sonuçları, özellikle Azerbaycan bağlamında, ekonomik büyüme ve DYY arasında karşılıklı bir nedensellik olduğunu ortaya koymaktadır. Özbekistan örneğinde ise çalışma, DYY'nin ekonomik büyümeyi tetiklemede önemli bir rol oynadığını ortaya koymaktadır. İncelenen tüm ülkeler için gerçekleştirilen panel Fourier eşbütünleşme testi, incelenen tüm ülkelerde değişkenler arasında bir eşbütünleşme ilişkisinin varlığını doğrulamaktadır.

**Anahtar Sözcükler** : Türk Cumhuriyetleri, Doğrudan Yabancı yatırımlar, Ekonomik Büyüme, Panel Veri Analizi.

<sup>1</sup> This article is a revised and English-translated version of the paper presented at the "Silk Road and Beyond Congress Series (SIRCON 2023) One Road One Belt: Migration, Tourism and Political Economy" congress held in Tashkent/ Uzbekistan on October 03-06, 2023.

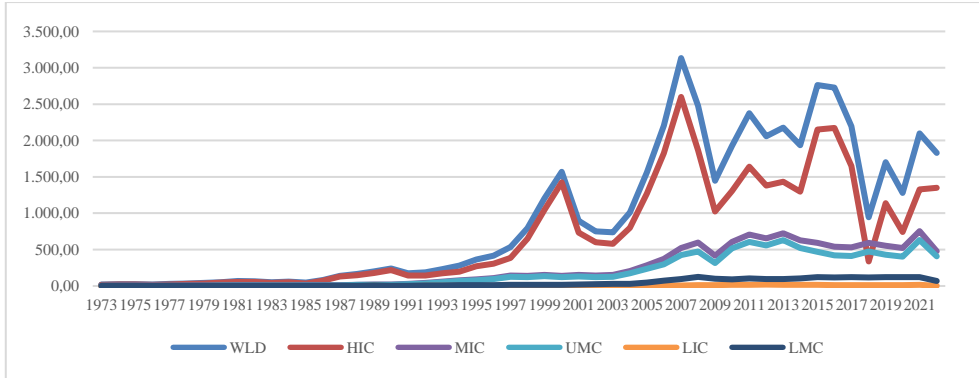
<sup>2</sup> Bu makale 03-06 Ekim 2023 tarihlerinde Taşkent/Özbekistan'da düzenlenen "İpek Yolu ve Ötesi Kongre Serisi (SIRCON 2023) Bir Yol Bir Kuşak: Göç, Turizm ve Ekonomi Politik" kongresinde sunulan bildirinin gözden geçirilmiş ve İngilizceye çevrilmiş halidir.

## 1. Introduction

The importance of Foreign Direct Investment (FDI) as a key determinant in the trajectories of economic growth and development processes within nations is widely recognised. Countries, in pursuit of their economic advancement, are diligently formulating strategies and policies aimed at attracting foreign capital inflows dedicated to investment endeavours (Borensztein et al., 1998; Obwona, 2001; Botrić & Škuflić, 2006; Hobbs et al., 2021). Foreign direct investment (FDI) contributes more to the development process in terms of quantity and quality. FDI brings additional economic growth activators such as R&D, technology, skilled labour, advanced management practices, experience, etc. (Findlay, 1978; Hejazi & Safarian, 1996; Xu, 2000). This resource transfer, also known as the contagion effect, supports the growth process of countries through direct capital transfer (Calvo et al., 1993; Encarnation, 1998; Emara & El Said, 2021). This transfer and contagion effect generated by FDI is not limited to the real sector but also paves the way for developing the financial and banking sectors (Amel et al., 2004). The impact of developments in finance and banking on economic growth is very important, and this importance has been demonstrated by many academic studies (Schumpeter, 1934; Levine, 2005; Elmawazini et al., 2020; Kazak et al., 2023). In this respect, the FDI-finance relationship gains importance. Considering the link between finance and economic growth, the impact of this indirect contagion effect on economic growth is quite important. Although there are different opinions on this process (Bongini et al., 2017), the inclusion of foreign banks and financial institutions in the competition process within the country leads to the development of the banking and finance fields and the development of competition and efficiency-oriented strategies, enabling the sector to work more effectively and efficiently (Levine, 1996; Claessens et al., 2001; Goldberg, 2009; El Biesi, 2010). This effect can be greater when the newly developing field of Islamic banking is included in the process (Abduh & Azmi Omar, 2012; Kazak, 2022; Abasimel, 2023; Kazak et al., 2024). Many literature studies are showing that foreign direct investment supports economic growth (Globerman, 1979; Blomström et al., 1996; K.H. Zhang, 1999; Obwona, 2001; Karahan & Çolak, 2022; Appiah et al., 2023; Hoa et al., 2024). However, within the framework of these existing literature studies, it is wrong to say that FDI supports economic growth under all conditions and circumstances. FDI supports economic growth in case of favourable conditions within the country. For this purpose, the host country should have the capacity to absorb advanced technologies at an adequate level (Borensztein et al., 1998; ALshubiri & Al Ani, 2024; L. Zhang et al., 2024; Z. Li et al., 2024), cultural infrastructure (Romero & Edwards, 2020), the existing domestic human capital development should have the capacity to absorb growth (Benhabib & Spiegel, 1994; Xu, 2000; Bengoa & Sanchez-Robles, 2003; X. Li & Liu, 2005; Z. Li et al., 2024), the absorptive capacity of financial markets should be adequate (Hermes & Lensink, 2003; Nguyen, 2022; Tan et al., 2023), the country's trade policies should be appropriate and legal protection should be adequate (Balasubramanyam et al., 1996; Bengoa et al., 2020; S. Li, 2024) and other indicators of absorptive capacity (education level, GDP level, domestic investment rate, political climate, degree of economic freedom, economic stability, etc.) (UNCTAD, 1999; Bengoa & Sanchez-Robles, 2003).

The development of direct capital investments by country groups over the years is presented below (Figure 1).

**Figure: 1**  
**1973-2022 Net Foreign Direct Investment Inflows (Current USD Billion)**



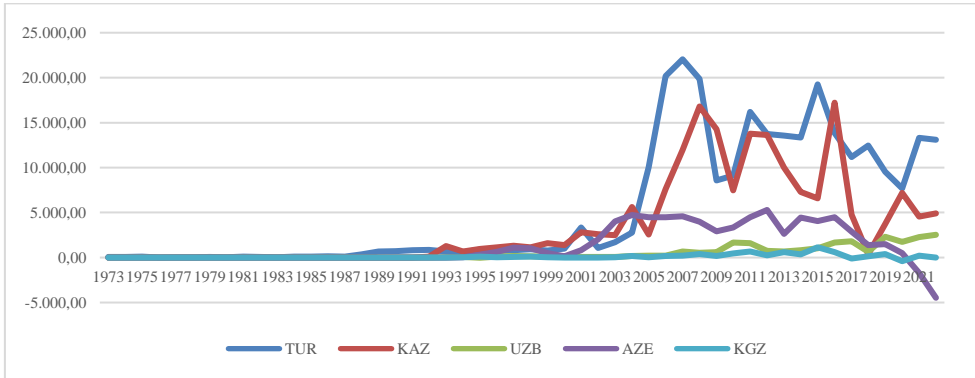
Source: TWB (World Development Indicators) (2023); created by the authors.

In Figure 1, [WLD] represents World; [HIC] High income; [LMIC] Low and middle income; [MIC] Middle income; [UMC] Upper middle income; [LIC] Low income; [LMC] Lower middle-income countries. As can be seen in the figure, it is observed that all income groups move approximately together in their upward and downward trends. When the figure is analysed, it is seen that FDIs continued to grow for years until 2000, declined with the 2001 crisis, and then increased again and reached its maximum value in 2007. After peaking, foreign direct investment (FDI) was significantly affected by the onset of the global financial crisis, marked by the collapse of Lehman Brothers in September 2008 and the ensuing Great Recession. After a brief downturn from 2007 to 2009, FDI began a recovery phase that continued upward until 2016. 2017-2018 witnessed a significant decline in global FDI due to the Venezuelan economic crisis, the European debt crisis, and the Brexit predicament, which mainly affected high-income countries. Subsequently, starting in 2019, a resurgence put FDI back on an upward trend.

This study focuses on the member countries of the Organization of Turkic States (OST) (Kazakhstan, Uzbekistan, Azerbaijan, Kyrgyz Republic, and Türkiye). CIS member Turkic republics are in the category of developing countries and consist of countries with different income groups. FDIs are of great importance for these countries. Realising growth and development requires capital flows on the one hand and innovation, R&D, skilled labour, technology, and experience on the other. The synergistic effect of FDIs is expected to impact the Turkic republics as well.



**Figure: 2**  
**Turkic Republics Foreign Direct Investment Net Inflows Between 1973-2022**  
**(Current USD Million)**



Source: TWB (World Development Indicators) (2023); created by the authors.

Figure 1 shows that Türkiye and Kazakhstan have the highest FDI inflows. The effects of crisis periods are observed in these countries' FDI inflows. Uzbekistan has had limited FDI inflows in recent years. Azerbaijan has had negative FDI inflows for the last two years. The Kyrgyz Republic has the lowest FDI inflows.

This study examines the impact of foreign direct investment (FDI) inflows on the economic growth of the Turkic Republics. To the best of our knowledge, the existing literature offers a limited body of work on this particular topic, and the present study is expected to make a substantial contribution to the academic discourse. The study consists of six chapters. Following this introductory section, the second chapter comprehensively reviews the relevant literature. The third chapter presents the model, data, and descriptive analysis. Methodological details are given in the fourth chapter, while the fifth chapter focuses on analysing the empirical results. Finally, the sixth chapter provides a comprehensive evaluation and conclusion.

## 2. Literature Review

Many studies have addressed the relationship between foreign direct investment (FDI) and economic growth. At the same time, the predominant literature reveals the existence of a positive relationship between FDI and economic growth (Helleiner, 1973; Globerman, 1979; Paus, 1989; Blomström et al., 1996; Sun, 1996; K.H. Zhang, 1999; Obwona, 2001; Q. Zhang & Felmingham, 2001; Hansen & Rand, 2006; Al-Iriani, 2007; Makun, 2018; Duman, 2022; Kaya et al., 2022; Songur, 2023; Esener & İpek, 2018; Kasim et al., 2021; Sungur & Altiner, 2023; Çelik & Bayrak, 2022; Öztürk & Saygin, 2020; Kurul, 2021; Naimoglu & Akal, 2021) while fewer studies have failed to detect this relationship (Dutt, 1997; Kentor, 1998; Huang et al., 2010; Magombeyi & Odhiambo, 2018). The most

important effect of FDI on economic growth is to support the investments necessary for growth by complementing capital shortages (Swan, 1956; Todaro & Smith, 2012). However, this effect is important not only through financial support but also due to the additional benefits foreign investors provide. Perhaps the most important of these is the transfer of know-how and technology (Paus, 1989). Adopting new technologies necessary for economic growth will be much easier if supported by firms with experience in using these technologies (Kojima, 1982; Easterly et al., 1994; Harrison, 1994). Again, with technology, the formation of new ideas necessary for growth, the strengthening of R&D activities and the realisation of innovation (Grossman & Helpman, 1993; Petit & Sanna-Randaccio, 2000; Roy & Acharyya, 2009), the strengthening of human capital accumulation by supporting these activities (innovation, R&D and strategic asset activities) (Okafor et al., 2015), new management practices and organisational arrangements (de Mello, 1997), increased productivity (Sjöholm, 1999), heightened competition within local markets and an elevation in corporate tax rates (Ucal, 2014), etc. Accordingly, the host country should have sufficient absorptive capacity to absorb advanced technologies (Borensztein et al., 1998), adequate growth absorption capacity of existing domestic human capital development (Blomstrom et al., 1992; Benhabib & Spiegel, 1994; Xu, 2000; Bengoa & Sanchez-Robles, 2003; X. Li & Liu, 2005), financial market development and absorptive capacity (Hermes & Lensink, 2003; Alfaro et al., 2004; Durham, 2004), appropriate trade policies and legal protection capacity (Balasubramanyam et al., 1996; La Porta et al., 1997, 2000) and other indicators of absorptive capacity (education level, GDP level, domestic investment rate, political climate, degree of economic freedom, economic stability, etc.) (UNCTAD, 1999; Bengoa & Sanchez-Robles, 2003; Botrić & Škuflić, 2006). There are also studies on the economic situation of the Turkic republic countries (Ay & Haydanli, 2018; Çilgin & Kurt, 2021; Erdoğan, 2020; Gokcekus et al., 2023; Günel, 2019; Saraç et al., 2023; Uludağ & Ümit, 2020).

No study in the literature deals with the relationship between "FDI and economic growth" in the context of Turkic Republics. However, individual studies deal with group member countries. Most studies have been conducted for Türkiye, one of the group's member countries. Some of the important studies on country groups are presented in the annexe.

**Table: 1**  
**Literature Review on Turkic Republics Studies**

Researchers	Operation Range	Country / Country Group Researched	Working Method	Variables	Conclusion
(Ekinci, 2011)	1980-2010	Türkiye	"Johansen Cointegration Test and Granger Causality Test"	GDP, FDI and Employment	A long-run relationship between "FDI and GDP" and a bidirectional causality relationship is found.
(Çeştepe et al., 2013)	1974-2011	Türkiye	Wald test	GDP, FDI, Exports	No causality relationship was found between "FDI and GDP".
(Acaravci & Akyol, 2017)	1998-2015	Türkiye	Johansen Cointegration Analysis, Granger Causality Analysis	FDI/GDP, GDP, Real exports, Real imports, Openness/GDP	No long-run relationship was found between the variables. Unidirectional causality was found between FDI/GDP and GDP.

(Ağır & Rutbil, 2019)	1971-2017	Türkiye	"Johansen cointegration test, Impulse-Response Analysis and Granger Causality Analysis"	FDI, Gross Fixed Capital Investment and GDP per capita	The cointegration and causality relationships between NW GDP and FDI variables could not be detected.
(Şahin, 2021)	1998-2019	Türkiye and five selected countries	"Panel Granger Causality analysis and Westerlund Panel cointegration test"	FDI, GDP and Trade Openness	The variables have a cointegration relationship. Additionally, a bidirectional causation relationship between FDI and GDP was discovered.
(Karimov, 2022)	1980-2016	Türkiye	OLS Regression analysis	GDP and FDI	There is a positive relationship between "GDP and FDI" is favourable.
(Gövdeli & Özkan, 2022)	1985-2018	Türkiye	"Hacker & Hatemi (2006) Bootstrap Causality Test"	Economic growth (GDP), financial openness (FO) and trade openness (TO). Here $FO = [(FDI, \text{net inflows} + FDI, \text{net outflows}) / (GDP)]$ .	A bidirectional causality relationship was found between FO and GDP.
(Alrawdhan, 2022)	2000-2021	Türkiye	ARDL test	Export sector (EX), Import sector (IM), Foreign direct investment (FDI) and Domestic private sector credit (CREDIT) and GDP	A long-term connection exists between FDI and GDP (economic growth).
(Alogaılı, 2023)	2011-2021	Türkiye	Hypothesis testing, Johansen Cointegration Test and SWOT analysis	FDI inflows, FDI outflows and Economic growth	Independent Variables (FDI Inflow and Outflow) significantly affect economic growth.
(Ebghaei, 2023)	1980-2020	Mena Region (Türkiye and eight other countries)	Panel cointegration test	FDI and Economic Growth (GDP)	FDI has a favourable and statistically significant effect on economic growth for Türkiye and six other nations. The two countries have no discernible relationship with one another.
(Katircioglu & Naraliyeva, 2006)	1993:Q1-2002:Q4	Kazakhstan	Johansen cointegration test and Granger causality test	GDP, Domestic Savings (DDS)/GDP, FDI/GDP	GDP and FDI are cointegrated along a single vector. The Granger causality test results show a one-way causal relationship between "FDI and real GDP" growth.
(Lee et al., 2009)	1997-2006	Kazakhstan	Multivariate regression model with weighted ECT estimates	Variables representing FDI inflows and GDP growth.	FDI has no statistically meaningful impact on GDP expansion.
(Waikar et al., 2011)	1993-2005	Kazakhstan	Simple regression analysis	FDI, GDP, GDP per capita growth rate and exports	FDI has a positive impact on GDP and GDP per capita.
(Azatbek & Ramazanov, 2016)	2010-2015	Kazakhstan	Correlation and regression analysis	FDI, GDP, Exports, Imports	Exports and economic growth both benefit from FDI.
(Ashurov et al., 2020)	2000-2017	Central Asian countries (Kazakhstan, Uzbekistan, Tajikistan, Kyrgyz Rep. and Turkmenistan)	GMM estimator	Dependent variable (FDI), Independent Variables (GDP, total debt service, labour force, trade openness and taxes collected)	Long-term FDI growth and GDP growth rate have a favourable association.
(Sultankhanova & Abdulla, 2022)	2015-2020	Kazakhstan	Correlation, Multivariate regression	FDI, GDP, exports, imports, foreign trade	The gross domestic product suffers as a result of FDI.
(Agybetova et al., 2022)		Kazakhstan	Interview and Survey		FDI positively impacts the growth of the economy in agrotourism.
(Lotfali, 2023)	1997-2019	Caspian Sea basin countries "Azerbaijan, Iran, Kazakhstan, Russia and Turkmenistan" and Central Asian countries "Kyrgyz Republic, Tajikistan and Uzbekistan"	Model estimation with Panel-FMOLS (Fully Modified Least Squares)	FDI, Economic Growth and other auxiliary variables	FDI significantly and favourably impacts economic growth.

(Hübner, 2011)		Azerbaijan	Literature review and secondary sources		The two are positively correlated in terms of economic expansion.
(Gursoy et al., 2013)	1997-2010	"Azerbaijan, Kyrgyz Republic, Kazakhstan, Tajikistan, Turkmenistan and Uzbekistan"	"Johansen cointegration and Granger causality test"	FDI, GDP	The Granger causation test indicates that FDI causes GDP for Azerbaijan and Turkmenistan, respectively, and that there is bidirectional causation in the case of Azerbaijan.
(Mammadova & Coskun, 2015)		Azerbaijan	Literature review and secondary sources		FDI contributes to GDP growth.
(Azam & Ahmed, 2015)	1993-2011	Ten member states of the Commonwealth of Independent States (Azerbaijan, Kazakhstan, Kyrgyz Rep, Uzbekistan, etc.)	Panel data is a linear regression model. Fixed effects model based on the Hausman test.	FDI, GDP	The Central Asian independent economies, which include Kazakhstan, Turkmenistan, Tajikistan, and Uzbekistan, all benefit from FDI's facilitative role in supporting growth in the former Soviet Republics when lagged FDI is used. For Azerbaijan, FDI has a non-significant effect on economic growth)
(Taghiyev & Mahmud, 2022)	1993-2020	Azerbaijan	"Johansen cointegration and Granger causality test"	FDI, GDP	There is a long-run relationship between FDI and GDP, and FDI is the Granger cause of GDP ( $p<0.05$ ).
(Dadashov, 2023)	2000-2022	Azerbaijan	Correlation and Regression Analysis	FDI, Non-oil GDP	GDP in non-oil sectors, particularly in the manufacturing and service industries, benefits from FDI.
(Kurbanov, 2020)	2010-2019	Uzbekistan	"Johansen cointegration and Granger causality test"	FDI, GDP, Domestic investment	The three variables are related over the long term. There is unilateral causation, and GDP is the Granger cause of FDI.
(Rakhmatillo et al., 2021)	2000-2020	Uzbekistan	Variance decomposition and Granger causality test	FDI, GDP and Employment	The relationship between "FDI and GDP" is causal in both directions.
(Suyunov, 2021)	2004-2019	Uzbekistan	Estimation with vector autoregression model	FDI, Bank Loans, Employment	FDI raises the unemployment rate and has a detrimental effect on employment.
(Amirov & Avazov, 2023)	2010-2021	Uzbekistan	"Least Squares (NLS and ARMA) model"	GDP Per Capita and Dependent Variables Digital infrastructure indicators and macroeconomic indicators (FDI and others)	FDI, trade openness, and economic growth have a strong positive association.
(Mukarapov et al., 2019)	1993-2014	Kyrgyz Republic	Multiple linear regression model	FDI, GDP and other variables.	The statistical significance of the link between FDI and GDP is relatively high.
(Kemme et al., 2021)	1995-2019	GB/EU members "Belarus, Kazakhstan and Russia" and non-member countries "Armenia, Azerbaijan, Georgia, Kyrgyz Republic, Moldova, Tajikistan, Turkmenistan, Ukraine and Uzbekistan"	Panel data analysis (Fixed effect panel regressions)	FDI (net inflows as a percentage of GDP), GDP, Economic Openness and other variables.	The lagged FDI variable significantly and favourably impacts the increase of the real GDP variable.
(Makhmadisuf et al., 2021)	1993-2017	Selected post-Soviet Union countries (Tajikistan, Turkmenistan, Uzbekistan, and Kyrgyz Republic)	Panel data analysis [ordinary least squares (OLS) regressions]	FDI, GDP and other variables.	FDI positively impacts the growth of GDP.

When the literature studies are evaluated, it is seen that the predominant results indicate that FDI has a positive effect on economic growth in all countries. However, there are also results indicating that it has no effect or has a negative effect. In this study, the Turkic Republics, which are considered separately in different studies, are considered

collectively in a single study, and the relationship between FDI and economic growth is reinterpreted with up-to-date Fourier function cointegration and causality tests with up-to-date data to contribute to the evaluation of different results in the literature. The work is anticipated to advance the field of study significantly.

### 3. Model, Data and Descriptive Analyses

The study uses foreign direct investment and economic growth data of the Organization of Turkic States (OST) member countries (Kazakhstan, Uzbekistan, Azerbaijan, Kyrgyz Republic, and Türkiye) for the period 1993-2022. The data are defined using variable criteria.

**Table: 2**  
**Variable Definitions**

Variable	Description	Data Source
GDP	"GDP growth (annual %)"	World Bank (2023)
FDI	"Foreign direct investment, net inflows (% of GDP)"	

The panel model to analyse whether FDI impacts economic growth in the Organization of Turkic States (OST) member countries is constructed as in equation (1).

$$GDP_{it} = \alpha_i + \beta(FDI)_{it} + \varepsilon_{it} \quad (1)$$

In the model,  $t = 1993, \dots, 2022$  time period,  $i = 1, \dots, 5$  countries,  $\varepsilon_{it}$  is the error term,  $\alpha_i$  represents country-specific fixed effects, FDI represents foreign direct investment, and GDP represents economic growth is equivalent to the long-term elasticity.

### 4. Methodology

The variables in the model will be subjected to more than one test to determine the relationship between the variables. Panel data analysis constitutes the basis of the tests to which the variables will be subjected. Two preliminary tests should be performed first to determine and apply the most appropriate test for panel data analysis. The first of these tests is the horizontal cross-section dependence test, and the second is the homogeneity test. The Lagrange Multiplier test in equation (2) developed by Breusch and Pagan (1980) was first used to test for horizontal cross-section dependence.

$$LM = T \sum_{i=1}^{N-1} \sum_{j=i+1}^N (\hat{p}_{ij}^2) X^2 \frac{N(N-1)}{2} \quad (2)$$

Pesaran (2004) developed the LM test in equation (2) for cases where both (N) and (T) are large and transformed it into the CDLM test in equation (3). The additional equation (3) Pesaran (2004) developed for detecting horizontal cross-section dependence is also used.

$$CD_{LM} = \left( \frac{1}{N(N-1)} \right)^{\frac{1}{2}} \sum_{i=1}^{N-1} \sum_{j=i+1}^N (T \hat{p}_{ij}^2 - 1) \quad (3)$$

After examining the horizontal cross-section dependence, an examination of the uniformity of the slope coefficients follows, using the formulations articulated in Eqs. (4) and (5) as introduced by Swamy (1970) and subsequently refined by Pesaran and Yamagata (2008).

$$\tilde{\Delta} = \sqrt{N} \frac{N^{-1}\bar{s}-k}{\sqrt{2k}} \quad (4)$$

$$\tilde{\Delta}_{adj} = \sqrt{N} \left( \frac{N^{-1}\bar{s}-E(\bar{Z}_{it})}{\sqrt{\text{Var}(\bar{Z}_{it})}} \right) \quad (5)$$

After conducting the preliminary tests required for panel data analysis, the second step is to test the unit root test. At this stage, the smooth transition Fourier panel unit root test including Fourier functions developed by Nazlioglu and Karul (2017), has significant advantages, is used. The formula used for this test is given in equation (6).

$$\Delta y_{it} = \delta_{0i} + \delta_{1i}\Delta \sin\left(\frac{2\pi kt}{T}\right) + \delta_{2i}\Delta \cos\left(\frac{2\pi kt}{T}\right) + \varepsilon_{it} \quad (6)$$

The  $P_{LM}$  and  $Z_{LM}$  values calculated for the Fourier panel unit root test using equation (6) are calculated using equations (7) and (8), respectively.

$$P_{LM}(k) = N^{-1} \sum_{i=1}^N \tilde{\tau}_i(k) \quad (7)$$

$$Z_{LM}(k) = \frac{\sqrt{N}(P_{LM}(k)-\xi(k))}{\zeta(k)} \sim N(0,1) \quad (8)$$

In the third stage, "the Fractional Frequency Flexible Fourier Form panel cointegration test" developed by Olayeni et al. (2020) was used to determine the long-run relationship of the variables after the unit root test. The formulation for this test is given in equation (9).

$$\tilde{v}_{i,t} = \hat{v}_{i,t} - \hat{\alpha}_i - \hat{\chi}_i \sin\left(\frac{2\pi kt}{T}\right) - \hat{\phi}_i \cos\left(\frac{2\pi kt}{T}\right) \quad (9)$$

In the fourth stage where the long-run coefficients are estimated in the model in which the cointegration relationship between the variables is determined, the cointegration estimator developed by Bai (2009), which takes into account the interactive fixed effects (Interactive Fix Effect-IFE), is used with the help of equations (10), (11) and (12).

$$Y_{it} = X'_{it} \beta + \alpha_i + \xi_t + \varepsilon_{it} \quad (10)$$

$$\lambda'_i F_t = \alpha_i + \xi_t \quad (11)$$

$$SSR(\beta, F, \lambda) = \sum_{i=1}^N (Y_i - X_i \beta - F \lambda_i)' (Y_i - X_i \beta - F \lambda_i) \quad (12)$$

In the last stage, the panel Fourier Granger causality test, which was found by Enders and Jones (2014) and developed by Nazlioglu et al. (2016) and Yilanci and Gorus (2020), was applied to investigate the causality between variables. For this analysis, equation (13) is used for the causality relationship from the dependent variable to the independent variable,

while equation (14) determines the causality from the independent variable to the dependent variable.

$$y_{i,t} = \mu_i + \sum_{j=1}^{k_i+d_{max_i}} A_{11}y_{i,t-j} + \sum_{j=1}^{k_i+d_{max_i}} A_{12}x_{i,t-j} + A_{13}\sin\left(\frac{2\pi t f_i}{T}\right) + A_{14}\cos\left(\frac{2\pi t f_i}{T}\right) + u_{i,t} \quad (13)$$

$$x_{i,t} = \mu_i + \sum_{j=1}^{k_i+d_{max_i}} A_{21}y_{i,t-j} + \sum_{j=1}^{k_i+d_{max_i}} A_{22}x_{i,t-j} + A_{23}\sin\left(\frac{2\pi t f_i}{T}\right) + A_{24}\cos\left(\frac{2\pi t f_i}{T}\right) + u_{i,t} \quad (14)$$

The empirical findings section reports the statistical values calculated through these formulations.

### 5. Empirical Results

The analysis will first investigate whether horizontal cross-section dependence and homogeneity exist in the Turkic Republics. This is important for determining the appropriate generation test. In this context, the horizontal cross-section dependence test found by Breusch and Pagan (1980) and developed by Pesaran (2004) and Pesaran and Yamagata (2008) and the test for homogeneity of slope coefficients found by Swamy (1970) and developed by Pesaran and Yamagata (2008) are applied. Table 3 is constructed to test for horizontal cross-section dependence and homogeneity in GDP and FDI variables.

**Table: 3**  
**Horizontal Cross-Section Dependence Test**

Test	Cross-Sectional Dependence Lagrange Multiplier 1		Cross-Sectional Dependence Lagrange Multiplier 2		Cross-Sectional Dependence Lagrange Multiplier 3	
	Statistic	Prob	Statistic	Prob	Statistic	Prob
<b>GDP</b>	100.625***	0.000	20.264***	0.000	-3.954***	0.000
<b>FDI</b>	70.881***	0.000	13.613***	0.000	-3.789***	0.000
<b>Panel</b>	74.413***	0.000	14.403***	0.000	6.781***	0.000
<b>Slope Homogeneity Test</b>			<b>Statistic Value</b>		<b>Probability Value</b>	
Delta Tilde			-1.161		0.877	
Delta Tilde Adjusted			-1.224		0.889	

Note: \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

The above table lists the outcomes of the preliminary panel data analysis tests for homogeneity of slope coefficients and horizontal cross-section dependence. There is horizontal cross-section reliance when the variables are studied independently and assessed as a panel, according to the findings of the three horizontal cross-section dependence tests used. Additionally, since the probability value is smaller than 0.05, it is determined that the slope coefficients are homogeneous based on the homogeneity test results. In the next stage (Table 4), the results of the Fourier unit root test for the Turkic Republics are presented respectively, but at the bottom of the table, there is a general test result for all countries.

**Table: 4**  
**Fourier Lagrange Multiplier Unit Root Test**

Variables	GDP	FDI
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Countries	Fouriertau Lagrange Multiplier k=1	Fouriertau Lagrange Multiplier k=2	Fouriertau Lagrange Multiplier k=3	Fouriertau Lagrange Multiplier k=1	Fouriertau Lagrange Multiplier k=2	Fouriertau Lagrange Multiplier k=3
KAZ	-0.4923	-0.336	-0.349	-2.547	-1.335	-2.899
UZB	-0.905	-1.055	-1.086	-0.681	-0.2658	-0.906
AZE	-1.765	-1.592	-1.621	-0.8549	-0.2232	-1.225
TUR	-4.971	-4.526	-4.114	-1.376	-0.4235	-1.41
KGZ	-4.157	-3.009	-3.029	-2.409	0.1637	-1.789
PLM	-2.458	-2.104	-2.040	-1.574	-0.4169	-1.646
ZLM	1.796	0.3467	0.1096	5.013	5.547	1.453
p	0.9637	0.6356	0.5437	1.000	1.000	0.9269

According to the results of the panel Fourier Lagrange Multiplier Unit Root Test developed by Nazlioglu and Karul (2017), it is concluded that the data contain unit roots in the dependent and independent variables used in the model and the 3 frequency values separately and are non-stationary at level value. After this determination, the analysis continued with "the Fractional Frequency Flexible Fourier Form Panel Cointegration Test" developed by Olayeni et al. (2020). In this test, independent variables are tested individually with the dependent variable. In this context, the results of "the Fractional Frequency Flexible Fourier Form Panel Cointegration Test" analysed in equations 15, 16, 17 and 18 are given in Table 5.

**Table: 5**  
**Fractional Frequency Flexible Fourier Form Panel Cointegration Test Results**

Countries	GDP <sub>it</sub> = α <sub>i</sub> + β <sub>1i</sub> (FDD) <sub>it</sub> + ε <sub>it</sub>											
	GLS					k	PP					
	Stat	1%	5%	10%	1%		5%	10%	k			
KAZ	-4.933	***	-2.979	-2.026	-0.705	1.90	-6.359	***	-3.291	-2.240	-0.997	1.90
UZB	-5.173	***	-3.044	-2.130	-0.779	0.60	-5.760	***	-3.300	-2.264	-0.633	0.60
AZE	-4.211	***	-3.026	-1.900	-0.608	1.80	-3.914	***	-2.921	-2.115	-0.107	1.80
TUR	-5.184	***	-2.581	-1.553	0.554	0.10	-5.198	***	-2.941	-1.702	1.683	0.10
KGZ	-6.298	***	-3.287	-1.644	0.577	0.80	-11.133	***	-3.345	-1.907	0.802	0.80
Average	-5.160	***	P val.	0.00			-6.473	***	P val.	0.00		
Max.	-6.298	***	P val.	0.00			-11.133	***	P val.	0.00		
Median	-5.173	***	P val.	0.00			-5.760	***	P val.	0.00		

Note: \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

When the cointegration test results given in Table 5 are analysed, a cointegration relationship is found between the variables for all of the Turkic republics (Kazakhstan, Uzbekistan, Azerbaijan, Türkiye, Kyrgyz Republic) in the model. After determining the cointegration relationship, the coefficients of the cointegration relationship were estimated with the cointegration estimator developed by Bai (2009) for the model used in equation (1), which includes interactive fixed effects. The results of the estimation are presented in Table 6.

**Table: 6**  
**IFE (Interactive Fixed Effects) Cointegration Coefficient Estimation**

GDP	Coefficient	Std. Error	Prob.
C	3.474084***	0.0782661	0.000
FDI	0.1354606*	0.5324353	0.086

Note: \*, \*\* and \*\*\* indicate significance at the 10%, 5% and 1% levels, respectively.



Bai's (2009) IFE estimator results show that the long-run relationship between the GDP-dependent variable and FDI is statistically significant. According to the coefficient estimates, FDI significantly and positively affects economic growth at 13.55%. These results support the findings in the literature that FDI supports economic growth (Helleiner, 1973; Globerman, 1979; Paus, 1989; Blomström et al., 1996; Sun, 1996; K.H. Zhang, 1999; Obwona, 2001; Q. Zhang & Felmingham, 2001; Hansen & Rand, 2006; Al-Iriani, 2007; Makun, 2018; Taghiyev & Mahmud, 2022).

After identifying the cointegration relationship and estimating the cointegration coefficients, Table 7 investigates the causality relationship between the variables in the established model using the panel Fourier causality test found by Enders and Jones (2014) and developed by Nazlioglu et al. (2016) and Yilanci and Gorus (2020).

**Table: 7**  
**Panel Fourier Granger Causality Test Results**

Countries	H0: FDI → GDP				H0: GDP → FDI				Causality		
	Wald Stat.		Freq.	p-val	Wald Stat.		Freq.	p-val			
KAZ	1.0484		1	0.65	0.0860		1	1.00	FDI	-----	GDP
UZB	16.4725	***	2	0.00	0.4085		2	1.00	FDI	→	GDP
AZE	23.3466	***	1	0.00	7.6241	**	1	0.05	FDI	↔	GDP
TUR	0.0900		3	0.90	3.2333		3	0.20	FDI	-----	GDP
KGZ	5.0653		1	0.25	2.7614		1	0.35	FDI	-----	GDP

Note: \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% levels, respectively.

When the causality results in Table 7 are evaluated, it is seen that FDI investments are effective on GDP for Uzbekistan and Azerbaijan. For Azerbaijan, it is also concluded that GDP is effective on FDI. There is a unilateral causality relationship between FDI and GDP for Uzbekistan and a bilateral causality relationship between FDI and GDP for Azerbaijan. With these results, the study supports the studies conducted for Azerbaijan by Hübner (2011), Mammadova and Coskun (2015), Taghiyev and Mahmud (2022), et al. Again, for Uzbekistan, studies by Azam & Ahmed (2015), Rakhmatillo et al. (2021), Amirov & Avazov (2023), et al. are supported by the results found in this study. For other countries, although a long-run relationship was detected in the panel, no causality was detected in the short run. With these results, the study supports the results found for long-run relationships (Ekinci, 2011; Ashurov et al., 2020; Şahin, 2021; Alrawdhan, 2022; Alogaili, 2023), while it does not support the studies (Katircioglu & Naraliyeva, 2006; Ekinci, 2011; Makhmadisuf et al., 2021; Şahin, 2021) that address causality relations in the short run and find a positive relationship. However, it supports the studies (Çeştepe et al., 2013; Ağır & Rutbil, 2019) that address causality relations in the short run and find no relationship.

## 6. Conclusion

International relations and the resulting transfers are a fundamental consequence of the global economy. Although these relations and transfers have always been observed throughout history, they have never been as fast and interactive as they are today. With the development of internet-based technologies, there has been rapid interaction, especially in the financial sphere. Foreign direct investment (FDI) is one of the most important

components of such transfers, albeit slower and more selective than other financial transmission channels. Today, the finance literature clarifies that economic growth cannot be realised without financial resources. Among these financial resources, FDI has an important position in terms of being long-term and permanent and providing additional benefits. This study analyses the impact of FDI on economic growth using panel data analysis methods on the countries representing the Turkic Republics. The main reason for this study is that, on the one hand, there are different results in the literature, and there is not a complete consensus; on the other hand, the economic growth and development of the Turkic Republics basin, including Türkiye, is important in terms of the world economic development process.

Within the scope of the study, foreign direct investment and economic growth data of the Organization of Turkic States (OST) member countries (Kazakhstan, Uzbekistan, Azerbaijan, Kyrgyz Republic, and Türkiye) for the period 1993-2022 were used. The effect of FDI on the GDP of these countries is examined. Long-run and short-run relationships are considered independently to establish the relationships between the variables. In the third stage, the Fractional Frequency Flexible Fourier Form panel cointegration test developed by Olayeni et al. (2020) was used to identify long-run relationships. In addition, the IFE test developed by Bai (2009) was applied to estimate the long-run coefficients. Finally, "the panel Fourier Granger causality test" developed by Nazlioglu et al. (2016) and Yilanci and Gorus (2020) was applied to identify short-run causality relationships. As a result of the analysis, the cointegration test results revealed that there is a cointegration relationship between the variables in the model for all Turkic republics (Kazakhstan, Uzbekistan, Azerbaijan, Türkiye, Kyrgyz Republic). The results of Bai's (2009) IFE estimator further demonstrate the statistical significance of the long-term link between the GDP-dependent variable and FDI, as well as the fact that FDI investments have a significant and positive impact on GDP at a level of 13.55%. The results of the Panel Fourier Granger Causality Test, which deals with short-run causality relationships, found a causality relationship for some countries (Uzbekistan, Azerbaijan) but not for others (Türkiye, Kazakhstan, Kyrgyz Republic). The Panel Fourier Granger Causality Test results revealed that FDI investments impact Uzbekistan and Azerbaijan's GDP, and GDP impacts the FDI for Azerbaijan. Accordingly, there is a unilateral causality from FDI to GDP for Uzbekistan and a bilateral causality between FDI and GDP for Azerbaijan. For other countries, although a long-run relationship was detected in the panel, no causality relationship was detected in the short run. The study's results contribute to the relationship between FDI and GDP, which has different results in the literature, with new findings. Although short-run causality was not detected for some countries, the long-run cointegration relationship was detected for all countries. FDI investments have a significant positive effect on GDP in a significant percentage, revealing the importance of FDI. Given this importance, policymakers are seen as obligated to attract foreign investors to their countries with incentives and measures to support FDI investments and development processes. The study is thought to provide important insights to policymakers with these findings.

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## A Nonlinear Causality Analysis of the Relationship Between Gold Prices, Exchange Rates and Stock Market in Türkiye

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### Türkiye’de Altın Fiyatları, Döviz Kurları ve Hisse Senedi Piyasası İlişkisinin Doğrusal Olmayan Nedensellik Analizi

#### Abstract

With globalisation and rapidly developing technology, financial investment instruments have diversified, and investors have begun to look for ways to make the most of their investments. Consequently, the relationships between financial instruments have gained more and more importance. This study aims to determine the direction of the causality relationship between exchange rates, gold prices, and the BIST100 index by using monthly data covering the period of 2003:01-2022:06 in the Turkish economy. Diks & Panchenko’s (2006) non-linear causality test was used to determine the direction of causality, and the test shows a unidirectional causality relationship from BIST100 to exchange rates.

**Keywords** : Exchange Rate, Gold Prices, Stock Market, Nonlinear Causality.

**JEL Classification Codes** : C22, F31, G11.

#### Öz

Küreselleşme ve hızla gelişen teknolojiyle birlikte finansal yatırım araçları çeşitlenmiş ve yatırımcılar yatırımlarından en iyi şekilde yararlanmanın yollarını aramaya başlamıştır. Bunun sonucunda finansal araçlar arasındaki ilişkiler giderek daha fazla önem kazanmıştır. Bu çalışma, Türkiye ekonomisinde 2003:01-2022:06 dönemini kapsayan aylık verileri kullanarak döviz kurları, altın fiyatları ve BİST100 endeksi arasındaki nedensellik ilişkisinin yönünü belirlemeyi amaçlamaktadır. Diks ve Panchenko (2006) doğrusal olmayan nedensellik testi nedenselliğin yönünü belirlemek için kullanılmıştır ve test BİST100’den döviz kurlarına doğru tek yönlü bir nedensellik ilişkisini göstermektedir.

**Anahtar Sözcükler** : Döviz Kuru, Altın Fiyatları, Hisse Senedi Piyasası, Doğrusal Olmayan Nedensellik.

## 1. Introduction

With globalisation and rapidly developing technology, financial investment instruments have diversified, and investors have begun to look for ways to maximise their investments. As a consequence, the relationships between financial instruments have gained increasing importance.

Strong relationships between stock markets and exchange rates have emerged due to significant developments such as removing capital access barriers and transitioning to a flexible exchange rate regime. This relationship can be explained by the "traditional" and "portfolio balance" approaches. The traditional approach deals with the changes in the exchange rates that affect the international competition of countries, their foreign trade balance, and thus their stock market returns. A positive relationship is, therefore, expected to emerge between stock indices and exchange rates. In the portfolio balance approach, on the other hand, falling stock prices reduce capital flows into a country, causing a decline in the wealth of local investors. Besides this, this situation further leads to a decrease in the demand for money and interest rates, resulting in capital outflows and, thus, increased exchange rates. In this approach, a negative relationship is, therefore, expected between stock indices and exchange rates (Şanlı et al., 2021: 930).

When uncertainties increase, investors may demand gold more than other assets. The high liquidity of gold and the fact that it is considered a substitute for stocks can be shown as the reasons for this demand. Increased gold prices may cause investors to invest more in gold, so stock market investments decline, leading to the expectation of an inverse relationship between gold prices and the stock market index. With the rise of the stock market, investors tend to invest more in the stock market, so the demand for gold decreases, which in turn leads to a drop in prices. Consequently, an inverse relationship is expected between gold prices and the stock market index (Şanlı et al., 2021: 931).

The studies of Özmen (2007), Zeren & Koç (2016), Özmen et al. (2017), Kirikkaleli et al. (2018), Yildirim et al. (2021) and Şanlı et al. (2021) are the similar studies made for the direction of causality of relevant variables for Türkiye. The details can be seen in the literature section.

This study aims to reveal the causality relationship between exchange rates, gold prices, and the BIST100 index by using monthly data covering 2003:01-2022:06 concerning the Turkish economy. Considering other studies, this study uses current approaches that consider nonlinearity for Türkiye with an updated dataset. This study consists of four sections: the second section focuses on the literature review, the third section on the method and application, and the fourth section briefly summarises the results obtained from the study.

## 2. Literature Review

The literature includes several studies investigating the causal relationship between stock prices, the gold market, and exchange rates. Some of the literature reviews are presented below.

Smyth & Nandha (2003), Abdalla & Murinde (1997) and Piccilo (2009) obtained unidirectional causality from exchange rates to stock prices. Özmen (2007) found a bidirectional causality between stock prices and exchange rates and a causality from exchange rates to stock prices. Alagidede et al. (2011) detected nonlinear causality from stock prices to exchange rates and linear causality in the opposite direction. Miyazaki & Hamori (2012) detected a unidirectional causality from stock to gold. Liang et al. (2013) obtained a causality from exchange rates to stock prices. Rutledge et al. (2014) found a Granger causality in one direction (i.e., from exchange rates to stock prices or vice versa). Fowowe (2014) showed that causality runs from exchange rates to domestic stock prices in Nigeria, while no causality exists in South Africa. Liang et al. (2015) showed the causality direction from stock prices to exchange rates (also in the opposite direction), while Yang et al. (2014) and Zeren & Koç (2016) showed bidirectional causalities. Partalidou et al. (2016) defined that gold, decade bonds (10-year Treasury Notes) and the US Dollar/Yen exchange rates negatively affect the returns of the Dow Jones index. Metals affect them positively, but oil prices negatively. Özmen et al. (2017) obtained a unidirectional causality from exchange rates to BIST100, bidirectional causality between BIST100 and interest rates and interest rates and exchange rates. Parsva & Tang (2017) found that stock prices and exchange rates have bidirectional causality among four Middle-East economies. Kirikkaleli et al. (2018) observed a unidirectional causality from gold price, exchange rate, and stock market to the real estate stock price. Lou & Luo (2018) showed that the relationship between the stock price index and the exchange rate is unidirectional (and in the opposite direction) and a bidirectional relationship in some countries. Akbar et al. (2019) demonstrated that during recessions, stock prices and the value of the rupee decrease, while gold prices increase and vice versa. Park et al. (2019) showed that the stock exchange drives the foreign exchange market. Alshammari et al. (2020) tested nonlinear causality and discovered a positive correlation between the stock market and exchange rate across the entire frequency spectrum. During times of crisis, the gold price has only a short-term negative correlation with the stock market. Reza et al. (2020) showed the existence of the portfolio balance approach in two countries. Şanlı et al. (2021) observed bidirectional causality between BIST100 and exchange rates and interest rates and unidirectional causality from BIST100 to gold prices. Yildirim et al. (2021) revealed that interest rates and gold prices interact. Ali Raza et al. (2021) showed that exchange rate return causes gold prices in four out of G7. Tran & Nguyen (2022) found bidirectional causality between the stock market and gold price and a unidirectional relationship between the stock market and the USD exchange rate. Bildirici et al. (2022) pointed out bidirectional causality between exchange rate and BIST. In addition, BIST does not Granger cause the gold prices and VIX. Thuy Tien (2022) found that oil prices positively impact the exchange rate, inflation, GDP, and stock market prices

across major quantiles. Nusair & Olson (2022) confirm that causality runs from stock prices to exchange rates.

### 3. Methodology

The study includes the US Dollar exchange rates, gold prices, and BIST100 index series. Considering other studies, this study uses a nonlinear approach to causality among variables in Türkiye. Considering that most studies are based on the linear approach, this study uses a nonlinear approach.

The study's first stage of application includes descriptive statistics for the US Dollar exchange rates, gold prices, and BIST100 index series. The data were taken from the CBRT (Central Bank of the Republic of Türkiye) EVDS Electronic Data Delivery System. Table 1 summarises the descriptive statistics for the series.

**Table: 1**  
**Descriptive Statistics for the Series**

Statistics	Gold (ons/\$)	BIST100	Exchange Rate (\$/TL)
Mean	1145.482	720.1358	3.186410
Median	1233.930	668.8235	1.810000
Maximum	1964.400	2648.190	16.53000
Minimum	321.4000	94.75100	1.180000
Standard Deviation	458.7885	434.2206	2.868081
Skewness	-0.231691	1.442762	2.331907
Kurtosis	2.045671	6.540152	8.925323
JB (probability)	0.004142	0.000000	0.000000

After summarising the descriptive statistics of the series, the nonlinear analysis will be developed. First, linearity analysis must be developed to investigate the causality between the Dollar rates, gold prices, and the BIST100 series. The test developed by Brock, Dechert and Scheinkman was used to determine the linearity of the series. In this test, the linearity hypothesis is tested against its alternative, nonlinearity (Brock et al., 1996). The test statistic is:

$$W_{m,n}(\varepsilon) = \sqrt{n} \frac{T_{m,n}(\varepsilon)}{V_{m,n}(\varepsilon)} \quad (1)$$

indicating convergence to normal distribution.

$(T_{m,n}(\varepsilon) = C_{m,n}(\varepsilon) - C_{1,n}(\varepsilon)^m$ ;  $C_{m,n}(\varepsilon)$  denotes the correlation integral,  $V_{m,n}(\varepsilon)$  variance, m correlation, n the number of observations, and  $\varepsilon$  Euclidean distance)

The linearity of the series will be tested using the BDS test.

**Table: 2**  
**Linearity Test for the Series**

Dimension	p
2,3,4,5,6	0.0000

Table 2 shows that the null hypothesis indicating linearity is rejected, so the series is not linear. After this stage, the stationarity of the series will be investigated with the nonlinear unit root test developed by Kapetanios et al. (2003).

Kapetanios et al. (2003) aimed to combine the two nonlinear and non-stationary fields by investigating ways to distinguish non-stationary linear systems from stationary nonlinear ones.

$$\Delta y_t = \delta y_{t-1}^3 + \eta_t \quad (2)$$

It tests the hypothesis of  $H_0 : \delta = 0$  against the hypothesis of  $H_1 : \delta < 0$ .

Nonlinear unit root test results are shown below.

**Table: 3**  
**Nonlinear Unit Root Test**

Variables	t statistics
Gold	-1.568
BIST100	-2.387
Exchange rate	1.090
$\Delta$ Gold	-10.161
$\Delta$ BIST100	-9.596
$\Delta$ Exchange rate	-7.502

\* Critical values of 1%, 5% and 10% are stated in the study of Kapetanios et al. (2003) as -3.93, -3.40 and -3.13, respectively.

As Table 3 shows, the results show that the series are not stationary and have unit roots. For this reason, their first-order differences are taken, after which the series appears to become stationary. Following the unit root test, the causality relationship between the series can be investigated.

Diks & Panchenko (2006) devised a new test to reveal Granger causality because their simulations showed that the Hiemstra-Jones test result was seriously over-rejecting. The presence of the problem, which indicates that the probability of rejection under the null hypothesis may tend to be 1 as the sample size grows, formed the basis of why this has become a research topic to reveal the underlying reasons for such a problem. The analytical examination of the Hiemstra-Jones test has shown that it is biased even though the bandwidth tends to be zero.

DP test is a non-parametric, nonlinear causality test. The residuals from the VAR model estimation are subjected to causality analysis. The test statistics are as follows:



$$T_n(\varepsilon) = \frac{n-1}{n(n-2)} \sum_i \left( \hat{f}_{X,Y,Z}(X_i, Y_i, Z_i) \hat{f}_Y(Y_i) - \hat{f}_{X,Y}(X_i, Y_i) \hat{f}_{Y,Z}(Y_i, Z_i) \right) \quad (3)$$

$\varepsilon_n = Cn^{-\beta}$ , C is positive, and

$$\beta \in \left( \frac{1}{4}, \frac{1}{3} \right), \sqrt{n} \frac{(T_n(\varepsilon_n) - q)}{S_n} \xrightarrow{d} N(0,1) \quad (4)$$

DP test indicates that it converges to normal distribution.

**Table: 4**  
**Linear and Non-Linear Causality Test**

Causality	Linear Granger Probability Value	Nonlinear Granger Probability Value
Gold is not a Granger cause of exchange rates.	0.8548	0.4393
The exchange rate is not a Granger cause of gold.	0.7567	0.8601
BIST100 is not a Granger cause of the exchange rate.	<b>0.0012</b>	<b>0.0117</b>
The exchange rate is not a Granger cause of BIST100.	0.3714	0.7362
BIST100 is not a Granger cause of gold.	0.6893	0.4997
Gold is not a Granger cause of BIST100.	0.2589	0.5735

\* In the nonlinear causality test, the  $\varepsilon$  value was specified as 1.50 by drawing on the article by Diks & Panchenko (2006).

Linear Granger causality test results were also included in this study. Table 4 shows the linear and nonlinear causality test results. Based on the non-linear and linear Granger test results, a unidirectional causality relationship from BIST100 to exchange rates was identified at 1%, 5% and 10% significance levels, respectively. This result supports the studies of Alagidede et al. (2011), Liang et al. (2015), Lou & Luo (2018), Park et al. (2019), Reza et al. (2020), Tran & Nguyen (2022) and Nusair & Olson (2022). The direction of causality also implies the portfolio balance approach.

#### 4. Conclusion

This study aims to reveal the causality relationship between the exchange rate, gold prices and the BIST100 index by using monthly data covering 2003:01-2022:06 in the Turkish economy. The Diks & Panchenko (2006) causality test results revealed a unidirectional causality relationship between BIST100 and exchange rates. The reason for the fluctuating exchange rate is BIST100. An increase in the stock market index will cause foreign investors to enter the stock market, which will cause foreign currency inflows and may cause a change in the amount of foreign currency in the country. Investors (stock market, gold, foreign exchange) may turn to the stock market rather than foreign currency and gold instead of other investment instruments due to the increase in the stock market index in their portfolio. Increasing the weight of the stock market in their portfolio may affect the foreign exchange demand and cause changes in the exchange rate.

The direction of causality implies the portfolio balance approach. This suggests that changes in the economic climate will directly impact bond demand and supply, thereby influencing the exchange rate (Reza et al., 2020).

Similar to the results obtained, Alagidede et al. (2011), Liang et al. (2015), Lou & Luo (2018), Park et al. (2019), Reza et al. (2020), Tran & Nguyen (2022) and Nusair & Olson (2022) can be given. Contrary to the results obtained, Smyth & Nandha (2003), Abdalla & Murinde (1997) and Piccilo (2009) obtained unidirectional causality from exchange rates to stock prices. Özmen (2007) found a bidirectional causality between stock prices and exchange rates and a causality from exchange rates to stock prices.

This study can be expanded for future research with additional financial and macroeconomic variables and nonlinear approaches. Furthermore, different countries can be added, and nonlinear panel estimation techniques (causality, cointegration, etc.) can be used.

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## Examining the Effect of Parents on Children's Career Choices in the Context of Class Positions

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### Ebeveynlerin Sınıfsal Konumlarının Çocukların Kariyer Seçimleri Üzerindeki Etkisinin İncelenmesi

#### Abstract

This article delves into the social mobility strategies employed by parents and their descendants from diverse social classes in structuring educational pathways and vocational choices across successive generations. The study relies on qualitative data from in-depth interviews conducted in Ankara with 24 parents and 18 offspring. Data analysis reveals that the strategies parents and their offspring embrace are intricately shaped by their social class positions and the cultural, social, and economic capital available to the latter. Labourer families grappling with cultural capital limitations exhibit constrained guidance to their offspring. In contrast, self-employed professional families actively deploy their comprehensive cultural capital to perpetuate privileged class positions across generations. Business owners or commercial entrepreneurs, characterised by a distinctive outlook, view education as a pathway to attain heightened social status rather than as a means of upward mobility. To address the inequalities uncovered in this research, establishing counselling centres for families to guide how to mentor their children and for the children themselves to facilitate the discovery of their abilities and interests could offer a solution toward mitigating these inequalities.

**Keywords** : Social Class, Social Mobility, Status, Stratification.

**JEL Classification Codes** : I24, Z13.

#### Öz

Bu çalışma, toplumsal sınıf konumlarını sürdürme ve yükseltme stratejisi olarak farklı sınıf konumlarındaki ebeveynler ve evlatlarının eğitim sürecini ve meslek seçimini nesiller boyunca nasıl örgütlediklerini incelemektedir. Araştırma, Ankara'da ikamet eden 24 ebeveyn ve 18 evlatla yürütülen derinlemesine görüşmeler yoluyla derlenen nitel verilere dayanmaktadır. Verilerin analiz sonucuna göre; ebeveynler ve evlatları tarafından benimsenen stratejiler, toplumsal sınıf konumları ve evlatlar için sunulmuş olan kültürel, sosyal ve ekonomik kaynaklar tarafından şekillenmektedir. İşçi sınıfına mensup aileler kültürel kaynak yetersizliğinden dolayı evlatlarına neredeyse hiç rehberlik sağlayamazken, profesyonel mesleklere sahip aileler tüm kültürel kaynaklarını, ayrıcalıklı sınıf konumlarının nesiller boyunca yeniden üretilmesi için seferber etmektedirler. Ticaret erbabı ailelerde ise eğitim, bir hareketlilik merdiveni olarak değil, bir statü kazanma aracı olarak talep edilmektedir. Çalışmada ortaya koyulan sosyal eşitsizlikleri azaltmaya katkı sunmak amacıyla, hem çocuklarına nasıl rehberlik edebilecekleri konusunda ailelere yardımcı olabilecek hem de çocukların kendi yetenek ve ilgi alanlarını keşfetmelerini kolaylaştıracak danışma merkezlerinin oluşturulması, bir politika önerisi olarak sunulabilir.

**Anahtar Sözcükler** : Toplumsal Sınıf, Toplumsal Hareketlilik, Statü, Tabakalaşma.

## 1. Introduction

This research examines the reasons and directions in which parents and children in families with different social class positions manage the process of education and career acquisition within societal mobility expectations. The study aims to answer this question by analysing interview data with individuals who, considering the primary occupation and profession of the head of the household, correspond to three distinct class positions: commercial-industrial entrepreneurs, self-employed professionals, and workers, each representing a different class position from the others. These individuals either prepare for university entrance exams or have recently started university education.

The goal of the research is not merely to describe the situation based on the content of the actors' statements but rather to explain how the reasons and conditions they have stated contribute to the formation of a pattern and ultimately lead to a result over a specific period. Therefore, the research data primarily focus on how these patterns are oriented toward producing a specific outcome.

In the context of the research design and the nature of the collected data, the factors identified as reasons in the study are not variables in the sense understood in the naturalist-positivist research tradition. Instead, referring to a relational methodology, these factors possess characteristics that can generate a specific outcome. They describe individuals' and families' economic, social, and cultural situations and their qualifications of thought, ideas, experiences, and motivations. The societal outcomes, in turn, emerge from the unique interaction formed by these qualifications coming together in a specific context, resulting in patterns. Children's access to education and career choices vary across different family types due to existing patterns of inequality in society. The influence of families on their children's career progression can be seen as a reflection of the manifestation of inequality in Türkiye.

Analysing and evaluating such a situation involves expressing how these qualifications work together to produce a particular result rather than measuring the individual impact of each quality on the outcome. Following the descriptions by Sayer (2017), Perri (2006), and Bellamy (2012), it would be appropriate to refer to this analytical approach as the analysis of patterns of interaction in a specific context.

The central question of this research revolves around the social mobility strategies employed by parents and children in the realms of education and career acquisition. Among the sub-questions of the study are the financial, motivational, and cultural actions families undertake when guiding and providing resources for their children. Moreover, exploration has been undertaken to scrutinise the reasons tied to their class positions that guide these actions and the resources facilitated by their afforded means, which prove instrumental in executing these actions effectively. Parents' choices regarding which schools to send their children to, the reasons behind these choices, the desired level and purpose of education, and how they mobilise resources for societal mobility have been scrutinised in directing their children financially. From a motivational standpoint, the focus extends to how families plan

or assist their children in preparing for the future, the concerns related to maintaining or failing to maintain a particular social position, and how their behaviours are shaped based on the child's gender or specific circumstances.

The other sub-questions of the study revolve around how the characteristics present in the family's and child's social lives impact the strategy pursued by the family in the child's education and career preferences. Within this framework, an examination has been conducted on how the family's class and status position, and consequently, the profession they hold, influence the habitus, economic, cultural, and social capital, the resources they possess, and how they utilise them. Simultaneously, the impact of the family's life experiences on the attitudes, desires, and intellectual accumulations they acquire has also been scrutinised.

## **2. Methodology**

The objective of this research is not to conduct an extensive survey about the abovementioned matters. Instead, it is to identify and analyse patterns at the level of real experiences of actual actors, with data gathered from individuals possessing relevant qualifications. Within this context, the goal is to understand parents' strategies to maintain or elevate their social class position across generations, how they mobilise and utilise their resources, and how they influence their children regarding education and career preferences through guidance or advice. Additionally, the aim is to comprehend how these actions are linked to the development of attitudes in children.

In this regard, the most suitable target participants for this purpose are high school students preparing for university entrance exams, students who have recently commenced university education, and their families. The following subgroups, characterised by the mentioned criteria, have been determined using a purposive sampling method:

- Families of self-employed professionals (such as doctors, lawyers, engineers)
- Families of business owners or commercial entrepreneurs with medium-scale enterprises
- Families of labourers (including mechanics and construction workers)

The families in the first group, distinguished by their ownership of economic capital, differ significantly in their opportunities to preserve or enhance this capital within the broader structure of the economy. In contrast, the other two categories involve families where economic capital is collectively lower and more evenly distributed, while social and cultural capital is unequally distributed. Education serves as the primary channel for mobility in these families.

In line with the research methodology and considering the research objectives, in-depth and semi-structured interviews with parents and children have been deemed the most suitable means to understand the influence of parents on their children and the children's



responses to this influence. During the research process, both paths of reaching were employed, from the parent determining the family's social class position to the young person and from the young person to the family. The individuals interviewed were reached using a purposive sampling method. The interview forms were prepared differently for parents and children. In purposive sampling, the researcher selects units that best align with the study's objectives. In this case, participants representing three distinct types of families were included in the sample (Gürbüz & Şahin, 2018: 132).

To facilitate a comparative analysis of the causal forces that have emerged in family relationships and social mobility, categorisations have been made based on the relationships of mother-child, father-child, or mother-father-child. From the specified categories, 18 groups were formed: seven from the worker family groups, six from the business owner/entrepreneur family groups, and five from the self-employed professional family groups. Interviews were conducted with 42 individuals belonging to these groups. Among the individuals interviewed, 17 were mothers, seven were fathers, 11 were daughters, and seven were sons. Consequently, 24 parents and 18 children were interviewed in the research. All interviews took place in Ankara, either at the individuals' homes or in café-like environments, with the participants' permission and were recorded with their consent. Transcriptions were completed for all recorded interviews. Before commencing the research fieldwork, ethical approval was obtained from the Bartın University Social Sciences and Humanities Ethics Committee with the document number "2023-SBB-0865."

**Table: 1**  
**Socio-demographic Characteristics of Interviewed Participants (n = 42)**

Participant	Social Role	Family Class Position	Participant	Social Role	Family Class Position
P1	Mother	Labourer	P22	Daughter	Business owner/Commercial entrepreneur
P2	Daughter	Labourer	P23	Father	Business owner/Commercial entrepreneur
P3	Mother	Labourer	P24	Mother	Business owner/Commercial entrepreneur
P4	Daughter	Labourer	P25	Son	Business owner/Commercial entrepreneur
P5	Mother	Labourer	P26	Father	Business owner/Commercial entrepreneur
P6	Daughter	Labourer	P27	Mother	Business owner/Commercial entrepreneur
P7	Mother	Labourer	P28	Son	Business owner/Commercial entrepreneur
P8	Son	Labourer	P29	Mother	Business owner/Commercial entrepreneur
P9	Mother	Labourer	P30	Son	Business owner/Commercial entrepreneur
P10	Daughter	Labourer	P31	Mother	Self-employed professional
P11	Mother	Labourer	P32	Son	Self-employed professional
P12	Daughter	Labourer	P33	Father	Self-employed professional
P13	Mother	Labourer	P34	Mother	Self-employed professional
P14	Daughter	Labourer	P35	Son	Self-employed professional
P15	Mother	Business owner/Commercial entrepreneur	P36	Father	Self-employed professional
P16	Daughter	Business owner/Commercial entrepreneur	P37	Daughter	Self-employed professional
P17	Father	Business owner/Commercial entrepreneur	P38	Father	Self-employed professional
P18	Mother	Business owner/Commercial entrepreneur	P39	Mother	Self-employed professional
P19	Daughter	Business owner/Commercial entrepreneur	P40	Daughter	Self-employed professional
P20	Father	Business owner/Commercial entrepreneur	P41	Mother	Self-employed professional
P21	Mother	Business owner/Commercial entrepreneur	P42	Son	Self-employed professional

Drawing on a relational perspective and in line with Sayer's notion of 'causal analysis,' which involves an effort to understand the causal powers, capacities, action styles, or mechanisms of objects or relationships rather than an abstract relation between events (Sayer, 2017: 141-142), the research utilised a causal analysis approach. Accordingly, the foundational qualitative data analysis method, coding, was employed as the analysis

strategy. As Creswell (2016: 180) outlines, the essential components of coding include reducing data into meaningful segments, assigning names to these segments, grouping codes under broad categories or themes, and making and presenting comparisons in data graphs, tables, and charts. The data collected in the research were analysed using this method. The transcribed texts were reduced into meaningful segments, codes were generated, and these codes were grouped under broad themes. These themes were constructed based on two comparison strategies: the difference among similarities and the similarity among disagreements.

### **3. Findings**

As mentioned in the paper's introduction section, the research's primary focus is the interaction between the general societal conditions in which families and individuals find themselves and the societal mobility processes they pursue. In this section, the data collected within the scope of the research were analysed, and in particular, the guidance practices of parents in three different class positions regarding the career choices of their children, the processes experienced, and the social mobility strategies shaped according to the class positions of the families were examined.

Class and status are crucial indicators determining individuals' social positions in the sociological literature. Class and status positions primarily emerge from various factors such as occupation, income level, lifestyle, and consumption habits. Additionally, these positions signify where individual members stand within the structured social inequalities of the family to which they belong. The question is how families and individuals, for various reasons or motives, aim to preserve or alter their positions within the social order and what paths or strategies they follow should be treated as something other than a deterministic relationship in technical terms.

Instead, class or status positions refer to a limited number of indicators describable by an outside observer of the results produced by human agency. Even though these positions constitute a resource or constraint for human actions, other dimensions of social action extend from the past to the future. They are shared and evaluated between generations, constituting a justification and motivation for action. Therefore, it is essential to comprehend these dimensions and how individuals or groups perceive and condition them for action to extensively understand social action causally.

Bourdieu (1987: 6) defines constructed classes as similar positions that provide similar life conditions and conditioning within social space, thereby generating similar predispositions and, consequently, similar practices (Swartz, 2015: 215). Individuals internalise similar life possibilities based on a collective habitus and share the same habitus (Swartz, 2015: 150). From this perspective, similar practices are observed in professional groups with similar life conditions; thus, societal-level interpretations can be made regarding these groups. The foundations that give rise to these practices are similar predispositions in similar positions.

According to Bourdieu (1984: 123), the possibilities of class mobility within a social group are determined by the types of structures internalised through habitus. He identifies three social trajectories: upward class mobility, downward class mobility, or stagnation (Swartz, 2015: 226). In his analysis, Bourdieu conceptualises cultural capital, which he emphasises as one of the fundamental sources of class mobility, as a form of power in differentiated societies. According to him, cultural capital encompasses verbal skills, general cultural awareness, aesthetic preferences, knowledge about the school system, and various opportunities, such as education (Swartz, 2015: 111). Based on Bourdieu's definitions, "habitus" and "cultural capital" are not independent concepts. In the context outlined in the previous subsection, a general analysis reveals that in the context of the social positions of families, the influence of the habitus and cultural capital of parents and children is predominant in guiding their children in the education and career selection process and social mobility strategies. As a common feature of the three classes, the impact of habitus and cultural capital is observed in different contexts and forms in different class layers.

Habitus varies according to individuals' living conditions. In this regard, class habitus, such as working-class or bourgeois, can be mentioned. This section has discussed how habitus influences individuals' perception, evaluation of the world, and modes of action and how it manifests itself in the mobility strategies of families in three different class positions (Jourdain & Naulin, 2016: 42-43).

### **3.1. Families of Self-Employed Professionals**

According to Bourdieu and Passeron, social inequalities in academic achievement are rooted in cultural differences rather than disparities in economic resources. University students from the most privileged classes in society possess a 'cultural privilege' (Jourdain & Naulin, 2016: 53). Based on the data from this study, it can be inferred that parents with university education, and thus a higher level of education and consciousness, provide the necessary attention to their children through the 'cultural privilege' described by Bourdieu. By identifying their children's talents, offering proper guidance throughout the education process, and providing direction in career choices, parents instil the determination to work, motivation, and self-discipline in their children for success. Consequently, children excel in setting and achieving goals in their career choices. Additionally, this situation has broadened the vision of both parents and children, enabling them to aspire to more challenging goals than others.

*...we have always tried to raise children like that, that is, about him who is questioning like that, and that is to do the best there, no matter what profession he has... Well, this is a constant suggestion; for all of us, everyone should do well in every job they do in a place they love (P34).*

*...I have had something like this since childhood; he supported me; for example, my father has a little more interest in this, and since my father helped me in this regard, I have increased my enthusiasm for my career. (...) You know, especially regarding my career, the advice my dad gave me helps. For*

*example, my dad and I listed my university preferences together when making my final choices. And honestly, my dad played a big role in that. Thanks to him, I chose this department at Gazi [University], you know? I could've probably put Gazi lower on the list... but because of my dad, I believe I made the right choice (P35).*

*So, I found these people in robotics work and arranged for my son (A...) to meet with them. When they sat down and talked about what they do and what could happen in their future careers, A... said, "Okay, this is exactly what I want. This is my profession, and this is the path I'm going to take". So, that's how A... made their choice. I've always supported A... they've always been interested in robotics, and I always wanted them to pursue something in that field (P36).*

In families where the father is a professional, most mothers request their children to continue the 'father's profession.' On the other hand, fathers are inclined to guide their children toward socially esteemed professions that at least sustain their status in honour and respect. This tendency arises from the perception that their professions involve challenges and difficulties during education and practice. In this case, parents are developing a strategy to maintain their social position, indicating a reluctance for vertical mobility towards lower positions in the social stratification system.

*My father did not want me to choose medicine because it was too tiring, and maybe he was too tired. He wanted me to choose engineering. But I still decided to study medicine (P42).*

As Bourdieu emphasised, the habitus of individuals is shaped somewhat unconsciously by internalised predispositions and the general cultural awareness and educational consciousness acquired through these predispositions and cultural capital. According to Bourdieu's perspective, the habitus of individuals, influenced by these predispositions and awareness inherited from the family, takes a form that aligns with their class position. These inherited predispositions and awareness acquired from the family determine individuals' chances of maintaining or elevating their class positions. Bourdieu's concept of cultural capital, diverging from the prevalent view attributing academic success or failure to natural predispositions such as intelligence or talent, suggests that the quantity and type of cultural capital inherited from the family better explain the level of success in the educational process compared to individual ability or success criteria (Swartz, 2015: 111).

Similar to the concept of cultural capital, the habitus is not an individual entity but is considered a heritage acquired from the family due to predispositions related to the class positions of the family and gained through the relationship with the social environment. This study, in line with Bourdieu's thought, demonstrates that specific characteristics that may seem individual, such as talent and interest, are not independent of an individual's social class position. The insights shared by Bourdieu and Wacquant (2016: 116) further support

this conclusion, suggesting that even seemingly individual, personal, and subjective attributes can indicate a social and collective structure.

The observed predispositions and awareness within the self-employed professional family group contribute to individuals' success in their educational journey, enabling them, as Goldthorpe (2000: 171-174) suggests, to preserve their social class through academic achievement. According to Goldthorpe, the strategies of salary-earning families revolve around transforming their children's skills as much as possible into 'educational attainment.'

### **3.2. Families of Business Owners or Commercial Entrepreneurs**

Unlike salaried individuals, within the 'petite bourgeoisie,' the preservation of social class positions is not achieved through educational attainment but rather through the inheritance of family businesses and the continuation of these businesses by the offspring. The tendency for intergenerational stability in the petite bourgeoisie, at least for males, is relatively higher (Robinson, 1984, cited in Goldthorpe, 2000: 174). When considering the direct intergenerational transfer of economic resources as a clear possibility in the context of the offspring of the petite bourgeoisie -or at least their sons- education is seen to be less critical in ensuring class stability (Ishida, Müller & Ridge, 1995, cited in Goldthorpe, 2000: 176).

In this context, it can be interpreted that the presence of economic capital diminishes the role of educational mobility as the primary strategy for individuals. In this case, the status position takes precedence, and education serves not as a ladder for mobility but merely as a means of achieving status for the petite bourgeoisie. This interpretation is supported when considering the class group referred to as 'petite bourgeoisie' by Goldthorpe and described as 'business owners/entrepreneurs' in this study. In interviews with business owners' families, both parents and offspring emphasise the prestige gained through formal education. Additionally, in these families, the offspring state that they do not prefer their fathers' professions because these occupations do not require a university education. Similarly, even if fathers have sufficient economic capital to leave for their children, they advise against their children continuing their professions.

In families where the father is a business owner, parents provide their children with the necessary financial support during education preparation and training. However, for their children to succeed in obtaining formal education at the university, more is needed. It is also observed that the older siblings in these families were primarily more successful in the necessary work stages to reach a professional position after completing their undergraduate education, despite having gained the right to receive education at a private or state university. Instead, they started working with their fathers, even though they did not prefer this path. The main reason is the influence of predispositions based on the individual's habitus. While the ownership of economic capital by the family may seem advantageous in providing a good resource for educational attainment, it creates a disadvantage for the individual as it forms an alternative in their mind regarding their professional career. This alternative affects

their motivation, determination to work, and self-discipline, leading them to complacency and hindering them from making the necessary effort.

*...now he [his brother] works for my father. Since my two older brothers are working with my father anyway... well, one of them graduated. The other probably started his business life, so he doesn't do much about school anymore because now he has decided on his job, he will continue from there... (...) ...he will not do anything related to the department he is studying, that is, he will only attend the university. He reads it with the idea of "just let me finish it that way" (P16).*

*...I think they (her offspring) thought, "There is something to do anyway." I think if they were in need, maybe they would try harder. (...) ...that is, "I am more comfortable, I am not under pressure, I am not obliged" (...) he didn't try too hard; he could have at least started in the private sector, but he didn't try very hard. (...) they thought like, "My father has a nice job anyway, it's okay if I study if I don't, I'll go there" (P15).*

In these families, when factors such as the low academic education level of the parents and their inadequacy in guiding their children are considered, there is no change observed in the distance between the individual's current class position and the social position they will reach, experiencing what Bourdieu calls 'stagnation.' Indeed, Aral's study (1980) supports this result. According to this research, 83% of individuals whose fathers were large-scale business owners and 67% of those whose fathers were business owners maintain their fathers' class positions, and there is no upward or downward mobility.

### **3.3. Families of Laborers**

The mobility strategies observed in individuals from professional class backgrounds have the lowest probability of being limited by the availability of resources. In contrast, the strategy followed by individuals from the working class is considered the most constrained (Goldthorpe, 2000: 165). The working-class families examined in this study face numerous educational and career acquisition disadvantages. These disadvantages include low academic education levels of parents, financial constraints, fathers' indifference to their children, inability to stimulate educational aspirations or set specific goals in children, and inadequacy in guiding their children in education processes and career choices. Therefore, the individual's social class of origin, with its inherent disadvantages, is transmitted to the next generation. This situation can manifest in the child's lack of awareness of the necessity of university or vocational education, inability to take responsibility, lack of determination to work, lack of understanding of their abilities and interests, and a deficiency in cultural capital.

The educational aspirations observed in the other two groups are also evident in working-class families. However, these families do not frame their social position goals as a well-defined strategy for social mobility. Instead, they aspire for their children to 'have a

profession,' not to experience the difficulties they have faced, to secure their livelihood smoothly, and because they do not consider labour a profession.

Individuals raised in families where the father is a labourer do not observe behaviours such as setting a clear goal with a sure foundation and striving toward it, similar to their parents.

*I didn't have a goal; I wasted a lot of time (in high school). (...) It (my choice of profession) is always completely random (P2).*

According to Bourdieu, when students come from a relatively deprived environment, the likelihood of their choices being constrained increases (Bourdieu & Passeron, 2015: 17). In his view, individuals at the lowest level of society seem to internalise in their habitus that 'access to higher education is low' and shape their behaviour based on these low success probabilities (Jourdain & Naulin, 2016: 55).

According to Willis (2016: 14), vocational skills from a working-class background are generally considered through the lens of standardisation brought about by inadequacy. Accordingly, individuals in the lower layers of the working class perceive themselves as inadequate and, with this mindset, accept even the worst jobs without question. In this context, the disadvantage for the children can be linked to the family's class position. The fact that individuals come from a relatively deprived social environment, meaning there are no role models in their immediate surroundings, influences their choices. The interviewed children from working-class families expressed a desire for a university education but did not make it an 'absolute necessity' for themselves and made more limited career choices. Moreover, children from working-class families need more motivation and a sense of responsibility necessary to work adequately due to the inadequate guidance from their families.

*In other words, they (parents) have low educational backgrounds. When choosing a university or department, I decided independently that there was no one to help or anyone I could consult for an opinion. Of course, it would have been better if there had been (P6).*

*Well, I guess the enjoyable environment seemed appealing to my son because everyone around was like that. Generally, the kids around, you know, played like that, and there weren't many achievers. Of course, they had their own thing going on; the education wasn't very high-quality, especially the primary school, and the background wasn't that good to thrive in. Maybe when you combine all these factors, things turn out like this (P1).*

Bourdieu argues that the working class does not possess cultural capital that grants privileges within society (Swartz, 2015: 243). Thus, upward mobility in working-class families can only be possible if individuals develop their cultural capital individually. This perspective contradicts the notion of a 'cycle of deprivation' (Marshall, 2009: 829) that

claims poverty, socio-economic disadvantages, and their consequences persist across generations. It suggests that, at least, the individual still has the potential to make a difference.

Gouldner (1979: 21), as suggested by this study's findings, emphasises a new class formation shaped by cultural capital. He defines this 'new class' as the 'cultural bourgeoisie,' characterised by their control over cultural capital (Wright, 2016: 121). The class positions examined within the scope of this study draw a picture of potential reproduction through habitus and cultural capital. Therefore, it can be emphasised that the dominance of the 'cultural bourgeoisie' might be opening up.

**Table: 2**  
**Main Findings of the Study**

<b>Family Type</b>	<b>Providing Guidance and Motivation</b>	<b>Mobility Strategy</b>	<b>Educational Expectation</b>
<b>Families of Self-Employed Professionals</b>	<ul style="list-style-type: none"> <li>- Through their "cultural privilege," parents can identify their children's aptitudes and guide their career choices throughout the educational process.</li> <li>- Families can instill a sense of work ethic, motivation, and self-discipline in their children.</li> <li>- Children can be successful in setting goals for their career choices and achieving them.</li> </ul>	<ul style="list-style-type: none"> <li>- Most mothers desire their children to continue the 'paternal profession.' On the other hand, fathers tend to guide their children towards professions that offer societal prestige and esteem rather than their exact occupation.</li> <li>- In general, they wish to maintain their current status positions.</li> </ul>	<ul style="list-style-type: none"> <li>- Parents desire their children to attain, at minimum, an educational level equivalent to their own.</li> </ul>
<b>Families of Business Owners or Commercial Entrepreneurs with Medium-Scale Enterprises</b>	<ul style="list-style-type: none"> <li>- A family's possession of economic capital appears advantageous in providing ample educational resources. However, this situation creates a disadvantage as it engenders a robust alternative career option in the child's mind. The alternative of being able to work in the family's business may impact their working motivation and self-discipline, leading to complacency and hindering them from exerting the necessary effort.</li> </ul>	<ul style="list-style-type: none"> <li>- Among the 'petite bourgeoisie', in contrast to salaried individuals, the preservation of their social class position is ensured not through educational attainment but rather through the inheritance of family businesses and their children's continuation of these enterprises.</li> <li>- Considering factors such as the generally low academic educational levels of parents in these families and their inadequacy in guiding their children, no significant change was observed in the distance between the individual's current class position and the social position they will attain.</li> </ul>	<ul style="list-style-type: none"> <li>- In this family type, status takes precedence, and education is viewed not as a ladder for social mobility for the petite bourgeoisie but rather as a means of status attainment.</li> </ul>
<b>Families of Laborers</b>	<ul style="list-style-type: none"> <li>- Parents' low academic educational levels, financial difficulties, fathers' indifference towards their children, and inability to ignite educational aspirations or set specific goals in children lead to inadequacies in guiding them through the educational process and career choices.</li> <li>- The child's lack of awareness regarding the necessity of university or vocational education may manifest in an inability to take responsibility, a deficiency in studying motivation, unawareness of talents and interests, and a shortage of cultural capital.</li> <li>- It can be stated that children from labourer-class backgrounds cannot acquire sufficient motivation and a sense of responsibility necessary for academic achievement due to their families' inadequate guidance.</li> </ul>	<ul style="list-style-type: none"> <li>- An individual's social class, along with the inherent disadvantages it encompasses, is transmitted to the subsequent generation.</li> <li>- Consequently, in labourer families, upward mobility is only possible if individuals develop their cultural capital through their efforts.</li> </ul>	<ul style="list-style-type: none"> <li>- Labourers' families can mostly not articulate well-defined social position goals as a coherent social mobility strategy. Instead, they aspire for their children to "have a profession," avoid the hardships they have encountered, and secure their livelihoods without difficulty.</li> </ul>



According to Sönmez's study (2007), which is based on general population and agricultural data conducted by the State Institute of Statistics, images of industrial society, findings from previous research on social mobility in other countries, and analyses within the context of rural transformation, migration, and urbanisation studies in Türkiye, there is no evidence that the transformation in occupational structure creates new opportunities and paths for upward social class mobility in the country. On the contrary, increased rigidity or closure of class mobility may be a more pronounced feature of the social mobility pattern in Türkiye. Sönmez (2007: 180) stated that there is no indication that economic and occupational developments lead to a divergence between social positions reached and their class positions. Instead, relative mobility rates are more or less stable and do not change over time. Studies in the field of social mobility, such as those by Breen and Goldthorpe (2001) in the United Kingdom, similarly showed that there was nearly no change in the power of class origins to shape class trajectories in the last quarter of the twentieth century (Breen, 2017: 72). The low social mobility potential observed in the three class categories examined in this study aligns with the findings of Sönmez and Breen-Goldthorpe's studies.

#### **4. Results and Discussion**

The first and most prominent finding is that the family's class position impacts individuals' motivation, drive, self-discipline, and determination to work in their education, success, and career choices. These effects can be observed in all three family class positions.

Due to their class position, offspring from working-class families often need more determination and motivation to work. Additionally, their families' inability to consciously direct them towards a specific profession results in an inability to set clear goals and a failure to demonstrate the academic success required for vocational training. Therefore, the disadvantages inherent in an individual's class position are likely passed on to the next generation. However, in working-class families, the individuality of the offspring takes precedence, and their individuality enables them to have social mobility.

Another result is that families admire university education, even if they cannot provide adequate guidance to their children. Likewise, Uz (2022: 570) claimed that young people are pursuing university education to overcome the disadvantage of being a high school graduate.

Similar results have been observed in offspring from business-owner families concerning determination to work and motivation. As a result, both parents and offspring continue their fathers' professions even if they are unwilling to. Several factors contribute to this situation. First, like working-class families, the offspring lack sufficient motivation, self-discipline, and determination to work. Another factor is that the father's economic capital creates an alternative in the offspring's mind, preventing them from working eagerly and leading to complacency.

Bayındır and Kara (2022: 124-125) argued that students whose parents are senior executives or business owners are conceptualised as "learning to be bosses". As these students participate in business processes, their goals regarding life and career may change. Consequently, their academic concerns and attachment to school diminish. These students view school as a hindrance, seeing it as a tool and a process to be completed to enter the business world. To maintain the authority and status they learn in the workplace, they shape their relationships with their peers and teachers accordingly.

Similarly, the study suggests that in these family groups referred to as the "petite bourgeoisie," education is not seen as a ladder for upward mobility but rather as a means of gaining status. Consequently, even if they receive an education, they tend to remain in the same social position regarding their professions, resulting in limited social mobility.

Significant differences have been observed in self-employed professional families. By being successful in discovering their children's talents and vocational inclinations, parents can provide more informed guidance in their education and career choices. As a result, it is evident that the offspring from these families make more informed career choices and demonstrate the necessary determination to work.

Consequently, this result ensures that children receive a quality vocational education while maintaining their parents' status. Similarly, Özdemir (2020: 70) asserted that parental occupational status, individual education, and parental education level enhance an individual's occupational status.

Moreover, regarding social mobility, despite their high status, fathers do not wish their children to experience the difficulties they face in their professions. However, their preferences tend to lean towards occupations that are not significantly different in status from their own. This inclination indicates their strategy to preserve their social positions.

Despite numerous regulations regarding the institution of the family, the perception of women as solely responsible for domestic labour and responsibilities remains unchanged, perpetuating educational inequalities within the family structure. In Türkiye, even after entering the workforce, the notion that domestic responsibilities belong to women persists, doubling their burden (Gök, 2016: 359). According to the findings of this research, due to the persistent notion that domestic responsibilities are inherently feminine, a portion of the parents interviewed tend to guide their daughters towards professions that align with traditional gender roles, such as being teachers. This is done to enable their daughters to seamlessly balance their careers and domestic duties by societal gender norms.

Marshall and Swift argue that the most crucial factor influencing educational attainment is class origins, whereas Saunders believes that ability and effort are more important than class origins. These two distinct perspectives appear to be opposing each other in discussions on the subject (Şengönül, 2008: 19). However, according to the results of the study, qualities such as determination to work, consciousness, motivation,

responsibility, and self-discipline can be considered as indirect outcomes of class origins and, therefore, cannot be entirely separated from each other. At the same time, the conditions necessary for the emergence of individual abilities are also dependent on factors such as the family's sociocultural context, education level, consciousness, and vision. Hence, the manifestation of inherent skills in an individual is not entirely independent of their class background. The processes, patterns, and outcomes elucidated by the empirical data in the study can be summarised with the following words: For some, penetrating the elite's culture is a conquest for which a high price has been paid. For others, it is an inheritance that contains both the ease and the allure of ease (Bourdieu & Passeron, 2015: 45).

In light of the study's findings, the primary issue pertains to the inequalities observed among different family types concerning access to educational opportunities and the possession or lack of sufficient capital to maintain or elevate their societal status. While eradicating these inequalities might not be possible, various policy recommendations can be offered to mitigate them. Prominent among these inequalities is the inadequacy of parental guidance observed in the labourer and business-owner family groups, failing to instil the necessary motivation in children. Children often find themselves unable to determine their desired profession or career goals clearly, and even if they do, they may lack the drive to pursue the necessary efforts to attain these vocations. Considering this issue, proposed policies should address the deficiencies in parental guidance and motivation-building within families.

Given that the working classes are relatively disadvantaged, it would be appropriate to offer practical guidance services, particularly in the context of their career pathways. Specifically, it would be prominent to enhance the effectiveness of guidance services provided in public schools. From an early age, children should be provided with opportunities to explore their talents and interests across all age groups. One such policy suggestion may involve establishing and effectively operating counselling centres for families and children to guide parents in supporting their children and enabling them to discover their abilities and interests. Through these counselling centres, children can receive the necessary advice to determine their career goals and acquire the motivation to pursue the requisite efforts to achieve their desired professions.

The study's main limitation is that it cannot be generalised since it is qualitative research. Further studies can be conducted to understand whether the phenomena experienced within the scope of this study's sample are valid for other parents in similar family types. Future studies that adopt a quantitative perspective might allow drawing a general framework by conducting research with larger samples. A quantitative study investigating the underlying causes behind the lack of guidance and motivation observed in labourer and business owner family groups, identified as a source of social inequality in this research, could prove functional in contributing to reducing inequality.

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## An Analysis of the Factors Affecting Real Estate Taxes Literacy in Türkiye<sup>1</sup>

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### Türkiye’de Emlâk / Gayrimenkul Vergileri Okuryazarlığını Etkileyen Faktörler Üzerine Bir Analiz<sup>2</sup>

#### Abstract

This research aims to determine taxpayers’ literacy level about the financial obligations related to real estate, an important investment instrument in Türkiye, and the factors determining literacy. In this context, primary data were collected through surveys administered to 500 people who resided in Istanbul, Ankara, and Izmir. Primary data analysis was carried out using two methods. First, the real estate tax (RET) literacy was calculated through percentage analysis. Second, using discrete selection models, variables likely to affect the literacy of real estate taxes collected could be estimated. As a result, the primary data show that RET in Türkiye is 30%. According to the estimation results, the gender, age, and income variables are effective regarding fiscal rights related to property in Türkiye.

**Keywords** : Real Estate Taxes, Tax Literacy, Discrete Selection Model, Türkiye.

**JEL Classification Codes** : H20, H21, H24.

#### Öz

Bu araştırmada, Türkiye’de önemli bir yatırım aracı olan gayrimenkullere ilişkin mali yükümlülükler konusunda mükelleflerin okur-yazarlık düzeyi ve okuryazarlığını etkileyen faktörlerin belirlenmesi amaçlanmaktadır. Bu kapsamda İstanbul, Ankara ve İzmir’de ikamet eden 500 kişi ile saha çalışması yapılarak birincil veriler toplanmıştır. Birincil veri analizi iki yöntem kullanılarak gerçekleştirilmiştir. İlk olarak, gayrimenkul vergileri okuryazarlığı (RET) yüzde analizi ile hesaplanmıştır. İkinci olarak, kesikli seçim modelleri (probit ve/veya logit) kullanılarak, emlak vergilerine ilişkin okuryazarlığı etkilemesi muhtemel değişkenler tahmin edilebilmiştir. Sonuç olarak, birincil veriler Türkiye’de RET okuryazarlığının %30 olduğunu göstermektedir. Tahmin sonuçlarına göre, cinsiyet, yaş ve gelir değişkenleri Türkiye’de mülkiyetle ilgili mali haklar açısından etkilidir.

**Anahtar Sözcükler** : Gayrimenkul Vergileri, Vergi Okuryazarlığı, Kesikli Seçim Modeli.

<sup>1</sup> This study is a research article presented as an output of project number 2212E193 supported by the Anadolu University Scientific Research Projects Coordination Unit.

<sup>2</sup> Bu çalışma Anadolu Üniversitesi Bilimsel Araştırma Projeleri Koordinasyon Birimi tarafından desteklenen 2212E193 nolu projenin çıktısı olarak sunulmuş bir araştırma makalesidir.

## 1. Introduction

Fiscal obligations, especially taxes, constitute a large part of public revenues and are present in every aspect of our lives. We can encounter the concept of tax and tax-related transactions at every stage of life and at every age. Real estate is one of the areas in which the tax relationship between the tax administration and the taxpayer arises. In 2020, the ratio of real estate taxes to GDP was 1.1% of the OECD average, while it was 0.2% in Türkiye. The three countries with the highest property tax ratio are Canada (3.3%), the USA, and the UK (2.9%) (OECD, 2023). According to the World Bank, one of the indicators of property tax revenue performance is the revenue-to-GDP ratio (Kelly et al., 2020).

This study uses property as an investment tool in Türkiye, the second real estate tax knowledge dimension. In a study conducted by the Presidency of the Republic of Türkiye Finance Office and involving the participation of 15,041 people, real estate emerged as one of the most reliable instruments for savings valuation. The main reason for this result is that real estate, similar to gold, is a tangible asset, and the physical transformation of savings into an asset increases people's sense of trust and is seen as an investment that will always increase in value. It was found that as an investment tool, real estate ranks first among current investments at 44%, and if it is considered together with previous ownership, this ratio rises to 51% (TR Presidency Finance Office, 2023). The perception that the taxation of these assets will also alleviate the discontent that may arise in lower-income groups (MHUV, 2002) is another dimension of these taxes. For this reason, in the property market, the taxation not only of rental income but also of rents arising from sudden and rapid increases in the value of property and the taxation of income arising from property are important both for investors to make the right investment decision and for public authorities to tax income. While this research initially focuses on the factors that determine tax literacy, it also examines the tax awareness of property as an investment tool. Although there are many financial regulations related to real estate in Türkiye, these regulations are scattered in different laws and seem complex. The legislation also has specific tax regulations due to using real estate as an investment tool.

Tax literacy is a broad concept. It involves knowing, adapting to, and acting on that knowledge. Different definitions of tax literacy encompass all dimensions. A conceptual discussion is presented in the next section. However, studies show that the essential dimension of tax literacy is knowledge (cognitive dimension) (McCaffery, 1994; Türegün et al., 2021: 75; Hariyani & Sofiani, 2021: 1735). For this reason, this study examines the factors determining the knowledge level about real estate taxes. Although studies generally focus on tax education, studies on the factors that influence the level of taxpayers' knowledge are limited. This study seeks to answer the question of which taxpayer groups should be targeted to increase tax knowledge.

This study aims to identify the factors determining taxpayers' knowledge of all financial obligations that affect many taxpayers. Studies on tax literacy can be divided into two groups: studies aimed at measuring the tax literacy of a group, such as accountancy

professionals and university students, and studies aimed at measuring the awareness of a particular tax among the taxpayers concerned. The first group of studies has generally been conducted with data collected from field studies performed with university students (Bakırtaş & Yaşa, 2020: 756; Türegün et al., 2021; Teyyare, 2018: 327; Koban & Bulu, 2017: 28; Chardon et al., 2016: 100; Moučková & Vitek, 2018; Fallan, 1999: 176). These studies were conducted on the field research on tax education conducted by the OECD in 2015 and 2021 (OECD, 2021). The second group of studies, which are quite limited, consists of research measuring the literacy of a current tax rather than a specific group of participants, as in this research (Yardımcıoğlu et al., 2014; Lyon & Catlin, 2020). In this respect, this group significantly differs from the studies conducted in Türkiye. Another feature that distinguishes this study from others is that it not only calculates the level of tax literacy but also estimates the factors that determine it. The research results can guide the implementation of tax literacy policies.

The study consists of 5 parts. The following section explains the concepts used in the research and discusses the literature. Next, the methodology of the study is presented. The fourth part presents the findings, followed by the discussion section. Finally, this study's policy implications, limitations, and future research are discussed in the conclusion section.

## **2. A Conceptual / Theoretical Framework: Tax Literacy**

The conceptual discussion is conducted regarding two dimensions. While the first dimension relates to the content of real estate taxes (tax on property) with more definite boundaries, the second dimension relates to the more controversial concept of tax literacy. We then summarise studies by considering their standard sizes.

The OECD defines property tax as "current and noncurrent taxes on the use, ownership or transfer of property" (OECD, 2021). This definition includes recurrent taxes such as income tax, taxes on rent and capital gains, and taxes on changes in ownership such as inheritance. In this study and Türkiye, taxes related to changes in ownership, such as inheritance and gifts, are not included within the scope of tax on property. The reason is that inheritance and transfer taxes are classified separately in Türkiye. For this reason, according to the "Interpretative Guide" in the OECD Revenue Statistics, personal income tax includes income codes 1100, 1120 and 1220 and income codes 4100 and 5200. These taxes are classified in Turkish legislation as income tax, capital gains tax, which is levied on income resulting from a change in ownership of real estate within a short period (5 years), and real property income tax (RPIT), which is levied on income resulting from the rental of real estate. A title deed fee is levied as a fee on a change in property ownership; sometimes, VAT is levied as an expenditure tax. Finally, property tax is imposed by local governments based on property ownership. This study aims to investigate the factors that affect the literacy of these five taxes. This study will use real estate taxes as an umbrella term to cover these five taxes.



The second dimension that we need to clarify conceptually is the concept of tax literacy. In this study, tax literacy is defined as the state of being aware of the existence of a tax. Awareness of the existence of the tax, that is, the cognitive dimension, including the definition of the tax and its types, legislation, rates, payment dates, etc., can be explained as knowing the elements (Yılar & Akdağ, 2017: 366). Knowing the existence of taxes plays an important role in calculating the investment cost of real estate as an investment vehicle. The most common definition of tax literacy includes the elements of being aware of the existence of a tax, being able to fulfil formal tax-related obligations, and being able to make calculations considering tax-related exceptions and exemptions (Kuhuparuw et al., 2022; Kamaluddin & Madi, 2005). In this study, the ability to calculate the economic impact of a tax is an important element. While tax literacy is defined, many studies, such as this research, do not explain the concept in a way that includes its economic consequences (Fallan, 1999; Madi et al., 2010). The calculation of the economic dimension of tax is sometimes determined as tax awareness in the literature. The concepts of tax awareness and literacy are used very often in the literature in a mutually inclusive way (Yardımcıoğlu et al., 2014; Bulu, 2018; Hatuti, 2014: 84). Tax literacy and tax awareness can also be seen as different concepts. Knowing the financial obligations related to property, which is the subject of this study, is tax literacy, knowing the amount of tax to be paid as a result of the rental or sales income to be obtained when buying a property, especially for investment purposes, and other financial obligations that will be encountered and analysing the economic consequences can be referred to as tax awareness. As mentioned above, tax awareness at a cognitive level is the most basic element of both concepts.

In addition to these definitions, studies define tax literacy more broadly. These definitions are generally used under the concept of tax compliance and cover the approach to the tax system, attitudes and behaviours toward taxes and the tax system, and voluntary compliance with taxes (Bornman & Wassermann, 2018; Clercq, 2023: 507; Kumar & Tanwar, 2020: 85).

Many empirical studies show that high tax literacy in society or individuals reduces tax evasion behaviour and increases voluntary tax compliance and the perception of tax justice in society, that tax planning and tax management come to the fore in these societies, or that low tax literacy reveals these behaviours (Cvrlje, 2015: 165; Kumar & Tanwar, 2020: 85; Nichita et al., 2019: 418; Agusti & Rahman, 2023; Lyon & Catlin, 2020; Bornman & Wassermann, 2018; Hayat et al., 2022: 12; Ogorodnikova et al., 2020).

There are empirical findings in the literature that tax literacy is influenced by demographic variables such as people's gender, age, and income level (Kumar & Tanwar, 2020: 95; Bhushan & Medury, 2013: 76; Chardon et al., 2016). Depending on the characteristics of the group in which the field study was conducted, there is empirical evidence that the gender variable is insignificant, as in the studies of Koban & Bulu (2017: 28) and Teyyare (2018: 327), but there are also qualitative studies in which the direct effect of gender is significant (Chardon et al., 2016: 100). However, these studies were generally conducted with limited homogeneous student groups. In (Yardımcıoğlu et al., 2014),

although the participant group was more homogeneous, no significant differences were found in terms of people's gender or income status, while significant differences were found in terms of people's age, educational level, occupation, and years of work. Some studies show that men are taxed more than women (Fallan, 1999: 176).

Studies have concluded that academic success is effective in the context of tax literacy or awareness, as it generally works with student groups (Teyyare, 2018: 327). In this regard, the effect of tax education on tax literacy has been demonstrated in other studies conducted with student groups (Koban & Bulu, 2017: 28; Moučková & Vitek, 2018).

In a study measuring tax literacy for citizens in a city (Kahramanmaraş) of Türkiye, the rate of those who know the names of taxes is 65.36%, while the rate of those who know the principles and rates of these taxes is 42.49% (Yardımcıoğlu et al., 2014: 116). Another field study directly applied to taxpayers, and tax office staff concluded they had a general knowledge of tax procedures, principles and rates, and tax and financial obligations (Aslan & Öz-Yalaman, 2009: 128). In studies conducted in Malaysia, the level of tax awareness was calculated to be between 60% and 75% (Latiff et al., 2005; Madi et al., 2010: 223). Although the tax literacy rate has been calculated to be over 50% as a result of field research conducted with small businesses in Australia (Freudenberg et al., 2017: 40), there are also studies claiming that this rate is lower (Isle et al., 2022: 65). Finally, in a survey conducted in the USA, tax literacy was measured at a level of (Lyon & Catlin, 2020) 44.9% with a simple average.

Studies either measure awareness directly or investigate the factors that influence the tax awareness of groups created with a specific classification, especially student groups. This research used a stratified population sample with no restrictions on group dynamics and examined the factors influencing tax literacy using this sample. The aim was to contribute to the literature.

In the literature, tax literacy is typically measured using primary data collected through surveys (Chardon et al., 2016; Lyon & Catlin, 2020; Chardon et al., 2016). While field studies on tax literacy are generally articulated with descriptive statistics, it can be seen that variance analyses such as ANOVA are frequently used in the literature (Bhushan & Medury, 2013: 76; Teyyare, 2018: 320; Koban & Bulu, 2017; Yardımcıoğlu et al., 2014: 117; Chardon et al., 2016). In the literature, more detailed results on tax literacy have been obtained from regression-based tests. For example, Lyon & Catlin (2020) show that tax literacy is higher among older men, who are more educated and have a higher household income.

Due to the complexity of tax on property legislation in Türkiye, legal reviews of both the development of the legislation and the expansion of the tax base can be found in the literature (Kızılot et al., 2011; Yıldız et al., 2016; Kıldış, 2009; Aşçı-Akıncı, 2022). At the same time, since real estate is used as an investment tool, studies on real estate taxes, commercial income and capital gains (Çelik & Güllü, 2015), ground rents arising from the

urban planning process (Yayğır & Hacıköylü, 2018; Saraçoğlu et al., 2015; Ökmen & Yurtseven, 2010), and tax problems and legislative deficiencies regarding losses and evasion (Cenkeri, 2012; Doğrusöz, 2010; Yücel, 2022) are also frequently found in the literature.

### 3. Methodology

The number of RPIT taxpayers was used to determine the sample for this study. RPIT is one of the taxes included in real estate taxes, as described in the previous section. There are approximately 2 million RPIT taxpayers in Türkiye. The field study aims to determine the factors that determine the literacy of real estate taxes. In 2021, 38% of RPIT taxpayers were located in Istanbul, followed by Ankara with 11% and İzmir with 16% (GİB, 2023). Since 65% of all taxpayers live in three metropolitan cities, this research was carried out in these three metropolitan cities, and 800 questionnaires were collected, of which 500 were usable.

In the field studies, the participants were asked about their level of knowledge from 5 different perspectives, as described in the previous section. In field studies, stratified sampling is preferred. The five different perspectives are the financial liabilities related to the purchase of real estate from natural persons (RERP), the financial liabilities related to the purchase of real estate from legal entities (RECC), the financial liabilities related to the ownership of real estate (REOW), the financial liabilities related to the rental of real estate (RERE) and, finally, the financial liabilities arising from the purchase and sale of property with the time limits established by law (RECG). First, each tax's real estate tax literacy (RETL) index was calculated in this context:  $(\sum 1^{n_{i}} \text{[[Taxcode]}_i])/n$ . The relevant variables take the value of 1 if the respondents know the relevant tax liabilities correctly and 0 if they are wrong. Total\_RETL is calculated by taking the simple average of the total score for each tax. The index is calculated as in Equation 1.

$$Total_{RETL}Index = \frac{\sum_1^n RERP_t + \sum_1^n RECC_t + \sum_1^n REOW_t + \sum_1^n RERE_t + \sum_1^n REDA_t}{n} \quad (1)$$

Second, taxpayers' literacy of the financial obligations related to real estate was analysed using discrete choice models (probit and/or logit). In the literature, probit and logit models are generally preferred in regression analyses when the dependent variable is qualitative. The difference between the two models is mainly due to the different distributions of the error term. In a logit model, the error term is assumed to have a logistic distribution, whereas in a probit model, it is assumed to have a normal distribution (Greene, 2012). Discrete choice variables are used in the literature to measure tax literacy (Torgler, 2006). Although surveys are used as a data collection technique in studies on tax literacy, 79% of the analyses in the literature are carried out using the quantitative method (Yelman, 2021: 305). This study estimated a separate model for each tax using the explanatory variables obtained from the primary data (see Equations 3, 4, 5, 6, 7, and 8). Finally, to estimate the literacy of all taxes in a single model, the Pers\_RETA index was calculated as shown in Equation 2, and the dependent variable  $\text{[[REDP]}]$  was created by assigning the

value of 1 to participants with a value of 2.5 or more and 0 to participants with a value of less than 2.5. The model was also estimated with this variable removed to see the distorting effect of the property ownership variable.

$$Pers\_RETA\ Index = \sum_{i=0}^n (RERP_i + RECC_i + REOW_i + RERE_i + RECG_i) \quad (2)$$

$$RERP_i = \beta_0 + \beta_1 gender_i + \beta_2 age_i + \beta_3 educode_i + \beta_4 employment_i + \beta_5 income_i + \beta_6 owner_i \quad (3)$$

$$RECC_i = \beta_0 + \beta_1 gender_i + \beta_2 age_i + \beta_3 educode_i + \beta_4 employment_i + \beta_5 income_i + \beta_6 owner_i \quad (4)$$

$$REOW_i = \beta_0 + \beta_1 gender_i + \beta_2 age_i + \beta_3 educode_i + \beta_4 employment_i + \beta_5 income_i + \beta_6 owner_i \quad (5)$$

$$RERE_i = \beta_0 + \beta_1 gender_i + \beta_2 age_i + \beta_3 educode_i + \beta_4 employment_i + \beta_5 income_i + \beta_6 owner_i \quad (6)$$

$$RECG_i = \beta_0 + \beta_1 gender_i + \beta_2 age_i + \beta_3 educode_i + \beta_4 employment_i + \beta_5 income_i + \beta_6 owner_i \quad (7)$$

$$REDP_i = \beta_0 + \beta_1 gender_i + \beta_2 age_i + \beta_3 educode_i + \beta_4 employment_i + \beta_5 income_i + \beta_6 owner_i \quad (8)$$

$sex_i$  is an explanatory variable in determining the literacy of real estate taxes. The distribution of the variable was defined as 60% to 40%, regardless of whether it was male or female, and took the value of 1 for females and 0 for males.  $age_i$  was defined as a continuous variable from the primary data collected such that the age groups were 18-35, 35-45, 45-55, and 55 and above; the group distribution was 25% (+- 5) and was included in the model logarithmically. The variable  $educode_i$  was defined based on four categories: primary school, high school, university and postgraduate. The education variable with a normal distribution was defined as primary level 1, high school level 2, university level 3, and postgraduate level 4 and was included in the estimates categorically.  $employment_i$  was included in the estimates, taking 1 for those who have a job and 0 for those who do not. The  $income_i$  variable was defined as a continuous variable and was included in the model logarithmically. The  $owner_i$  variable took 1 for property owners and 0 for those who do not own property. The descriptive statistics of the variables are presented in Table 1.

**Table: 1**  
**Descriptive Statistics**

Variable	Obs	Mean	Std. Dev	Min	Max
no	500	250,5	144,4818	1	500
gender	500	0,6	0,4904	0	1
age	500	44,362	11,3667	19	74
edu	500	3	0,6267	1	4
educode	500	3	0,6267	1	4
employment	500	0,65	0,4774	0	1
income	500	34308,27	33821,0700	5000	200000
owner	500	0,6	0,4904	0	1
l_income	500	1.013.889	0.7393	8,5172	12,2061
l_age	500	3.758.493	0,2639	2,9444	4,3041
RERP	500	0,3525896	0,4783	0	1
RECC	500	0,147706	0,3552	0	1
REOW	500	0,644716	0,4791	0	1
RERE	500	0,1	0,3003	0	1
RECG	500	0,233539	0,4235	0	1
REDP	500	0,4262948	0,4950	0	1

#### 4. Empirical Results

The first finding of this research concerns real estate taxes. The results of the literacy index (RET) calculations are as follows. The literacy of the financial obligations related to the purchase of real estate by natural persons is 35%; the literacy of the financial obligations related to the purchase of real estate by legal entities is 15%; the literacy of the financial obligations related to the ownership of real estate is 65%; the literacy of the financial obligations related to the rental of real estate is 10%; and the literacy of the financial obligations related to the purchase and sale of real estate within the time limits set by the law is 23%. Finally, the tax literacy rate calculated for the sample is 30%. Assuming that real estate taxes are better known in the case of ownership if literacy is calculated only for those who own real estate among those who participated in the field research, the literacy of the financial obligations related to real estate is 41% in the case of purchases from natural persons, 18% in the case of purchases from legal entities and 18% in the case of real estate ownership. Literacy of the financial obligations arising from the lease of real estate was found to be 70%, literacy of the financial obligations arising from the rental of real estate was found to be 14%, and literacy of the financial obligations arising from the purchase and sale of real estate within the terms established by law was found to be 28%. The level of literacy of property tax among property owners is 34%.

**Table: 2**  
**The Factors Affecting Real Estate Taxes Literacy by Tax (Probit Models)**

Variables	RERP	RECC	REOW	RERE	RECG	RERPwr	RECCwr	REOWwr	RERewr	RECGwr
gender	<b>-0.388**</b>	<b>-0.628**</b>	-0.041	<b>-0.318+</b>	<b>-0.293*</b>	<b>-0.359**</b>	<b>-0.607**</b>	-0.028	-0.273	<b>-0.273*</b>
	(0.127)	(0.157)	(0.125)	(0.174)	(0.137)	(0.126)	(0.155)	(0.125)	(0.169)	(0.136)
l_age	<b>0.508*</b>	<b>1.321**</b>	<b>0.572*</b>	<b>0.601+</b>	<b>1.016**</b>	<b>0.633**</b>	<b>1.410**</b>	<b>0.658**</b>	<b>0.709*</b>	<b>1.105**</b>
	(0.245)	(0.354)	(0.237)	(0.362)	(0.281)	(0.241)	(0.350)	(0.233)	(0.350)	(0.277)
2.educode	-0.720	0.144	0.582	-0.721	0.564	-0.596	0.214	0.647	-0.511	0.662
	(0.440)	(0.594)	(0.436)	(0.531)	(0.597)	(0.430)	(0.584)	(0.434)	(0.522)	(0.603)
3.educode	<b>-0.706+</b>	0.245	0.412	-0.651	0.688	-0.580	0.311	0.483	-0.435	0.792
	(0.421)	(0.569)	(0.414)	(0.496)	(0.579)	(0.411)	(0.559)	(0.413)	(0.487)	(0.585)
4.educode	<b>-1.032*</b>	-0.000	0.395	-0.672	0.739	<b>-0.950*</b>	0.046	0.414	-0.542	0.800
	(0.445)	(0.596)	(0.436)	(0.529)	(0.595)	(0.436)	(0.587)	(0.435)	(0.521)	(0.602)
employment	-0.037	0.075	-0.167	-0.182	-0.136	-0.053	0.053	-0.179	-0.208	-0.153
	(0.144)	(0.186)	(0.141)	(0.200)	(0.156)	(0.143)	(0.183)	(0.141)	(0.194)	(0.154)
l_income	0.135	<b>0.189+</b>	<b>0.192*</b>	<b>0.273*</b>	<b>0.172+</b>	<b>0.171*</b>	<b>0.213*</b>	<b>0.217*</b>	<b>0.308**</b>	<b>0.198*</b>
	(0.089)	(0.107)	(0.088)	(0.115)	(0.094)	(0.087)	(0.106)	(0.087)	(0.113)	(0.093)
reality	<b>0.363**</b>	<b>0.278+</b>	<b>0.258*</b>	<b>0.586**</b>	<b>0.284*</b>	-3.618**	-8.548**	-4.635**	-6.389**	-7.434**
	(0.127)	(0.161)	(0.123)	(0.194)	(0.139)	-1.283	-1.833	-1.268	-1.801	-1.519
Constant	-2.893*	-8.083**	-4.154**	-5.827**	-6.922**					
	-1.315	-1.851	-1.291	-1.845	-1.537					
Observations	500	500	500	500	500	500	500	500	500	500
LR chi2(8)	35.12	45.33	24.50	27.53	35.87	26.89	42.29	20.11	17.47	31.66
Prob > chi2	2.54e-05	3.19e-07	0.00189	0.000572	1.85e-05	0.000349	4.56e-07	0.00535	0.0146	4.69e-05
Pseudo R2:	0.0540	0.108	0.0377	0.0847	0.0659	0.0414	0.101	0.0309	0.0537	0.0582

Standard errors in parentheses

\*\* $p < 0.01$ , \* $p < 0.05$ , + $p < 0.1$

The results of the probit and logit models estimated to determine the factors influencing tax literacy are shown as follows. Both estimations gave similar levels of significance and results. It was concluded that the first factor likely to affect tax literacy is gender, with men being more likely to be aware. The second finding is that the likelihood of being aware of tax on property increases with age. No significant relationship was found between educational level and tax literacy regarding the employment variable. Finally, as expected, a significant and positive relationship exists between property ownership and tax literacy. Looking at the other estimates that were made to eliminate the bias of property ownership, no differences were found in the explanatory variables' significance levels.

**Table: 3**  
**The Factors Affecting Real Estate Taxes Literacy by Tax (Logit Models)**

Variables	RERP	RECC	REOW	RERE	RECG	RERP <sub>wr</sub>	RECC <sub>wr</sub>	REOW <sub>wr</sub>	RERE <sub>wr</sub>	RECG <sub>wr</sub>
gender	<b>-0.630**</b>	<b>-1.178**</b>	-0.076	<b>-0.619+</b>	<b>-0.494*</b>	<b>-0.585**</b>	<b>-1.117**</b>	-0.057	-0.512	<b>-0.454+</b>
	(0.209)	(0.287)	(0.207)	(0.331)	(0.234)	(0.206)	(0.283)	(0.206)	(0.323)	(0.232)
l_age	<b>0.858*</b>	<b>2.456**</b>	<b>0.947*</b>	1.074	<b>1.747**</b>	<b>1.037**</b>	<b>2.578**</b>	<b>1.081**</b>	<b>1.352+</b>	<b>1.907**</b>
	(0.407)	(0.661)	(0.387)	(0.709)	(0.496)	(0.401)	(0.656)	(0.380)	(0.695)	(0.489)
2.educode	-1.175	0.320	0.936	-1.316	0.914	-0.996	0.524	1.038	-0.945	1.065
	(0.717)	-1.162	(0.708)	(0.959)	-1.113	(0.709)	-1.165	(0.703)	(0.931)	-1.110
3.educode	<b>-1.149+</b>	0.450	0.666	-1.193	1.165	-0.962	0.646	0.780	-0.840	1.318
	(0.686)	-1.116	(0.672)	(0.882)	-1.082	(0.679)	-1.120	(0.667)	(0.855)	-1.080
4.educode	<b>-1.686*</b>	0.089	0.629	-1.267	1.255	<b>-1.582*</b>	0.230	0.665	-1.034	1.340
	(0.729)	-1.158	(0.708)	(0.949)	-1.109	(0.724)	-1.163	(0.703)	(0.928)	-1.108
employment	-0.046	0.190	-0.294	-0.312	-0.227	-0.079	0.151	-0.316	-0.343	-0.257
	(0.238)	(0.340)	(0.236)	(0.383)	(0.267)	(0.235)	(0.334)	(0.235)	(0.370)	(0.264)
l_income	0.226	<b>0.340+</b>	<b>0.324*</b>	<b>0.512*</b>	<b>0.295+</b>	<b>0.282*</b>	<b>0.386*</b>	<b>0.369*</b>	<b>0.584**</b>	<b>0.340*</b>
	(0.144)	(0.191)	(0.149)	(0.213)	(0.159)	(0.142)	(0.189)	(0.147)	(0.208)	(0.157)
realty	<b>0.594**</b>	<b>0.570+</b>	<b>0.412*</b>	<b>1.121**</b>	<b>0.497*</b>					
	(0.211)	(0.300)	(0.200)	(0.396)	(0.244)					
Constant	-4.890*	-14.858**	-6.899**	-10.601**	-11.841**	-5.935**	-15.604**	-7.715**	-11.952**	-12.728**
	-2.167	-3.468	-2.147	-3.569	-2.725	-2.127	-3.447	-2.109	-3.487	-2.694
Observations	500	500	500	500	500	500	500	500	500	500
LR chi2(8)	35	45.68	24.64	26.54	35.55	26.89	41.91	20.43	17.17	31.30
Prob > chi2	2.68e-05	2.74e-07	0.00179	0.000849	2.12e-05	0.000349	5.41e-07	0.00471	0.0163	5.47e-05
Pseudo R2:	0.0539	0.109	0.0379	0.0816	0.0653	0.0414	0.100	0.0314	0.0528	0.0575

Standard errors in parentheses

\*\*  $p < 0.01$ , \*  $p < 0.05$ , +  $p < 0.1$

As a result of this research, Table 4 provides an estimate of the total scores, showing the factors likely to influence the literacy of tax on property. According to the results of the overall model estimation, as expected with gender, age and income status, owning a property increases the likelihood of knowing about real estate taxes. Being male increases the possibility of knowing about taxes, and being older increases the likelihood of learning. As in other estimates, the possibility that education and employment status affect tax literacy was not found. Consistent results were obtained from 24 predictions made in 3 groups in this study.

**Table: 4**  
**The Factors Affecting Real Estate Taxes Literacy by RETA Index**  
**(Probit&Logit Models)**

Variables	DP_Probit	DP_Logit	DP_Pwr	DP_Lwr
gender	<b>-0.402**</b>	<b>-0.657**</b>	<b>-0.367**</b>	<b>-0.599**</b>
	(0.126)	(0.209)	(0.125)	(0.205)
l_age	<b>0.856**</b>	<b>1.409**</b>	<b>1.001**</b>	<b>1.625**</b>
	(0.244)	(0.403)	(0.239)	(0.396)
2.educode	-0.411	-0.656	-0.282	-0.448
	(0.448)	(0.720)	(0.443)	(0.710)
3.educode	-0.460	-0.730	-0.322	-0.502
	(0.430)	(0.691)	(0.425)	(0.681)
4.educode	<b>-0.760+</b>	<b>-1.220+</b>	-0.681	-1.092
	(0.453)	(0.731)	(0.449)	(0.722)
employment	-0.203	-0.321	-0.218	-0.360
	(0.142)	(0.234)	(0.140)	(0.231)
l_income	<b>0.205*</b>	<b>0.331*</b>	<b>0.246**</b>	<b>0.400**</b>
	(0.088)	(0.144)	(0.087)	(0.142)
reality	<b>0.441**</b>	<b>0.721**</b>		
	(0.125)	(0.206)		
Constant	-4.903**	-8.044**	-5.726**	-9.320**
	(1.314)	(2.173)	(1.288)	(2.134)
Observations	500	500	500	500
LR chi2(8)	56.97	56.74	44.45	44.26
Prob > chi2	1.82e-09	2.03e-09	1.75e-07	1.90e-07
Pseudo R2:	0.0836	0.0832	0.0652	0.0649

Standard errors in parentheses

\*\*  $p < 0.01$ , \*  $p < 0.05$ , +  $p < 0.1$

## 5. Discussion

Discussing the first indices calculated was considered appropriate in light of the results. Within the framework of this study, the literacy of real estate taxes was found to be 30%. This rate has been calculated to be higher in other studies conducted in Türkiye (Yardımcıoğlu et al., 2014: 116; Aslan & Öz-Yalaman, 2009: 128). The most important reason for the low literacy index may be that property taxes are generally learned with ownership. However, the increase in literacy scores calculated for property owners was limited to 3-5 points. The complexity of the tax structure in Türkiye (Kızılot et al., 2011; Yıldız et al., 2016; Kıldış, 2009) and the problem of excessive tax loss leakage (Doğrusöz, 2010; Yücel, 2022) may be the most important reasons for the lower-than-expected literacy. Comparing our results with studies conducted in other countries, we see that literacy remains at the bottom (Latiff et al., 2005; Madi et al., 2010: 223; Freudenberg et al., 2017: 40; Isle et al., 2022: 65; Lyon & Catlin, 2020). However, comparing these results with each other may not lead to very sound inferences. First, these taxes do not allow for a direct comparison, as the types of taxes differ, and the probability of encountering a property tax is low in some countries.

Second, suppose we have to evaluate the results within the framework of the five subitems of real estate taxes. In that case, the tax with the highest literacy within these taxes is the financial obligations arising from property ownership. This finding is a highly expected result for this research. 60% of respondents are property owners and face this tax once a year. The fact that local governments collect real estate taxes in Türkiye is another reason for the relatively high literacy level. As with all policy elements, local governments



are more effective in reaching citizens and ensuring awareness in terms of both taxes and services (Day, 1992: 123; Pinar, 2017: 131).

In this context, the second finding we can focus on is that literacy of taxes related to the purchase and sale of real estate in Türkiye is below average. As mentioned in the previous sections, the tax liabilities of real estate, frequently bought and sold for investment purposes in Türkiye, are not fully known. These liabilities can cause significant deviations in calculating investment costs (Holland et al., 2009; Cummins et al., 1995). The taxes paid at the time of purchase and sale vary between 6% and 18% of the investment cost, depending on various factors (GİB, 2023). A deviation of 10% from the total cost will significantly affect the expected profitability of the investment. The reason why the taxes paid on purchases from legal entities are not known is that there is much tax loss and evasion in the construction industry (Bay, 2019; Dođru, 2011; Yardımcıođlu & Dođrul, 2011).

According to the results of the estimation of the probit model, the probability of the gender factor affecting tax literacy is similar to other studies (Kumar & Tanwar, 2020: 95; Bhushan & Medury, 2013: 76; Chardon et al., 2016). The results show that men are likelier to be tax literate than women, which aligns with Fallan's (1999: 176) study. This result is consistent with other studies and is an expected finding. Another factor that has a significant relationship and is often found in the literature is age (Yardımcıođlu et al., 2014: 117; Bhushan & Medury, 2013: 76; Chardon et al., 2016). As expected, the likelihood of higher tax literacy increases with age. Real Estate taxes, owning or buying property, etc., appear in transactions, i.e., they require capital accumulation. It can also be assumed that the literacy of real estate taxes increases with age and is related to the ability of individuals to build up capital for these transactions. Contrary to the literature, the possibility that the education factor affects tax literacy was statistically nonsignificant. The reason may be that studies on tax literacy are usually conducted on student groups (Bakırtaş & Yaşa, 2020: 756; Türeğün et al., 2021; Teyyare, 2018: 327; Moučková & Vitek, 2018).

## 6. Conclusion

We consider it appropriate to evaluate the results under two headings. The first is the evaluation of the results obtained within the framework of the property tax and the income tax on real estate rental; the second is the results we have obtained regarding the level of literacy of real estate taxes in Türkiye and the factors determining this level.

When the results of the field studies are analysed separately for property tax and real estate rental income tax, the results are quite different in terms of literacy of the two taxes. This is so much so that while 70% of the field study participants who own a property are aware of the property tax paid due to owning a property, this rate drops to 14% when it comes to real estate rental income tax. For those who do not own property, this rate drops to 56% for property tax literacy and 5% for real estate rental income tax. Based on these data, it can be said that property tax literacy is relatively high among property taxes in Türkiye, especially when comparing the rental income tax of real estate and the property tax. This

may be because local governments collect property tax, the low tax rate compared to real estate rental income tax, and the idea that the tax paid may have a local equivalent. Furthermore, although real estate is considered an investment vehicle in Türkiye, there is a lack of information on the taxation of the income derived from the investment. Although taxes on property ownership are known, the lack of information on the taxation of investment income will lead to a significant discrepancy in calculating the rate of return on investment.

This research shows that although many studies have been conducted in Türkiye to increase tax literacy, real estate tax literacy is influenced by variables independent of education, such as ownership, age and gender. Although many tax literacy studies have been carried out in Türkiye, they must focus on the tax and its addressee. Instead of aiming to reach the entire society through billboards, public spots, etc., we conclude that raising literacy directly with the taxpayer group will increase real estate taxes.

Three metropolitan cities with 65% of all taxpayers were selected for field studies as part of the research. We expect a lower literacy level in a field study conducted across Türkiye. Therefore, the first limitation of this study is the geographical limitation. The second and more important limitation is that the subdimensions of employment were not collected from the field; thus, no estimates can be made based on occupational classification.

Few studies focus specifically on taxation. We believe that more tax-focused studies are needed to make predictions about tax literacy. Finally, studies that reflect the general society and cover all regions rather than specific groups, such as students and accountants, are likely to provide more horizon-oriented results in terms of tax literacy in Türkiye.

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## Comparative Financial Performance Analysis of BIST-500 Listed Insurance Companies Using TOPSIS, VIKOR and MOORA Methods

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### BİST-500'de İşlem Gören Sigorta Şirketlerinin TOPSIS, VIKOR ve MOORA Yöntemleri ile Karşılaştırmalı Finansal Performans Analizi

#### Abstract

The study analysed the financial data of 8 insurance companies traded in the BIST-500 insurance index for 2013-2022 using TOPSIS, VIKOR, and MOORA methods with 18 criteria. The study aims to guide decision-makers and investors by revealing the financial status of insurance sector companies. As a result of the analysis, the financial performance rankings of the companies showed differences according to the three methods. According to the financial performance ranking made by TOPSIS, VIKOR, and MOORA methods, the results show differences when the leverage ratio is evaluated at maximum. The results are similar when the leverage ratio is assessed as a minimum. No company achieved the best and worst performance rankings in the periods evaluated.

**Keywords** : BIST-500, TOPSIS, VIKOR, MOORA, Insurance Companies.

**JEL Classification Codes** : G22, G32, M21.

#### Öz

Çalışmada, BİST-500 sigorta endeksinde işlem gören 8 sigorta şirketinin 2013-2022 dönemlerine ait finansal verileri TOPSIS, VIKOR ve MOORA yöntemleri ile 18 kriterle analiz edilmiştir. Çalışma ile sigorta sektörü şirketlerinin finansal durumunu ortaya koyarak karar vericiler ve yatırımcılar için yol gösterici olması amaçlanmıştır. Analiz sonucunda, şirketlerin finansal performans sıralamaları üç yönteme göre farklılıklar göstermiştir. TOPSIS, VIKOR ve MOORA yöntemleri ile yapılan finansal performans sıralamasına göre kaldıraç oranı maksimum olarak değerlendirildiğinde sonuçların farklılıklar gösterdiği görülmektedir. Kaldıraç oranı minimum olarak değerlendirildiğinde ise sonuçların benzerlik gösterdiği görülmektedir. Değerlendirme yapılan dönemlerde en iyi ve en kötü performans sıralamasını sağlayan tek bir şirket bulunmamaktadır.

**Anahtar Sözcükler** : BİST-500, TOPSIS, VIKOR, MOORA, Sigorta Şirketleri.

## 1. Introduction

The primary purpose of businesses operating in the insurance sector is to determine market risks and prevent the concentration of risk in specific individuals or groups by distributing risk (Knutsen, 1999). While the insurance sector creates resources for the finance sector through premium incomes, it also prevents losses in the national economy due to damages (Acar, 2019).

The insurance sector ranked second after the banking sector, with a share of 4.8% and TL 780.5 billion in the financial sector as of 2022 (TSB, 2022).

In terms of determining the sectoral status of financial companies, seeing whether they have achieved their goals, analysing whether they have used their resources correctly in these processes, and determining whether they can perform their services efficiently and effectively, performance evaluation is extremely important for both managers and investors to comprehend the current situation and to create forward-looking strategies (Akhisar & Tezergil, 2014). This analysis effectively reveals the extent to which companies transform their inputs into outputs and to what extent they are efficient (Altan, 2010).

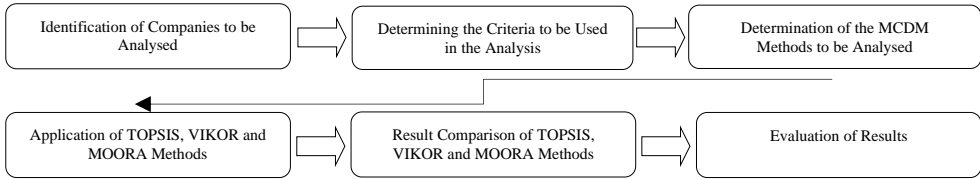
When the studies in the literature on the insurance sector are examined, it is understood that many different multi-criteria decision-making (MCDM) methods and criteria for the insurance sector have been examined. This study is trying to contribute to the academic literature as an innovative approach by using TOPSIS (Technique for Order of Preference by Similarity to Ideal Solution), VIKOR (Vlse Kriterijumska Optimizacija I Kompromisno Resenje) and MOORA (Multi-Objective Optimization by Ratio Analysis) methods, which are among the most widely used criteria and the most commonly used MCDM methods in the literature.

The questions to be investigated in the study are as follows;

- 1- Do the companies give the same results in the analysed MCDM methods?
- 2- When the weights of the criteria used in the financial analysis of the companies are given equal weights, how do they give results in the MCDM methods?

In the first part of this study, information about the insurance sector, one of the finance market's guarantor and locomotive sectors, is given. In the second part, studies on the insurance sector are examined in the literature. The third section provides information about the financial performance criteria for financial performance analysis and TOPSIS, VIKOR and MOORA methods from multi-criteria decision-making methods. In the fourth section, the financial performance analysis of the companies traded in the insurance index of BIST-500 is performed using the three methods, and the results are compared. The fifth and last sections compare insurance companies' financial performance analysis results. The flowchart showing the steps of the study is shown in Figure 1.

**Figure: 1**  
**Flowchart of the Study**



## 2. Literature

While examining the insurance sector literature, it has been observed that financial performance analyses have been conducted many times. In the studies conducted in the literature, a single method and, at most, two methods were used together.

Chakraborty (2011) In this study, the MOORA method is applied to six decision-making problems involving the selection of (a) an industrial robot, (b) a flexible manufacturing system, (c) a computerised numerical control machine, (d) a non-traditional machining process suitable for a given work material and shape feature combination, (e) a rapid prototyping process, and (f) an automated inspection system.

Opricovic (2011) presents a comparative analysis of planning for developing a reservoir system to store surface runoff of the Mlava River and its tributaries for regional water supply using fuzzy VIKOR and several different approaches.

Brauers (2008) Using the MOORA method, the largest housing maintenance contractors in Vilnius, the capital of Lithuania, were contacted to rank the best performance from the customers' point of view and the contractors' point of view in terms of the quality of service and work after the completion of the works, as well as the satisfaction of the customers, the reduction of external costs and inconveniences, and as low as possible the management cost per employee.

Krohling & Pacheco (2015): To solve the problem of ranking and comparing algorithms, an approach based on TOPSIS was developed, and algorithm ranking, called the A-TOPSIS method, was performed.

Uotila, Maula, Keil, and Zahra (2008) discuss exploration and exploitation and the optimal balance between them, which depends on environmental conditions. Using a new methodology to measure relative exploration and exploitation orientation, an inverted U-shaped relationship is found between the relative share of exploration orientation and financial performance. This relationship is positively shaped by the R&D intensity of the firm's industry.

Perçin & Sönmez (2018) comparatively analysed the efficiency of five insurance companies traded on BIST using Entropy Weight and TOPSIS methods. The profitability,



operating, leverage, and liquidity analysis ratios showed that Ak Sigorta had the best financial performance and AVIVASA had the worst.

Ertuğrul, Öztaş, Özçil & Öztaş (2016) analysed the efficiency of insurance companies traded on BIST for the period 2008-2016. In evaluating profitability, leverage, and financial stability, it is observed that the most effective factors in efficiency are profitability and stability criteria.

Akhisar & Tezergil (2014) used equity, total assets, premiums received, net profit (loss) and technical profit variables of 23 insurance companies operating in non-life branches in the Turkish Insurance Sector for 2006-2010 and ranked their efficiency. The results showed that the top five companies with the highest efficiency were Ak Sigorta, Türkiye Genel, Başak Groupama, Ankara and Şeker Sigorta, respectively.

Özcan & Ömürbek (2016) evaluated the financial performance of insurance companies operating in BIST by using the MOORA Ratio Method with ten financial ratios obtained from financial statements. Thus, they showed that the MULTI-MOORA method can also be used for other sectors.

Çakır (2016) measured the performance of six BIST-listed firms in the Turkish insurance sector using the VIKOR method with five criteria: personnel expenses, written premiums, total assets, claims paid with shareholders' equity, and total technical provisions in 2014.

Akpınar & Yıldız (2018) used the TOPSIS method to determine the most successful and unsuccessful years of non-life insurance companies between 2007 and 2016, using the criteria of Shareholders' Equity, Premium Production, Total Assets, Financial Assets and Financial Investments at Insurers' Risk, Insurance Technical Provisions, Short-Term Liabilities, Cash and Net Profit.

Özaktaş (2017) examined whether there is a connection between the criteria of Total Assets, Paid-in Capital, Technical Expenses, Technical Provisions, Personnel and Administrative Expenses, Premiums Received, Technical Income and the trading status in the stock exchange and the efficiency status between 2002 and 2015 with the Data Envelopment Method.

Bülbül & Köse (2016) analysed the financial performance of insurance companies with the Promethee method between 2010 and 2013 with the criteria of Equity/Technical Reserves, Liquid Assets/Total Assets, Loss Premium Ratio, Retention Ratio, Premium Production/Share, Technical Profit.

Bayramoğlu & Başarır (2016) used the TOPSIS method to rank the success of insurance companies based on the criteria of Total Premium Production, Paid Claims, Premiums Received/Equity, Equity/Technical Reserves, Retention Ratio, Loss Premium Ratio and Financial Structure Ratios between 2011-2014.

Altan (2010) used the data envelope analysis method to determine the efficient companies in terms of balance sheets and income statement items, financial investments at risk of insurance, and insurance technical provisions between 2005 and 2007, as well as their efficiency scores.

Çağlar & Öztaş (2016) Data envelopment analysis and analytical hierarchy process were used to determine the most efficient ranking of 8 non-life insurance companies in terms of financial ratios in 2014.

Akhisar and Tunay (2016) analysed the performance of 24 pension and life insurance companies between 2009 and 2013 using AHP (Analytic Hierarchy Process) and TOPSIS methods.

Akyüz and Kaya (2013) used the TOPSIS method to determine the most financially successful years for non-life and life pension companies between 2007 and 2011.

Altan & Yıldırım (2019) determined the weighting of 10 financial ratios to determine the financial performance of the insurance sector between 2012 and 2016 using the Entropy method. By analysing the financial ratios whose weights were determined with the TOPSIS method, the success ranking of the non-life and life/pension branches of the sector was made.

Aydın (2019) determined the financial and technical performances of life/pension companies in the insurance sector in Türkiye between 2015 and 2017 by weighting ten financial and eight technical ratios with the CRITIC method. He analysed the financial and technical ratios whose weights were determined by the TOPSIS method and ranked the companies' financial and technical performance.

Akbulut & Gümüşkaya (2022) determined the weights of 11 financial ratios that will determine the financial performance of the Turkish non-life insurance sector between 2010 and 2021 using AHP, SV, and common weighting methods. The success ranking of the Turkish non-life insurance sector was made by analysing the financial ratios whose weights were determined with the MAIRCA method.

### **3. Data and Methodology**

In this study, contrary to the studies conducted in the literature, not one or two methods together, but the most commonly used MCDM methods are used together in the financial performance analysis of insurance companies in the literature (Aydın, 2019; Altan & Yıldırım, 2019; Akyüz & Kaya, 2013; Akhisar & Tunay, 2016; Bayramoğlu & Başarır, 2016; Akpınar & Yıldız, 2018; Çakır, 2016; Özcan & Ömürbek, 2016; Perçin & Sönmez, 2018). TOPSIS, VIKOR and MOORA are the most commonly used methods. They will be used together to analyse the comparative financial performance of the companies operating in the insurance sector in the BIST-500 for 2013-2022.

The boundaries of the study are insurance sector companies in BIST-500 as the sector and the last ten years (2013-2022) as the period that best summarises the financial status of the companies.

### **3.1. Companies Traded on the Insurance Index in BIST-500**

Although six companies are traded in BIST-500, in the financial performance analysis, the financial data of Güneş Sigorta A.Ş., Halk Sigorta A.Ş. and Ziraat Sigorta A.Ş. were analysed separately instead of Türkiye Sigorta A.Ş. in 2013-2019. Upon the merger of Güneş Sigorta A.Ş., Halk Sigorta A.Ş. and Ziraat Sigorta A.Ş. under the name of Türkiye Sigorta A.Ş. in 2020, Türkiye Sigorta A.Ş. was included in the financial performance analysis in 2020-2022.

#### **3.1.1. Agesa Hayat Emeklilik A.Ş.**

The company was first established on 06/12/1941 and was renamed Avivasa Emeklilik ve Hayat A.Ş. in 2007 with the merger of Ak Emeklilik A.Ş. and Aviva Hayat ve Emeklilik A.Ş. As of 08/07/2021, the company name was changed to Agesa Hayat Emeklilik A.Ş. The first public offering was made on 07/11/2014.

#### **3.1.2. Aksigorta A.Ş.**

The Company was first established on 18/04/1960 and started its insurance operations. Its first public offering was realised on 23/11/1994.

#### **3.1.3. Anadolu Hayat Emeklilik A.Ş.**

The company was established on 31/05/1990 and changed from Anadolu Hayat Sigorta A.Ş. to Anadolu Hayat Emeklilik A.Ş. on 21/03/2003. Its initial public offering was made on 11/02/2000.

#### **3.1.4. Anadolu Anonim Türk Sigorta A.Ş.**

The Company was first established on 17/04/2013 and started its insurance operations. The initial public offering was made on 11/10/1993.

#### **3.1.5. Güneş Sigorta A.Ş.**

The Company was first established on 17/09/1957 and continued its insurance operations under the name Türkiye Sigorta A.Ş. by merging with Halk Sigorta A.Ş. and Ziraat Sigorta A.Ş. on 24/06/2020.

### **3.1.6. Halk Sigorta A.Ş.**

The Company was first established on 29/12/1958 and continued its insurance operations under the name Türkiye Sigorta A.Ş. after merging with Güneş Sigorta A.Ş. and Ziraat Sigorta A.Ş. on 24/06/2020.

### **3.1.7. Ray Sigorta A.Ş.**

The Company was first established on 15/08/1958 and started its insurance operations. Its first public offering was made on 17/07/1997.

### **3.1.8. Türkiye Sigorta A.Ş.**

The company was first established on 27/08/2020 with the merger of Güneş Sigorta A.Ş., Halk Sigorta A.Ş., and Ziraat Sigorta A.Ş., and it started its insurance activities. The first public offering was made on 14/11/1994 under the name Güneş Sigorta A.Ş.

### **3.1.9. Ziraat Sigorata A.Ş.**

The Company was first established on 11/05/2009 and continued its insurance operations under the name Türkiye Sigorta A.Ş. by merging with Halk Sigorta A.Ş. and Güneş Sigorta A.Ş. on 24/06/2020.

The companies' data to be analysed were obtained from the balance sheets and income statements published by the companies.

## **3.2. Financial Performance Ratios**

The financial performance criteria for the study consist of financial ratios related to liquidity, leverage, profitability and efficiency ratios (cost, revenue and profit). In the selection of financial performance ratios to be used in the analysis in Table 1, studies conducted for the insurance sector were utilised (McDonald & Morris, 1984; Çiftçi, 2004; Kayalı, 2007; Ajlouni & Tobaishat, 2010; Altan, 2010; Dalkılıç, 2012; Akın & Ece, 2013; Aktaş & Ünal, 2015; Bülbül & Köse, 2016; Akel, Torun & Aksoy, 2017).

The 18 financial ratios to be used as financial performance criteria in the study are shown in Table 1.

**Table: 1**  
**Ratios Used as Financial Performance Analysis Criteria**

			Impact on Financial Data
Current Ratio	C1	Current Assets / Short-Term Liabilities	Maximum
	K1	Long-Term Liabilities / Shareholders' Equity	Max/Min
Leverage Ratio	K2	Short Term Liabilities / Total Debt	Max/Min
	K3	Total Debt / Total Assets	Max/Min
	K4	Total Debt / Equity	Max/Min
	K5	Total Assets / Equity	Max/Min
	Profitability Ratio	P1	Net Profit for the Period / Total Assets
P2		Net Profit for the Period / Shareholders' Equity	Maximum
P3		Technical Profit / Total Assets	Maximum
P4		Technical Profit / Total Technical Income	Maximum
Cost Ratio	M1	Technical Reserves / Total Assets Short-Term	Minimum
	M2	Technical Reserves / Total Assets Long Term	Minimum
	M3	Technical Reserves / Total Assets Total Technical Reserves	Minimum
	M4	Technical Expenses / Earned Premiums	Minimum
	M5	Financial Expenses / Earned Premiums	Minimum
Income Ratio	G1	Earned Premiums / Total Assets	Maximum
	G2	Earned Premiums / Technical Reserves	Maximum
	G3	Interest Income / Total Assets	Maximum

## 4. Empirical Results

Since the tables of the data to be analysed for performance analysis are very long, only the table for 2022 is shown as an example at each stage of the study.

In section 4.4. Comparison of financial performance analyses made with TOPSIS, VIKOR and MOORA methods, the data of the insurance companies for the years 2013-2022 are given comparatively.

### 4.1. TOPSIS (Technique for Order Preference by Similarity to Ideal Solution)

This method, first developed by Hwang and Yoon, is built on the assumption that in solving multi-criteria decision-making problems, the choice should be closest to the positive ideal solution and farthest from the negative ideal solution (Jadidi et al., 2008).

It evaluates and compares business performance, considers the intensely competitive environment, and solves multi-criteria decision-making problems by considering multiple financial ratios (Akyüz et al., 2011).

The TOPSIS method consists of 6 steps.

#### Step 1 - Creating the Decision Matrix

The TOPSIS method started by creating a decision matrix. The insurance companies and years of performance analysis were placed in the rows, and the criteria to be evaluated were placed in the columns. The decision matrix created with the data to be analysed for performance analysis is given in Table 2.

**Table: 2**  
**Decision Matrix**

Decision Matrix	Years	C1	K1	K2	K3	K4	K5	P1	P2	P3	P4	M1	M2	M3	M4	M5	G1	G2	G3
Anadolu Sigorta	2022	1.162	0.147	0.814	1.057	6.184	6.184	0.044	0.275	0.049	0.090	1.794	0.341	0.499	1.348	0.673	0.366	1.100	0.101
Türkiye Sigorta	2022	1.129	0.067	0.777	1.140	4.787	4.787	0.022	0.106	0.018	0.052	1.153	0.261	0.346	1.329	0.520	0.250	0.974	0.042
Anadolu Hayat Emeklilik	2022	1.038	0.050	0.960	1.004	26.155	26.155	0.015	0.380	0.006	0.084	2.495	0.100	0.111	1.939	0.042	0.035	0.351	0.006
Aksigorta	2022	1.155	0.109	0.832	1.041	6.583	6.583	-0.009	-0.062	-0.006	-0.011	1.362	0.233	0.298	1.351	-0.516	0.383	1.669	0.086
Agesa Hayat Emeklilik	2022	6.339	48.742	0.020	7.850	50.762	50.762	0.010	0.507	0.002	0.020	0.099	2.437	0.107	1.852	0.066	0.040	0.408	0.007
Ray Sigorta	2022	1.138	0.200	0.804	1.094	6.109	6.109	0.033	0.202	0.047	0.153	0.527	0.107	0.116	0.959	0.354	0.273	2.637	0.035

**Step 2 - Normalization of the Decision Matrix**

With the data in Table 2, each value in the columns is normalised by dividing each value by the square root of the sum of the squares of the values in its column.

While normalising the decision matrix, each year was evaluated and normalised by dividing the sum of the squares of the values of each year by the square root of the sum of squares.

The normalised decision matrix is given in Table 3.

$$r_{ij} = \frac{a_{ij}}{\sqrt{\sum_{i=1}^m a_{ij}^2}} \quad i = 1, \dots, m \quad j = 1, \dots, n \quad (1)$$

**Table: 3**  
**Normalised Decision Matrix**

Normalised Decision Matrix	Years	C1	K1	K2	K3	K4	K5	P1	P2	P3	P4	M1	M2	M3	M4	M5	G1	G2	G3
Anadolu Sigorta	2022	0.097	0.003	0.194	0.080	0.061	0.061	0.388	0.195	0.418	0.231	0.241	0.098	0.338	0.154	0.591	0.272	0.154	0.363
Türkiye Sigorta	2022	0.094	0.001	0.185	0.086	0.048	0.048	0.193	0.075	0.157	0.134	0.155	0.075	0.234	0.131	0.457	0.186	0.136	0.152
Anadolu Hayat Emeklilik	2022	0.087	0.001	0.228	0.076	0.260	0.260	0.127	0.270	0.054	0.216	0.336	0.029	0.075	0.221	0.037	0.026	0.049	0.021
Aksigorta	2022	0.097	0.002	0.198	0.079	0.065	0.065	-0.082	-0.044	-0.048	-0.028	0.183	0.067	0.202	0.154	-0.453	0.284	0.234	0.310
Agesa Hayat Emeklilik	2022	0.530	0.988	0.005	0.595	0.505	0.505	0.087	0.360	0.013	0.053	0.013	0.700	0.073	0.211	0.058	0.029	0.057	0.026
Ray Sigorta	2022	0.095	0.004	0.191	0.083	0.061	0.061	0.288	0.143	0.407	0.395	0.071	0.031	0.078	0.109	0.311	0.203	0.369	0.127

**Step 3 - Weighting the Normalised Decision Matrix**

The effects of financial criteria on financial performance were weighted so that the sum of their impact on financial performance was 1, and weight coefficients (W) were determined (Eleren et al., 2009).

$$\sum_{i=1}^n W_i = 1 \quad (2)$$

Each data obtained in the normalised decision matrix is multiplied by the determined weight coefficients, and the Normalized decision matrix is weighted.

The Weighted Normalized Decision Matrix is given in Table 4.

**Table: 4**  
**Weighted Normalized Decision Matrix**

Weighted Normalised Decision Matrix	Years	C1	K1	K2	K3	K4	K5	P1	P2	P3	P4	M1	M2	M3	M4	M5	G1	G2	G3
Weight Matrice W=1	2022	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055
Anadolu Sigorta	2022	0.005	0.000	0.011	0.004	0.003	0.003	0.022	0.011	0.023	0.013	0.013	0.005	0.019	0.009	0.033	0.015	0.009	0.020
Türkiye Sigorta	2022	0.005	0.000	0.010	0.005	0.003	0.003	0.011	0.004	0.009	0.007	0.009	0.004	0.013	0.008	0.025	0.010	0.008	0.008
Anadolu Hayat Emeklilik	2022	0.005	0.000	0.013	0.004	0.014	0.014	0.007	0.015	0.003	0.012	0.019	0.002	0.004	0.012	0.002	0.001	0.003	0.001
Aksigorta	2022	0.005	0.000	0.011	0.004	0.004	0.004	-0.005	-0.002	-0.003	-0.002	0.010	0.004	0.011	0.009	-0.025	0.016	0.013	0.017
Agesa Hayat Emeklilik	2022	0.029	0.055	0.000	0.033	0.028	0.028	0.005	0.020	0.001	0.003	0.001	0.039	0.004	0.012	0.003	0.002	0.003	0.001
Rev Sigorta	2022	0.005	0.000	0.011	0.005	0.003	0.003	0.016	0.008	0.023	0.022	0.004	0.002	0.004	0.006	0.017	0.011	0.021	0.007

**Step 4 - Creation of Positive ( $A^+$ ) and Negative Ideal ( $A^-$ ) Solutions**

The Positive Ideal solution set comprises the highest data in the weighted decision matrix.

The Negative Ideal solution set comprises the lowest data in the weighted decision matrix.

The effect of leverage ratios, one of the financial performance analysis criteria, on the financial structure of insurance companies is calculated as both maximum and minimum.

If the leverage effect is evaluated as Maximum, the data constituting the Positive and Negative ideal solution set are given in Table 5.

**Table: 5**  
**Positive ( $A^+$ ) and Negative ( $A^-$ ) Ideal Solution Set**

		C1	K1	K2	K3	K4	K5	P1	P2	P3	P4	M1	M2	M3	M4	M5	G1	G2	G3
Aims for each variable	Years	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Min	Min	Min	Min	Min	Max	Max	Max
Ideal $A^+$	2022	0.029	0.055	0.013	0.033	0.028	0.028	0.022	0.020	0.023	0.022	0.001	0.002	0.004	0.006	-0.025	0.016	0.021	0.020
$A^-$	2022	0.005	0.000	0.000	0.004	0.003	0.003	-0.005	-0.002	-0.003	-0.002	0.019	0.039	0.019	0.012	0.033	0.001	0.003	0.001

If the leverage effect is considered Minimum, Table 6 gives the data constituting the Positive and Negative ideal solution sets.

**Table: 6**  
**Positive ( $A^+$ ) and Negative ( $A^-$ ) Ideal Solution Set**

		C1	K1	K2	K3	K4	K5	P1	P2	P3	P4	M1	M2	M3	M4	M5	G1	G2	G3
Aims for each variable	Years	Max	Min	Min	Min	Min	Min	Max	Max	Max	Max	Min	Min	Min	Min	Min	Max	Max	Max
Ideal $A^+$	2022	0.029	0.000	0.000	0.004	0.003	0.003	0.022	0.020	0.023	0.022	0.001	0.002	0.004	0.006	-0.025	0.016	0.021	0.020
$A^-$	2022	0.005	0.055	0.013	0.033	0.028	0.028	-0.005	-0.002	-0.003	-0.002	0.019	0.039	0.019	0.012	0.033	0.001	0.003	0.001

**Step 5 - Establishing the Distance Values ( $S^+$  and  $S^-$ ) to the Positive and Negative Ideal Solution**

Using the Euclidian Distance Approach, the deviations of each decision point to the ideal and negative ideal solution points are determined. Ideal Separation  $S_i^+$  and Negative Ideal Separation Measure  $S_i^-$  are determined for the decision point obtained here (Erdoğan & Yamaltdinova, 2018).

Establishing the Distance Value to Positive Ideal Solution is calculated according to formula (3),

$$S_i^* = \sqrt{\sum_{j=1}^n (V_{ij} - V_j^*)^2} \tag{3}$$

Establishing the Distance to the Negative Ideal Solution is calculated according to formula (4).

$$S_i^- = \sqrt{\sum_{j=1}^n (V_{ij} - V_j^-)^2} \tag{4}$$

Distance to Positive Ideal Solution Values are given in Table 7.

**Table: 7**  
**Distance to Positive Ideal Solution**

Calculate Si (Di)+	Years	C1	K1	K2	K3	K4	K5	P1	P2	P3	P4	M1	M2	M3	M4	M5	G1	G2	G3	Si (Di)+
Anadolu Sigorta	2022	0.024	0.055	0.002	0.029	0.025	0.025	0.000	0.009	0.000	0.009	-0.013	-0.004	-0.015	-0.002	-0.058	0.001	0.012	0.000	0.0984
Türkiye Sigorta	2022	0.024	0.055	0.002	0.028	0.025	0.025	0.011	0.016	0.014	0.014	-0.008	-0.003	-0.009	-0.002	-0.051	0.005	0.013	0.012	0.0975
Anadolu Hayat Emeklilik	2022	0.025	0.055	0.000	0.029	0.014	0.014	0.014	0.005	0.020	0.010	-0.018	0.000	0.000	-0.006	-0.027	0.014	0.018	0.019	0.0868
Aksigorta	2022	0.024	0.055	0.002	0.029	0.024	0.024	0.026	0.022	0.026	0.023	-0.009	-0.002	-0.007	-0.002	0.000	0.000	0.008	0.003	0.0907
Agesa Hayat Emeklilik	2022	0.000	0.000	0.012	0.000	0.000	0.017	0.000	0.022	0.019	0.000	-0.037	0.000	-0.006	-0.028	0.014	0.017	0.019	0.0662	
Ray Sigorta	2022	0.024	0.055	0.002	0.028	0.025	0.025	0.006	0.012	0.001	0.000	-0.003	0.000	0.000	-0.042	0.005	0.000	0.013	0.0882	

Distance to Negative Ideal Solution Values are given in Table 8.

**Table: 8**  
**Distance to Negative Ideal Solution**

Calculate Si (Di)-	Years	C1	K1	K2	K3	K4	K5	P1	P2	P3	P4	M1	M2	M3	M4	M5	G1	G2	G3	Si (Di)-
Anadolu Sigorta	2022	0.001	0.000	0.010	0.000	0.001	0.001	0.026	0.013	0.026	0.014	-0.005	-0.033	0.000	-0.004	-0.000	0.014	0.006	0.019	0.0599
Türkiye Sigorta	2022	0.000	0.000	0.010	0.001	0.000	0.000	0.015	0.007	0.011	0.009	-0.010	-0.035	-0.006	-0.004	-0.007	0.009	0.005	0.007	0.0464
Anadolu Hayat Emeklilik	2022	0.000	0.000	0.012	0.000	0.012	0.012	0.012	0.017	0.006	0.014	0.000	-0.037	-0.015	0.000	-0.031	0.000	0.000	0.000	0.0603
Aksigorta	2022	0.001	0.000	0.011	0.000	0.001	0.001	0.000	0.000	0.000	0.000	-0.008	-0.035	-0.008	-0.004	-0.058	0.014	0.010	0.016	0.0737
Agesa Hayat Emeklilik	2022	0.025	0.055	0.000	0.029	0.025	0.025	0.009	0.022	0.003	0.004	-0.018	0.000	-0.015	-0.001	-0.030	0.000	0.000	0.000	0.0882
Ray Sigorta	2022	0.000	0.000	0.010	0.000	0.001	0.001	0.021	0.010	0.025	0.023	-0.015	-0.037	-0.014	-0.006	-0.016	0.010	0.018	0.006	0.0661

**Step 6 - Calculating the Relative Closeness to the Ideal Solution**

In this step, which is the last step of the TOPSIS method, the proximity of each of the performance criteria to the ideal solutions is calculated with the formula (5) by utilizing the positive and negative ideal solution data.

$$C_i^* = \frac{S_i^-}{S_i^- + S_i^*} \tag{5}$$

$C_i^*$  takes a value between 0 and 1, if the result for  $C_i^*$  is 0, this indicates the absolute closeness to the negative ideal solution; if the result for  $C_i^*$  is 1, this indicates absolute closeness to the ideal solution (Karim & Karmaker, 2016). The calculation of the relative closeness to the ideal solution in this step is given in Table 9.



**Table: 9**  
**Proximity to the Ideal Solution**

Companies	Years	The Situation where the Leverage Effect is Maximum			A situation where the Leverage Effect is Minimum		
		Ci	S+	S-	Ci	S+	S-
Anadolu Sigorta	2022	0,3785	0,0984	0,0599	0,5722	0,0690	0,0923
Türkiye Sigorta	2022	0,3225	0,0975	0,0464	0,5574	0,0672	0,0846
Anadolu Hayat Emeklilik	2022	0,4099	0,0868	0,0603	0,5840	0,0614	0,0861
Aksigorta	2022	0,4483	0,0907	0,0737	0,6382	0,0576	0,1016
Agesa Hayat Emeklilik	2022	0,5713	0,0662	0,0882	0,3536	0,0967	0,0529
Ray Sigorta	2022	0,4283	0,0882	0,0661	0,6426	0,0536	0,0963

Using the TOPSIS method, the performance of the insurance index companies in BIST-500 was evaluated with their financial data, and the success ranking according to the evaluation is given in Table 10.

**Table: 10**  
**Ranking of Proximity Values to the Ideal Solution**

Companies	Years	Ranking with Maximum Leverage Ratios				Ranking with Minimum Leverage Ratios			
		Ci	S+	S-	Best	Ci	S+	S-	Best
Agesa Havat Emeklilik	2022	0,5713	0,0662	0,0882	8	0,3536	0,0967	0,0529	63
Aksigorta	2022	0,4483	0,0907	0,0737	13	0,6382	0,0576	0,1016	29
Ray Sigorta	2022	0,4283	0,0882	0,0661	16	0,6426	0,0536	0,0963	27
Anadolu Hayat Emeklilik	2022	0,4099	0,0868	0,0603	20	0,5840	0,0614	0,0861	47
Anadolu Sigorta	2022	0,3785	0,0984	0,0599	25	0,5722	0,0690	0,0923	50
Türkiye Sigorta	2022	0,3225	0,0975	0,0464	37	0,5574	0,0672	0,0846	53

According to the ranking of the best financial performance of the BIST-500 insurance index companies between 2013 and 2022 using the TOPSIS method in the two cases where the leverage effect is maximum and minimum, Ziraat Sigorta A.Ş. showed the most successful financial performance with its 2015 financial data.

According to the ranking of the best financial performance of the BIST-500 insurance index companies between 2013 and 2022 in the two cases where the leverage effect is maximum and minimum with the TOPSIS method, Güneş Sigorta A.Ş. showed the worst financial performance with its 2015 financial data.

#### 4.2. VIKOR (Multiple Criteria Optimization and Compromise Solution)

The VIKOR method, which allows decision-makers to reach a consensus solution for the final decision, was developed by Opricovic in 1998. The concept of consensus refers to the common acceptance of decision-makers on any alternative. This consensus or compromise solution ensures maximum group benefit and minimum individual regret (Opricovic & Tzeng, 2004). For VIKOR management, steps similar to the steps in Opricovic & Tzeng (2007), Karthik et al. (2011), Yıldırım & Önder (2014), Aktaş & Kabak (2020) were followed and shown below:

### Phase 1. Creating the Decision Matrix

The decision matrix includes evaluating the alternatives based on criteria. Table 11 shows the decision matrix created with the data to be analysed for performance analysis.

**Table: 11**  
**Decision Matrix**

Decision Matrix	Years	C1	K1	K2	K3	K4	K5	P1	P2	P3	P4	M1	M2	M3	M4	M5	G1	G2	G3
Anadolu Sigorta	2022	1,162	0,147	0,814	1,057	6,184	6,184	0,044	0,275	0,049	0,090	1,794	0,341	0,499	1,348	0,673	0,366	1,100	0,101
Türkiye Sigorta	2022	1,129	0,067	0,777	1,140	4,787	4,787	0,022	0,106	0,018	0,052	1,153	0,261	0,346	1,329	0,520	0,250	0,974	0,042
Anadolu Hayat Emeklilik	2022	1,038	0,050	0,960	1,004	26,155	26,155	0,015	0,380	0,006	0,084	2,495	0,100	0,111	1,939	0,042	0,035	0,351	0,006
Aksigorta	2022	1,155	0,109	0,832	1,041	6,583	6,583	-0,009	-0,062	-0,006	-0,011	1,362	0,233	0,298	1,351	-0,516	0,383	1,669	0,086
Agesa Hayat Emeklilik	2022	6,339	48,742	0,020	7,850	50,762	50,762	0,010	0,507	0,002	0,020	0,099	2,437	0,107	1,852	0,066	0,040	0,408	0,007
Ray Sigorta	2022	1,138	0,200	0,804	1,094	6,109	6,109	0,033	0,202	0,047	0,153	0,527	0,107	0,116	0,959	0,354	0,273	2,637	0,035

### Phase 2. Creation of the Normalized Decision Matrix

For each evaluation criterion, the best ( $f_i^+$ ) and the worst ( $f_i^-$ ) values are determined. The effect of leverage ratios, one of the financial performance analysis criteria, on the financial structure of insurance companies is calculated as both maximum and minimum.

If the leverage effect is considered as Maximum, Table 12 gives the best ( $f_i^+$ ) and the worst ( $f_i^-$ ) values.

**Table: 12**  
**Best and Worst Values of the Evaluation Criteria**

	Years	C1	K1	K2	K3	K4	K5	P1	P2	P3	P4	M1	M2	M3	M4	M5	G1	G2	G3
fi+	2022	6,339	48,742	0,960	7,850	50,762	50,762	0,044	0,507	0,049	0,153	0,099	0,100	0,107	0,959	-0,516	0,383	2,637	0,101
fi-	2022	1,038	0,050	0,020	1,004	4,787	4,787	-0,009	-0,062	-0,006	-0,011	2,495	2,437	0,499	1,939	0,673	0,035	0,351	0,006

If the leverage effect is considered as Minimum, Table 13 gives the best ( $f_i^+$ ) and the worst ( $f_i^-$ ) values.

**Table: 13**  
**Best and Worst Values of the Evaluation Criteria**

	Years	C1	K1	K2	K3	K4	K5	P1	P2	P3	P4	M1	M2	M3	M4	M5	G1	G2	G3
fi+	2022	6,339	48,742	0,960	7,850	50,762	50,762	0,044	0,507	0,049	0,153	0,099	0,100	0,107	0,959	-0,516	0,383	2,637	0,101
fi-	2022	1,038	0,050	0,020	1,004	4,787	4,787	-0,009	-0,062	-0,006	-0,011	2,495	2,437	0,499	1,939	0,673	0,035	0,351	0,006

Where  $i$  is the comparison criteria ( $i=1, 2, 3, \dots, n$ ) and  $j$  is the alternatives ( $j=1, 2, 3, \dots, m$ ).

$$R_{ij} = \frac{f_i^+ - f_{ij}}{f_i^+ - f_i^-} \quad (6)$$

Normalized values for cost-based criteria  $f_i^+ = \max(f_{ij})$  and  $f_i^- = \min(f_{ij})$  is calculated by accepting). The normalised decision matrix is given in Table 14.

**Table: 14**  
**Normalised Decision Matrix**

Normalised Decision Matrix	Years	C1	K1	K2	K3	K4	K5	P1	P2	P3	P4	M1	M2	M3	M4	M5	G1	G2	G3
Anadolu Sigorta	2022	0.977	0.998	0.155	0.992	0.970	0.970	0.000	0.407	0.000	0.386	0.708	0.103	1.000	0.397	1.000	0.048	0.673	0.000
Türkiye Sigorta	2022	0.983	1.000	0.195	0.980	1.000	1.000	0.414	0.704	0.540	0.616	0.440	0.069	0.609	0.377	0.871	0.381	0.728	0.616
Anadolu Hayat Emeklilik	2022	1.000	1.000	0.000	1.000	0.535	0.535	0.555	0.222	0.782	0.422	1.000	0.000	0.010	1.000	0.469	1.000	1.000	1.000
Aksigorta	2022	0.978	0.999	0.137	0.995	0.961	0.961	1.000	1.000	1.000	1.000	0.527	0.057	0.486	0.400	0.000	0.000	0.424	0.157
Agesa Hayat Emeklilik	2022	0.000	0.000	1.000	0.000	0.000	0.000	0.640	0.000	0.868	0.809	0.000	1.000	0.000	0.911	0.489	0.987	0.975	0.985
Ray Sigorta	2022	0.981	0.997	0.166	0.987	0.971	0.971	0.213	0.536	0.023	0.000	0.179	0.003	0.021	0.000	0.732	0.315	0.000	0.689

### Phase 3. Obtaining the Weighted Normalized Decision Matrix

A weighted normalised decision matrix reflects the criteria's influence level on the decision. The values of the weighted normalised decision matrix elements are calculated by multiplying the normalised decision matrix elements by the weight value of the relevant criterion. The weighted normalised decision matrix elements are calculated using Equation (7).

$$V_{ij} = R_{ij} * w_j \tag{7}$$

The weighted normalised decision matrix is given in Table 15.

**Table: 15**  
**Weighted Normalized Decision Matrix**

Weighted Normalized Decision Matrix	Years	C1	K1	K2	K3	K4	K5	P1	P2	P3	P4	M1	M2	M3	M4	M5	G1	G2	G3
Anadolu Sigorta	2022	0.054	0.055	0.009	0.055	0.054	0.054	0.000	0.023	0.000	0.021	0.039	0.006	0.056	0.022	0.056	0.003	0.037	0.000
Türkiye Sigorta	2022	0.055	0.056	0.011	0.054	0.056	0.056	0.023	0.039	0.031	0.034	0.024	0.004	0.034	0.021	0.048	0.021	0.040	0.034
Anadolu Hayat Emeklilik	2022	0.056	0.056	0.000	0.056	0.030	0.030	0.031	0.012	0.043	0.023	0.056	0.000	0.001	0.056	0.026	0.056	0.056	0.056
Aksigorta	2022	0.054	0.055	0.008	0.055	0.053	0.053	0.056	0.056	0.056	0.056	0.029	0.003	0.027	0.022	0.000	0.000	0.024	0.009
Agesa Hayat Emeklilik	2022	0.000	0.000	0.056	0.000	0.000	0.000	0.036	0.000	0.048	0.045	0.000	0.056	0.000	0.051	0.027	0.055	0.054	0.055
Ray Sigorta	2022	0.055	0.055	0.009	0.055	0.054	0.054	0.012	0.030	0.001	0.000	0.010	0.000	0.001	0.000	0.041	0.018	0.000	0.038

### Phase 4. Calculation of Group Utility and Individual Regret Measures

Group utility is the total weighted normalized value that would be obtained if the alternative is chosen, while individual regret is the maximum loss that would occur on the basis of a criterion if the alternative is not chosen. Equations (8) and (9) calculate the measures of group utility and individual regret.

$$S_i = \sum_{j=1}^n W_j \frac{f_j^+ - f_{ij}}{f_j^+ - f_j^-} = \sum_{j=1}^n V_{ij} \tag{8}$$

$$R_i = \max_j \left( w_j \frac{f_j^+ - f_{ij}}{f_j^+ - f_j^-} \right) = \max_j v_{ij} \tag{9}$$

The effect of leverage ratios on group utility and individual regret measures is calculated as both maximum and minimum and presented in Table 16.

**Table: 16**  
**Measures of Group Benefit and Individual Regret**

Companies	Years	After Maximum Leverage Ratios are Maximized		After Minimum Leverage Ratios are Assessed	
		S <sub>i</sub>	R <sub>i</sub>	S <sub>i</sub>	R <sub>i</sub>
Ray Sigorta	2022	0.432	0.055	0.432	0.055
Agesa Hayat Emeklilik	2022	0.481	0.056	0.481	0.056
Anadolu Sigorta	2022	0.543	0.056	0.543	0.056
Aksigorta	2022	0.616	0.056	0.616	0.056
Anadolu Hayat Emeklilik	2022	0.641	0.056	0.641	0.056
Türkiye Sigorta	2022	0.641	0.056	0.641	0.056

### Phase 5. Calculation of the Consensus Measure

The compromise criterion is calculated to combine the measures of group utility and individual regret to decide between alternatives. Ranking of other options  $S_i$  and  $R_i$  may differ in terms of their criteria, so combining them into a single value makes it easier for the decision maker to make a final decision. The consensus criterion is calculated by Equation (10).

$$Q_i = v \frac{S_i - S^+}{S^- - S^+} + (1 - v) \frac{R_i - R^+}{R^- - R^+} \quad (10)$$

The effect of leverage ratios is calculated as both maximum and minimum in the calculation of the consensus criterion and given in Table 17.

**Table: 17**  
**Consensus Criteria**

Companies	DQ=0,059	After Maximum Leverage Ratios are Maximized		After Minimum Leverage Ratios are Assessed	
	Years	Q <sub>i</sub>	Q=0,50	Q <sub>i</sub>	Q=0,50
Ray Sigorta	2022	0,000	1	0,000	1
Agesa Hayat Emeklilik	2022	0,617	2	0,617	2
Anadolu Sigorta	2022	0,766	3	0,766	3
Aksigorta	2022	0,938	4	0,938	4
Anadolu Hayat Emeklilik	2022	0,998	5	0,998	5
Türkiye Sigorta	2022	1,000	6	1,000	6

### Phase 6. Validation of Results

The last step of the VIKOR method is verifying the obtained alternative ranking. For validation, it is examined whether the results meet the following two conditions (Aktaş & Kabak, 2020).

- **Condition. Acceptable Advantage**

Assume that the alternative with the lowest  $Q_i$  has  $Q(a')$ , the second best alternative has the second lowest  $Q_i$  ( $Q(a'')$ ), and DQ is defined as equal to  $1/(m-1)$ . If the condition  $Q(a'') - Q(a') \geq DQ$  is satisfied, the acceptable advantage condition is met (Aktaş & Kabak, 2020).

• **Condition. Acceptable Stability in Decision Making**

The alternative with the best  $Q_i$  value should also be the best alternative regarding group utility and/or individual regret (Aktaş & Kabak, 2020).

When both conditions are met, the alternative with the best  $Q_i$  value is identified as the compromise solution. If only Condition 1 is satisfied, the two alternatives with the best consensus criterion values are recognised as the best solution. If Condition 1 is not satisfied, all alternatives up to the  $m^{\text{th}}$  ranked alternative that satisfies the condition  $Q(a(m))-Q(a^*) \geq DQ$  are determined as a compromise solution (Aktaş & Kabak, 2020).

The verification of the alternative ranking obtained with the VIKOR method is given in Table 18.

**Table: 18**  
**Validation of Alternative Ranking**

Years	After Maximum Leverage Ratios are Maximized				After Minimum Leverage Ratios are Assessed			
	Condition 1		Condition 2		Condition 1		Condition 2	
2013	17,000	≥DQ	0,378	≥DQ	2,995	≥DQ	0,000	≤DQ
2014	4,175	≥DQ	0,254	≥DQ	11,174	≥DQ	0,000	≤DQ
2015	2,404	≥DQ	0,359	≥DQ	6,651	≥DQ	0,000	≤DQ
2016	3,586	≥DQ	0,289	≥DQ	6,685	≥DQ	0,000	≤DQ
2017	1,499	≥DQ	0,412	≥DQ	9,992	≥DQ	0,000	≤DQ
2018	1,705	≥DQ	0,400	≥DQ	8,580	≥DQ	0,000	≤DQ
2019	1,549	≥DQ	0,340	≥DQ	2,805	≥DQ	0,048	≤DQ
2020	0,491	≥DQ	0,257	≥DQ	1,575	≥DQ	0,000	≤DQ
2021	4,467	≥DQ	0,237	≥DQ	6,464	≥DQ	0,000	≤DQ
2022	10,491	≥DQ	0,000	≤DQ	10,491	≥DQ	0,000	≤DQ

According to the alternative ranking obtained by the VIKOR method, when the leverage ratio is evaluated as maximum, Ray Sigorta was the best alternative compromise solution in 2013 since both conditions were met. Aksigorta was determined as the best alternative compromise solution in 2014 since both conditions were met. Since both conditions were met, Ray Sigorta was the best alternative compromise solution in 2015. Since both conditions were met, Ray Sigorta was the best alternative compromise solution in 2016. In 2017, the best alternative, Ray Sigorta, was identified as the compromise solution since both conditions were met. In 2018, Ray Sigorta was identified as the compromise solution since both conditions were met. In 2019, Ray Sigorta was identified as the compromise solution since both conditions were met. In 2020, Aksigorta was identified as the compromise solution since both conditions were met. In 2021, Aksigorta was identified as the compromise solution since both conditions were met. In 2022, the two alternatives with the best consensus criterion values, Ray Sigorta and Agesa Hayat Emeklilik, are the best solution since only condition 1 was met.

According to the alternative ranking obtained by the VIKOR method when the leverage ratio is considered to be minimum, Ziraat Sigorta and Aksigorta, which are the two alternatives with the best consensus criterion value, were determined as the best compromise solution since only Condition 1 was met in 2013, Ziraat Sigorta and Aksigorta, which are

the two alternatives with the best consensus criterion value, were determined as the best compromise solution since only Condition 1 was met in 2014. In 2015, Ziraat Sigorta and Anadolu Sigorta, the two alternatives with the best consensus criterion value, were determined as the best compromise solution since only Condition 1 was met; in 2016, Ziraat Sigorta and Ray Sigorta, the two alternatives with the best consensus criterion value, were determined as the best compromise solution since only Condition 1 was met; in 2017, Ziraat Sigorta and Aksigorta, the two alternatives with the best consensus criterion value, were determined as the best compromise solution since only Condition 1 was met; in 2018, Ziraat Sigorta and Ray Sigorta, the two alternatives with the best consensus criterion value, were determined as the best compromise solution since only Condition 1 was met; in 2019, Ziraat Sigorta and Aksigorta, the two alternatives with the best consensus criterion value, were determined as the best compromise solution since only Condition 1 was met; in 2020, Türkiye Sigorta and Aksigorta, the two alternatives with the best consensus criterion value, were determined as the best compromise solution since only Condition 1 was met, in 2021, Türkiye Sigorta and Aksigorta, the two alternatives with the best consensus criterion value, were determined as the best compromise solution, since only Condition 1 was met, in 2022, Ray Sigorta and Agesa Hayat Emeklilik, the two alternatives with the best consensus criterion value, were determined as the best compromise solution, since only Condition 1 was met.

#### **4.3. MOORA (Multi-Objective Optimization based on Ratio Analysis)**

The MOORA method, developed by Brauers and Zavadskas (2006), has gained significant traction recently. This method offers a holistic approach, considering all interactions between decision options and criteria, and performs weighted normalisation with objective weighted values. It is one of the most reliable Weighted Multiplication and TOPSIS methods, preferred over AHP and TOPSIS due to its uncomplicated application, minimal calculation time, and fewer mathematical operations. Unlike AHP, which is applied to qualitative data, MOORA is designed explicitly for quantitative data (Ankara Üniversitesi, 2024).

By differentiating the process steps of MOORA, an MCDM method based on proportional analysis,

- ✓ MOORA- Ratio
- ✓ MOORA- Reference Point
- ✓ MOORA- Importance Coefficient
- ✓ MOORA- Exact Product Form

methods have been developed under the headings.

MOORA-Ratio Approach Operations are carried out assuming the criteria have equal importance values.

The algorithmic steps of the MOORA-Ratio method are as follows.

### Step 1. Decision Matrix (X) is Created

At the start of the MOORA method, decision-makers create a decision matrix. This matrix, with decision options in the rows and criteria in the columns, serves as the foundation for the subsequent steps of the method.

$$X_{ij} = \begin{pmatrix} x_{11} & x_{12} & \dots & x_{1m} \\ x_{21} & x_{22} & \dots & x_{2m} \\ \dots & \dots & \dots & \dots \\ x_{n1} & x_{n2} & \dots & x_{nm} \end{pmatrix} \quad (11)$$

The MOORA method started by creating a decision matrix. The insurance companies and years of performance analysis were placed in the rows, and the criteria to be evaluated were placed in the columns. The decision matrix created with the data to be analysed for performance analysis is given in Table 19.

**Table: 19**  
**Decision Matrix**

Decision Matrix	Years	C1	K1	K2	K3	K4	K5	P1	P2	P3	P4	M1	M2	M3	M4	M5	G1	G2	G3
Anadolu Sigorta	2022	1,162	0,147	0,814	1,057	6,184	6,184	0,044	0,275	0,049	0,090	1,794	0,341	0,499	1,348	0,673	0,366	1,100	0,101
Türkiye Sigorta	2022	1,129	0,067	0,777	1,140	4,787	4,787	0,022	0,106	0,018	0,052	1,153	0,261	0,346	1,329	0,520	0,250	0,974	0,042
Anadolu Hayat Emeklilik	2022	1,038	0,050	0,960	1,004	26,155	26,155	0,015	0,380	0,006	0,084	2,495	0,100	0,111	1,939	0,042	0,035	0,351	0,006
Aksigorta	2022	1,155	0,109	0,832	1,041	6,583	6,583	-0,009	-0,062	-0,006	-0,011	1,362	0,233	0,298	1,351	-0,516	0,383	1,669	0,086
Agesa Hayat Emeklilik	2022	6,339	48,742	0,020	7,850	50,762	50,762	0,010	0,507	0,002	0,020	0,099	2,437	0,107	1,852	0,066	0,040	0,408	0,007
Ray Sigorta	2022	1,138	0,200	0,804	1,094	6,109	6,109	0,033	0,202	0,047	0,153	0,527	0,107	0,116	0,959	0,354	0,273	2,637	0,035

### Step 2. The Decision Matrix is Normalised

When creating the normalized decision matrix (N), regardless of the minimum or maximum objective in the criteria

$$x_{ij}^* = \frac{x_{ij}}{\sqrt{\sum_{i=1}^n x_{ij}^2}}, \quad i=1, 2, \dots, n, j=1, 2, \dots, m \quad (12)$$

According to equation (12), the decision matrix X is normalised. The normalised decision matrix is given in Table 20.

**Table: 20**  
**Normalised Decision Matrix**

Normalised Decision Matrix	Years	C1	K1	K2	K3	K4	K5	P1	P2	P3	P4	M1	M2	M3	M4	M5	G1	G2	G3
Anadolu Sigorta	2022	0,097	0,003	0,194	0,080	0,061	0,061	0,388	0,195	0,418	0,231	0,241	0,098	0,338	0,154	0,591	0,272	0,154	0,363
Türkiye Sigorta	2022	0,094	0,001	0,185	0,086	0,048	0,048	0,193	0,075	0,157	0,134	0,155	0,075	0,234	0,151	0,457	0,186	0,136	0,152
Anadolu Hayat Emeklilik	2022	0,087	0,001	0,228	0,076	0,260	0,260	0,127	0,270	0,054	0,216	0,336	0,029	0,075	0,221	0,037	0,026	0,049	0,021
Aksigorta	2022	0,097	0,002	0,198	0,079	0,065	0,065	-0,082	-0,044	-0,048	-0,028	0,183	0,067	0,202	0,154	-0,453	0,284	0,234	0,310
Agesa Hayat Emeklilik	2022	0,530	0,988	0,005	0,595	0,505	0,505	0,087	0,360	0,013	0,053	0,013	0,700	0,073	0,211	0,058	0,029	0,057	0,026
Ray Sigorta	2022	0,095	0,004	0,191	0,083	0,061	0,061	0,288	0,143	0,407	0,395	0,071	0,031	0,078	0,109	0,311	0,203	0,369	0,127

### Step 3. Calculate the Performance of the Decision Options

By subtracting the sum of minimization-oriented performance values from the normalized sum of maximization-oriented performance values

$$y_i^* = \sum_{j=1}^g x_{ij}^* - \sum_{j=g+1}^n x_{ij}^*, \quad i=1, 2, \dots, n \quad (13)$$

The performance of each decision option is determined according to the criteria defined in equation (13). Here,  $g$  and  $n-g$  denote the number of criteria to be maximised and minimised, respectively.  $y_i^*$ ,  $i=1, 2, \dots, n$  denotes the normalised values of decision option  $i$  for all criteria. The performances of the decision criteria are calculated after evaluating the leverage ratios as maximum and minimum and given in Table 21.

**Table: 21**  
**Decision Criteria Performance**

Companies	Years	Maximising Leverage Ratios		Considering Leverage Ratios as a Minimum	
		$Y^*i$		$Y^*i$	
Anadolu Sigorta	2022	1,096		0,297	
Türkiye Sigorta	2022	0,424		-0,312	
Anadolu Hayat Emeklilik	2022	0,977		-0,674	
Aksigorta	2022	0,978		0,159	
Agesa Hayat Emeklilik	2022	2,698		-2,498	
Ray Sigorta	2022	1,827		1,028	

**Step 4.  $y_i^*$ ,  $i=1, 2, \dots, n$ , values are Sorted from Largest to Smallest**

The first-ranked option is the most suitable in this ranking. The performance ranking obtained with the MOORA method is given in Table 22.

**Table: 22**  
**Financial Performance Ranking by Years**

Companies	Years	Maximising Leverage Ratios		Considering Leverage Ratios as a Minimum	
		$Y^*i$	Best	$Y^*i$	Best
Agesa Hayat Emeklilik	2022	2,698	1	-2,498	6
Ray Sigorta	2022	1,827	2	1,028	1
Anadolu Sigorta	2022	1,096	3	0,297	2
Aksigorta	2022	0,978	4	0,159	3
Anadolu Hayat Emeklilik	2022	0,977	5	-0,674	5
Türkiye Sigorta	2022	0,424	6	-0,312	4

According to the MOORA performance ranking, when the leverage ratios are evaluated as maximum, Ziraat Sigorta in 2013, Agesa Hayat Emeklilik in 2014, Ziraat Sigorta in 2015, Agesa Hayat Emeklilik in 2016, Agesa Hayat Emeklilik in 2016, Agesa Hayat Emeklilik in 2017, Agesa Hayat Emeklilik in 2018, Agesa Hayat Emeklilik in 2019, Agesa Hayat Emeklilik in 2020, Agesa Hayat Emeklilik in 2021, Agesa Hayat Emeklilik in 2022 were determined to be the most suitable companies.

According to the MOORA performance ranking, when the leverage ratios are evaluated as minimum, Ziraat Sigorta in 2013, Ziraat Sigorta in 2014, Ziraat Sigorta in 2015, Ziraat Sigorta in 2016, Ziraat Sigorta in 2017, Ziraat Sigorta in 2018, Ziraat Sigorta in 2019, Türkiye Sigorta in 2020, Türkiye Sigorta in 2021, and Ray Sigorta in 2022 were determined to be the most suitable companies.



#### 4.4. Comparison of Financial Performance Analysis with TOPSIS, VIKOR and MOORA Methods

The financial data of the companies traded in the insurance index of BIST-500 for 2013-2022 are analysed by TOPSIS, VIKOR, and MOORA methods, and the rankings obtained are given in Table 23.

**Table: 23**  
**Performance Ranking by TOPSIS, VIKOR and MOORA**

Companies	Years	Ranking with Maximum Leverage Ratios			Ranking with Minimum Leverage Ratios		
		TOPSIS	VIKOR	MOORA	TOPSIS	VIKOR	MOORA
Agesa Hayat Emeklilik	2013	1	7	3	8	7	8
Anadolu Hayat Emeklilik	2013	2	6	2	7	8	7
Ziraat Sigorta	2013	3	2	1	1	1	1
Aksigorta	2013	4	5	4	3	2	2
Halk Sigorta	2013	5	3	5	2	3	3
Anadolu Sigorta	2013	6	4	6	4	4	4
Ray Sigorta	2013	7	1	7	5	5	5
Güneş Sigorta	2013	8	8	8	6	6	6
Agesa Hayat Emeklilik	2014	1	3	1	8	8	8
Ziraat Sigorta	2014	2	2	2	1	1	1
Aksigorta	2014	3	1	3	2	2	2
Halk Sigorta	2014	4	4	4	3	3	3
Anadolu Sigorta	2014	5	5	5	4	4	4
Anadolu Hayat Emeklilik	2014	6	6	6	7	7	7
Güneş Sigorta	2014	7	7	7	6	5	6
Ray Sigorta	2014	8	8	8	5	6	5
Ziraat Sigorta	2015	1	2	1	1	1	1
Anadolu Sigorta	2015	2	3	2	2	2	2
Anadolu Hayat Emeklilik	2015	3	6	3	3	6	3
Agesa Hayat Emeklilik	2015	4	4	4	4	8	4
Halk Sigorta	2015	5	5	5	5	4	5
Ray Sigorta	2015	6	1	6	6	3	6
Aksigorta	2015	7	7	7	7	5	7
Güneş Sigorta	2015	8	8	8	8	7	8
Agesa Hayat Emeklilik	2016	1	3	1	8	8	8
Ziraat Sigorta	2016	2	2	2	1	1	1
Ray Sigorta	2016	3	1	3	2	2	2
Anadolu Hayat Emeklilik	2016	4	7	5	5	6	6
Aksigorta	2016	5	5	4	3	4	3
Halk Sigorta	2016	6	6	7	6	5	5
Anadolu Sigorta	2016	7	4	6	4	3	4
Güneş Sigorta	2016	8	8	8	7	7	7
Agesa Hayat Emeklilik	2017	1	4	1	8	8	8
Ziraat Sigorta	2017	2	2	2	1	1	1
Aksigorta	2017	3	3	3	2	2	2
Anadolu Hayat Emeklilik	2017	4	5	4	6	7	7
Ray Sigorta	2017	5	1	5	3	3	3
Halk Sigorta	2017	6	6	8	7	5	6
Güneş Sigorta	2017	7	7	7	5	4	5
Anadolu Sigorta	2017	8	8	6	4	6	4
Agesa Hayat Emeklilik	2018	1	3	1	8	8	8
Ziraat Sigorta	2018	2	2	2	1	1	1
Aksigorta	2018	3	4	3	2	3	2
Anadolu Hayat Emeklilik	2018	4	5	4	7	6	7
Anadolu Sigorta	2018	5	6	6	3	7	4
Ray Sigorta	2018	6	1	5	5	2	3
Halk Sigorta	2018	7	7	7	6	5	6
Güneş Sigorta	2018	8	8	8	4	4	5

Agesa Hayat Emeklilik	2019	1	4	1	8	8	8
Ziraat Sigorta	2019	2	3	2	1	1	1
Anadolu Hayat Emeklilik	2019	3	6	5	7	7	7
Aksigorta	2019	4	2	3	2	2	2
Ray Sigorta	2019	5	1	4	3	3	3
Halk Sigorta	2019	6	5	6	5	4	5
Güneş Sigorta	2019	7	7	7	4	5	4
Anadolu Sigorta	2019	8	8	8	6	6	6
Agesa Hayat Emeklilik	2020	1	4	1	6	6	6
Türkiye Sigorta	2020	2	3	3	1	1	1
Aksigorta	2020	3	1	2	2	2	2
Anadolu Hayat Emeklilik	2020	4	5	5	5	5	5
Ray Sigorta	2020	5	2	4	3	3	3
Anadolu Sigorta	2020	6	6	6	4	4	4
Agesa Hayat Emeklilik	2021	1	3	1	6	6	6
Türkiye Sigorta	2021	2	2	2	1	1	1
Anadolu Hayat Emeklilik	2021	3	6	5	5	5	5
Ray Sigorta	2021	4	4	3	2	3	2
Aksigorta	2021	5	1	4	3	2	3
Anadolu Sigorta	2021	6	5	6	4	4	4
Agesa Hayat Emeklilik	2022	1	2	1	6	2	6
Aksigorta	2022	2	4	4	2	4	3
Ray Sigorta	2022	3	1	2	1	1	1
Anadolu Hayat Emeklilik	2022	4	5	5	3	5	5
Anadolu Sigorta	2022	5	3	3	4	3	2
Türkiye Sigorta	2022	6	6	6	5	6	4

When the data in Table 23 are analysed, it is seen that when the leverage ratios are considered maximum, the ranking of the companies is more different among TOPSIS, VIKOR, and MOORA methods, while when the leverage ratios are considered minimum, the ranking of the companies is similar among TOPSIS, VIKOR, and MOORA methods.

## 5. Conclusion and Evaluation

People face decision problems in all areas of life, and managers face decision problems in all management functions. Solving these problems has become very difficult today. Decision-making is complicated by the many alternatives and often conflicting criteria used to evaluate these alternatives.

This is why a field of academic research and practice that provides decision-makers with methods to deal with these challenges has emerged and developed rapidly in recent years. Many techniques belonging to this field have been developed and made available to decision-makers or managers who face such problems. The methods created in this rapidly developing field are called Multi-Criteria Decision-Making.

This study used TOPSIS, VIKOR, and MOORA, which are multi-criteria decision-making methods, to analyse the financial performance of the companies traded in the insurance index in BIST-500 for 2013-2022 and obtain their performance rankings. The analyses calculated leverage ratios in two ways: maximum and minimum.

According to the results of the analysis made with TOPSIS, VIKOR and MOORA methods, when the leverage ratios are set as maximum, Agesa Hayat ve Emeklilik in 2013,

2014, 2016, 2017, 2018, 2019, 2020, 2021 and 2022 and Ziraat Sigorta in 2015 were the most successful companies in terms of financial performance according to TOPSIS method. According to the VIKOR method, Ray Sigorta in 2013, 2015, 2016, 2017, 2018, 2019 and 2022 and Aksigorta in 2014, 2020 and 2021 were the most successful companies in terms of financial performance. According to the MOORA method, Ziraat Sigorta in 2013 and 2015 and Agesa Hayat ve Emeklilik in 2014, 2016, 2017, 2018, 2019, 2020, 2021 and 2022 were the most successful companies in terms of financial performance.

According to the results of the analysis made with TOPSIS, VIKOR and MOORA methods, when the leverage ratios were determined as a minimum, Ziraat Sigorta in 2013, 2014, 2015, 2016, 2017, 2018 and 2019, Türkiye Sigorta in 2020 and 2021, and Ray Sigorta in 2022 were the most successful companies in terms of financial performance according to TOPSIS method. According to the VIKOR method, Ziraat Sigorta in 2013, 2014, 2015, 2016, 2017, 2018 and 2019, Türkiye Sigorta in 2020 and 2021, and Ray Sigorta in 2022 were the most successful companies in terms of financial performance. According to the MOORA method, Ziraat Sigorta in 2013, 2014, 2015, 2016, 2017, 2018 and 2019, Türkiye Sigorta in 2020 and 2021, and Ray Sigorta in 2022 were the most successful companies in terms of financial performance.

The study obtained 74 financial performance rankings by analysing 10-period data of 8 companies using three methods, according to 18 criteria and two different leverage values.

According to the ranking of TOPSIS, VIKOR, and MOORA methods, when the leverage ratios were evaluated as maximum, no period gave the same result for all three methods. When the leverage ratios are evaluated as minimum, Ziraat Sigorta, Anadolu Sigorta, Ray Sigorta and Güneş Sigorta in 2013, Ziraat Sigorta, Agesa Hayat ve Emeklilik, Aksigorta, Anadolu Sigorta, Halk Sigorta and Anadolu Hayat ve Emeklilik in 2014, Ziraat Sigorta and Anadolu Sigorta in 2015, Agesa Hayat ve Emeklilik, Ziraat Sigorta, Ray Sigorta and Güneş Sigorta in 2016, and Agesa Hayat ve Emeklilik in 2017, Ziraat Sigorta and Aksigorta; Agesa Hayat ve Emeklilik and Ziraat Sigorta in 2018; Agesa Hayat ve Emeklilik, Ziraat Sigorta, Anadolu Hayat ve Emeklilik, Aksigorta and Ray Sigorta in 2019; Agesa Hayat ve Emeklilik, Türkiye Sigorta, Aksigorta, Anadolu Hayat ve Emeklilik, Ray Sigorta and Anadolu Sigorta in 2020; Agesa Hayat ve Emeklilik, Türkiye Sigorta, Aksigorta, Anadolu Hayat ve Emeklilik, Ray Sigorta and Anadolu Sigorta in 2021; Türkiye Sigorta, Anadolu Hayat ve Emeklilik, Anadolu Hayat ve Emeklilik and Anadolu Sigorta in 2021; and Ray Sigorta in 2022 achieved the same result in all three methods.

According to the financial performance ranking based on TOPSIS, VIKOR, and MOORA methods, the results show differences when the leverage ratio is considered maximum. The results are similar when the leverage ratio is evaluated as a minimum. No company achieved the best and worst performance ranking in the periods assessed.

When the first research question of the study is evaluated, it is seen that the MCDM methods used in analysing insurance companies give different results.

When the second of the study's research questions is evaluated, it is seen that the criteria weights used in the financial performance analysis of insurance companies are given equally, which affects the MCDM methods used to provide different results.

Doğu (2021) analysed the financial performance of BIST-100 insurance sector companies in 2019 with TOPSIS and VIKOR methods. According to the analysis results, Aksigorta achieved the best financial performance using the TOPSIS method, and Anadolu Sigorta achieved the best financial performance using the VIKOR method. When we compared our study with the study of Doğu (2021), it was understood that the criteria weights were given equally in the two studies, but the results differed. The difference is related to the scarcity and diversity of requirements used in financial performance analysis.

Gülcemal, İzci & Taşcı (2023) analysed the financial performance of BIST-100 insurance sector companies for the years 2020-2021 by determining the weights of the criteria with the CRITIC method and analysing the financial performance with the COCOSO method. According to the analysis, it was understood that Türkiye Insurance achieved the best financial performance in 2020 and 2021. Comparing our study with the studies of Gülcemal, İzci & Taşcı (2023), it is understood that our study gives the same results as the analysis in which leverage ratios are evaluated as minimum. Gülcemal, İzci & Taşcı (2023) studies have shown different results with the analysis in our research where leverage ratios are evaluated as maximum.

Studies conducted using three methods, TOPSIS, VIKOR, and MOORA methods, 18 criteria, and two evaluations are scarce in the literature. Generally, studies are performed using two methods and fewer criteria. For this reason, this study differs from the other studies in the literature regarding the diversity of criteria and the use of MCDM methods, setting an example for those conducting academic studies and providing information about the company to decision-makers and investors from a single place.

Since analysing the financial performance of insurance sector companies according to the weighting of the criteria to be used in the analysis will change financial performance rankings, it is recommended that in future studies, the criteria to be used in the financial performance evaluation of insurance companies should be weighted first with MCDM methods and then evaluated using MCDM methods.

It is recommended that the relationship between financial performance and share values be investigated by determining the share values of the same companies for the same periods, with a new study for the 2013-2022 periods in which we analysed the financial performance of BIST-500 insurance sector companies.

This study, carried out using MCDM methods, will serve as a guideline for investors and managers regarding the analysed periods and will be an example for future studies.

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## The Mediating Role of Local People's Attitudes and Behaviours on the Impact of Destination Safety Climate on Risk Perception: A Study on Foreign Tourists in İstanbul and Antalya

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### Destinasyon Güvenlik İkliminin Risk Algısı Üzerine Etkisinde Yerel Halkın Tutum ve Davranışlarının Aracılık Rolü: İstanbul ve Antalya'daki Yabancı Turistler Üzerine Bir Araştırma

#### Abstract

Destination safety is one of the essential factors that tourists consider when making a travel decision, especially to a destination they are unfamiliar with. Many destinations' success depends on ensuring tourists feel safe and secure before and during their trips. The inherently risky nature of travel also affects tourists' pre-travel and post-travel perceptions of the destination they intend to visit. Accordingly, this study aims to measure the mediating role of local people's attitudes and behaviours toward visitors in the effect of destination safety climate elements on the general risk perception toward the destination. After reviewing existing research, we created a survey and administered it in İstanbul and Antalya, the top tourist destinations in Turkey. The survey was conducted in multiple languages, including Turkish, English, German, and Russian. After filtering out incorrect and incomplete responses, we analysed the dataset consisting of 1299 questionnaire forms. Initially, we used statistical analyses to ensure the scale's validity. We employed structural equation modelling with the AMOS software to examine the hypotheses based on the research objectives. The study found that how residents treat visitors plays a role in shaping tourists' overall perception of safety in a destination.

**Keywords** : Destination Safety Climate, Travel Risk Perception, Local People, Attitudes and Behaviors.

**JEL Classification Codes** : L80, L83, L89.

#### Öz

Destinasyon güvenliği, turistlerin özellikle yabancı oldukları bir destinasyona seyahat kararı verirken dikkate aldıkları önemli faktörlerden biridir. Seyahatin doğası gereği riskli olması aynı zamanda turistlerin ziyaret etmeyi düşündükleri destinasyona seyahat öncesi algılarını etkilediği gibi seyahat sonrası algılarını etkilemektedir. Bu doğrultuda araştırmanın amacı, destinasyon güvenlik iklimi unsurlarının destinasyona yönelik genel risk algısı üzerine etkisinde yerel halkın ziyaretçilere karşı tutum ve davranışlarının aracılık rolünü ölçmektir. Literatürden yararlanılarak oluşturulan anket formu Türkiye'de en fazla turist ağırlayan iki şehir olan İstanbul ve Antalya'da uygulanmıştır. Anket formu Türkçe, İngilizce, Almanca ve Rusça dillerinde uygulanmıştır. Elde edilen hatalı ve eksik anket formları çıkartıldıktan sonra 1299 anket formundan oluşturulan veri seti ile analizler gerçekleştirilmiştir. Öncelikle oluşturulan ölçeğin geçerliliğini test etmek amacıyla açıklayıcı ve doğrulayıcı faktör analizi gerçekleştirilmiştir. Araştırmanın amacı doğrultusunda oluşturulan hipotezleri test etmek amacıyla AMOS programı ile yapısal eşitlik modelinden yararlanılmıştır. Araştırmada sonuç olarak destinasyon güvenlik iklimi unsurlarının destinasyona yönelik genel risk



algısı üzerine etkisinde yerel halkın ziyaretçilere karşı tutum ve davranışlarının kısmi aracılık etkisi olduğu tespit edilmiştir.

**Anahtar Sözcükler** : Destinasyon Güvenlik İklimi, Seyahat Risk Algısı, Yerel Halk, Tutum ve Davranışlar.

## 1. Introduction

Risk is prevalent in our daily lives at home, work, and travel. Risk, in its most basic form, encompasses the concepts of uncertainty and potential adverse effects (Slovic, 1987: 280). Safety is a fundamental and essential notion that applies to tourism and the broader global context (Hall et al., 2004: 2). Safety and security are vital to ensuring quality in tourism. The lasting success of a tourism destination depends more on its ability to provide a safe and secure environment for visitors than on other economic activities. Destination safety refers to the safety measures and conditions that a travel destination or tourism region provides for its visitors (Singleton & Wang, 2014: 47). In addition, destination safety covers a wide range of areas, from physical to social to health safety, that a destination offers visitors. Despite the various factors influencing a destination's image and visitors' preferences, it is crucial to address safety concerns and risks (Khan et al., 2019: 2).

In the twenty-first century, there has been a notable increase in worries over the safety and security of tourists (Amaro et al., 2023: 11). Ensuring safety and security is essential for both individuals and the tourism industry. Tourists desire assurance of their safety, and the likelihood of a crisis arising increases significantly when they perceive a threat to their well-being in a holiday area of their choice (Toker & Emir, 2023: 2). Tourists' perceptions of risk or safety may vary, and different people tolerate different degrees of risk. Tourists evaluate destination risk based on up-to-date information and reliable sources when planning travel plans. Tourist safety also directly impacts tourist experiences, destination image (Xie et al., 2021: 1), and travel intentions (Liu et al., 2016: 296). Safety perception significantly impacts destination choice and image, leading to tourists changing travel activities and durations. Such concerns can be even more damaging when linked to a destination, resulting in costly marketing efforts to change the image (Wan et al., 2022: 1004). Although destination safety is considered a sub-component of destination image, it has become one of the most critical issues in tourism, especially after the COVID-19 pandemic (Chan, 2021; Shin et al., 2022). Examining the literature reveals that safety concerns in tourism primarily revolve around epidemics (Jamal & Budke, 2020; Gössling et al., 2020), political instability (Sönmez & Graefe, 1998; Ivanov et al., 2017), natural disasters (Ritchie & Jiang, 2019; Ma et al., 2020), war (Buda, 2016; Higgins-Desbiolles, 2020), terrorism (Araña & León, 2008; Baker, 2014), and crime rates (Hua et al., 2020; Altindag, 2014). After COVID-19, hygiene and safety have come to the fore, and many studies have been conducted on travel risk perceptions of these issues (Çetinkaya et al., 2020; Nazneen et al., 2020; Çobaner, 2021; Konak, 2022; Kodaş, 2022a; Kodaş, 2022b; Toker & Kızıllırmak, 2023). To minimise or eliminate the

safety concerns of individuals in the tourism sector, "safe tourism" certificates have emerged for tourism businesses and destinations.

Examining the literature reveals that we can use the dimensions of perceived risk from the destination to address the aspects of destination safety. These concepts have gained traction and now form a crucial part of the destination's image (Perpiña et al., 2021: 367). Studies on destination safety have attracted attention due to the events that resonated globally, and related studies have increased in the literature. The September 11 attacks in 2001, the SARS outbreak in 2003, the 2004 tsunami in Indonesia, the 2008 Wenchuan earthquake in China, and the COVID-19 outbreak that broke out at the end of 2019 are examples of globally resonant events. Furthermore, based on global developments, certain countries may warn their citizens about potential life-threatening destinations and safety concerns. Despite the significant efforts to ensure safety in destinations, it remains impossible to completely prevent or eliminate negative factors such as natural disasters and epidemics beyond the destination's control. Tourists' sense of safety depends on the safe conditions at a destination and represents a basic need of tourists. Therefore, providing quality tourism experiences incorporating safety principles has become an overarching goal among tourism destinations (Cui et al., 2016; Hasan et al., 2017; Bang et al., 2020; Zhang et al., 2023).

This study is the first to conduct a comparative analysis of tourism security between Antalya and Istanbul, focusing on the impact of residents' attitudes and behaviours on tourists' perceptions of risk in the destination safety climate. This research offers valuable insights into the factors shaping tourists' perceptions of safety in well-known Turkish destinations, providing a comprehensive understanding of destination safety across various tourism environments in Turkey. The attitudes and behaviours of local people on the impact of destination security climate on risk perception will create benefits for all tourism sector actors.

## **2. Conceptual Framework and Hypotheses Development**

The Merriam-Webster (2023) online dictionary defines risk as "a person or thing that creates or presents danger." According to another definition, risk refers to the objective expectation of loss (Akkılıç & Varol, 2015: 16). Willett (1951) defines risk as the uncertainty of the occurrence of an undesirable event. Perceived risk has two components: uncertainty (the probability of adverse outcomes) and consequences (the significance of a loss) (Bauer, 1960; Cox & Rich, 1967). In the field of tourism, risk generally refers to all the risks perceived by travellers or tourists towards a particular destination or travel point (Stone & Winter, 1987; Cui et al., 2016). If tourists perceive risk, they also expect some losses. These tourist perceptions can reflect confidence or concern in a destination and influence potential tourists' travel decisions. Potential tourists often feel risk pressure, especially in situations of uncertainty, when they cannot fully predict the consequences of their destination choice (Williams, 2002; Williams, 2006). Tourists usually evaluate risk factors before considering

travelling to a destination (Karamustafa & Erbaş, 2011: 104-5). Therefore, perceived risk is essential in explaining individuals' preference or non-preference behaviour (Lim, 2003: 218). Since perceived risk has a negative meaning, it generally negatively affects destination image and tourist behaviour (Brent & Jiang, 2019; Nazir et al., 2021). Perceived risk is a subjective concept that can vary from person to person. Only physical risk offers a constant perception across individuals, whereas other risk perceptions are subjective (Mitchell, 1999: 164). Multiple studies have investigated how travellers' risk perceptions influence their actions and destination selections. Table 1 presents the risk dimensions perceived by travellers and studies on destination safety.

**Table: 1**  
**Studies on Perceived Risk Towards Destination and Risk Dimensions**

Authors and Year	Perceived Risk Dimensions/Destination Safety Dimensions
Roselius (1971)	Financial, physical, psychological, time
Roehl & Fesenmaier (1992); Schiffman & Kanuk (2000); Reisinger & Movando (2005); Qi et al. (2009)	Hardware risk, financial risk, physical risk, psychological risk, social risk, satisfaction risk and time risk
Darley & Smith (1995); Pires et al. (2004); Ueltschy et al. (2004)	Financial, performance, social, physical, psychological, time
Sönmez & Graefe (1998); Fuchs & Reichel (2011)	Functional, financial, health, physical, political instability, psychological, satisfaction, social, terrorism and time
Korgaonkar & Wolin (1999); Tan & Teo (2000)	Financial risk, private life risk
Salisbury et al. (2001); Miyazaki & Fernandez (2001); George (2002)	Personal risk
Lepp & Gibson (2003)	Health, political instability, terrorism, different foods, cultural barriers, ideological and religious dogmas in the country, crime
Lim (2003); Enders & Sandler (2006)	Financial, performance, social, physical, psychological, time, privacy
Özer & Gülpınar (2005); Reisinger & Movando (2005)	Financial, physical, social, time and psychological
Fuchs & Reichel (2006)	Financial, physical, socio-psychological, time and performance
Slevitch & Sharma (2008); Yang et al. (2015)	Health, financial, satisfaction, time, technical, social, political and terrorism
Quintal et al. (2010); Lee & Chen (2021)	Natural disasters, physical, political, and performance
Karamustafa et al. (2013)	Time and social risk, financial risk, physical risk, situation risk, experience risk, weather and hotel risk
Çetinsöz & Ege (2012)	Physical risk, satisfaction risk, time risk, socio-psychological risk, performance risk
Temeloğlu (2015); Sohn et al. (2016)	Financial risk, social risk, time risk, psychological risk, physical risk
Türkmen & İlban (2018)	Financial risk, physical risk and psychological risk
Khan et al. (2019)	Performance, time, physical, financial and socio-psychological risk
Singleton & Wang (2014); Zou & Meng (2020)	Tourism environment, facilities and services, local culture, perception of safety, safety concerns
Ünal (2020); Elshaer et al. (2023)	Performance, physical, time, social, psychological, general
Savaşçı & Yıldırım (2021)	Financial, performance, physical, socio-psychological and temporal

Studies on perceived risk suggest that as tourists' risk perceptions increase, their purchase probability decreases (Roselius, 1971; Taylor, 1974; Forsythe & Shi, 2003). In a broader sense, risk significantly affects tourists' risk perceptions and behavioural intentions (Floyd et al., 2004; Chew & Jahari, 2014; Hasan et al., 2017; Khasawneh & Alfandi, 2019). Studies on the dimensions of risk that tourists perceive show that there have been significant changes, particularly after the COVID-19 pandemic and the widespread use of the internet (Sánchez-Caizares et al., 2021; Shin et al., 2022; Liu et al., 2023; Hüsser et al., 2023). The internet's development, widespread use, and the rise of social media platforms have enabled tourists to exchange more information through online environments, reviews, comments, and so on. Accordingly, the internet and social media platforms have become essential factors affecting tourists' risk perceptions. Another critical factor is the emergence of social media platforms due to technological advancements, a significant increase in internet users, and the COVID-19 pandemic. This has led to a shift in tourists' risk perceptions and the

prioritisation of perceived risk types (Yang & Lee, 2022; Abdalla et al., 2023). The number of studies using concepts such as "psychological risk" and "socio-psychological risk" has increased in the literature. In this direction, the number of studies using concepts such as "trust," "sense of trust," "safety perception," and "safe" instead of studies on risk perceptions has also increased significantly (Amaro et al., 2023; Toker & Emir, 2023). Tourists' risk studies reveal that perceived risk, which refers to individuals' feelings of uncertainty or worry, is significantly influencing a destination's reputation and negatively impacting tourists' behavioural intentions, highlighting the increasing influence of perceived danger on tourist behaviour (Gavurova et al., 2023: 2). For tourists, the safety of a destination is a significant factor that directly influences their travel planning and choices. Destination safety is the result of a combination of many different factors. Destination safety issues often have negative and multifaceted impacts on the tourism industry, local communities, and tourists. The adverse effects of destination safety are not location-specific but can also affect an entire destination, region, or country (Pizam & Mansfeld, 2006: 3-4). Safety is critical for the global tourism industry's sustainability, growth, and development. Safety underpins all processes, from destination choice to experiences to behavioural intentions (Woosnam et al., 2015: 265). The main categories of risks in tourists' perceptions include financial, psychological, physical, personal, political, social, health, and natural disasters. We expect a linear, logical relationship between destination security and these risks. As the destination security climate becomes milder, the risks to the destination should decrease. As a result of this relationship, the following hypothesis is proposed:

***Hypothesis 1.** Participants' perceptions of destination safety climate significantly affect general risk perception towards the destination.*

Residents are commonly viewed as a critical component of tourist development initiatives in host destinations (Sharpley, 2014; Martín et al., 2018). The study of resident attitudes has been a prominent area of research in the field of tourism for a considerable period (Šegota et al., 2022: 340). Previous studies have focused on assessing the suitability of tourism for a specific community by examining its citizens' perspectives (Walpole & Goodwin, 2001; Lepp, 2007; Wang & Pfister, 2008; Cañizares et al., 2014; Muresan et al., 2016; Eusébio et al., 2018; Hadinejad et al., 2019; Thyne et al., 2022; Phuc & Nguyen, 2023). Positive attitudes are a reliable indicator of fulfilling tourist development's social and cultural responsibilities (Park et al., 2014; García et al., 2015). Researchers have used a variety of factors to understand residents' attitudes towards tourism. These factors encompass the enjoyment of benefits (Abdollahzadeh & Sharifzadeh, 2014), participation in decision-making (Rasoolimanesh et al., 2017; Rasoolimanesh & Seyfi, 2021), effects of tourism on the environment (García et al., 2015, Rasoolimanesh et al., 2019), the stage of the destination's conditions (Vargas-Sánchez et al., 2014; Alrwajfah et al., 2019), the type of tourists (Fan et al., 2017; Passafaro, 2020), the economic reliance on tourism (Kock et al., 2019; Rasoolimanesh et al., 2019), effects of tourism on the social life (Cañizares et al., 2014; Thyne et al., 2022), and the level of cultural disparity (Abdollahzadeh & Sharifzadeh, 2014; Eusébio et al., 2018) between residents and tourists. Pavlakovič et al. (2018) classify

the scope of the concept of safety in the tourism industry as "airport and road safety" (Choocharukul & Sriroongvikrai, 2017; Hassan & Salem, 2021) through the means of transportation and travel routes used by tourists during their travels, "hotel safety" (Zhang et al., 2020; Teng et al., 2023) through the safety of accommodation, recreation, and entertainment venues, "food safety" (Zsarnoczky et al., 2019; Li et al., 2022) through the preparation and healthy presentation of food and beverage establishments in hygienic environments, and "street safety" (Jensen & Svendsen, 2016; Collins & Millar, 2019) through tourists' sightseeing areas, shopping venues, and other leisure activities outside of accommodation establishments. According to Yen et al. (2021), safety norms refer to local safety regulations, crisis management plans, travel suppliers' protection measures; safety management refers to governments' large-scale events, tourists' safety, travel suppliers' trained personnel competence, and emergency preparedness; activities and equipment refer to the safety of recreational activities, travel suppliers' service facilities; safety resources refer to accessibility facilities for people with disabilities, travel safety information, medical facilities; infrastructure and environment refer to the safety of public buildings, tourist facilities, and transportation (Yen et al., 2021: 309). We proposed these hypotheses to test the attitudes and behaviours of local people, which effectively affect the tourism phenomenon in many different ways and impact the destination's safety climate.

***Hypothesis 2.*** *Participants' perceptions of destination safety climate significantly affect local people's attitudes and behaviours towards visitors.*

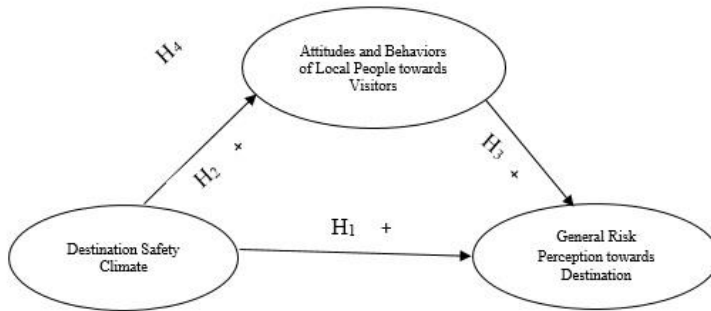
***Hypothesis 3.*** *Participants' perceptions of local people's attitudes and behaviours towards visitors significantly affect the general risk perception towards the destination.*

The impact of tourism on local communities has been a topic of extensive research in the field of tourism (Ramkissoon, 2023: 442). One crucial aspect that has gained attention is the role of local people's attitudes and behaviours in mediating the relationship between destination safety climate and risk perception. Research has demonstrated that the positive perceptions of residents towards tourism practices can significantly enhance the perceived sustainability of the destination and improve the quality of life in the community. In conclusion, the mediating role of local people's attitudes and behaviours in the relationship between destination safety, climate, and risk perception is vital to tourism. Consequently, the following hypothesis is proposed.

***Hypothesis 4.*** *Local people's attitudes and behaviours towards visitors mediate the effect of participants' perceptions of destination safety climate on general risk perception towards the destination.*

The proposed model of this study is given in Figure 1.

**Figure: 1**  
**Hypotheses Regarding the Conceptual Model of the Study**



### 3. Data and Methodology

#### 3.1. Measures and Sampling

The research utilised the questionnaire technique for data collection. The questionnaire was designed with multiple-choice questions to explore how local attitudes and behaviours mediate the relationship between destination safety climate, risk perception, and demographic variables. The questionnaire includes questions on gender, age, education level, marital status, and survey form language to determine the participants' demographic characteristics. As the questionnaire will be administered to participants from various countries, the omission of an income level question was based on the challenge of accurately assessing income levels on a standardised scale across diverse backgrounds. The literature on safety climate, the research subject, was reviewed, and the scale developed by Yen, Tsaur, and Tsai (2021), comprising seven dimensions and 31 statements, was adapted and utilised in alignment with the research objectives. After reassessment, the scale's dimensions included safety norms (5 statements), safety management (5 statements), activities and equipment (4 statements), safety resources (4 statements), and infrastructure and environment (4 statements) as the distinct components defining the destination safety climate. Yen et al. (2021) incorporated the travel safety risk dimension (5 propositions) from their scale. They integrated five additional propositions from the works of Fuchs and Reichel (2006), Batra (2008), and George (2009) to create the scale for assessing general risk perception towards the destination. Five additional propositions from the studies of Fuchs and Reichel (2006), Batra (2008), and George (2009) were included to expand the scale, which was named "general risk perception towards the destination."

We applied the adapted scale to foreign visitors visiting Istanbul and Antalya between 01.03.2023 and 01.09.2023. Since most visitors to Istanbul and Antalya in previous years came from the Russian Federation and Germany, we administered the questionnaire form in

German, Russian, and English to cater to the predominant visitor demographics, offering a multilingual approach. We administered the questionnaire forms both online and in person at travel agencies. Administering the questionnaire form in Istanbul and Antalya proved time-consuming due to logistical constraints, such as limited staffing and high visitor influx during low and high seasons. Thus, we obtained 653 questionnaire forms in Istanbul and 669 in Antalya. We conducted a multivariate analysis of the survey data to identify any outliers, examining various factors for anomalies. The study of outliers provided values with 0.001 degrees of freedom, which were essential for determining statistical significance in the following t-value table, following the guidelines by Alpar (2018). We conducted the analyses using data from 1299 survey forms. We strategically eliminated nine from the Istanbul questionnaires and 14 from the Antalya questionnaires due to responses' inconsistencies, ensuring the results' integrity and reliability. The scale developed by Yen et al. (2021) has been updated, prompting a reevaluation through factor analysis.

### 3.2. Findings and Interpretations

Table 2 presents the demographic characteristics of the study participants, including gender, age, education level, marital status, and survey form language, grouped based on Istanbul and Antalya provinces.

**Table: 2**  
**Frequency Distributions of Participants' Demographic Characteristics**

		Istanbul	Antalya	Total
Gender	Female	357	380	737
	Male	287	275	562
Age	18-25 years	132	109	241
	26 -35 years	74	82	156
	36-45 years	106	131	237
	46-55 years	100	182	282
	56 years and older	232	151	383
	Primary/High School	81	104	185
Education Level	Associate degree	326	398	724
	Bachelor degree	178	128	306
	Postgraduate	59	25	84
Marital Status	Married	408	388	796
	Single	236	267	503
Survey Form Language	English	296	189	485
	German	216	162	378
	Russian	132	304	436

Table 3 illustrates that the research employed a destination safety climate scale with five dimensions, as opposed to the original seven developed by Yen et al. (2021). After translating it into Turkish, we performed exploratory factor analysis to recheck the dimensions. We also applied explanatory factor analysis to the general risk perception scale for the destination, which included six propositions related to the attitudes and behaviours of locals toward visitors, making a total of nine propositions. The exploratory factor analysis assessed the scales' construct validity and considered a minimum factor loading threshold of 0.500 and the required weight for an item within a specific factor. We also utilised the varimax rotation technique to ensure each factor comprised at least three items, enhancing

the clarity of factor structures. For instances of item overlap, it was required that the discrepancy between the item loadings should be a minimum of 0.100 (Büyüköztürk, 2015: 134-135).

**Table: 3**  
**Destination Safety Climate Scale Factor Analysis Results**

	Co-Originality	Factor Load	Core Value	Variance	Mean	Alpha
<b>Safety Management</b>			<b>3,669</b>	<b>16,679</b>	<b>2,8208</b>	<b>,899</b>
Safety Management 3	,756	,767			2,7028	,873
Safety Management 5	,711	,728			2,7960	,878
Safety Management 2	,726	,709			2,8406	,872
Safety Management 4	,711	,698			2,8953	,877
Safety Management 1	,676	,674			2,8691	,882
<b>Safety Norms</b>			<b>3,525</b>	<b>16,021</b>	<b>2,8808</b>	<b>,873</b>
Safety Norms 1	,690	,747			2,8122	,846
Safety Norms 3	,718	,731			2,7413	,842
Safety Norms 2	,657	,698			2,9600	,847
Safety Norms 4	,661	,684			2,9915	,845
Safety Norms 5	,646	,664			2,8992	,847
<b>Infrastructure and Environment</b>			<b>3,001</b>	<b>13,642</b>	<b>2,8553</b>	<b>,842</b>
Infrastructure and Environment 2	,760	,792			2,8845	,779
Infrastructure and Environment 3	,676	,725			2,8406	,803
Infrastructure and Environment 4	,650	,681			2,9092	,810
Infrastructure and Environment 1	,647	,674			2,7868	,805
<b>Activity and Equipment</b>			<b>2,850</b>	<b>12,955</b>	<b>2,7612</b>	<b>,908</b>
Activity and Equipment 4	,795	,746			2,8253	,883
Activity and Equipment 1	,812	,744			2,7429	,876
Activity and Equipment 3	,779	,673			2,7652	,878
Activity and Equipment 2	,748	,631			2,7113	,884
<b>Safety Resources</b>			<b>2,747</b>	<b>12,488</b>	<b>2,9759</b>	<b>,887</b>
Safety Resources 1	,766	,706			2,9738	,852
Safety Resources 4	,793	,700			2,9546	,836
Safety Resources 3	,676	,656			2,9430	,881
Safety Resources 2	,746	,645			3,0323	,849

NOTE: Principal component analysis with Varimax rotation. Kaiser-Meyer-Olkin sampling adequacy: 96.8%; Chi-Square for Bartlett's test of sphericity: 19639,062, s.d.: 231,  $p < 0.001$ ; n: 1299; overall mean: 2,8581; s.d.: 0,8856; Alpha for the whole scale: 0,958; Total variance explained: 71,786% Response categories: 1: Strongly Disagree..... 5: Strongly Agree.

The explanatory factor analysis of the 22 items in the destination safety climate scale yielded a lowest concurrence of 0.646 and a lowest factor loading of 0.631, as shown in Table 4. The variance explained by each dimension is as follows: Safety Management - 16.679%, Safety Norms - 16.021%, Infrastructure and Environment - 13.642%, Activities and Equipment - 12.955%, Safety Resources - 12.488%, totalling 71.786% of the variance. It was also found that KMO sampling adequacy (96.8%) and Bartlett's Test of Sphericity ( $\chi^2 = 16639,062$ ;  $sd = 231$ ;  $p < 0.001$ ) were both significant, and the scale's overall mean was found to be 2.8581.



**Table: 4**  
**Factor Analysis Results of General Risk Perception Scale for Destination**

	Co-Originality	Factor Load	Core Value	Variance	Mean	Alpha
<b>General Risk Perception</b>			<b>5,318</b>	59,094	2,8682	,913
General Risk Perception 7	,640	,800			2,8853	,901
General Risk Perception 9	,637	,798			2,7521	,901
General Risk Perception 8	,634	,796			2,9677	,901
General Risk Perception 6	,615	,784			2,8522	,902
General Risk Perception 2	,585	,765			2,9869	,904
General Risk Perception 4	,574	,757			2,9900	,904
General Risk Perception 5	,563	,750			2,7390	,905
General Risk Perception 3	,549	,741			2,8768	,905
General Risk Perception 1	,523	,723			2,7590	,907

NOTE: Principal component analysis with Varimax rotation. Kaiser-Meyer-Olkin sampling adequacy: 87.9%; Chi-Square for Bartlett's test of sphericity: 7234,708, s.d.: 36, p<0.001; n: 1299; overall mean: 2,8682; s.d.: 0,9738; Alpha for the whole scale: 0,913; Total variance explained: 59,094% Response categories: 1: Strongly Disagree..... 5: Strongly Agree.

As a result of the explanatory factor analysis conducted with the nine items in the general risk perception scale for the destination, the lowest coincidence was 0.523, and the lowest factor loading was 0.723. The model, consisting of a single dimension, explains 59.094% of the total variance. Moreover, both the KMO sampling adequacy and Bartlett's Test of Sphericity were significant ( $p < 0.001$ ), and the overall mean of the scale was 2.8682.

**Table: 5**  
**Factor Analysis Results of the Scale of Local People's Attitudes and Behaviors towards Visitors**

	Co-Originality	Factor Load	Core Value	Variance	Mean	Alpha
<b>Attitude and Behavior</b>			<b>3,343</b>	55,709	3,2428	,841
Attitude and Behavior 2	,579	,761			3,2679	,810
Attitude and Behavior 1	,514	,717			3,1809	,821
Attitude and Behavior 5	,548	,740			3,2671	,816
Attitude and Behavior 3	,604	,777			3,2317	,807
Attitude and Behavior 6	,508	,713			3,2394	,821
Attitude and Behavior 4	,589	,768			3,2694	,810

NOTE: Principal component analysis with Varimax rotation. Kaiser-Meyer-Olkin sampling adequacy: 81.7%; Chi-Square for Bartlett's test of sphericity: 2971,752, s.d.: 15, p<0.001; n: 1299; overall mean: 3,2428; s.d.: 0,9483; Alpha for the whole scale: 0,840; Total variance explained: 55,709% Response categories: 1: Strongly Disagree..... 5: Strongly Agree.

As shown in Table 5, the result of the explanatory factor analysis conducted with the six items in the scale created to determine the attitudes and behaviours of local people toward visitors was that the lowest correlation was 0.509 and the lowest factor loading was 0.714. The structure, consisting of a single dimension, explains 55.443% of the total variance. It was also found that the KMO sampling adequacy value (81.7%) and Bartlett's Test of Sphericity value ( $\chi^2 = 2971.752$ ;  $sd = 15$ ;  $p < 0.001$ ) were both statistically significant. The overall mean of the scale was found to be 3.2428.

We conducted simple linear and multiple regression analyses based on the cities visited by the participants (Istanbul and Antalya) to investigate the hypotheses or gather more detailed insights. The multiple regression analysis assessed the presence of multicollinearity among the independent variables. For this analysis, we set the tolerance value to a minimum of 0.200, the VIF value to a maximum of 5 or 10, and the CI value to

30 (Alpar, 2018; 471-2). These values were taken into consideration during the multiple regression analysis.

**Table: 6**  
**The Effect of Destination Climate Aspects on Overall Risk Perception Towards Destination by Destination Visited**

Destination Safety Climate Elements		Non-Standardised Coefficients		Standardised Coefficients	t-value	significance level
Hypothesis 1		$\beta$	Std. Error	Beta		
Total	(Fixed)	3,695	,092		40,366	,000
	Safety Norms	-,144	,041	-,145	-3,514	,000
	Safety Management	,000	,042	,000	-,011	,991
	Activities and Equipment	-,104	,040	-,120	-2,586	,010
	Safety Resources	-,015	,043	-,016	-,350	,727
	Infrastructure and Environment	-,028	,039	-,028	-,710	,478
	Dependent variable: General Risk Perception; R: 0.277; R2: 0.073; F for model: 21.431; p=0.000					
		Non-Standardised Coefficients		Standardised Coefficients	t-value	significance level
		$\beta$	Std. Error	Beta		
Istanbul	(Fixed)	3,685	,126		29,182	,000
	Safety Norms	-,101	,052	-,106	-1,948	,052
	Safety Management	-,042	,053	-,049	-,790	,430
	Activities and Equipment	-,108	,050	-,132	-2,149	,032
	Safety Resources	,001	,061	,001	,017	,986
	Infrastructure and Environment	,032	,056	,034	,566	,572
	Dependent variable: General Risk Perception; R: 0.229; R2: 0.045; F for model: 7.055; p=0.000					
		Non-Standardised Coefficients		Standardised Coefficients	t-value	significance level
		$\beta$	Std. Error	Beta		
Antalya	(Fixed)	3,751	,131		28,599	,000
	Safety Norms	-,190	,064	-,191	-2,941	,003
	Safety Management	-,023	,065	-,022	-,346	,729
	Activities and Equipment	-,093	,062	-,106	-1,490	,137
	Safety Resources	,080	,061	,94	1,299	,194
	Infrastructure and Environment	-,162	,053	-,156	-3,057	,002
	Dependent variable: General Risk Perception; R: 0.342; R2: 0.110; F for model: 17.148; p=0.000					

The results of the multiple regression analysis in Table 6, conducted to test Hypothesis 1, indicate that the model is statistically significant ( $F = 21,431$ ;  $p = 0.000$ ) and provides valuable insights for estimation. Participants' perceptions of destination safety climate elements significantly influence the overall risk perception towards the destination. Specifically, the dimensions of safety norms ( $p = 0.001$ ) and activities and equipment ( $p = 0.010$ ) among the destination safety climate elements were statistically significant. Increasing the safety norms dimension by one unit results in a decrease of 0.145 in the overall risk perception towards the destination, while a one-unit increase in the activities and equipment dimension leads to a reduction of 0.120 in the overall risk perception towards the destination.

We separately conducted multiple regression analyses in Istanbul and Antalya to examine the impact of destination climate elements on the overall risk perception of these destinations. When Table 6, created as a result of the multiple regression analysis for the participants visiting Istanbul, is examined, the model ( $F = 7,055$ ;  $p = 0,000$ ) is accepted as valid. A one-unit increase in the participants' perceptions of activities and equipment ( $p = 0.032$ ), a component of the destination's safety climate, results in a 0.132-unit decrease in their overall risk perception of the destination. Upon analysis of the other dimensions of destination climate elements (safety norms, safety management, safety resources,

infrastructure, and environment), we determined that these dimensions were insignificant, as their significance levels exceeded 0.05.

Analysing Table 6 from the regression analysis of participants in Antalya validates the model ( $F= 17.148$ ,  $p < 0.001$ ). Increasing one unit in participants' perceptions of safety norms in Antalya ( $p = 0.003$ ), a component of destination safety climate reduces their overall risk perception of the destination by 0.191 units. Improved perceptions of infrastructure and the environment by visitors in Antalya ( $p = 0.002$ ), components of a destination's safety climate, lead to a decrease of 0.156 units in their overall risk perceptions of the destination. After analysing safety management, activities, equipment, and safety resources at the destination, it was found that they were not significant, as their levels of significance were above 0.05.

**Table: 7**  
**The Effect of Destination Climate Elements on Local People's Attitudes and Behaviors towards Visitors by Destination Visited**

Destination Safety Climate Elements		Non-Standardised Coefficients		Standardised Coefficients	t-value	significance level
Hypothesis 2		$\beta$	Std. Error	Beta		
Total	(Fixed)	3,458	,092		37481	,000
	Safety Norms	,026	,041	,027	,633	,527
	Safety Management	-,095	,042	-,101	-2,239	,025
	Activities and Equipment	-,022	,040	-,027	-,557	,578
	Safety Resources	-,068	,043	,076	1,571	,116
	Infrastructure and Environment	-,057	,039	-,059	-1,465	,143
	Dependent variable: Local People's Attitudes and Behaviors Towards Visitors; R: 0.104; R2: 0.007; F for model: 2.828; p=0.015					
		Non-Standardised Coefficients		Standardised Coefficients	t-value	significance level
		$\beta$	Std. Error	Beta		
Istanbul	(Fixed)	3,432	,127		27,040	,000
	Safety Norms	,054	,052	,056	1,028	,304
	Safety Management	-,068	,054	-,079	-1,257	,209
	Activities and Equipment	-,132	,051	-,161	-2,610	,009
	Safety Resources	,053	,062	,055	,853	,394
	Infrastructure and Environment	-,066	,056	-,072	-1,183	,237
	Dependent variable: Local People's Attitudes and Behaviors Towards Visitors; R: 0.203; R2: 0.034; F for model: 5.505; p=0.000					
		Non-Standardised Coefficients		Standardised Coefficients	t-value	significance level
		$\beta$	Std. Error	Beta		
Antalya	(Fixed)	3,463	,128		26,972	,000
	Safety Norms	-,065	,063	-,071	-1,032	,303
	Safety Management	-,049	,064	-,050	-,767	,444
	Activities and Equipment	,147	,061	,183	2,425	,016
	Safety Resources	-,062	,060	-,079	-1,033	,302
	Infrastructure and Environment	,047	,052	,049	,909	,364
	Dependent variable: Local People's Attitudes and Behaviors Towards Visitors; R: 0.107; R2: 0.004; F for model: 1.490; p=191					

Upon examining Table 7 from the multiple regression analysis for Hypothesis 2, you can see that the model is considered valid with proper values ( $F = 2,828$ ;  $p = 0,000$ ) for estimation. Participants' perceptions regarding destination safety climate elements significantly influence the overall risk perception of the destination. Safety management had a statistically significant impact on the overall risk perception. A one-unit increase in the security management dimension of destination safety climate elements reduces the overall risk perception towards the destination by 0.101 units.

Since the questionnaire was conducted in Istanbul and Antalya, the effect of destination safety climate elements on the attitudes and behaviours of local people towards visitors was analysed separately by multiple regression analysis according to these destinations. When examining Table 7, which resulted from the multiple regression analysis for participants in Istanbul, the model is considered valid with an F-value of 5.505 and a p-value of 0.000. An increase of one unit in participants' perceptions of activities and equipment in Istanbul ( $p = 0.009$ ), a component of destination safety climate, decreases by 0.161 units in their perceptions of local people's attitudes and behaviours towards visitors. Upon analysing the other dimensions of destination climate elements, it was found that these dimensions were considered insignificant as their significance levels exceeded 0.05.

The multiple regression model's significance levels ( $p = 0.191$ ) for understanding how destination climate elements affect local people's attitudes and behaviours towards visitors in Antalya was higher than 0.05, so the model was considered insignificant.

**Table: 8**  
**The Effect of Local People's Attitudes and Behaviors towards Visitors on the General Risk Perception of Destination by Destination Visited**

		Non-Standardised Coefficients		Standardised Coefficients	t-value	significance level
Hypothesis 3		$\beta$	Std. Error	Beta		
Total	(Fixed)	3,336	,095		34,982	,000
	Attitudes and Behaviors of Local People towards Visitors	-,144	,028	-,141	-5,113	,000
	Dependent variable: General Risk Perception; R: 0.141; R2: 0.020; F for model: 26.147; p=0.000					
		Non-Standardised Coefficients		Standardised Coefficients	t-value	significance level
Hypothesis 3		$\beta$	Std. Error	Beta		
Istanbul	(Fixed)	3,200	,124		25,862	,000
	Attitudes and Behaviors of Local People towards Visitors	-,041	,039	-,041	-1,044	,297
	Dependent variable: General Risk Perception; R: 0.041; R2: 0.002; F for model: 1.091; p=0.297					
		Non-Standardised Coefficients		Standardised Coefficients	t-value	significance level
Hypothesis 3		$\beta$	Std. Error	Beta		
Antalya	(Fixed)	3,190	,151		21,148	,000
	Attitudes and Behaviors of Local People towards Visitors	-,151	,042	-,140	-3,602	,000
	Dependent variable: General Risk Perception; R: 0.140; R2: 0.019; F for model: 12.977; p=0.000					

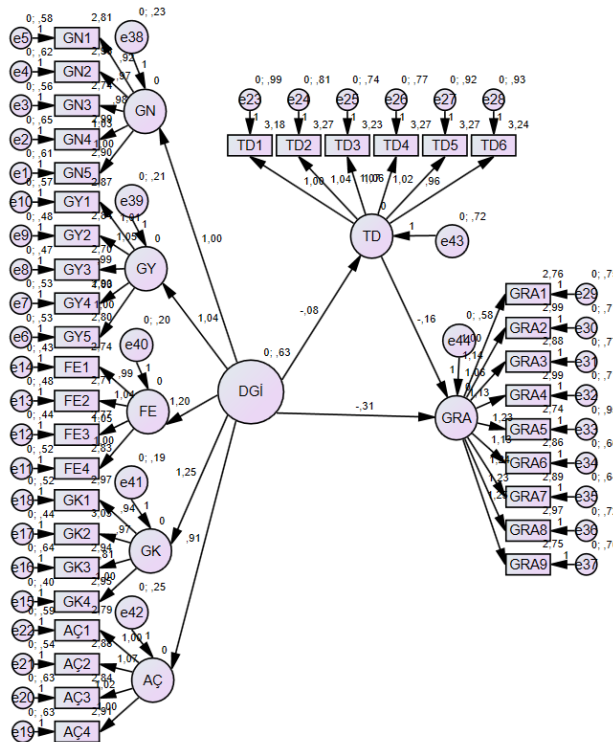
When examining Table 8, resulting from the simple linear regression analysis for testing Hypothesis 3, the model ( $F = 26,147$ ;  $p < 0.05$ ) was deemed valid. The participants' views on how locals treat visitors significantly influence their overall perceptions of risk at the destination. For every one-unit rise in the perception of local people's attitudes and behaviours towards visitors, the overall risk perception towards the destination decreases by -0.141 units.

A simple linear regression analysis was separately conducted in Istanbul and Antalya to study how local attitudes and behaviours towards visitors impact the general risk perception of these destinations. Since the significance level ( $p = 0.297$ ) of the simple linear regression model for the effect of local people's attitudes and behaviours towards visitors on

the general risk perception of participants in Istanbul is more significant than 0.05, it indicates that the model is insignificant.

The simple linear regression model is significant because the significance level ( $p < 0.001$ ) is less than 0.05. Participants' perceptions of the local people's attitudes and behaviours towards visitors significantly influence their overall risk perception of the destination. For each one-unit increase in the perception of local people's attitudes and behaviours towards visitors, the overall risk perception towards the destination decreases by 0.140 units.

**Figure: 2**  
**Structural Equation Model Path Analysis**



Note: GRA: General Risk Perception towards Destination, DSA: Destination Safety Climate, TD: In the model fit phase of the structural equation model, the Chi-Square statistic is the most commonly used method to test the model's fit to the data. Root mean square error approach (RMSEA), Comparative Goodness of Fit Index (CFI), and Normed Goodness of Fit Index (NFI/TLI) can be used (Bal, 2018: 29). In Structural Equation Modeling, multiple fit index values are used when testing the model. Most of these fit indices compare the covariance matrix in the model proposed in the theory with the sample covariance matrix found through observable variables. The data obtained only fits the theoretically proposed structure if the difference between these two matrices is high. Suppose the difference between the two matrices is low. In that case, it is possible to say that the data fit the model (Bayram, 2013: 57). When the fit values of the path analysis created through the AMOS program are examined, the  $\chi^2/df$  value is 4.912; the RMSEA value is 0.055; NFI value is 0.901; NNFI/TLI value is 0.914; CFI value is 0.919; IFI value is 0.919; RFI value was calculated as 0.894, and these values ( $2 < \chi^2/df \leq 5$ ;  $0.05 < RMSEA \leq 0.10$ ;  $0.90 \leq NFI \leq 0.95$ ;  $0.90 \leq CFI \leq 0.95$ ;  $0.90 \leq IFI \leq 0.95$ ;  $0.90 \leq RFI \leq 0.95$ ) are interpreted as having acceptable fit values (Meydam & Şeyen, 2015: 37; Schermelleh-Engel et al., 2003).

**Table: 9**  
**Mediating Effect Model Structural Equation Model Findings**

Direct Effect Model							
Dependent variable		Independent Variable	$\beta$	Std. $\beta$	S.H.	C.R.	Sig.
GRA	←	DGI	-0,307	-0,302	0,032	-9,519	***
TD	←	DGI	-0,075	-0,070	0,034	-2,218	0,027
GRA	←	TD	-0,160	-0,168	0,030	-5,390	***
Indirect (Mediating) Effect Model							
GRA ← TD ← DGI							
Standardised Indirect Effect		95% Confidence Interval (Bootstrap Lower Bounds/Upper Bounds)				Sig.	
0,012		0,003;0,022				0,018	

There is a strong and negative relationship between the participant's perceptions of the safety climate of the destination and their overall risk perception of the destination, as shown in Table 9. This is statistically significant ( $\text{Std.}\beta=-0.302$ ,  $p < 0.001$ ), indicating a strong correlation. Hypothesis 1 is supported. In simpler terms, when the destination's safety climate improves, the overall risk perception towards the destination decreases.

In Table 9, it can be seen that for research Hypothesis 2, the effect of how participants felt about the safety climate of the destination on how locals felt and behaved toward tourists is statistically significant and negative at a 5% significance level ( $\text{Stand.}\beta=-0.075$ ,  $p=0.027$ ). Hypothesis 2 is accepted, confirming the relationship between destination safety climate and locals' attitudes and behaviours towards tourists. In simpler terms, when the safety climate of a destination improves, the perception of local people towards visitors tends to become less positive.

When Table 9 is examined, it is seen that for research Hypothesis 3, the effect of the participants' perception levels of local people's attitudes and behaviours towards visitors on the general risk perception towards the destination is statistically significant and negative at the 5% significance level ( $\text{Std.}\beta= -0.160$ ,  $p < 0.001$ ). Hypothesis 3 is supported. In simpler terms, higher perception levels of local people towards visitor attitudes and behaviours result in lower general risk perception towards the destination.

Upon analysing Table 9 using the modern mediation Bootstrap method for research Hypothesis 4, you find that the indirect effect coefficient is 0.012, with 95% confidence intervals excluding zero values (lower bound: 0.003; upper bound: 0.022). In simpler terms, under the Bootstrap method framework, residents' attitudes and behaviours partially mediate the impact of the destination safety climate on the overall risk perception of the destination.

Table 10 presents the reliability (Cronbach's alpha), average (mean), and variation (standard deviation) values, along with the relationships between variables in both the main and sub-categories of the measurement models. Table 10 shows a significant negative correlation between general risk perception towards the destination and various aspects such as security norms ( $r = -0.257$ ), security management ( $r = -0.209$ ), activities and equipment ( $r = -0.251$ ), security resources ( $r = -0.225$ ), infrastructure and environment ( $r = -0.201$ ), the general destination security climate scale ( $r = -0.266$ ), and local people's attitudes and

behaviours towards visitors ( $r = -0.141$ ). Cronbach's alpha values in Table 10 show that it is generally preferred to be 0.70 and above. When the values of the scale and sub-dimensions are examined, they meet these conditions (Altunışık et al., 2012: 126).

**Table: 10**  
**Correlation, Mean and Reliability Values of Variables**

	GN	GY	FE	GK	AÇ	DGI	TD	GRA
GN	1							
GY	,645**	1						
FE	,703**	,716**	1					
GK	,696**	,718**	,749**	1				
AÇ	,596**	,652**	,634**	,666**	1			
DGI	,851**	,874**	,883**	,886**	,810**	1		
TD	-,039	-,086**	-,060*	-,036	-,075**	-,069*	1	
GRA	-,257**	-,209**	-,251**	-,225**	-,201**	-,266**	-,141**	1
Mean	2,8808	2,8208	2,7612	2,9759	2,8553	2,8581	3,2428	2,8682
SS.	0,974	1,010	1,124	1,068	0,973	0,885	0,948	0,973
C. Alpha	,872	,899	,907	,887	,842	,958	,840	,913

#### 4. Discussion and Conclusions

This study is the first "destination safety climate" research for any destination in Turkey. Furthermore, this study is the pioneering research that conducts a comparative analysis of tourism security between Antalya and Istanbul. Moreover, this study is the sole research investigating how residents' attitudes and behaviours mediate risk perception in the destination safety climate. This distinctive methodology offers valuable insights into the factors that shape tourists' perceptions of safety in well-known Turkish destinations. Through a comparative analysis of Antalya and Istanbul, this study provides a comprehensive understanding of how destination safety is viewed across varied tourism environments in Turkey. This study aimed to examine the mediating role of perceptions of local people's attitudes and behaviours towards visitors, an intangible element in the effect of tangible elements of destination safety on perceived travel risk. Studies on destination security have been explored in the literature as a sub-dimension of destination image, leading to limited research on perceived risk. In recent years, especially after the COVID-19 pandemic, issues such as destination safety, travel risk, etc. have become popular. Yen, Tsaur, and Tsai (2021) developed the destination safety climate scale to assess the safety perceptions of destinations. This scale was used in this study. However, the dimension of local people-tourist interaction was transformed into a separate scale based on the attitudes and behaviours of local people towards visitors by taking advantage of the studies of Fuchs and Reichel (2006), Batra (2008), and George (2009) in the literature. Similarly, general risk perception, which was considered a dimension in the scale developed by Yen, Tsaur, and Tsai (2021), was organised as general risk perception towards the destination by utilising the studies of Fuchs and Reichel (2006), Batra (2008), and George (2009). After re-evaluating the scales used in the study, exploratory and confirmatory factor analyses were conducted, revealing that the model fit values were acceptable. As a result of the factor analyses, it was observed that the model fit values were acceptable.

The study found that the destination safety climate influences the general risk perception of the destination for Hypothesis 1. In this case, a negative effect is observed; as the destination safety climate improves, the overall risk perception of the destination decreases. The negative impact of the destination safety climate on the general risk perception of the destination reinforces previous studies' results (Sharma et al., 2020; Singh & Jena, 2023; Xu et al., 2024). According to Xu et al. (2024), enhancing the safety climate of a destination significantly reduces the general perception of risk associated with that destination. Singh and Jena (2023) also found a negative relationship between general risk perceptions of the destination and destination safety climate. Sharma et al. (2020) similarly concluded that the effect of destination safety on risk perception was a valid predictor of their supportive intention. These findings suggest that improving a destination's safety measures and overall safety climate can positively impact tourists' risk perception and purpose to support the destination. Therefore, it is the responsibility and opportunity of destination managers to enhance safety protocols, attract more visitors, and improve the tourism experience.

Hypothesis 2 shows that the destination safety climate influences the attitudes and behaviours of local people toward visitors. This leads to a negative impact, and the increase in the level of destination safety climate leads to a decrease in the perception of local people's attitudes and behaviours towards visitors. The findings supporting Hypothesis 2 align with previous studies by Lai et al. (2021) and Yas et al. (2020) on how destination safety climate influences the attitudes and behaviours of local people towards visitors. Lai et al. (2021) also found that residents' attitudes toward tourists and destination safety significantly. Yas et al. (2020) found that destination safety, which supports cultural and religious diversity, is the most decisive factor affecting residents' attitudes toward tourists. These findings suggest that destination safety shapes local attitudes toward visitors. Understanding and improving safety perceptions can enhance the visitor experience and promote positive interactions between tourists and residents.

Hypothesis 3 establishes a cause-effect relationship where the attitudes and behaviours of local people towards visitors influence their general risk perception of the destination. In this case, a negative effect is observed: as the attitudes and behaviours of residents toward tourists improve, the overall risk perception of the destination decreases. This implies that fostering positive interactions between locals and tourists can help mitigate perceived risks associated with the destination. Promoting a welcoming and supportive environment for tourists can enhance destinations' overall appeal and perception of safety. The attitudes and behaviours of local people towards visitors negatively influenced the general risk perception of the destination, which is in line with previous studies. Shen et al. (2022) confirmed that the attitudes and behaviours of local people towards visitors are the strongest determinants of general risk perception of the destination. Tse and Tung (2022) also found that active (socialising, interacting, and starting a conversation with tourists) and passive (tolerating, accepting, and enduring tourists' behaviours) facilitation of residents' interactions with tourists can partially reduce their risk perception. Šegota et al. (2022)



similarly found that when residents and tourists have a close relationship, locals better understand tourists and help them assess the risks they perceive. This shows that when tourists positively interact with residents, they view the risks at their destination more favourably.

Accepting the first three hypotheses in the study met the condition for testing Hypothesis 4. A path analysis for Hypothesis 4 was conducted using the AMOS program to assess the mediation effect. The results of the path analysis indicate that the model fits the data well. Hypothesis 4 suggests that the attitudes and behaviours of local people towards visitors partially mediate the relationship between destination safety climate and the general risk perception of the destination. In this case, a positive effect is noted, where an increase in destination safety climate leads to a decrease in the negative general risk perception towards the destination. This finding highlights the importance of fostering a positive safety climate in destinations to mitigate negative risk perceptions among visitors. This also highlights how residents can shape visitor experiences with their actions and attitudes.

This study has various implications for governments and tourism sector stakeholders as they design policies around destination safety and marketing to manage the effects of tourism and enhance local and tourist relations. For instance, understanding and promoting favourable perceptions of tourism practices among residents can enhance destination sustainability and improve community quality of life. As the tourism industry changes, it is crucial to focus on the well-being and viewpoints of local communities for a positive relationship with tourism. From tourists' perspectives, various elements, such as personal traits, upbringing, and environmental factors, may impact how people perceive their level of security. Acquiring detailed information about new destinations is crucial for individuals, especially when venturing abroad for the first time. Although pre-travel safety concerns are minimal, post-travel safety and risk perception encompass broader details and factors, varying with individual experiences. Factors such as language barriers, cultural differences, and unfamiliar surroundings can all contribute to feelings of insecurity after arriving at a new destination. Tourists must remain vigilant and adaptable to navigate these potential risks effectively. Within the framework of all this information, this study underscores the importance of considering the attitudes and behaviours of residents in shaping the overall destination safety climate and the need for collaborative efforts to foster a riskless tourism environment.

Finally, the findings can help destination managers better understand locals and tourists. This understanding can enable tourism businesses to reposition their products, particularly security activities, by aligning them with residents' preferences and reactions towards welcoming tourists to various destinations. For instance, rather than prioritising enhanced law enforcement measures, destination managers could adopt strategies to foster a welcoming environment for tourists and greater integration between tourists and residents, thereby improving the potential and advantages of sustainable and secure tourism development.

While destination safety is extensively researched, the destination safety climate scale is a new and multidimensional construct. Future research should refine this scale. When testing other attractive tourism destinations or cities, future researchers may consider adding revisit intention, tourist loyalty, tourist satisfaction, or tourism impacts to the conceptual model. Additionally, researchers can explore how artificial intelligence applications impact trust and risk perceptions in the local community-tourist relationship.

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## Kurumsal ve Sosyal Güvenin Yaşam Memnuniyetine Etkisi: Türkiye Üzerine Bir İnceleme

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### The Effect of Institutional and Social Trust on Life Satisfaction: A Study on Türkiye

#### Abstract

This study examines the relationship between social trust, institutional trust, and individual life satisfaction based on the seventh round of the World Values Survey data conducted in Türkiye between 2017 and 2020. The research results show a positive and statistically significant relationship between social and institutional trust and individual life satisfaction. Considering the control variables, the relationship between social trust, institutional trust and individual life satisfaction continues. By highlighting the complexity of the relationship between types of trust and life satisfaction, the research provides an important foundation for future research. The role of trust in policies and interventions to improve the well-being of society needs to be considered, and further research is required.

**Keywords** : Life Satisfaction, Institutional Trust, Social Trust.

**JEL Classification Codes** : I31, I39.

#### Öz

Bu çalışma, Türkiye’de 2017-2020 yılları arasında gerçekleştirilen Dünya Değerleri Araştırması’nın yedinci turu verilerine dayanarak, sosyal güven ve kurumsal güven ile bireysel yaşam memnuniyeti arasındaki ilişkiyi incelemektedir. Araştırma sonuçları, sosyal ve kurumsal güven ile bireysel yaşam memnuniyeti arasında pozitif ve istatistiksel olarak anlamlı bir ilişki olduğunu göstermektedir. Kontrol değişkenleri dikkate alındığında, sosyal güven, kurumsal güven ve bireysel yaşam memnuniyeti arasındaki ilişki devam etmektedir. Araştırma, güven türleri ve yaşam memnuniyeti arasındaki ilişkinin karmaşıklığını vurgulayarak, gelecekteki araştırmalar için önemli bir temel oluşturmaktadır. Toplumun yaşam memnuniyetini artırmaya yönelik politikalar ve müdahalelerde güvenin rolünün dikkate alınması ve daha fazla araştırma yapılması gerekmektedir.

**Anahtar Sözcükler** : Yaşam Memnuniyeti, Kurumsal Güven, Sosyal Güven.

## 1. Giriş

Güven, çeşitli sosyal etkileşimlerde temel bir unsurdur ve sosyal sermaye teorisinde önemli bir yer tutar (Thielmann & Hilbig, 2015: 251). Sosyal sermaye teorisi bağlamında, güven, sosyal sermayenin bir bileşeni olarak tanımlanır ve bireylere güven ile kurumlara güven olmak üzere iki boyuta sahiptir (Paxton, 1999: 95). İlk boyut, genellikle bireylere duyulan güveni ifade ederken, ikinci boyut ise kurumlara olan güveni vurgular. Güven, ilişkilerin risklerini azaltmaya ve işlem maliyetlerini düşürmeye yardımcı olarak, koordinasyonu kolaylaştırıcı bir rol üstlenmektedir (Nooteboom, 2007: 12). Toplumda kurumsal güvenin ölçülmesi çeşitli göstergelere dayanır. Bu göstergeler arasında devlete ve devlet kurumlarına duyulan saygının derecesi, halkın karar süreçlerine katılım düzeyi, sivil toplum kuruluşlarının yaygınlık düzeyi, bireylerin sivil toplum örgütlerindeki görevleri, bu örgütlerde gönüllü olarak harcanan ortalama aylık hizmet saatleri, firmaların büyüklükleri ve yönetim yapıları, birikimlerin değerlendirilme yöntemleri, firmaların faaliyet alanlarının yaygınlığı gibi faktörler bulunmaktadır. Bu göstergeler, kurumsal güvenin derinlemesine anlaşılması ve değerlendirilmesi için kullanılmaktadır. Rotter (1967), bireysel güven ölçeğini oluştururken, güven kavramını merkeze almış ve bunu, bir kişi veya grubun, karşısındaki kişi veya grubun söz ve davranışına duyduğu itimat şeklinde tanımlamıştır. Ancak, bu güven ölçeklerinin kapsamı sınırlıdır ve güvenin risk alma ile ilişkisini ve kurum içi yapısal ilişkilere bağlı olması ihmal edilmektedir (Börü vd., 2007: 52). Bu nedenle, güven kavramını daha kapsamlı bir şekilde ele almak ve çeşitli bağlamlarda incelenmesi gerekmektedir.

Güncel araştırmalar, güvenin yaşam kalitesiyle ilgili öznel göstergeler üzerindeki etkisine odaklanmış ve özellikle yaşam memnuniyeti üzerindeki etkisine vurgu yapmaktadır. (Jovanovic, 2016; Leung et al., 2011). Bu araştırmalar, güvenin yaşam memnuniyeti ve mutluluk üzerindeki etkilerini anlamak amacıyla yapılmıştır. Örneğin, Jovanovic (2016) güvenin yaşam memnuniyeti üzerindeki rolünü incelemiş ve Leung ve diğerleri (2011) ise güvenin farklı kültürel ve sosyal bağlamlarda nasıl değişebileceğini araştırmıştır. Yaşam memnuniyeti, bireyin yaşamını bilişsel ve duygusal açıdan değerlendirmesini ifade eden bir kavram olarak tanımlanmaktadır (Diener et al., 1985: 72).

Araştırmalar, güvenin artmasının, bireylerin daha yüksek bir yaşam memnuniyetine ve mutluluğa sahip olmalarıyla ilişkili olduğunu göstermektedir (Gökalp, 2003). Özellikle, güveni yüksek olan bireylerin daha mutlu oldukları bulgulara dayanmaktadır. Güven duygusu, bireylerin ilişkilerindeki riskleri azaltarak daha yüksek yaşam memnuniyetine sahip olmasını sağlamaktadır. Bu bağlamda, güvenin bireylerin yaşam kalitesine olumlu bir katkıda bulunduğu söylenebilir (Mironova, 2015). Türkiye açısından bu konuyu yorumlarken, güvenin toplumun çeşitli alanlarında önemli bir rol oynadığı görülmektedir (Girgin & Bayar, 2019: 59).

Yüksek güven seviyeleri, bireyler arasındaki ilişkilerin daha sağlam temeller üzerine inşa edilmesini sağlar ve toplumsal dayanışmayı artırır (Boztepe, 2013: 55). Bu da işbirliği, koordinasyon ve etkileşim açısından olumlu sonuçlar doğurabilir. Girgin ve Bayar (2019)

yaptıkları çalışmada, Türkiye’de güvenin düşük olduğunu ve buna karşılık yaşam memnuniyetinin de genel olarak düşük olduğunu belirtmişlerdir. Bu durum, toplumdaki güvensizlik duygusu ve kurumlara olan güven eksikliği ile ilişkilendirilebilir. Siyasi, ekonomik veya sosyal faktörler güvenin azalmasına katkıda bulunabilir; insanların yaşam kalitesi üzerinde olumsuz etkilere sahip olabilir.

Türkiye’deki ekonomik krizler ve piyasalardaki dalgalanmaların kurumsal ve bireysel güvenle ilişkilendirilmesi sık sık gündeme gelmiştir ve bu iddiaların veri analizine dayalı olarak incelenmesi önem taşımaktadır (Akgün, 2001: 5). Akademik araştırmalar, güvenin oluşturulması ve güven duygusunun güçlendirilmesi konusunda kurumların etkin rol oynaması gerektiğini vurgulamaktadır. Yüksek düzeyde güvene dayalı bir toplumun hedeflenmesi, bireylerin yaşam memnuniyetini olumlu yönde etkileyebilir ve sosyal, siyasi ve ekonomik alanlarda olumlu gelişmelerin sağlanmasına katkıda bulunabilir. Bu nedenle, Türkiye’deki akademik ve siyasi çevrelerin, güvenin oluşturulması ve sürdürülmesi için daha fazla araştırma yapması, politika önerileri sunması ve etkili adımlar atması gerekmektedir.

Bu çabalar, Türkiye’nin toplumsal ve ekonomik kalkınmasını desteklemek ve bireylerin yaşam kalitesini artırmak amacıyla önemlidir (Zak & Knack, 2001: 297). Güven, toplumların istikrarı, sosyal uyumu ve ekonomik gelişimi için temel bir faktördür (Jovanovic, 2016: 287). Türkiye, siyasi ve ekonomik dalgalanmaların yaşandığı bir coğrafyada bulunması sebebiyle güven sorunlarıyla sık sık karşılaşmaktadır. Araştırmalar, Türkiye’deki güven düzeylerinin zaman zaman dalgalanmalar gösterdiğini ortaya koymaktadır. Siyasi belirsizlikler, terör olayları, ekonomik krizler ve sosyal çatışmalar gibi faktörler, güven düzeyini olumsuz etkilemektedir. Dünya Değerler Araştırması’nın yedinci dalgasından elde edilen verilere göre Türkiye’de güven seviyeleri incelendiğinde, sosyal güvenin %85, polise güvenin %45, mahkemelere güvenin %25 ve hükümete güvenin ise %30 düzeyinde olduğu görülmektedir. Bu veriler, Türkiye’de genel anlamda güvenin istenilen düzeyin altında olduğunu göstermektedir. Sosyal güvenin yüksek olması, bireyler arasındaki kişisel ilişkilerin ve toplumsal dayanışmanın güçlü olduğunu gösterebilirken, diğer yandan polis, mahkemeler ve hükümet gibi kurumlara duyulan düşük güven, adalet sistemine ve siyasi otoriteye duyulan güvenin sınırlı olduğunu işaret etmektedir. Bu değerler Türkiye’nin toplumunda da güven sorunu olduğunu göstermektedir ve birçok etken, güvenin azalmasına katkıda bulunmuştur.

Türkiye’de sosyal güven, toplumsal değişimler, siyasi istikrarsızlık, etnik ve kültürel çatışmalar, terör olayları ve ekonomik zorluklar gibi birçok faktörün etkisi altında gelişmektedir. Bu sorunlar, bireylerin birbirlerine olan güvenini zedelerken, toplumun sosyal dokusunu da zayıflatmaktadır (Algan & Cahuc, 2010: 3). Sosyal güven eksikliği, bireyler arasında artan korku, şüphe ve ayrışmayı tetikleyerek toplumsal bağları koparmaktadır (Bäck & Kestilä, 2009: 180). Bu bağlamda, toplumun güven duygusunun zedelenmesi, sosyal bütünleşmeyi ve uyumu olumsuz yönde etkileyebilir. Güven eksikliği, insanların birbirlerine olan inancını sarsabilir ve toplum içinde daha fazla çatışma ve ayrışma eğilimlerini teşvik edebilir. Ayrıca, toplumun birlikte çalışma, dayanışma ve ortak hedeflere

yönelme gibi önemli unsurları da olumsuz etkilenebilir. Bu yüzden, Türkiye’de yaşanan siyasi, ekonomik ve sosyal değişimler, güven duygusunu olumsuz etkileyebilir ve insanların birbirlerine olan inancını zayıflatabilir.

Türkiye’de kurumsal güven sorunları da önemli bir konudur. Siyasi ve ekonomik kurumların güvenilirliğindeki eksiklikler, toplumun kurumlara olan güvenini zedelerken, adalet, şeffaflık, hesap verebilirlik ve etkin yönetim gibi önemli kurumsal değerlerin zayıflamasına neden olmaktadır (Akgün, 2001). Yolsuzluk, nepotizm, siyasi manipülasyonlar ve yavaş işleyen yargı sistemi gibi sorunlar, kurumsal güvenin erozyonunu hızlandırmaktadır. Bu sorunlar, toplumun kurumlara olan güvenini zedelerken, ülkenin sürdürülebilir kalkınma hedeflerini olumsuz etkileyebilir. Bu nedenle, bu sorunların çözümü için önlemler alınması ve kurumsal güvenin sağlanması büyük önem taşımaktadır. Akademik çalışmalar, bu sorunların analiz edilmesi ve çözüm önerilerinin geliştirilmesi konusunda önemli bir katkı sağlamaktadır.

Yaşam memnuniyeti kavramı ise, yaşam doyumu ve mutluluk kavramları ile birlikte ele alınmakta olup subjektif bir değer ve ölçü olarak kabul edilmektedir. Bu kavram, 1980’li yıllardan bugüne kadar birçok akademik araştırma konusu olmuştur (Campbell, 1981; Diener et al., 1985). Yaşam memnuniyeti, bireysel yaşam kalitesini değerlendirme ölçüsüdür. Gelir, iş durumu, sağlık, aile, sosyal ilişkiler, güvenlik, özgürlük, ahlaki değerler gibi birçok faktör yaşam memnuniyetini etkilemektedir. Yaşam memnuniyeti, tüm bireylerin elde etmek istediği yaşamın en temel amacı olarak kabul edilmektedir (Dumludağ et al., 2016). Türkiye’de güven düzeyi ile yaşam memnuniyeti arasında güçlü bir ilişki tespit edilmektedir. Araştırmalar, yüksek güven düzeyine sahip bireylerin genellikle daha yüksek yaşam memnuniyetine sahip olduğunu ortaya koymaktadır (Jovanovic, 2016; Meçe, 2021). Bu durum, güvenin bireylerin sosyal ilişkilerini güçlendirdiği, toplumsal dayanışmayı teşvik ettiği ve olumlu bir yaşam deneyimi sağladığı şeklinde yorumlanabilir. Bu nedenle, Türkiye’de güven düzeyini artırmak, bireylerin yaşam memnuniyetini iyileştirmek için önemli bir hedef olmalıdır.

Bu çalışmada, 2017-2020 yılları arasında Türkiye’de gerçekleştirilen Dünya Değerleri Araştırması’nın yedinci turu verilerine dayanarak sosyal güven, kurumsal güven ve bireysel yaşam memnuniyeti arasındaki ilişkiyi incelemektedir. Araştırma, bu üç değişken arasındaki ilişkinin karmaşıklığını vurgulayarak, gelecekteki araştırmalar için önemli bir temel oluşturmaktadır. Çalışmanın amacı, sosyal güven ve kurumsal güvenin bireysel yaşam memnuniyeti üzerindeki etkisini anlamak ve bu ilişkiyi analiz etmektir. Bu bağlamda, araştırma yöntemi, Dünya Değerleri Araştırması’nın yedinci turu verilerini kullanarak istatistiksel analizler gerçekleştirilmesini içermektedir ve araştırma sonuçları, sosyal ve kurumsal güven ile bireysel yaşam memnuniyeti arasında pozitif ve anlamlı bir ilişki olduğunu ortaya koymaktadır. Bu bağlamda araştırma toplumun yaşam memnuniyetini artırmaya yönelik politikalar ve müdahalelerde güvenin rolünün dikkate alınması gerekliliğini vurgulamaktadır. Güvenin, bireylerin yaşam memnuniyetini etkileyen önemli bir faktör olduğunu göstermektedir. Dolayısıyla, bu çalışma, sosyal ve kurumsal güvenin

artırılmasının toplumsal yaşam ve bireysel mutluluğu nasıl etkileyebileceğini anlamak için analiz sunmaktadır.

## **2. Literatür**

### **2.1. Güven Kavramı**

Farklı disiplinlerde birçok yazar güveni tanımlamaya ve modellemeye çalışmıştır. Ancak güvenin tanımı konusunda tam bir uzlaşma sağlanamamıştır. Buna rağmen güven ile yapılan tanımların bireysel beklentiler ve inançlar üzerinde yoğunlaştığı görülmektedir. (Tüzün, 2007: 9) Rousseau vd. (1998: 395) güveni "kişinin, diğer tarafın niyet ya da davranışlarıyla ilgili olumlu beklentileri" olarak tanımlamaktadır. Belanger & Carter (2008: 167) güveni "hizmeti sağlayan kurumun bütünlüğü ve yeteneğine ilişkin kişinin algısı" olarak açıklamaktadır.

Güven türlerine ilişkin pek çok sınıflandırma görülmektedir (Shapiro et al., 1999: 366-376; Rousseau et al., 1998: 398-401; Muthusamy & White, 2005: 420-23). Literatürde çoğunlukla yer alan güven çeşitleri; kişisel güven, sosyal güven (genel güven) ve kurumsal güven şeklindedir (Aslan, 2016: 187-188). Sosyal güven, "insanların tanımadıkları diğer insanlara güvenme derecesi" olarak tanımlanmaktadır (Andreasson, 2017: 11). Sosyal güven toplumda yabancılar da dâhil, insanların genel olarak tüm insanlara güven duyması olarak açıklanmaktadır. Sosyal güven başat iki teoriye dayanmaktadır. İlk yaklaşıma göre güven, bireyin temel kişisel nitelikleri olan, yaş, gelir, eğitim ve sosyal sınıf gibi bireyin sosyo-demografi özelliklerine bağlı olarak oluşmaktadır. İkinci yaklaşım ise kişinin üyesi olduğu toplumun sosyal sistemin niteliğine odaklanmaktadır (Dogan & Erdogan, 2015).

Kurumsal güven, hükümetlere, siyasi otoritelere veya diğer sosyal kurumlara duyulan güveni içerdiğinden kavramsal olarak sosyal güvenden farklıdır (Glatz & Eder, 2020: 418). Akademisyenler, karar vermeyi kolaylaştırmak ve demokratik kurumların doğru işlemlerini sağlamak için kurumsal güvenin gerekli olduğunu savunuyorlar (Ciziceno & Travaglino, 2019: 686). Birçok çalışma, sosyal güven ile kurumsal güvenin ilişkili olduğunu ortaya koymuştur. Nannestad'ın (2014: 556), Sønderskov ve Dinesen'in (2014: 783) ve Zmerli ile Newton'un (2008: 706) çalışmaları, kurumsal güvenin sosyal güveni etkileyen önemli bir faktör olduğunu vurgulamaktadır. Sønderskov ve Dinesen (2016: 197) yine aynı şekilde, devlet kurumlarına duyulan güvenin zamanla sosyal güveni nasıl etkileyebileceğini belirtmişlerdir. Bu bağlamda, toplumda güven eksikliğinin çeşitli sorunlara neden olabileceği önemle vurgulanmaktadır.

### **2.2. Yaşam Memnuniyeti Kavramı**

Yaşam memnuniyeti, bireylerin kendi yaşamlarını değerlendirdikleri ve ne ölçüde tatmin olduklarını ifade eden önemli bir kavramdır (Diener, 1984: 542). Yaşam memnuniyeti kavramı, genel olarak insanların yaşamlarından duydukları memnuniyeti ifade eder ve duygusal bir arka plana sahiptir. Bu kavram, bireyler için oldukça önemlidir çünkü yaşamın kalitesini belirlemede önemli bir rol oynar. Ancak, yaşam kavramının geniş ve

karmaşık yapısı, yaşam memnuniyetini tanımlamayı ve etkileyen faktörleri belirlemeyi zorlaştırmaktadır. Bu nedenle, yaşam memnuniyeti kavramı üzerinde genel bir fikir birliği bulunmamaktadır (Polatçı, 2015: 29). Yaşam memnuniyeti, bireylerin genel olarak yaşamlarını ne ölçüde olumlu bir şekilde değerlendirdiklerini ifade eder. Bu, insanların yaşadıkları hayattan ne kadar keyif aldıklarını yansıtır. Ayrıca, bu kavram, yaşamla ilişkilendirilen olumlu duyguları tanımlar. Bu duygular, bireylerin hayatlarının çeşitli yönlerinden elde ettikleri tatmin, mutluluk ve huzuru içerebilir (Diener, 1984). Bu bağlamda yaşam memnuniyeti, insanların subjektif olarak yaşamlarını nasıl algıladıklarını ve değerlendirdiklerini anlamak için önemli bir araçtır (Veenhoven, 1996). Bu kavramın anlaşılması, bireylerin mutluluğunu artırmaya yönelik politika ve müdahalelerin geliştirilmesinde değerli bir rol oynar.

Türkiye’de, yaşam memnuniyeti araştırmaları, bireylerin mutluluk düzeylerini anlamak, toplumun yaşam kalitesini değerlendirmek ve politika yapıcıların kararlarını bilimsel temellere dayandırmak için büyük bir öneme sahiptir. Türkiye’de gerçekleştirilen yaşam memnuniyeti araştırmaları genellikle anketler ve ölçekler aracılığıyla yapılmaktadır (TÜİK, 2021). Bu çalışmalarda, bireylerden kendi yaşamlarını değerlendirmeleri, genel yaşam memnuniyetlerini ifade etmeleri ve farklı yaşam alanlarını (gelir, iş, sağlık, sosyal ilişkiler gibi) değerlendirmeleri istenmektedir. Araştırmaların sonuçları, Türkiye’deki yaşam memnuniyetinin belirli bir zaman diliminde nasıl değiştiğini ve hangi alanlarda iyileşme veya zorluklar olduğunu ortaya koymaktadır. Araştırmalar, yeterli gelire sahip olmanın ve ekonomik istikrarın yaşam memnuniyetini artırdığını göstermektedir (Ulutürk-Akman, 2021: 40). Aynı şekilde, sosyal ilişkiler ve aidiyet duygusu da yaşam memnuniyetini etkileyen önemli faktörlerdir (Acar, 2019: 147). Aile bağları, arkadaşlık ilişkileri, toplumsal dayanışma, sosyal destek ağları ve güven, bireylerin yaşam memnuniyetini olumlu yönde etkileyebilir. Sağlık durumu da yaşam memnuniyeti üzerinde büyük bir etkiye sahiptir. İyi bir fiziksel ve ruhsal sağlık durumu gibi faktörler bireylerin yaşam memnuniyetini artırmaktadır (TÜİK, 2021). Bu faktörler, Türkiye’deki yaşam memnuniyetinin anlaşılmasına ve iyileştirilmesine katkıda bulunur. Söz konusu bu araştırmalar, politika yapıcıların bu faktörleri göz önünde bulundurarak politikalarını şekillendirmeleri ve toplumun genel mutluluğunu artırmak için stratejiler geliştirmeleri gerektiğini vurgulamaktadır (Ulutürk-Akman, 2021: 63). Kısacası, yaşam memnuniyeti, bireylerin yaşam koşulları, beklentileri, değerleri ve kişisel tatminleri ile ilgili bir kavramdır.

Literatürde, yaşam memnuniyetinin politikacılar tarafından öncelikli bir konu olarak algılanması gerektiğini savunan araştırmalar bulunmaktadır. Bu çalışmalar, yaşam memnuniyetinin toplumun refahını ve kalitesini etkileyen önemli bir faktör olduğunu vurgulamaktadır (Diener & Seligman, 2004: 2). Politikacılar, toplumun mutluluğunu artırmak ve insanların daha iyi bir yaşam sürmelerini sağlamak için politikalar oluştururken yaşam memnuniyetinin önemini anlamalıdır (Kahneman & Krueger, 2006: 22). Çünkü hükümetlerin aldığı kararlar ve uyguladığı politikalar, bireylerin yaşam kalitesini etkileyebilir. Yaşam memnuniyeti araştırmaları, politikacılara toplumun ihtiyaçlarını ve önceliklerini anlamada ve politika kararlarına yön vermede yardımcı olabilir. Bireylerin temel ihtiyaçlarının daha büyük bir öneme sahip olduğu ekonomik kalkınmanın erken

dönemlerinde, büyüme ile yaşam memnuniyeti arasında pozitif bir ilişki bulunmaktadır (Acar, 2019). Ancak toplum gelir düzeyleri arttıkça ve belirli bir mutluluk seviyesine ulaştıkça, yaşam memnuniyetinin gelire bağlı olma eğilimini azaltan araştırmalar da mevcuttur (Diener & Seligman, 2004: 2).

Bu araştırmaların akademik ve bilimsel niteliği, ölçüm araçlarının güvenilirliği ve geçerliliği üzerinde durulur (Veenhoven, 1996: 16). Ayrıca, araştırmaların örneklem seçimi ve temsil edicilik konularında dikkatli olunması önemlidir. Bu tür çalışmalar, genellikle istatistiksel analizler ve sonuçların raporlanmasıyla birlikte sunulur. Yaşam memnuniyeti araştırmaları, Türkiye’de sosyal politika ve refah programları geliştirilmesinde ve toplumun genel mutluluk düzeyini yükseltmeye yönelik adımların atılmasında önemli bir rol oynamaktadır.

Çünkü, Türkiye’de (ekonomik, kültürel ve sosyal çeşitlilik gösteren bir ülke) ise yaşam memnuniyeti analizlerinde farklılıklar gözlemlenmektedir (Eren & Aşıcı, 2015: 248). Bu farklılığın nedenleri arasında sosyal ilişkiler ve çalışma hayatından keyif alma gibi faktörler öne çıkmaktadır. Kahneman ve Deaton (2010) bireylerin sosyal ilişkilerinin ve iş yaşamlarının yaşam memnuniyetlerini etkilediğini göstermektedir. Sosyal ilişkiler, insanların güven ve bağlılık duygusuyla birlikte anlamlı ilişkiler kurmalarını sağlar. Güçlü sosyal ağlara sahip olmak, destek ve sosyal bağlantılarla dolu bir çevreyle etkileşimde bulunmak, bireylerin yaşam memnuniyetini artırabilir.

21. yüzyılda yaşam memnuniyeti alanına yönelik yapılan araştırmalar son derece büyük bir önem kazanmıştır. Yaşam memnuniyeti, bireylerin kendilerini tatmin ve mutlu hissetme düzeyini yansıtan bir refah ölçütü olarak kabul edilmektedir (Özdemir & Öztürk, 2015: 195) Aynı zamanda, bir toplumun veya bir ülkenin gelişmişlik seviyesinin bir göstergesi olarak da değerlendirilmektedir. Bu nedenle, hükümetler kamu politikalarını şekillendirirken, yaşam memnuniyeti verilerinden yararlanma eğilimindedir ve ulusal ve uluslararası çeşitli araştırmalar yapılmıştır (Gül, 2017: 16).

Bu araştırmalar, bireylerin yaşam kalitesini anlamak, toplumsal ve ekonomik politikaların etkilerini değerlendirmek ve refahı artırmaya yönelik müdahaleleri planlamak için önemli bir kaynak sağlamaktadır (Aydın, 2020: 140). Araştırma sonuçları, politika yapıcılarının, sosyal hizmet uzmanlarının ve diğer ilgili paydaşların yaşam memnuniyetini artırmaya yönelik stratejiler geliştirmesine katkı sağlamaktadır. Söz konusu çalışmalar, temel veriler ve analitik bulgular sunarak, refahı etkileyen faktörleri anlama ve müdahalelerin etkisini değerlendirme konusunda bilimsel bir temel oluşturmaktadır. Bu bilgiler, politika yapıcıların toplumun refahını iyileştirmek için daha etkili kararlar almasına ve diğer paydaşların ilgili politikaları ve programları şekillendirmesine yardımcı olmaktadır.

Ek olarak yaşam memnuniyeti araştırmaları, ulusal düzeydeki verilerin yanı sıra uluslararası karşılaştırmaları da içerebilir (Yemişçigil & Dolan, 2015: 170). Bu yaklaşım, farklı ülkeler arasındaki yaşam memnuniyeti düzeylerini karşılaştırmak ve en iyi uygulamaları belirlemek için kullanılmaktadır. Bu tür karşılaştırmalar, politika yapıcıların



ve uluslararası kuruluşların refahı artırmaya yönelik politikalar ve programlar geliştirmelerine yardımcı olabilir. Sonuç olarak, 21. yüzyılda yapılan yaşam memnuniyeti araştırmaları, toplumun refah düzeyini anlamak, politika yapıcıları bilgilendirmek ve mutluluğu artırmaya yönelik müdahaleleri planlamak için önemli bir araç haline gelmiştir.

### 2.3. Güven ve Yaşam Memnuniyeti Arasındaki İlişki

Günümüz toplumlarında, bireylerin ihtiyaçlarını karşılamak ve hayatlarını düzenlemek genellikle resmi kurumlar aracılığıyla gerçekleşmektedir. Bu kurumlar, sağlık, eğitim, adalet gibi temel hizmetleri sunarken aynı zamanda toplumun düzenini sağlayan yapılar olarak işlev görürler. Resmi kurumlar, insanların hayatlarını etkinleştiren ve güvende hissettiren unsurlar olmakla birlikte, bazı durumlarda da kısıtlayıcı olabilmektedirler. Bu nedenle, resmi kurumlara duyulan güven, bireylerin yaşam memnuniyeti üzerinde doğrudan etkiye sahip bir önemli faktördür (Berggren & Bjørnskov, 2020: 4). Toplumda genel olarak insanlara duyulan güven, sosyal ilişkilerin temel dayanağıdır ve toplumdaki bilgi alışverişini sağlayarak bireylerin yaşam başarılarına yardımcı olan kaynakları besler (Meçe, 2021: 456). Güven, insanların birbirlerine olan inancını ve toplumda diğer bireylerle etkileşimde bulunma cesaretini artırır. Böylece, güvenin varlığı toplumsal ilişkilerin sağlıklı bir şekilde işlenmesini ve dayanışmanın gelişmesini sağlar.

Yaşam memnuniyeti üzerine yapılan araştırmalarda ise, güven kavramının bireysel mutluluğu etkileyen önemli bir faktör olduğu tespit edilmiştir. Ancak, bu ilişki üzerinde yapılan araştırmaların sonuçları bazen farklılık gösterebilir. Bazı araştırmalarda sosyal güven ile yaşam memnuniyeti arasında negatif bir ilişki olduğu belirtilirken (Mironova, 2015: 132), diğer bazı araştırmalarda ise sosyal güven ile yaşam memnuniyeti arasında pozitif bir ilişki olduğu ortaya konmuştur (Glatz & Eder, 2020: 434). Aynı şekilde, kurumsal güven ile yaşam memnuniyeti arasındaki ilişkinin de pozitif olarak bulunduğu ifade edilmektedir (Glatz & Eder, 2020: 435).

Ancak, Türkiye’de güven ile yaşam memnuniyeti arasındaki ilişki hakkında yapılan çalışmaların sayısı sınırlıdır. Bu nedenle, bu çalışma Dünya Değerler Araştırması’nın 2017-2022 yıllarında elde edilen verileri analiz ederek sosyal güven ve kurumsal güven gibi çeşitli güven türleri ile yaşam memnuniyeti arasındaki ilişkiyi Türkiye örneğinde incelemeyi hedeflemektedir. Araştırma, güven ve yaşam memnuniyeti arasındaki ilişkiyi anlamak için sosyal güven ve kurumsal güven gibi farklı güven türlerini ele alacaktır. Araştırmanın temel sorusu şu şekildedir: “Güven ile yaşam memnuniyeti arasında hangi düzeyde bir ilişki bulunmaktadır?” Bu bağlamda, araştırmanın hipotezleri şu şekildedir:

H1: Sosyal güven, bireylerin yaşam memnuniyeti ile pozitif bir ilişki içerisindedir.

H2: Kurumsal güven, bireylerin yaşam memnuniyeti ile pozitif bir ilişki içerisindedir.

H3: Sosyal güven ve kurumsal güven, kontrol değişkenleri (yaş, eğitim, gelir, medeni hal, dinin önemi) ile birlikte bireylerin yaşam memnuniyeti ile pozitif bir ilişki içerisindedir.

Bu araştırma, Türkiye'deki güven ve yaşam memnuniyeti arasındaki ilişkinin daha iyi anlaşılmasına katkı sağlayacak ve toplumun refahını artırmak için etkili politika önerileri sunmaya yardımcı olacaktır. Çalışmanın sonuçları, güven kavramının yaşam memnuniyetine olan etkisini vurgulayarak, resmi kurumların bireylerin yaşam kalitesini ve memnuniyetini artırmak için önemli bir rol oynayabileceğini ortaya koyacaktır. Aynı zamanda, güvenin farklı boyutlarının yaşam memnuniyeti üzerindeki etkilerini anlamak, toplumsal ilişkilerin güçlendirilmesi ve toplumun mutluluk düzeyinin yükseltilmesi için stratejiler geliştirmek açısından önemli bir rehberlik sunacaktır.

### **3. Yöntem**

Yaşam memnuniyeti, kategorik bir bağımlı değişken olduğundan, bu araştırma için analiz yöntemi olarak sıralı lojistik regresyon modeli tercih edilmiştir. Sıralı lojistik regresyon analizi, nitel veya sayısal olan bağımsız değişkenler ile sıralı veya kategorik olan bağımlı değişken arasındaki ilişkiyi göstermek ve model kurmak için kullanılmaktadır. Model, bağımlı değişkenin iki veya daha fazla kategoriye sahip olduğu ve bu kategorilerin bir sıralamaya sahip olduğu durumlar için kullanılır. Bu sıralama, modelde bir ölçek kavramı oluşturur.

Diğer modellere benzer şekilde, Sıralı lojistik regresyon modelinde, olasılık oranları hesaplanır ve bu hesaplanan oranlar, modelin kümülatif odds (olasılık oranları) modeli olarak ifade edilir.

Sıralı lojistik regresyon modelinde, bağımlı değişkene ait J adet ordinal kategori bulunmaktadır. Bu kategorilerden biri referans kategori olarak seçildiğinde, J-1 adet kesme noktası tahmini yapılabilmektedir (Akın & Şentürk, 2012). Bu tahminler, her bir sıralı kategorideki olasılık için ayrı ayrı bilgi içermektedir. Modelin açıklaması ise elde edilen kümülatif modelin genel yapısı ile yapılmaktadır.

#### **3.1. Araştırmanın Örneklemi**

Bu çalışmada, 2017 ile 2022 yılları arasını kapsayan Dünya Değerler Araştırması'nın 7. Turu için Türkiye'den elde edilen veriler kullanılmıştır (Dünya Değerleri Araştırması, 2021). Katılımcı sayısı 2415'tir ve yaşları 18 ile 94 arasında değişmektedir. Katılımcıların cinsiyet dağılımı %50 kadın ve %50 erkek şeklindedir.

#### **3.2. Veri Analizi**

Bu çalışmada, sosyal güven ölçüsü, tek bir maddelik kapalı uçlu bir soru kullanılarak belirlenmiştir. Bu soru, katılımcılara şu şekilde yöneltilmiştir: "Genel olarak insanlara güvenilir mi, yoksa başkalarıyla ilişki kurarken veya iş yaparken dikkatli olmak mı gereklidir?" Yanıt seçenekleri, 1 (insanlara güvenilir) ve 2 (dikkatli olmak gerekir) olmak üzere iki puandan oluşmaktadır.

Kurumsal güven ise, beş maddelik bir soru kullanılarak değerlendirilmiştir. Bu soru, katılımcılara ülkelerindeki kurumlara karşı duydukları güveni ölçmek için tasarlanmıştır. Soru şu şekildedir: "Parlamento, hukuk sistemi, polis, politikacılar ve siyasi partilere kişisel olarak ne kadar güveniyorsunuz?" Yanıt seçenekleri ise 1 (tamamen güvenirim), 2 (biraz güvenirim), 3 (pek güvenmem) ve 4 (hiç güvenmem) şeklinde dört puandır. Bu beş maddelik ölçek daha önceki çalışmalarda da kullanılmıştır (Schmidhuber, 2021: 95; Meçe, 2021: 457).

Yaşam memnuniyeti, bu çalışmada tek bir kapalı uçlu bir soru kullanılarak ölçülmüştür. Soru şu şekildedir: "Genel olarak bugünlerde hayatınızdan ne kadar memnunsunuz?" Yanıt kategorileri, 1 (hiç memnun değilim) ile 10 (son derece memnunum) arasında değişmektedir. Araştırmada yaşam memnuniyeti, çok düşük ve düşük düzeyde yaşam memnuniyetine sahip olanlar (1-5), orta düzeyde yaşam memnuniyetine sahip olanlar (6-7) ve yüksek düzeyde yaşam memnuniyetine sahip olanlar (8-10) olarak tasnif edilmektedir.

Tablo 1’de, yaş dağılımı incelendiğinde, katılımcıların çoğunun 34 ile 55 yaş arasında olduğu görülmektedir (%45). Eğitim seviyeleri incelendiğinde ise, katılımcıların %58,3’ünün sekiz yıl veya daha az eğitime sahip olduğu belirlenmiştir.

**Tablo: 1**  
**Katılımcıların Sosyo-Demografik Özellikleri**

Katılımcıların Özellikleri	Katılımcı Sayısı	Yüzde (%)
<b>Cinsiyet</b>		
Kadın	1208	50,0
Erkek	1207	50,0
<b>Yaş</b>		
18-29	712	29,5
30-49	1.086	45,0
50-üzeri	616	25,5
-	(1 kişi cevap vermemiş)	
<b>Eğitim</b>		
8 yıl ve daha az eğitim alanlar	1409	58,3
Lise	585	24,2
Üniversite ve üstü	412	17,1
-	(9 kişi cevap vermemiş)	0,3

### 3.3. Araştırmanın Bulguları

Araştırmanın bulgularını incelemek için üç adım izlenmiştir. İlk adımda, sosyal güven ile yaşam memnuniyeti arasındaki ilişkinin gücünü ve yönünü belirlemek amacıyla regresyon analizi uygulanmıştır. Bu analizde elde edilen bulgular şu şekildedir: Regresyon analizi, sosyal güven ile yaşam memnuniyeti arasında pozitif bir ilişki olduğu belirlemiştir. Bu pozitif ilişkiyi ifade eden regresyon katsayısı 0.376 olarak hesaplanmıştır. Bu bulgu, sosyal güvenin artmasıyla yaşam memnuniyetinin arttığını işaret etmektedir.

Modelin istatistiksel anlamlılığı, F-testi ve p değeri kullanılarak değerlendirilmiştir. Analiz sonucunda, modelin istatistiksel olarak anlamlı olduğunu gösteren düşük bir p değeri ( $p = 0.0012$ ) elde edilmiştir. Bu durum, modelin sosyal güven ve yaşam memnuniyeti

arasındaki ilişkinin rastlantısal olmadığını ve verileri açıklamada anlamlı bir katkı sağladığını gösterir. Modelin genel uyumu R-kare değeri kullanılarak değerlendirilmiştir. Bu analizde elde edilen R-kare değeri 0.0052'dir. Bu değer, modelin varyansın sadece küçük bir yüzdesini açıkladığını gösterir. Dolayısıyla, modelin yaşam memnuniyeti ve sosyal güven arasındaki ilişkiyi tam olarak açıklamakta yetersiz olduğu düşünülmektedir. Sonuç olarak, analiz, sosyal güven ile yaşam memnuniyeti arasında pozitif bir ilişkinin olduğunu ve bu ilişkinin istatistiksel olarak anlamlı olduğunu göstermektedir. Ancak, modelin genel uyumunun düşük olması, yaşam memnuniyetini ve sosyal güveni etkileyen diğer faktörlerin de olduğunu düşündürmektedir.

İkinci adımda, yaşam memnuniyeti ile hükümete güven arasındaki ilişkiyi değerlendirmek üzere regresyon analizi gerçekleştirilmiştir. Analiz sonuçlarına göre; Yaşam memnuniyeti ile hükümete güven arasında pozitif bir ilişki belirlenmiştir. Elde edilen regresyon katsayısı 0.303'tür, bu da hükümete güvenin artmasıyla yaşam memnuniyetinin arttığını göstermektedir. Modelin istatistiksel anlamlılığı, F-testi ve p değeri kullanılarak değerlendirilmiştir. Analiz, modelin istatistiksel olarak anlamlı olduğunu gösteren düşük bir p değeri ( $p = 0.0000$ ) ortaya koymuştur. Bu durum, yaşam memnuniyeti ile hükümete güven arasındaki ilişkinin tesadüfi olmadığını ve modelin verileri açıklamada önemli bir rol oynadığını gösterir. Modelin genel uyumu R-kare değeri ile değerlendirilmiştir. R-kare değeri 0.0235 olarak hesaplanmıştır. Bu değer, modelin varyansın sadece küçük bir kısmını açıkladığını göstermektedir. Dolayısıyla birinci aşamada olduğu gibi burada da, modelin yaşam memnuniyeti ile hükümete güven arasındaki ilişkiyi tam olarak açıklamada yetersiz olduğu düşünülmektedir. Sonuç olarak, analiz hükümete güven ile yaşam memnuniyeti arasında pozitif bir ilişki olduğunu ve bu ilişkinin istatistiksel olarak anlamlı olduğunu göstermektedir. Ancak, modelin genel uyumunun düşük olması, yaşam memnuniyetini ve hükümete güveni etkileyen diğer faktörlerin de olduğunu düşündürmektedir.

Üçüncü adımsa ise, yaş, eğitim, medeni hal, dinin önemi ve gelir düzeyi gibi kontrol değişkenlerinin dikkate alındığı çoklu sıralı lojistic regresyon analizi gerçekleştirilmiştir. Bu analizde, sosyal güven ve kurumsal güvenin yaşam memnuniyeti ile ilişkili olup olmadığı araştırılmıştır. Çoklu sıralı lojistic regresyon analizi, birden fazla bağımsız değişkenin bağımlı değişken üzerindeki etkisini değerlendirmek için kullanılan bir istatistiksel yöntemdir (Çağlayan & Korkmaz, 2021: 267). Bu analiz, sosyal güven ve kurumsal güvenin yaşam memnuniyeti ile ilişkisini daha ayrıntılı bir şekilde anlamak ve diğer değişkenlerin etkisini kontrol etmek için kullanılmıştır.

Hipotez 1, sosyal güven ile bireysel yaşam memnuniyeti arasında pozitif bir ilişki olduğunu öne sürmüştür. Bu bulgular, sosyal güveni daha yüksek olan bireylerin genellikle yaşam memnuniyetlerinin de daha yüksek olduğunu göstermektedir. Basit sıralı lojistic regresyon analizi sonuçlarına göre (Tablo 2), sosyal güvenin bireysel yaşam memnuniyetine katkıda bulunduğu görülmüştür (Estimate = .453, SE = .110, Wald = 17.087,  $p = .00$ ). Bu analiz sonuçlarına göre, sosyal güvenin artmasıyla birlikte bireylerin yaşam memnuniyeti de odds değerine göre 1.57 (%95 güven aralığı 1.26-1.95) oranında artmaktadır.

Tablo 2’de, “Threshold” (eşik) satırında belirtilen referans kategorisi “Düşük düzey yaşam memnuniyeti” olarak tanımlanmıştır. Bu durum, diğer yaşam memnuniyeti düzeyleri ile “Düşük düzey yaşam memnuniyeti” kategorisi arasında karşılaştırmaların yapıldığını gösterir. Tablodaki model tahminleri, her bir yaşam memnuniyeti düzeyi için spesifik bir değeri ifade etmektedir. Örneğin, “Orta seviye yaşam memnuniyeti” için model tahmini 1.257 olarak belirtilmektedir. Bu, “Orta seviye yaşam memnuniyeti” düzeyindeki bireylerin, “Düşük düzey yaşam memnuniyeti” düzeyindeki bireylere kıyasla 1.257 kat daha yüksek bir olasılığa sahip olduğunu yansıtmaktadır.

Hipotez 2, kurumsal güvenin bireysel yaşam memnuniyeti ile pozitif bir ilişkisi olduğunu öne sürmüştür. Bu bulgular, kurumsal güveni yüksek olan bireylerin genellikle daha yüksek yaşam doyumuna sahip olduklarını göstermektedir. Basit sıralı lojistik regresyon analizi sonuçlarına göre (Tablo 3), kurumsal güvenin bireysel yaşam memnuniyetine önemli bir katkı sağladığı görülmüştür (Estimate = .555, SE = .057, Wald = 94.559, p = .00). Bu analiz sonuçlarına göre, kurumsal güvenin artmasıyla birlikte bireylerin yaşam memnuniyeti de odds değerine göre 1.74 (%95 güven aralığı 1.55-1.94) oranında artmaktadır. Bu bulgular, kurumsal güvenin bireysel yaşam memnuniyeti üzerinde olumlu bir etkisi olduğunu desteklemektedir.

**Tablo: 2**  
**Sosyal Güven ve Yaşam Memnuniyeti için Sıralı Lojistik Regresyon Analizi Sonuçları**

	Model Tahmini	Std. Hata	Wald	df	Sig.	95% Confidence Interval		
						Lower Bound	Upper Bound	
Threshold	[Düşük düzey yaşam memnuniyeti]	-.405	.131	9,496	1	.002	-.662	-.147
	[Orta seviye yaşam memnuniyeti]	1,257	.134	88,150	1	.000	.994	1,519
Location	Sosyal Güven	.453	.110	17,087	1	.000	.238	.667

Tablo 3 “Threshold” değeri, Tablo2’deki gibi “Düşük düzey yaşam memnuniyeti” referans kategorisini yansıtmaktadır. Bu seçim, yaşam memnuniyeti düzeylerinin analizinde temel bir referans noktası sağlamaktadır. Kurumsal güven ile yaşam memnuniyeti düzeyleriyle kıyaslandığında, istatistiksel olarak anlamlı farklılıklar gözlemlenmektedir. Örneğin, “Orta seviye yaşam memnuniyeti” için hesaplanan model tahmini, “Düşük düzey yaşam memnuniyeti” referansıyla karşılaştırıldığında 2.318 olarak belirlenmiştir. Bu bulgu, “Orta seviye yaşam memnuniyeti” düzeyindeki bireylerin, “Düşük düzey yaşam memnuniyeti” düzeyindekilere kıyasla istatistiksel olarak anlamlı bir şekilde daha yüksek bir model tahmini değerine sahip olduğunu (p < 0.001) ifade etmektedir. Bu sonuçlar, analizdeki yaşam memnuniyeti düzeylerinin değerlendirilmesinde ve kurumsal güvenin rolünün anlaşılmasında önemli bir katkı sağlamaktadır.

**Tablo: 3**  
**Kurumsal Güven ve Yaşam Memnuniyeti için Sıralı Lojistik Regresyon Analizi Sonuçları**

	Model tahmini	Std. Hata	Wald	df	Sig.	95% Confidence Interval		
						Lower Bound	Upper Bound	
Threshold	[Düşük düzey yaşam memnuniyeti]	.624	.162	14,880	1	.000	.307	.941
	[Orta seviye yaşam memnuniyeti]	2,318	.169	188,790	1	.000	1,987	2,648
Location	Kurumsal Güven	.555	.057	94,529	1	.000	.443	.667

Hipotez 3, yaş, eğitim, dinin önemi, medeni hal, gelir düzeyi kontrol edilerek sosyal güven ve kurumsal güvenin bireysel yaşam memnuniyeti ile pozitif bir ilişkiye sahip olduğunu öne sürmüştür. Bu hipotezde sıralı lojistik regresyon yöntemi kullanılarak yaşam memnuniyetini etkileyen faktörler incelenmiştir. Analizdeki değişkenlerin katsayıları (Coef.), standart hataları (Std. Err.), z istatistik değerleri (z), p değerleri ( $P > |z|$ ), ve güven aralıkları ([95% Conf. Interval]) ayrıntılı olarak ifade edilmiştir. Bu analiz, yaşam memnuniyetini etkileyen faktörlerin istatistiksel önemini değerlendirmek için kullanılan standart bir analitik yaklaşımı yansıtmaktadır. Modelde p değeri ( $\text{Prob} > \chi^2 = 0.0000$ ) elde edilmiştir, bu da modelin genel olarak istatistiksel olarak anlamlı olduğunu ve en az bir bağımsız değişkenin sonucu açıklamada önemli olduğunu gösterir. Modelin Pseudo R2 değeri 0.0393'tür. Bu değer, modelin varyansın %3.93'ünü açıkladığını gösterir<sup>1</sup>.

Bu sıralı lojistik regresyon analizi, yaşam memnuniyetini temsil eden yaşam memnuniyeti değişkeninin; aileye güven, komşulara güven, tanıdık kişilere güven, ilk tanıştığımız kişilere güven, farklı dinden kişilere güven, farklı milletten kişilere güven, polise güven, mahkemelere güven, hükümete güven, eğitim, gelir, yaş, medeni hal ve dinin önemi gibi değişkenlerle olan ilişkisini araştırmaktadır. Elde edilen sonuçlara göre, (aileye güven) değişkeni, yaşam memnuniyeti üzerinde anlamlı bir pozitif etkiye sahiptir ( $z = 3.55$ ,  $p < 0.001$ ). Bu bulgu, aileye duyulan güvenin artmasının genel olarak yaşam memnuniyetinde artışa sebep olduğunu göstermektedir. (Komşulara güven) değişkeni için elde edilen z istatistiği 2,87 ve p değeri 0,004'dür, bu da komşulara güvenin artmasının yaşam memnuniyetinde artışa yol açtığını desteklemektedir. (Tanıdık kişilere güven) değişkeni için elde edilen z istatistiği 1,84 ve p değeri 0,065'dir. Bu değerler, tanıdık kişilere güvenin yaşam memnuniyeti üzerinde istatistiksel olarak anlamlı bir etkiye sahip olmadığını göstermektedir. Benzer şekilde, (ilk tanışılan kişilere güven), (farklı dinden kişilere güven) ve (farklı milletten kişilere güven) değişkenleri için de istatistiksel olarak anlamlı bir etki tespit edilmemiştir.

Tablo 4'de, polise, mahkemelere ve hükümete duyulan güvenin yaşam memnuniyeti üzerindeki etkisi de incelenmiştir. Sonuçlar, polise güven ve mahkemelere güven değişkenlerinin yaşam memnuniyeti üzerinde anlamlı bir etkiye sahip olmadığını göstermektedir (sırasıyla,  $p = 0.708$  ve  $p = 0.400$ ). Ancak, hükümete güven değişkeni için elde edilen sonuçlar dikkat çekicidir. Hükümete güvenin yaşam memnuniyeti üzerinde pozitif bir etkisi olduğu belirlenmiş ve bu ilişki istatistiksel olarak anlamlı bulunmuştur ( $p = 0.001$ ). Bu bulgular, güven duyulan kurumların bireylerin yaşam memnuniyetini artırabileceğini ve bu durumun özellikle hükümete olan güvenin önemli olduğunu işaret etmektedir.

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<sup>1</sup> Analizde kullanılan sıralı lojistik regresyon yöntemi, bağımlı değişkenin sıralı kategorik olduğu durumlarda yaygın olarak kullanılan bir tekniktir. Bu yöntemde, bağımsız değişkenlerin etkisi, belirli kategorilere geçiş olasılıkları üzerinden değerlendirilir. Elde edilen sonuçlar, modelin genel anlamlılığını ve değişkenlerin istatistiksel önemini belirlemede kullanılır. Daha fazla bilgi için B.J. Long'un "Regression Models for Categorical and Limited Dependent Variables" adlı eserine başvurulabilir.

**Tablo: 4**  
**Yaşam Memnuniyeti Sıralı Lojistik Regresyon Modeli**

	Katsayı	Std. Hata.	Z	P> z	%95 conf	Interval
Q49 (yaşam memnuniyeti)						
Q58 (aileye güven)	,3230644	,0909832	3,55	0,000	5013883	,1447406
Q59 (komsuya güven)	,1791385	,0623974	2,87	0,004	3014353	,0568418
Q60 (tamdik kişilere güven)	,1071863	,0581006	1,84	0,065	2210615	,0066888
Q61 (ilk tanıştığınız kişilere güven)	,1089706	,0576745	1,89	0,059	2220105	,0040694
Q62 (farklı dinden kişilere güven)	,0495183	,0563153	0,92	0,355	0554927	,1545292
Q63 (farklı milletten kişilere güven)	,0462956	,0503926	0,82	0,411	0640803	,1566716
Q69 (polise güven)	,0234707	,0627483	0,37	0,708	0995137	,146455
Q70 (mahkemelere güven)	,0523091	,0621817	0,84	0,400	174183	,0695649
Q71 (hükümete güven)	,1814744	,0562931	3,22	0,001	2918069	,0711419
Q288 (gelir)	,2877546.	,0257396	11,18	0,000.	237306.	,3382032
Q262 (yaş)	-.0048485	,0038447	-1,26	0,207	-.012384	,0026869
Q275 (eğitim)	,003974	,0227418	0,17	0,861	-.0405991	,0485471
Q273 (medeni hal)	-.0528686	,0200357	-2,64	0,008	-.0921378	-.0135993
Q6 (dinin önemi)	-.1059042	,0543476	-1,95	0,051	-.2124236	,0006151

Yine bu analizde, gelir, yaş, eğitim düzeyi, medeni durum ve dinin önemi gibi faktörlerin yaşam memnuniyeti üzerindeki etkileri incelenmiştir. Sonuçlara göre, gelirin yaşam memnuniyeti üzerinde anlamlı bir etkisi olduğu görülmüştür ( $p < 0.001$ ). Gelir arttıkça yaşam memnuniyetinin de arttığı tespit edilmiştir. Ancak, yaş ve eğitim değişkenleri için elde edilen sonuçlar istatistiksel olarak anlamlı değildir (sırasıyla,  $p = 0.207$  ve  $p = 0.861$ ). Bununla birlikte, 'dinin önemi' değişkeninin  $p$  değeri  $0.05$ 'e oldukça yakındır, bu da istatistiksel olarak anlamlı olabileceğini düşündürmektedir. Bu durumda, değişkenin yaşam memnuniyeti üzerindeki etkisinin daha fazla veri veya farklı analiz yöntemleri kullanılarak daha ayrıntılı bir şekilde incelenmesi gerekebilir. Medeni hal değişkeni ise, yaşam memnuniyeti üzerinde anlamlı bir etkiye sahiptir ( $p = 0.008$ ) ve evli bireylerin yaşam memnuniyeti, evli olmayanlara göre daha yüksektir. Ayrıca, sosyal güven değişkeni, regresyon analizinde kullanıldığında sıralı lojistik modelinde hata vermiştir. Bu hata, çoklu bağlantı sorunlarından kaynaklanmaktadır. Çoklu bağlantı sorunları, değişkenler arasında yüksek bir korelasyon olduğunda veya değişkenlerin modelde aşırı etkileşim gösterdiğinde ortaya çıkar. Bu durum, modelin doğruluğunu ve güvenilirliğini olumsuz yönde etkileyebilir ve istatistiksel sonuçların doğru bir şekilde yorumlanmasını zorlaştırabilir.

Çoklu sıralı lojistik regresyon analizine göre, kurumsal güvenin yaşam doyumuna olan katkısı istatistiksel olarak anlamlı bulunmuştur (Estimate = .555, SE = .058, Wald = 91.744,  $p = .00$ ). Yani, kurumsal güvenin artmasıyla birlikte yaşam memnuniyeti de artma eğilimindedir. Benzer şekilde, sosyal güvenin de yaşam doyumunu üzerinde pozitif bir etkisi olduğu belirlenmiştir (Estimate = .429, SE = .111, Wald = 15.023,  $p = .00$ ). Bu bulgular, sosyal güvenin ve kurumsal güvenin bireysel yaşam memnuniyeti üzerinde önemli bir rol oynadığını göstermektedir. Kontrol değişkenleri olan yaş, gelir, dinin önemi, eğitim düzeyi dikkate alındığında bile, sosyal güven ve kurumsal güvenin yaşam doyumunu olumlu yönde etkilediği gözlemlenmiştir. Bu sonuçlar, sosyal ve kurumsal güvenin bireylerin yaşam memnuniyetini artırıcı faktörler olduğunu desteklemektedir.

Ayrıca, cinsiyet değişkeni faktörünün yaşam memnuniyeti üzerindeki etkisini değerlendirmek amacıyla gerçekleştirilen Ki-Kare testi sonuçlarına göre, cinsiyet ile yaşam memnuniyeti arasında istatistiksel olarak anlamlı bir ilişki tespit edilmemiştir ( $\chi^2 = 0.080$ ,

$N = 2405$ ,  $p = .961$ ). Bu bulgular, cinsiyetin bireysel yaşam memnuniyeti üzerinde doğrudan bir etkisinin olmadığını işaret etmektedir. Dolayısıyla, cinsiyet değişkeni analiz modeline dahil edilmemiştir.

Ek olarak, gerçekleştirilen analizler, yaşam memnuniyetini etkileyen diğer değişkenleri de içermesi ve sosyal ile kurumsal güven arasındaki etkileşimlerin daha kapsamlı ve detaylı bir şekilde incelenmesi için önem arz etmektedir. Bu tür bir derinlemesine analiz, sosyal politika alanında etkili stratejilerin belirlenmesine ve toplumun yaşam memnuniyetini artırmaya yönelik önemli katkılar sağlayabilir. Bu çerçevede, yaşam memnuniyetini belirleyen faktörlerin tamamıyla dikkate alınması ve sosyal ile kurumsal güvenin bu faktörlerle olan ilişkisinin ayrıntılı şekilde anlaşılması, etkili politika önerilerinin geliştirilmesi için önemli bir adım olabilir.

#### 4. Sonuç

Bu çalışma 2415 katılımcıdan oluşan bir örneklemede sosyal güven ve kurumsal güvenin bireysel yaşam memnuniyeti ile ne ölçüde ilişkili olduğunu araştırmaktadır. Türkiye’de 2017-2020 yılları arasında gerçekleştirilen Dünya Değerleri Araştırması’nın yedinci turunda elde edilen verilere kullanılmaktadır. Güven ve yaşam doyumu arasındaki ilişki üzerine araştırmalar yapılmıştır. Ancak Türkiye’de bu bağlamdaki çalışmalar sınırlı kalmıştır.

Hipotez 1’i test etmek amacıyla öncelikle regresyon sonuçları, sosyal güven ile bireysel yaşam memnuniyeti arasında oldukça zayıf ancak pozitif ve istatistiksel olarak anlamlı bir ilişki olduğunu göstermektedir. Akabinde gerçekleştirilen basit sıralı lojistic regresyon analizi de sosyal güven ve yaşam memnuniyeti arasında pozitif bir ilişki olduğunu desteklemektedir. Bu sonuç, sosyal güvenin bireylerin yaşam memnuniyeti için faydalı olduğunu kanıtlayan diğer araştırmalar tarafından da desteklenmektedir (Meçe, 2021: 459; Clench-Aas & Holte, 2021: 6; Glatz & Eder, 2020: 434; Mikucka et al., 2017: 455).

Hipotez 2’ni test etmek için yapılan regresyon kurumsal güven ile bireysel yaşam memnuniyeti arasında pozitif, zayıf ancak istatistiksel olarak anlamlı bir ilişki olduğunu ortaya koyarken, basit sıralı lojistic regresyon analizi kurumsal güven ile yaşam memnuniyeti arasında pozitif bir ilişkiyi desteklediğini göstermektedir. Bu sonuç resmi kurumlara duyulan güveni ele alan önceki araştırmaları desteklemektedir (Meçe, 2021: 459; Clench-Aas & Holte, 2021: 6; Glatz & Eder, 2020: 435; Hudson, 2006: 58). Kurumsal güven unsurlarından polise güven, yaşam memnuniyeti üzerindeki etkisi istatistiksel olarak anlamlı bulunmamıştır ( $\beta = 0.023$ ,  $p = 0.708$ ). Benzer şekilde, mahkemelere güven de yaşam memnuniyeti üzerinde anlamlı bir etkiye sahip değildir ( $\beta = 0.052$ ,  $p = 0.400$ ). Buna karşılık, hükümete güven, yaşam memnuniyeti ile pozitif ve anlamlı bir ilişki göstermektedir ( $\beta = 0.181$ ,  $p = 0.001$ ). Bu bulgu, hükümete duyulan güvenin bireylerin yaşam memnuniyetine önemli bir katkı sağladığını ortaya koymaktadır. Sosyal güven ve kurumsal güven bireysel yaşam memnuniyeti ile pozitif olarak ilişkili olsa da, bu çalışmanın bulguları kurumsal güvenin kişisel yaşam memnuniyetinin sosyal güvenden daha güçlü bir belirleyicisi



olduğunu göstermiştir. Bu durum, kurumsal güvenin toplumda düzen, adalet ve güvenlik algısını güçlendirerek bireylerin genel refah düzeyini daha fazla etkilemesiyle açıklanabilir.

Hipotez 3'ü test etmek amacıyla yapılan çoklu sıralı lojistik regresyon analizinin sonuçları, sosyal güven, kurumsal güven ve bireysel yaşam doyumu arasında pozitif ve anlamlı bir ilişki olduğunu göstermiştir. Gelir düzeyinin yaşam memnuniyeti üzerinde pozitif ve anlamlı bir etkisi olduğu, ancak yaş ve eğitim düzeyinin anlamlı bir etkisi bulunmadığı tespit edilmiştir. Medeni durum, evlilik durumunun yaşam memnuniyetinde belirgin bir farklılık yaratabileceğini göstermektedir. Dinin önemi, yaşam memnuniyeti üzerindeki etkisinin daha ayrıntılı incelenmesi gerektiğini düşündürecek şekilde sınırdan anlamlı bulunmuştur. Bu bulgular, sosyal ve kurumsal güvenin bireysel refah üzerindeki önemini vurgulamakta ve gelecekteki araştırmalarda daha ayrıntılı incelemeler yapılmasını önermektedir.

Sosyal güven ile bireysel yaşam memnuniyeti arasındaki pozitif ilişki, bireylerin toplum içindeki sosyal bağlantılarının ve güven duygusunun, yaşam memnuniyetini artırdığını göstermektedir. Toplumsal dayanışma, sosyal ağlar ve sosyal destek, insanların yaşamlarında önemli rol oynayarak, yaşam memnuniyetini artıran faktörler olarak öne çıkmaktadır. Aynı şekilde, kurumsal güvenin de yaşam memnuniyeti üzerinde olumlu bir etkisi olduğu tespit edilmiştir. Bireylerin resmi kurumlara olan güveni, yaşam memnuniyetini artırıcı bir etken olarak görülmüştür. Bu durum, resmi kurumların etkinliğinin ve güvenilirliğinin toplumun genel yaşam memnuniyetini etkilemedeki önemini bir kez daha vurgulamaktadır.

Bu araştırma, Türkiye'deki sosyal güven ve kurumsal güvenin bireysel yaşam memnuniyeti üzerindeki etkilerini inceleyerek, bu alandaki sınırlı literatüre önemli bir katkı sağlamıştır. Bulgular, hem sosyal hem de kurumsal güvenin bireylerin yaşam memnuniyetini olumlu yönde etkilediğini göstermektedir. Sosyal güven, bireylerin toplum içindeki sosyal bağlantıları ve güven duygusunun yaşam memnuniyetini artırdığını ortaya koyarken, kurumsal güven, toplumda düzen, adalet ve güvenlik algısını güçlendirmesiyle daha güçlü bir belirleyici olarak öne çıkmaktadır. Bu durum, resmi kurumların etkinliğinin ve güvenilirliğinin genel refah düzeyini doğrudan etkilediğini göstermektedir. Polise ve mahkemelere duyulan güvenin yaşam memnuniyeti üzerinde anlamlı bir etkisinin bulunmaması, bu kurumlara duyulan güvenin toplumsal refah algısı üzerindeki etkisinin karmaşıklığını işaret ederken, hükümete duyulan güvenin yaşam memnuniyeti ile anlamlı ve pozitif bir ilişki göstermesi, hükümetin politikalarının bireylerin yaşam memnuniyeti üzerindeki etkisini vurgulamaktadır. Gelir düzeyinin yaşam memnuniyeti üzerinde anlamlı bir etkisinin bulunması, ekonomik refahın bireylerin yaşam kalitesinde kritik bir rol oynadığını doğrulamakta, ancak yaş ve eğitim düzeyinin etkisinin bulunmaması, bu değişkenlerin etkilerinin daha karmaşık ve dolaylı olabileceğini düşündürmektedir. Medeni durumun yaşam memnuniyetinde belirgin bir farklılık yaratması, evliliğin yaşam kalitesinde önemli bir faktör olduğunu gösterirken, dinin öneminin sınırdan anlamlı bulunması, yaşam memnuniyeti üzerindeki etkisinin daha ayrıntılı incelenmesi gerektiğine işaret etmektedir. Sonuç olarak, güvenin bireysel yaşam memnuniyeti üzerindeki kritik rolü vurgulanmakta ve

güven türleri ile yaşam memnuniyeti arasındaki ilişkinin karmaşıklığı ortaya konmaktadır. Gelecekteki araştırmalarda, bu ilişkilerin daha kapsamlı ve derinlemesine analiz edilmesi, toplumun yaşam memnuniyetini ve mutluluğunu artırmaya yönelik politikalar ve müdahaleler geliştirilirken güvenin rolünün göz önünde bulundurulması gerekmektedir.

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## Gri İlişkisel Analiz ve Entropi Yöntemiyle Halka Açık Sağlık Kuruluşlarının Finansal Performanslarının Analizi

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### Analysing the Financial Performance of Publicly Traded Companies Using Grey Relational Analysis and the Entropy Method

#### Abstract

This study analysed the financial performances of four healthcare enterprises traded on the Istanbul Stock Exchange (BIST) using the entropy model and the grey relational analysis method. In this study, the consolidated annual financial data of the enterprises for the years 2021 and 2022 were employed. The financial data was calculated based on financial ratios falling under four main headings and 23 sub-headings. The ratios of liquidity, financial structure, activity and profitability were calculated. The impact levels on financial performance on an annual basis were then calculated using the entropy method. Finally, financial performance levels were determined using the grey relational analysis method. The study concluded that hospitals with high cash ratios, net working capital turnover rates, financing ratios and net profit margins may also have high financial performance.

**Keywords** : Grey Relational Analysis, Entropy Method, Financial Performances, Health Economics.

**JEL Classification Codes** : C00, C02, G11, I10.

#### Öz

Araştırmada, Borsa İstanbul'da (BİST) işlem gören dört sağlık kuruluşunun finansal performansları entropi modeli ve gri ilişkisel analiz yöntemiyle analiz edilmiştir. Çalışmada, işletmelerin 2021 ve 2022 yılı konsolide yıllık finansal verileri kullanılmıştır. Finansal veriler, "likidite, finansal yapı, faaliyet ve kârlılık" oranları olmak üzere 4 temel başlık ve 23 alt başlıkta finansal oranlar üzerinden hesaplanmıştır. Hesaplanan oranlara göre yıllık bazda finansal performansa etki düzeyleri entropi yöntemiyle hesaplanmıştır. Daha sonra gri ilişkisel analiz yöntemiyle finansal performans düzeyleri belirlenmiştir. Çalışmada nakit oranı, net işletme sermaye devir hızı, finansman oranı ve net kâr marjı yüksek olan hastanelerin, finansal performanslarının da yüksek olabileceği sonucuna varılmıştır.

**Anahtar Sözcükler** : Gri İlişkisel Analiz, Entropi Metodu, Finansal Performans, Sağlık Ekonomisi.

## 1. Giriş

Sağlık sistemleri, temel amacı sağlığı iyileştirmek olan tüm kişi ve eylemlerin bütünü olarak tanımlanabilir (WHO, 2000). Tarihsel süreçte önceleri küçük ölçekli, çoğunlukla özel veya hayırsever kuruluşlar olarak biçimlenen sağlık kurumları; günümüzde bilgi teknolojilerindeki baş döndürücü değişimle birlikte, bilgi teknolojilerini yoğun kullanan, robotik sistemlerin entegre edildiği dijital hastaneler şekline dönüşmektedir. Sağlık sistemlerindeki bu hızlı değişim aynı zamanda çok farklı sayıda tıpta uzmanlık alanları ve bu uzmanlık alanları altında yan dallarının oluşumuna, hastanelerde interdisipliner çalışma alanlarının gelişmesine ve nihayetinde hasta ve hekim arasındaki asimetrik bilgi düzeyinin giderek artmasına neden olmaktadır. Hastaneler çok sayıda sağlık meslek gruplarını bir arada çalışması gerekli kıldığından, etkililik, verimlilik ve ekonomiklik boyutlarıyla sağlık ekonomisi alanında çalışmaların da konusunu olmaktadır. Sağlık alanı, sağlık kurumlarına yapılan teknoloji, araştırma-geliştirme ve fiziksel altyapı gibi yatırımlarının büyüklüğü bakımından, sürdürülebilir kalkınmayı destekleyen sektörlerin başında gelmektedir. Sağlık ekonomisi perspektifi, sağlık sektörünün emek, sermaye, doğal kaynaklar, girişim gibi üretim faktörlerini ne ölçüde etkili ve verimli kullanıldığını yorumlamada katkılar sağlamaktadır.

Sağlık hizmetlerinde performans değerlendirme süreçlerinde, sıklıkla kurumsal mali raporların kullanıldığı görülmektedir. Hastanelerin finansal yönetiminde nakit, alacak ve stok yönetimi gibi dönen varlıkların yönetimi kadar, duran varlıkların, özkaynakların ve yabancı kaynakların yönetimi önemlidir. Hastanelerin finansal yönetiminde daha çok oran analizi olarak bilinen likidite, finansal yapı, faaliyet ve kârlılık analizleriyle edinilen bulgular ışığında finansal değerlendirmeler yapıldığı bilinmektedir. Günümüzde finansal enstrümanların çeşitliliği ve kullanım biçimlerinin sağlık sektöründe çok kriterli karar verme yöntemlerinden faydalanmaya yönelttiği gözlenmektedir. Özellikle sektör bazında finansal oranların, finansal performansı yordama düzeylerinin farklılaşabileceği dikkate alınmalıdır. Dolayısıyla sağlık sektörünün kendi içinde hangi finansal oranların ne ölçüde etkili olduğu yönünde karşılaştırmalı çalışmalara ihtiyaç vardır.

Sağlık sektörünün kamu veya özel sektör bazında performansı incelenirken kullanılan önemli değişkenlerin başında sağlık harcamaları gelmektedir. Türkiye’de yakın dönem sağlık harcamaları incelendiğinde 2021 yılında özel sektör sağlık harcamaları toplam sağlık harcamalarının %21’ini oluşturmaktadır (TÜİK, 2023). Türkiye’de kamu sektörü, sağlık harcamalarında lider konumdadır. Hastane harcamalarında özel sektör hastane harcamaları, toplam hastane harcamalarının sadece %18’ini oluşturmaktadır. Ayaktan sağlık bakım hizmetlerinin özek sektör payı %40 düzeyindedir. Ancak bu veri, toplam ayaktan sağlık bakım hizmetlerinin, toplam cari sağlık harcamaları içindeki payı olan %10 ile yorumlandığında; özel sektörün %40 pay oranı yanıltıcı olabilir. Genel sağlık yönetimi ve sigorta harcamaları bakımından özel sağlık sigortası harcama düzeyi, toplam sağlık sigorta harcamalarının %57’sini oluştururken, Sosyal Güvenlik Kurumu’nun (SGK) payı %43’tür. Özel sektör sağlık yatırım harcamalarının, toplam sağlık yatırım harcamaları içindeki oranı %16 ile sınırlıdır. Kamu sektörünün toplam sağlık yatırım harcamalarındaki payı %84

düzeylerindedir. Türkiye’de toplam sağlık yatırım harcamalarının, toplam sağlık harcamaları içindeki payı %7’dir (TÜİK, 2023). Söz konusu oran sağlık yatırım harcamalarının geliştirilmesi yönünde bir uyarı olarak da düşünülebilir. Sağlık harcamaları içinde özel sektörün yatırım harcamalarının teşvik edilmesi gelişmeye açık bir yön olarak düşünülebilir.

Türkiye’de sağlık sektörü harcamaları büyük ölçüde kamu hastaneleri ve sosyal sigorta sistemi üzerinden gerçekleşmektedir. Dolayısıyla, sağlık sektöründe orta ve büyük ölçekli özel sağlık kuruluşlarının var olabilmesi için yapısal dönüşümlere ve finansal teşviklere ihtiyaç olduğu kanısındayız. Finansal teşvikler konusunda, geleneksel doğrudan kredi ve vergi desteklerinden önce kurumsallaşma yolunda başarılı performans sergileyen hastane işletmelerinin halka arz edilmelerinin teşvik edilmesi yöntemlerden biri olarak düşünülebilir.

Halka arz, sağlık şirketlerinin ulusal ve uluslararası piyasada görünürlüklerinin artmasına; şeffaf, hesap verilebilir ve güvenilir piyasa ekonomisi ile nitelikli sermaye edinmesine imkân sağlayacaktır. Geleneksel finansman kaynağı olan borçlanma yöntemine göre halka arz işlemleri likiditeyi zorlayacak ana para ve faiz gibi geri ödeme zorluklarını bertaraf eden bir yaklaşım olarak düşünülebilir. Halka arz edilen işletmeler bir yandan borçlanabilme kapasitelerini artırırken aynı zamanda yeni finansman bulmaları hem kolaylaşacak hem de görece daha ucuz olacaktır. Sağlık işletmeleri borsalarda işlem gördükleri andan itibaren hisselerini teminat göstererek kredi kullanabilmektedir. Ayrıca borç senedi ihraç ederek farklı finansal kaynaklardan da faydalanabilmektedir. Halka arz edilen hastane işletmeleri için likidite sorunlarının azalması beklenir. Borsada işlem gören hastane işletmeleri şeffaflık, hesap verilebilirlik yönüyle kamuoyu aydınlatmasına tabi tutulacağından yurtiçi ve yurtdışı yatırımcıların erişimlerine açık hale gelmesine katkı sağlayabilir. Açık erişim sayesinde hastane işletmelerinin tanınırlıkları artarken; ulusal ve uluslararası birleşme, satın alma ve ortak girişimler için stratejik üstünlükler sağlayabilir. Netice olarak halka arzın sağlayabileceği fırsatlar kadar, taşıdığı potansiyel risklerin bir arada analiz edilmesi gereklidir.

Türkiye’deki sağlık işletmelerinin en karakteristik özelliklerinden birisi aile şirketi niteliğine sahip olmalarıdır. Bu durum sağlık işletmelerinin kurumsallaşmaları karşısında öncelikli risklerden birisini oluşturmaktadır. Hastane işletmelerinin, işletme sahiplerinin ömrü ile sınırlı kalmaksızın, uzun dönemli işletmeler haline dönüşebilmeleri için kurumsallaşmış olmaları; hatta halka arz sürecine yönelmeleri önemli bir fırsat alanıdır. Halka arz süreciyle borsada işlem görmek, sağlık işletmelerini sermaye piyasası disiplini içerisine alacak ve kurumsal yönetim ilkelerinin kısa zamanda içselleştirilmesine imkân sağlayacaktır. Sağlık işletmeleri yoğun teknoloji kullanan bu nedenle de güçlü sermaye yatırımı gerektiren sektörde faaliyet göstermeleri nedeniyle sürekli finansman ihtiyacı duyan bir alan olarak tanımlanabilir (Çelik, 2017: 11). Yoğun teknoloji için acil finansman ihtiyacı olması durumunda, ikincil halka arz imkânları hastane işletmelerini rekabet üstü konumlarını sürdürmelerine olanak sağlayacaktır.



Sağlık sektörüne yönelik yukarıda yapılan değerlendirmeler, halen halka arz edilen ve borsada faaliyet gösteren hastane işletmelerinin finansal performansları üzerinden incelemeyi gerekli kılmaktadır. Bu kapsamda çalışmanın bundan sonraki bölümünde ilk olarak hastane işletmeciliği alanında finansal performans ölçümüne yönelik literatür taramasına yer verilecektir. Çalışmanın analiz bölümünde ise, BİST'te işlem gören dört hastane işletmesinin 2021-2022 konsolide mali verileri, oran hesaplamalarında kullanılacaktır. Çalışmada kullanılan mali veriler COVID-19 pandemisinin etkili olduğu yılları kapsaması bakımından sağlık hizmetlerinde arz ve talepteki dalgalanmalarını içerdiği düşünülebilir. Bu yönde yapılan çalışmalarda, COVID-19 pandemisi Türkiye'de sağlık hizmetleri kullanımında azalışa neden olsa da; sağlık hizmetleri arzında bir kıtlığa neden olmadığı; azalmanın daha çok bulaş riski gibi nedenlerden kaynaklı talep azalmasından kaynaklı olabileceği saptanmıştır (Uğur & Durak, 2024: 8). Dahası, Türkiye'de sağlık sigortası olmayanların, sağlık hizmeti kullanımı açısından pandemiden etkilenmedikleri belirtilmektedir (Uğur & Durak, 2024: 7). Söz konusu bulgulardan hareketle pandemi, Türkiye özelinde çeşitli sağlık sigortası statüsündekileri farklı etkilemediği için, özel sağlık kuruluşlarının finansal performansında olumsuz etkisi olmayabileceği çıkarılabilir. Literatürden edinilen çıkarımlardan hareketle, çalışma kapsamındaki özel sağlık kuruluşlarına yönelik hesaplanan tüm finansal oranlar, çok kriterli karar analizi yöntemlerinden olan Entropi ve Gri İlişkisel Analiz yöntemi ile analiz edilecektir.

Entropi yöntemi, kişisel önyargısından kaynaklanan öznelliği önleyebilecek ve nesneliği doğrulayabilecek kapsamlı bir ağırlıklandırma mekanizması olarak tanımlanabilir (Wang & Lee, 2009: 8980). Entropi yöntemi kriter ağırlıklarını hesaplamada tarafsızlığı sağlaması yanında, kriter ağırlıklarının ( $w_1, w_2, \dots, w_m$ ) oldukça basit ve anlaşılır bir şekilde belirlenmesine imkân sağlamaktadır (Srdjevic et al., 2004). Entropi yöntemi, verimlilik ve fayda/maliyet parametrelerinin niceliksel değerlendirmesinde kullanılmaktadır (Singh, 2000). Ağırlık hesaplamasında anormal değerlerden kaynaklanan kötü etkiyi zayıflatırken, değerlendirme sonucunun daha doğru ve makul olmasını sağlamaktadır (Zardari et al., 2015: 65). Ancak uzman görüşü olmaksızın ağırlıkların sadece entropi verilerine göre değerlendirilmesi ve modeli tasarlayanların tercihlerine yer verilmemesi eleştiri konusu olabilir. Bu nedenle araştırmalarda uzman görüşü ve entropi sonuçlarının birlikte analiz edilmesi önerilir.

Gri İlişkisel Analiz (GİA) Deng (1982) tarafından geliştirilmiştir (Deng, 1982: 288). GİA, sınırlı bilgilere sahip belirsiz sistemlerde, mevcut bilgilerden yararlı bilgilerin üretilmesi ve geliştirilmesi ile ilgilidir. Çok kriterli modellerde, karar verme sürecinde etkili bir yöntem olarak kullanılabilir. Gri ilişkisel analiz *en iyi* çözümden ziyade, gerçek sorunlar karşısında uygun olabilecek *iyi* bir çözümün belirlenmesini mümkün kılar. Finansal performans etkinlik sıralamasını ölçmede kullanılabilir (Kula vd., 2016: 42). Gri ilişkisel analiz, hesaplama yoğunluğu ve zorluğu içeren orta ve büyük ölçekli endüstriyel belirsizlikleri, basit ve anlaşılır şekilde modellenebilmesine imkân sağlamaktadır (Aydemir, Bedir & Özdemir, 2013: 188). Çalışmada entropi ve GİA verilerine ilerleyen bölümlerde yer verilecektir. Araştırmanın bu bölümünde, öncelikle entropi ve GİA için veri girdilerini oluşturan, finansal analiz türleri açıklanacaktır.

## 2. Sağlık Kurumlarında Kullanılan Finansal Analiz Türleri

İşletmelerde finansal yönetimin birincil rolü, işletmenin etkinliğini ve değerini en üst düzeye çıkarmak için kaynakları planlamak ve uygulamaktır. Finansal nitelikteki faaliyetleri (1) planlama ve bütçeleme, (2) finansal raporlama, (3) sermaye yatırım kararları, (4) finansman kararları, (5) gelir döngüsü ve cari hesap yönetimi, (6) sözleşme yönetimi ve (7) finansal risk yönetimi şeklinde sıralamak mümkündür (Gapenski & Reiter, 2016). Sağlık hizmetleri finansal yönetiminin amacı ise, sağlık yöneticilerine işletmenin amaçlarını gerçekleştirmesine yardımcı olan finans ve muhasebe bilgilerini sağlamaktır. Sağlık işletmelerinde finansal yönetimin amaçlarını altı başlıkta toplayabiliriz. Bunlar; (1) gelir elde etmeye yardımcı olmak, (2) yasal düzenlemelere cevap vermek, (3) üçüncü taraflarla ilişkileri kolaylaştırmak, (4) üçüncü taraflara yapılan ödeme miktarını ve yöntemini düzenlemek, (5) sağlık kurumlarının finansal yükümlülüklerini izlemek ve (6) vergiler karşısında işletmeyi konumlandırmaktır (Nowicki, 2018).

Finansal durumla ilgili birçok karar, işletmenin finansal tablolarındaki verilerle hazırlanan finansal tablo analizleriyle yapılır. Sağlık kurumlarında finansal tablo analizi, hem mevcut durumu değerlendirmek hem de geleceği planlamak için kullanılan bir yaklaşımdır.

Finansal tablo analizi, finansal duruma ilişkin çok sayıda önemli bilgi sağlasa da, bu durumun operasyonel nedenlerine ilişkin çok fazla içgörü sağlamaz. Bu nedenle, finansal tablo analizi, genellikle bir işletmenin finansal tablolarında bulunmayan taburcu olan hasta başına kâr ve ciro, yatak doluluk oranı, ortalama hasta yatış günü gibi sağlık ekonomisine özgü ölçütlerle desteklenir. Bu sayede yöneticiler gelecekte sağlam bir finansal durumu garanti eden stratejileri daha iyi belirleme ve uygulama imkânına ulaşır (Gapenski & Reiter, 2016).

Bilanço ve gelir tablosu temel finansal tablolardır. Bilanço, bir işletmenin belli bir anda sahip olduğu varlıklarla, bu varlıkların sağlandığı kaynakları bir düzen içinde gösteren finansal tablodur. Bilanço ile ilgili iki temel sorundan bahsedilebilir. İlk olarak, bir hastanenin sahip olduğu tüm varlıkların değerlerinin bir özetine sahip olmak teoride oldukça yararlı olsa da, bu değerler pratikte çoğu kez anlaşılabilir olamaz. İkincisi, birçok farklı türde hastane varlığının değeri vardır ancak hepsine belirli bir değer atanamaz ve bir bilançoya kaydedilemez. Örneğin herkes bir hastanedeki insan kaynaklarının değerini kabul etse de, bu durum çoğu zaman sermaye bilançoya yansıtılamaz (Fridson & Alvarez, 2022). Bu eksikler göz önüne alındığında finansal tabloların farklı yaklaşımlarla analiz edilmesi ve oranların bir arada analizi, işletmelerin daha bütüncül analizine fırsat sağlayabilir.

Gelir Tablosu ise işletmenin belli bir dönemdeki gelirleriyle, bu gelirleri elde etmek amacıyla katlandığı tüm maliyet ve giderleri belirlenen bir düzende dönem net kârı veya zararı üzerinden gösteren finansal tablodur. Gelir tablosu, belirli bir zaman dilimindeki faaliyetlerin sonuçlarını bildirirken, bilanço, bir kuruluşun belirli bir zaman noktasındaki finansal durumunun anlık bir görüntüsünü sunar (Gapenski & Reiter, 2016).

Finansal tablolarda yer alan veriler üzerinden işletmeyle ilgili finansal yorum ve değerlendirmeler yapılmasına katkıda bulunur. Finansal tablolardan, hastanenin değerlendirmesi için gerekli olabilecek belirli niceliksel olmayan faktörleri yakalaması beklenemez. Bunlar arasında endüstri koşulları, kurum kültürü ve yönetimin değişimi öngörme ve etkili bir şekilde yanıt verme yeteneği yer almaktadır (Fridson & Alvarez, 2022). Ancak çok kriterli karar analizler ile söz konusu değişkenlere ait veriler sayısal hale getirilerek, karşılaştırmalı analizler yapılabilir.

Finansal tablolarda hesaplanan oranlar faydalılık, kullanılabilirlik, karşılaştırmada kolaylığın sağlanması gibi nedenlerle çeşitli sınıflandırmalara tabi tutulmuştur. Kullanış biçimlerine göre yapılan sınıflamaya göre oranlar (1) likidite oranları, (2) finansal yapı oranları, (3) faaliyet oranları ve (4) kârlılık oranları şeklinde sınıflandırılmaktadır.

Likidite oranları bir işletmenin borç kapasitesinin belirleyicilerinden biri, varlıklarının likiditesidir. Likidite, vadesi gelen kısa vadeli borçları karşılayabilmesi açısından dönen varlıkların yeterliliğinin bir göstergesidir. Dolayısıyla likidite oranları olarak kabul görmüş oranlar, sağlık kurumunun kısa vadeli borç ödeme gücünü ölçmek ve net çalışma sermayesinin yeterli olup olmadığının belirlemek amacıyla kullanılmaktadır. Finansal yapı oranları, sağlık kurumu borçlarının defter değerini, varlıklarının veya öz kaynaklarının defter değeriyle karşılaştırır. Faaliyet oranları işletme varlıklarının etkinlik düzeyini ölçer. Kârlılık oranları ise şirketin fiyatlandırma stratejisini ve işletme finansallarını kontrol etme yeteneğini yansıttığı için işletme yöneticileri için özellikle önemlidir (Higgins et al., 2023). Kârlılık, çok sayıda yönetimsel politika ve kararın net sonucudur. Bu nedenle kârlılık oranları, kimi zaman sağlık kurumlarının toplam finansal performansının ölçüsü olarak düşünülmektedir (Gapenski & Reiter, 2016). Tablo 1’de araştırma kapsamında kullanılan finansal oranlar detaylı olarak açıklanmıştır.

**Tablo 1**  
**Finansal Performans Analizinde Kullanılan Başlıca Finansal Oranlar**

	Adı	Formül	Açıklama
Likidite Oranları	Cari Oran (L-1)	$\frac{\text{Dönen Varlıklar}}{\text{Kısa Vadeli Yabancı Kaynaklar}}$	Yıl içinde nakde dönüşecek varlıkların yıl içinde ödenmesi gereken yükümlülüklerle karşılaştırır (Higgins et al., 2023).
	Likidite Oranı-Asit Test Oranı (L-2)	$\frac{\text{Dönen Varlıklar} - \text{Stoklar}}{\text{Kısa Vadeli Yabancı Kaynaklar}}$	Dönen varlıklarda, stokların oranı hesaplamaya dâhil edilmesiyse cari orana göre daha hassas bir ölçüm sağlar.
	Nakit Oranı (L-3)	$\frac{\text{Hazır Değerler} + \text{Menkul Kıymetler}}{\text{Kısa Vadeli Yabancı Kaynaklar}}$	İşletmenin nakit akışının azalması veya satışların durması durumunda işletmenin kısa vadeli borç ödeme kapasitesini yansıtır.
Finansal Yapı Oranları	Yabancı Kaynakların Aktif Toplamına Oranı (M-1)	$\frac{\text{Toplam Yabancı Kaynaklar}}{\text{Aktif Toplamı}} * 100$	Finansal kaldıraç olarak adlandırılan bu oran varlıkların yüzde kaçının yabancı kaynaklarla finanse edildiğini göstermektedir.
	Uzun Vadeli Yabancı Kaynakların Aktif Toplamına Oranı (M-2)	$\frac{\text{Uzun V. Yabancı Kaynaklar}}{\text{Aktif Toplamı}} * 100$	İşletmenin varlıklarının hangi oranda uzun vadeli yabancı kaynaklardan finanse edildiğini gösterir.
	Kısa Vadeli Yabancı Kaynakların Kaynak Toplamına Oranı (M-3)	$\frac{\text{Kısa V. Yabancı Kaynaklar}}{\text{Pasif Toplamı}} * 100$	Bu oran işletmenin kaynaklarının hangi oranda kısa vadeli yabancı kaynaklardan oluştuğunu göstermektedir.
	Öz Kaynakların Aktif Toplamına Oranı (M-4)	$\frac{\text{Öz Kaynaklar}}{\text{Aktif Toplamı}} * 100$	Varlıkların ne kadarının işletme tarafından finansmanının sağlandığını gösterir.
	Finansal Borçların Aktif Toplamına Oranı (M-5)	$\frac{\text{Finansal Borçlar}}{\text{Aktif Toplamı}} * 100$	Varlıkların içindeki finansal borç oranını gösterir.
	Yabancı Kaynakların Öz Kaynaklara Oranı (M-6)	$\frac{\text{Öz Kaynaklar}}{\text{Toplam Yabancı Kaynaklar}} * 100$	İşletmenin öz kaynakları ile toplam borçları arasındaki ilişkiyi açıklamada kullanılır. Toplam yabancı kaynakların öz kaynaklara oranlanması ile hesaplanır.
	Duran Varlıkların Devamlı Sermayeye Oranı (M-7)	$\frac{\text{Duran Varlıklar}}{\text{Devamlı Sermaye}} * 100$	Duran varlıkların, finanse edilmesi beklenen devamlı sermaye toplamına bölünmesiyle elde edilir
	Borçların Öz Kaynaklara Oranı (M-8)	$\frac{\text{Kısa V. YK} + \text{Uzun V. YK}}{\text{Öz Kaynaklar}} * 100$	Yabancı kaynakların özkaynaklara oranını göstermektedir.
Faaliyet Oranları	Stok Devir Hızı (F-1)	$\frac{\text{Satışların Maliyeti (Cari Yıl)}}{\frac{\text{Önceki Yıl Stoklar} + \text{Cari Yıl Stoklar}}{2}}$	Stok kalemlerinin ne ölçüde üretim faaliyetlerinde tüketildiğini gösterir.
	Alacak Devir Hızı (F-2)	$\frac{\text{Net Satışlar (Cari Yıl)}}{\frac{\text{Önceki Yıl Ticari A.} + \text{Cari Yıl Ticari A.}}{2}}$	Belirli bir dönemdeki net satış tutarının ortalama ticari alacak tutarına bölünmesiyle hesaplanır.
	Net İşletme Sermayesi Devir Hızı (F-3)	$\frac{\text{Net Satışlar}}{(\text{Dönen Varlıklar} - \text{Kısa Vadeli Y. K.})}$	Net işletme sermayesinin ne derecede verimli kullanıldığını açıklayıcıdır. İşletmenin uzun vadeli likiditesini yansıtır.
	Dönen Varlık Devir Hızı (F-4)	$\frac{\text{Net Satışlar}}{(\frac{\text{Önceki Yıl Dönen V.} + \text{Cari Yıl Dönen V.}}{2})}$	Dönen varlıkların ne kadar oranında satış hasılatı sağlandığını gösterir.
	Duran Varlık Devir Hızı (F-5)	$\frac{\text{Net Satışlar}}{(\frac{\text{Önceki Yıl Duran V.} + \text{Cari Yıl Duran V.}}{2})}$	İşletmenin gelir elde etme ile ilgili sabit varlıklarını (genellikle arazi, tesis ve ekipman) ne kadar verimli kullandığını ölçer (Nowicki, 2018).
	Aktif Devir Hızı (F-6)	$\frac{\text{Net Satışlar}}{\frac{\text{Önceki Yıl Aktif T.} + \text{Cari Yıl Aktif T.}}{2}}$	İşletme varlıklarının verimliliğinin ölçülmesinde kullanılır.
Kârlılık Oranları	Brüt Kâr Marjı (K-1)	$\frac{\text{Brüt Satış Kârı}}{\text{Net Satışlar}} * 100$	Net satışların ne ölçüde brüt satış kârı olarak işletmede kaldığını gösterir.
	Net Kâr Marjı (K-2)	$\frac{\text{Dönem Net Kârı}}{\text{Net Satışlar}} * 100$	Her bir liralık net satış karşılığında elde edilen kârı gösterir.
	Faaliyet Kârlılığı Oranı (K-3)	$\frac{\text{Faaliyet Kârı}}{\text{Net Satışlar}} * 100$	İşletmenin esas faaliyetinin ne ölçüde kârlı olduğunu gösterir.
	Öz Sermaye Kârlılığı Oranı (K-4)	$\frac{\text{Dönem Net Kârı}}{\text{Öz Kaynaklar}} * 100$	İşletme sermayesinin bir birimine düşen kâr oranını yansıtır (Higgins et al., 2023).
	Ekonomik Rantabilite (K-5)	$\frac{\text{Dönem Net Kârı} + \text{Uzun V. Borçlanma G.}}{\text{Öz Kaynaklar} + \text{Uzun V. Yabancı K.}} * 100$	Devamlı sermaye olarak adlandırılan özkaynaklar ve uzun vadeli yabancı kaynaklar toplamının getirisinin ölçülmesinde kullanılır.
	Faiz, Amortisman ve Vergi Öncesi Kârlılık (FAVÖK) Marjı (K-6)	$\frac{\text{Finansman Geliri Öncesi Faaliyet Karı}}{\text{Net Satışlar}} * 100$	FAVÖK Marjı, faiz, amortisman ve vergi öncesi kârlılık düzeyinin net satışlara oranı üzerinden hesaplanır (Fridson & Alvarez, 2022).

### 3. Sağlık Sektöründe Finansal Performans Ölçümü Konusunda Literatürün İncelenmesi

Literatürde ÇKKV yöntemlerinin farklı sektörlerde sıklıkla kullanıldığı görülmüştür. Bu kapsamda sadece son bir yıl içinde ÇKKV yöntemi kullanılarak performans değerlendirmesi yapılan bazı çalışmalar Tablo 2'de özet halinde sunulmuş; devam eden paragrafta içeriklerine yer verilmiştir.

**Tablo: 2**  
**Çok Kriterli Karar Verme (ÇKKV) Yöntemi Kullanılan Araştırmalardan Örnekler (2022 ve 2023 Yılı)**

Yazar İsimleri	Sektör	Kullanılan ÇKKV Yöntemi	Yayımlanan Dergi	Tarih
Akkurt, E.; Umut, M.	Tamamlayıcı Sağlık Sigortası Sektörü	GİA	İşletme Araştırmaları Dergisi	2023
Baykal, K.B., Akıllı, K.	Hayat-Emeklilik Sektörü	Entropi, WASPAS	Sosyal Bilimler Araştırma Dergisi	2023
Gülcemal, T., İzci, A.Ç., Taşcı, M.Z.	Sigorta Sektörü	CRITIC, COCOSO	Muhasebe ve Finansman Dergisi	2023
Sönmez, Y.	Sigorta Sektörü	CRITIC, WASPAS	Erciyes Akademi	2023
Çolak, Z.	Gayrimenkul Yatırım Ortaklıkları Sektörü	GİA	Finans Ekonomi ve Sosyal Araştırmalar Dergisi	2023
Oral, C.; Şenen, M.	Teknoloji Sektörü	GİA	İşletme Araştırmaları Dergisi	2023
Pala, F.	Teknoloji ve Bilişim Sektörü	GİA, WASPAS	Finans Ekonomi ve Sosyal Araştırmalar Dergisi	2023
Kara, M.; Şeyranhoğlu, O.	Sürdürülebilirlik Sektörü	Entropi, GİA	Gümüşhane Üniversitesi Sosyal Bilimler Dergisi	2023
Daver, G.	Bankacılık Sektörü	GİA	Quantrade Journal of Complex Systems in Social Sciences	2023
Çulhaoğlu, B.; Yeşildağ, E.	Gıda, İlaç, Perakende Sektörü	TOPSIS, GİA	Uluslararası İktisadi ve İdari İncelemeler Dergisi	2022

Türkiye sigortacılık sektöründe gri ilişkisel analiz yöntemiyle yapılan bir çalışmada, tamamlayıcı sağlık sigortası yapan şirketlerin 2017-2021 yılları arasında performanslarının aynı seviyede seyrettiği tespit edilmiştir (Akkurt & Umut, 2023). Türkiye’de 2020 ve 2021 yıllarında hayat ve emeklilik alanında faaliyet gösteren sigorta şirketlerinin finansal performanslarının değerlendirilmesi amacıyla entropi tabanlı bir yöntemin ve 11 kriterin kullanıldığı bir başka çalışmada entropi ağırlıklandırması sonuçlarına göre 2020 yılı için, Dönem Net Kârı-Zararı kriterinin en fazla ağırlık değerine sahip olduğu, 2021 yılı için ise, en fazla ağırlık değerinin Toplam Özkaynak kriterinde olduğu tespit edilmiştir (Baykal & Akıllı, 2023). Çok kriterli karar verme yöntemlerinin kullanıldığı bir başka çalışmada Borsa İstanbul’da işlem gören altı sigorta şirketinin 2020-2021 yılları finansal performansları değerlendirilmiş ve sigorta şirketlerinin performanslarını belirlemede en etkili kriterin Özkaynaklar / Toplam Aktifler kriteri olduğu tespit edilmiştir (Gülcemal vd., 2023). Finansal performansı ölçerken kriter ağırlıklarının belirlenmesi amacıyla WASPAS yönteminin kullanıldığı halka açık sigorta şirketleri 2017-2021 verilerine dayanan 6 kriterin kullanıldığı bir çalışmada ise, en önemli kriterin esas faaliyetlerinden alacaklar/aktifler (net oranının olduğu belirlenmiştir (Sönmez, 2023).

Borsa İstanbul’da işlem görmekte olan 20 adet gayrimenkul yatırım ortaklığının 2019-2021 yıllarına ait finansal performanslarının gri ilişkisel analiz yöntemi ile incelendiği bir çalışmada 12 adet finansal oran değerlendirilmiş ve GİA değerlerinin çok yüksek

sapmalar göstermediği ve yüksek kârlılığa sahip firmaların finansal performanslarının yüksek olduğu sonucuna varılmıştır (Çolak, 2023).

GİA yönteminin kullanıldığı ve Borsa İstanbul'da işlem gören teknoloji şirketleri üzerinde yapılan ve 10 değişkenin kullanıldığı başka bir çalışmada 2017-2021 yılları arasında performansa göre ilk dört firmanın değişmediği ifade edilmiştir (Oral & Şenen, 2023). Başka bir çalışmada ise 2010-2021 yılları arasında Borsa İstanbul Teknoloji ve Bilişim Sektöründe işlem gören şirketlerin finansal performanslarını değerlendirmek için çok kriterli karar verme yöntemleri kullanılmış ve sonuçları karşılaştırılmıştır. 15 kriterin kullanıldığı araştırmada kriter ağırlıkları belirlendikten sonra, şirketlerin finansal performansları gri ilişkisel analiz ve WASPAS (Weighted Aggregated Sum Product Assessment) yöntemleri ile incelenerek performans sıralamaları yapılmıştır. Her iki yöntemle göre değerlendirilen finansal performansları en yüksekte en düşüğe göre sıralanmıştır. Performansı en yüksek olanlar arasında ilk sıralarda aynı firmaların olduğu ifade edilmiştir (Pala, 2023).

Entropi ve GİA yöntemiyle Borsa İstanbul sürdürülebilirlik 25 endeksindeki şirketlerin 2020-2022 yılları arasındaki likidite düzeylerinin karşılaştırıldığı bir çalışmada, 22 firmanın finansal performansları entropi yöntemiyle ağırlıklandırılmış ve GİA yöntemiyle likidite düzeylerine göre sıralanmıştır. Çalışmanın sonuç bölümünde likidite düzeyleri yüksek olan firmaların finansal sürdürülebilirlik açısından daha iyi bir noktada olacakları ifade edilmiştir (Kara & Şeyranhoğlu, 2023).

GİA yöntemi ile Borsa İstanbul bankacılık sektörü endeksinin kullanıldığı başka bir çalışmada endeks değişimi 2017-2022 yılları arasında aylık olarak analiz edilmiş ve endeks en iyi duruma 2022 yılının son iki ayında ulaşmıştır. Bu çalışmada kullanılan değişkenler; sermaye yeterliliği standart rasyosu, takipteki alacaklar (brüt) / toplam nakdi krediler, dönem net kârı (zararı) / ortalama toplam aktifler, ücret, komisyon ve bankacılık hizmetleri gelirleri / toplam gelirler ve işletme giderleri / ortalama toplam aktifler rasyolarıdır. Çalışmada GİA sonuçları ile geleneksel finans görüşü açısından endeks değerleri incelenmiş ortalamalarda yer alan sıralamalarda gri ilişkisel sıralama ile endeks değeri sırası arasında farklılıklar olduğu belirlenmiştir (Daver, 2023).

Borsa İstanbul'da faaliyet gösteren 11 perakende şirketinin 2017-2021 yıllarına ilişkin finansal performansları beş finansal oran üzerinden GİA yöntemi ile ölçülmüş; pandemi sürecinde şirketlerin sıralamasındaki farklılaşmalar incelenmiştir (Bozkır & Ataman, 2023).

Borsa İstanbul'da 2017-2021 yılları arasında işlem gören gıda, ilaç ve perakende ticaret sektörlerindeki 17 şirketin finansal performansları ile borsa getirileri arasındaki ilişkisinin incelendiği başka bir araştırmada TOPSIS ve GİA yöntemleri, ağırlıklandırma için ise Entropi yöntemi kullanılmıştır. Çalışma, şirket performansının yöntem olarak kullanılan TOPSIS ve GİA yöntemine göre değiştiğini ortaya koymuştur. Ancak Entropi

ağırlıklandırma yöntemi kullanıldığında şirket performanslarının her iki yöntemde de benzer çikabildiği görülmüştür (Çulhaoğlu & Yeşildağ, 2023).

Literatürde finansal performans değerlendirmede, ÇKKV yöntemlerinden sıklıkla kullanıldığı görülmektedir. Çalışmanın bundan sonraki bölümünde araştırmada kullanılan metodoloji açıklanmaktadır.

#### 4. Metodoloji

Mevcut araştırmanın amacı, hastane işletmelerinin finansal raporlarından yola çıkarak çok kriterli karar yöntemlerinden biri olan gri ilişkisel analiz yöntemiyle finansal performanslarını analiz etmektir. Çok kriterli analizlerde ağırlık katsayılarının belirlenmesinde iki temel yaklaşım bulunmaktadır. Bunlardan ilki araştırmacının finansal bilgisine ve deneyimlerine dayalı ağırlıkların belirlenmesidir. Söz konusu yaklaşım araştırmacıların subjektif değerlemelerine dayalı olması bakımında eleştiri konusu olabilmektedir. İkinci yaklaşım ise entropi yöntemiyle ağırlıkların nesnel olarak matematiksel yöntemlerle hesaplanmasına dayanmaktadır. Çalışmada, finansal oranların ağırlıklarının hesaplanmasında entropi yöntemi uygulanmıştır. Çalışma İnsan Sağlığı ve Sosyal Hizmet sektöründe faaliyet gösteren ve halka arz edilmiş olan hastane işletmelerinin finansal performanslarını incelemektedir. Çalışmada 2021 ve 2022 yılı konsolide finansal tablo verileri kullanılmıştır. Veriler likidite, faaliyet, finansal yapı ve kârlılık olmak üzere dört ana başlıkta yer alan yirmi üç adet finansal gösterge üzerinden elde edilmiştir. Betimleyici değişkenlere ilişkin bilgiler Tablo 1'de sunulmuştur.

Araştırma kapsamında BİST'te işlem gören ve hastane işletmesi olarak tanınan dört sağlık grubunun verisi incelenmektedir. Bunlar sırasıyla MLP Sağlık Hizmetleri A.Ş. (MedicalPark), Lokman Hekim Engürüsağ Sağlık Turizm Eğitim Hizmetleri ve İnşaat Taahhüt A.Ş. (Lokman Hekim), Nasmed Özel Sağlık Hizmetleri Ticaret A.Ş. (EGEPOI) ve TAPDİ Oksijen Özel Sağlık ve Eğitim Hizmetleri Sanayi Ticaret A.Ş.'dir.

MedicalPark şirketi 06.02.2018 tarihinde halka arz edilen sağlık işletmesidir. Şirketin faaliyet alanları, sağlık hizmetleri ile ilgili olarak hastaneler, poliklinikler, ilk yardım, kan merkezleri, laboratuvarlar, huzurevi, kreş, çocuk bakım evleri açmak ve evde bakım hizmetleri sunmak, radyoloji tesisleri kurmak ve işletmek, (leasing, adi kira veya hasılat kirası yolu ile) kiralamak ve kiraya vermek, satın almak ve bu tesisleri satmak olarak tanımlanmıştır (<kap.org.tr>, 01.04.2024).

Lokman Hekim, 26 Ocak 2011 tarihinde halka arz edilen ve sağlık sektöründe faaliyet gösteren Türkiye merkezli bir şirkettir. Şirketin Sektörü eğitim, sağlık, spor ve diğer sosyal hizmetler, insan sağlığı ve sosyal hizmetler olarak tanımlanmaktadır (<kap.org.tr>, 02.04.2024).

Nasmed (Egepol) Şirketi 26.08.2021 tarihinde halka arz edilmiştir. Şirketin faaliyet alanı, insan sağlığına yönelik, hastalara ayakta ve yatırarak muayene, teşhis ve tedavi hizmetlerini sunmak, bu hizmetler için gerekli olan; tüm tanı ve tedavi alanları, ayakta ve

yatarak teşhis ve tedavi hizmetleri sunan sağlık tesisleri, laboratuvarlar, kan merkezleri, rehabilitasyon merkezleri, üniteler gibi insan sağlığına yönelik kuruluşları inşa etmek, tadil etmek, kurmak, satın almak ve işletmek, koruyucu hekimlik dahil insan sağlığına yönelik tüm sağlık hizmetlerini vermek olarak tanımlanmıştır (<kap.org.tr>, 03.04.2024).

TAPDİ, 02 Ocak 2023 yılında halka arz edilen ve İzmir’de bulunan hastane ve tıp merkezi ile faaliyet gösteren hastaneler grubu şirkettir. Şirketin Faaliyet Konusu sağlık ve eğitim hizmetleridir (<kap.org.tr>, 04.04.2024).

Şirketlerin 2021 ve 2022 yılı finansal verileri üzerinden hesaplanan finansal oranlar, Tablo 3’de karar matrisi halinde görülmektedir.

**Tablo: 3**  
**Şirketlerin 2021 ve 2022 Yılı Finansal Oranları**

2021																							
ŞİRKETLER	LİKİDİTE			FAALİYET RASYOLARI						MALİ YAPI						KARLILIK							
	L-1	L-2	L-3	F-1	F-2	F-3	F-4	F-5	F-6	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	K-1	K-2	K-3	K-4	K-5	K-6
MLP	0.83	0.74	0.21	21.15	4.69	-14.89	2.35	2.15	1.12	0.88	0.31	0.58	0.12	0.48	0.13	1.24	7.59	0.27	0.06	0.18	0.52	0.37	0.21
LKMNH	0.75	0.63	0.07	16.85	6.66	-11.60	3.92	1.43	1.05	0.54	0.19	0.34	0.46	0.28	0.86	1.13	1.16	0.25	0.25	0.17	0.51	0.46	0.22
EGEPO	1.92	1.78	1.19	19.47	17.19	3.62	3.47	1.16	0.87	0.25	0.12	0.13	0.75	0.13	3.00	0.86	0.33	0.24	0.29	0.15	0.17	0.16	0.17
TAPDİ	2.13	1.93	1.45	10.61	7.46	2.34	1.37	0.62	0.43	0.21	0.06	0.15	0.79	0.06	3.77	0.81	0.27	0.26	1.27	0.12	0.68	0.12	0.17
2022																							
ŞİRKETLER	LİKİDİTE			FAALİYET RASYOLARI						MALİ YAPI						KARLILIK							
	L-1	L-2	L-3	F-1	F-2	F-3	F-4	F-5	F-6	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	K-1	K-2	K-3	K-4	K-5	K-6
MLP	0.79	0.65	0.16	14.78	7.09	-12.53	3.01	2.57	1.39	0.79	0.22	0.57	0.21	0.36	0.27	1.27	3.67	0.29	0.17	0.19	0.92	0.82	0.19
LKMNH	0.75	0.60	0.12	17.77	7.77	-12.35	4.14	1.63	1.17	0.66	0.26	0.40	0.34	0.40	0.52	1.17	1.91	0.21	0.13	0.12	0.32	0.52	0.15
EGEPO	1.70	1.58	0.75	27.98	11.09	5.50	2.44	0.80	0.60	0.38	0.23	0.14	0.62	0.23	1.65	0.88	0.61	0.21	0.01	0.02	0.01	0.24	0.02
TAPDİ	2.21	2.03	0.84	16.29	10.75	3.91	2.11	0.78	0.57	0.18	0.07	0.11	0.82	0.02	4.50	0.85	0.22	0.31	0.81	0.23	0.44	0.23	0.31

## 5. Entropi Yöntemi ile Kriter Ağırlıklarının Hesaplanması

Araştırmada finansal oranların dışardan uzman görüşü olmadan ve tercihlere bırakmadan veriler üzerinden nesnel bir yaklaşımla ağırlıklarının belirlenmesi tercih edilmiştir. Entropi yönteminde kriterlerin önem ağırlıklarını belirlemek için aşağıda yer alan aşamalar izlenmiştir.

### 5.1. Normalize Karar Matrisinin Oluşturulması

Normalize karar matrisinin oluştururken (1) numaralı eşitlikten faydalanılmıştır. Yıllara göre normalize edilen karar matrisleri Tablo 4’de görülmektedir. Formül (1)’de yer alan  $P_{ij}$ : normalize edilmiş değerleri,  $i$ : alternatifleri,  $j$ : kriterleri göstermektedir. Formüldeki  $x_{ij}$ , ölçülen orijinal finansal orana karşılık gelirken,  $P_{ij}$  normalize edilmiş veriye karşılık gelmektedir.

$$P_{ij} = \frac{x_{ij}}{\sum_{i=1}^m x_{ij}} \quad \forall i, j \quad (1)$$



**Tablo: 4**  
**Normalize Edilmiş Karar Matrisleri**

		2021																					
ŞİRKETLER	LİKİDİTE			FAALİYET RASYOLARI						MALİ YAPI						KARLILIK							
	L-1	L-2	L-3	F-1	F-2	F-3	F-4	F-5	F-6	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	K-1	K-2	K-3	K-4	K-5	K-6
MLP	0.15	0.15	0.07	0.31	0.13	0.73	0.21	0.40	0.32	0.47	0.45	0.48	0.05	0.50	0.02	0.31	0.81	0.27	0.03	0.29	0.28	0.34	0.27
LKMNH	0.13	0.12	0.02	0.25	0.19	0.56	0.35	0.27	0.30	0.29	0.28	0.29	0.22	0.30	0.11	0.28	0.12	0.25	0.13	0.28	0.27	0.41	0.29
EĞEPO	0.34	0.35	0.41	0.29	0.48	0.18	0.31	0.22	0.25	0.13	0.17	0.11	0.35	0.14	0.39	0.21	0.04	0.23	0.16	0.24	0.09	0.14	0.23
TAPDI	0.38	0.38	0.50	0.16	0.21	0.11	0.12	0.12	0.12	0.11	0.09	0.12	0.37	0.06	0.49	0.20	0.03	0.25	0.68	0.19	0.36	0.11	0.22

		2022																					
ŞİRKETLER	LİKİDİTE			FAALİYET RASYOLARI						MALİ YAPI						KARLILIK							
	L-1	L-2	L-3	F-1	F-2	F-3	F-4	F-5	F-6	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	K-1	K-2	K-3	K-4	K-5	K-6
MLP	0.15	0.13	0.09	0.19	0.19	0.81	0.26	0.45	0.37	0.39	0.28	0.47	0.11	0.36	0.04	0.31	0.57	0.28	0.15	0.34	0.54	0.45	0.28
LKMNH	0.14	0.12	0.06	0.23	0.21	0.80	0.35	0.28	0.31	0.33	0.33	0.33	0.17	0.39	0.08	0.28	0.30	0.20	0.11	0.22	0.19	0.29	0.22
EĞEPO	0.31	0.33	0.40	0.36	0.30	0.36	0.21	0.14	0.16	0.19	0.30	0.12	0.31	0.23	0.24	0.21	0.09	0.20	0.01	0.03	0.01	0.13	0.02
TAPDI	0.41	0.42	0.45	0.21	0.29	0.25	0.18	0.13	0.15	0.09	0.09	0.41	0.02	0.65	0.20	0.03	0.31	0.73	0.41	0.26	0.13	0.47	

### 5.2. Kriterlere İlişkin Normalize Değerlerin Hesaplanması

Karar matrisini normalleştirdikten sonra Entropi değerleri hesaplanmasında (2 ve 3) numaralı eşitlik kullanılmıştır. Araştırmada kriter (k) değerlerinin hesaplanmasında (2) numaralı eşitlik kullanılmıştır. Eşitlikte yer alan  $k = 1/\ln(n)$ , sabit bir sayı olmak üzere  $0 \leq e_j \leq 1$  olmasını sağlar. Çalışmada, firma sayısı için  $n = 4$  olduğundan,  $k = 1/\ln 4 = 0,72134752$  olarak hesaplanmıştır. Çalışmada entropi değeri ( $e_j$ ) hesaplanırken önce, formülün sağ tarafındaki toplama kısmı ( $\sum_{j=1}^n p_{ij} \cdot \ln(p_{ij})$ ) hesaplanmıştır. Hesaplama sonrası elde edilen değerler Tablo 5’tedir. Araştırmada (3) numaralı eşitliğin hesaplanmasıyla edinilen  $e_j$  değerleri Tablo 6’dadır.

$$k = \frac{1}{\ln(n)} \quad (2)$$

$$e_j = -k \cdot \sum_{j=1}^n p_{ij} \cdot \ln(p_{ij}) \quad (3)$$

**Tablo: 5**  
**Kriterlere İlişkin Normalize Değerler Tablosu**

		2021																					
ŞİRKETLER	LİKİDİTE			FAALİYET RASYOLARI						MALİ YAPI						KARLILIK							
	L-1	L-2	L-3	F-1	F-2	F-3	F-4	F-5	F-6	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	K-1	K-2	K-3	K-4	K-5	K-6
MLP	-0.28	-0.28	-0.19	-0.36	-0.27	-0.23	-0.33	-0.37	-0.37	-0.35	-0.36	-0.35	-0.16	-0.35	-0.07	-0.36	-0.17	-0.35	-0.11	-0.36	-0.36	-0.37	-0.35
LKMNH	-0.27	-0.26	-0.08	-0.35	-0.31	-0.32	-0.37	-0.35	-0.36	-0.36	-0.36	-0.36	-0.33	-0.36	-0.24	-0.36	-0.26	-0.35	-0.27	-0.36	-0.35	-0.37	-0.36
EĞEPO	-0.37	-0.37	-0.37	-0.36	-0.35	-0.31	-0.36	-0.33	-0.35	-0.27	-0.30	-0.24	-0.37	-0.27	-0.37	-0.33	-0.12	-0.34	-0.29	-0.34	-0.22	-0.28	-0.34
TAPDI	-0.37	-0.37	-0.35	-0.29	-0.33	-0.25	-0.26	-0.25	-0.26	-0.24	-0.22	-0.26	-0.37	-0.17	-0.35	-0.32	-0.10	-0.35	-0.26	-0.32	-0.37	-0.24	-0.33

		2022																					
ŞİRKETLER	LİKİDİTE			FAALİYET RASYOLARI						MALİ YAPI						KARLILIK							
	L-1	L-2	L-3	F-1	F-2	F-3	F-4	F-5	F-6	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	K-1	K-2	K-3	K-4	K-5	K-6
MLP	-0.28	-0.27	-0.21	-0.32	-0.32	-0.17	-0.35	-0.36	-0.37	-0.37	-0.36	-0.36	-0.24	-0.37	-0.13	-0.36	-0.32	-0.36	-0.29	-0.37	-0.33	-0.36	-0.36
LKMNH	-0.27	-0.26	-0.17	-0.34	-0.33	-0.18	-0.37	-0.36	-0.36	-0.37	-0.37	-0.37	-0.30	-0.37	-0.20	-0.36	-0.36	-0.32	-0.25	-0.33	-0.32	-0.36	-0.33
EĞEPO	-0.36	-0.37	-0.37	-0.37	-0.36	-0.37	-0.33	-0.27	-0.29	-0.31	-0.36	-0.25	-0.36	-0.34	-0.34	-0.33	-0.22	-0.32	-0.04	-0.11	-0.03	-0.27	-0.09
TAPDI	-0.37	-0.36	-0.36	-0.33	-0.36	-0.35	-0.31	-0.27	-0.29	-0.22	-0.22	-0.22	-0.37	-0.09	-0.28	-0.32	-0.12	-0.36	-0.23	-0.37	-0.35	-0.26	-0.35

### 5.3. Kriter Değerlerinin Hesaplanması

Araştırmada hesaplanan  $e_j$  değerleri yanında,  $d_j$  değerleri hesaplamada (4) numaralı eşitlik kullanılmıştır. 2021 ve 2022 yıllarına ait hesaplanan  $e_j$  ve  $d_j$  değerleri Tablo 6’da bir arada görülmektedir.

$$d_j = 1 - e_j \quad (j = 1, 2, \dots, n) \quad (4)$$

**Tablo: 6**  
**Kriter Değerleri Tablosu**

		2021																					
e <sub>i</sub>	0,93	0,92	0,71	0,98	0,91	0,80	0,95	0,94	0,96	0,88	0,90	0,87	0,89	0,83	0,74	0,99	0,47	1,00	0,67	0,99	0,93	0,90	0,99
d <sub>j</sub>	0,07	0,08	0,29	0,02	0,09	0,20	0,05	0,06	0,04	0,12	0,10	0,13	0,11	0,17	0,26	0,01	0,53	0,00	0,33	0,01	0,07	0,10	0,01
		2022																					
e <sub>i</sub>	0,92	0,91	0,80	0,98	0,99	0,77	0,98	0,91	0,95	0,91	0,94	0,86	0,92	0,84	0,68	0,99	0,74	0,99	0,58	0,84	0,74	0,90	0,82
d <sub>j</sub>	0,08	0,09	0,20	0,02	0,01	0,23	0,02	0,09	0,05	0,09	0,06	0,14	0,08	0,16	0,32	0,01	0,26	0,01	0,42	0,16	0,26	0,10	0,18

#### 5.4. Kriter Ağırlıklarının Hesaplanması

Eşitlik (5) yardımıyla j kriterinin önem derecesi olarak ağırlıkları (W<sub>j</sub>) hesaplanmaktadır. Formülde yer alan w<sub>j</sub>, entropi metodu ağırlık değerini (Entropy Method Weight) temsil etmektedir. Hesaplanan kriter ağırlıkları Tablo 7’de görülmektedir.

$$w_j = \frac{d_j}{\sum_{j=1}^n d_j} \quad (5)$$

**Tablo: 7**  
**Kriter Ağırlıkları Tablosu**

		2021																					
w <sub>j</sub>	LİKİDİTE			FAALİYET RASYOLARI						MALİ YAPI						KÂRLILIK							
	L-1	L-2	L-3	F-1	F-2	F-3	F-4	F-5	F-6	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	K-1	K-2	K-3	K-4	K-5	K-6
	2,55%	2,84%	10,15%	0,75%	3,27%	7,01%	1,74%	2,20%	1,39%	4,06%	3,63%	4,50%	4,02%	6,09%	8,96%	0,40%	18,67%	0,03%	11,48%	0,28%	2,36%	3,45%	0,18%
		2022																					
w <sub>j</sub>	LİKİDİTE			FAALİYET RASYOLARI						MALİ YAPI						KÂRLILIK							
	L-1	L-2	L-3	F-1	F-2	F-3	F-4	F-5	F-6	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	K-1	K-2	K-3	K-4	K-5	K-6
	2,46%	3,00%	6,50%	0,80%	0,44%	7,55%	0,79%	2,98%	1,74%	2,85%	2,00%	4,63%	2,71%	5,29%	10,40%	0,35%	8,64%	0,40%	13,67%	5,08%	8,53%	3,32%	5,86%

Hesaplamalar sonrasında edinilen bulgular kapsamında, 2021 yılı için nakit oran (L3), net işletme sermayesi devir hızı (F5), finansman oranı (M6), borç/özkaynak oranı (M8), net kâr marjı (K2) değişkenleri katsayı ağırlıklarının diğer katsayılardan anlamlı olarak farklılaştığı gözlenmiştir. 2022 yılı için bu değişkenlere ek olarak faaliyet kârlılığı oranı (K3), öz sermaye kârlılığı (K4) ve EBİTDA (K6) katsayı ağırlıklarının diğer katsayılardan anlamlı olarak farklılaştığı gözlenmiştir. Diğer bir ifadeyle, yıllara göre finansal oranların entropi ağırlık katsayıları hesaplandığında farklılıklar olabileceği anlaşılmıştır. Geleneksel ortalama üzerinden ağırlık hesaplaması durumunda yıllara göre finansal performanslara göre ağırlıklar dikkate alınmamış olacağından, çok kriterli analizlerde döneme özgü anlamlı değerlendirmelerde kısıtlara neden olabileceği saptanmıştır. Araştırmanın bundan sonraki aşamasında hesaplanmış olan entropi ağırlıklarına göre, gri ilişkisel analizi yapılacaktır.

#### 6. Gri İlişkisel Analiz (GİA) Yöntemi ile Performans Değerlemesi

Araştırmada entropi yöntemi ile ağırlıkların hesaplanması sonrasında, sağlık şirketlerinin finansal performansını analiz için çok kriterli karar verme tekniklerinden biri olan GİA yöntemi tercih edilmiştir. Gri İlişkisel Analiz (GİA) Ju-Long (1982) tarafından geliştirilmiştir (Ju-Long, 1982: 288). Gri ilişkisel analiz *en iyi* çözümden ziyade, gerçek sorunlar karşısında uygun olabilecek *iyi* bir çözümün belirlenmesini mümkün kılar. Finansal performansın etkinlik sıralamasını ölçmede kullanılabilir (Kula vd., 2016: 42). Gri ilişkisel analiz, hesaplama yoğunluğu ve zorluğu içeren orta ve büyük ölçekli endüstriyel

belirsizlikleri, basit ve anlaşılır şekilde modellenenbilmesine imkân sağlamaktadır (Aydemir vd., 2013: 188). GİA sürecinde Kuo ve arkadaşlarınınca (2008) izlenen basamaklar kullanılmıştır.

## 6.1. Karar Matrisi Oluşturma ve Referans Değerin Belirlenmesi

Çalışmada öncelikle sağlık şirketlerinin bilanço ve gelir tablolarındaki verilerden yararlanarak 2021 ve 2022 yılı için ayrı tablolar halinde 23 finansal oran hesaplanmış ve hesaplanan oranlar ile karar matrisleri oluşturulmuştur (Tablo 8). Daha sonra referans serisi ve karşılaştırma matrisi oluşturulmuştur. Referans değerleri belirlenirken, finansal oranlardan hangilerinin maksimum veya minimum olarak şirketin performansına olumlu yansıtacağına dair değerlendirmeler yapılmıştır. Değerlendirme sonrasında likidite, faaliyet ve kârlılık oranlarının tamamının maksimum referans değer olarak belirlenmesine karar verilmiştir. Sadece mali yapıda finansal oranın içeriğine göre, maksimum veya minimum olması tercih edilmiştir.

**Tablo: 8**  
**Karar Matrisleri ve Referans Değerleri**

2021																							
ŞİRKETLER	LİKİDİTE				FAALİYET RASYOLARI						MALİ YAPI						KARLILIK						
	L-1	L-2	L-3	F-1	F-2	F-3	F-4	F-5	F-6	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	K-1	K-2	K-3	K-4	K-5	K-6
REFERANS	2,13	1,93	1,45	21,15	17,19	3,62	3,92	2,15	1,12	0,21	0,06	0,13	0,79	0,06	3,77	0,81	0,27	0,27	1,27	0,18	0,68	0,46	0,22
MLP	0,83	0,74	0,21	21,15	4,69	-11,89	2,35	2,15	1,12	0,88	0,31	0,58	0,12	0,48	0,13	1,24	7,59	0,27	0,06	0,18	0,52	0,37	0,21
LKMNH	0,75	0,63	0,07	16,85	6,66	-11,60	3,92	1,43	1,05	0,54	0,19	0,34	0,46	0,28	0,86	1,13	1,16	0,25	0,25	0,17	0,51	0,46	0,22
EGEPO	1,92	1,78	1,19	19,47	17,19	3,62	3,47	1,16	0,87	0,25	0,12	0,13	0,75	0,13	3,00	0,86	0,33	0,24	0,29	0,15	0,17	0,16	0,17
FAPDI	2,13	1,93	1,45	10,61	7,46	2,34	1,37	0,62	0,43	0,21	0,06	0,15	0,79	0,06	3,77	0,81	0,27	0,26	1,27	0,12	0,68	0,12	0,17
2022																							
ŞİRKETLER	LİKİDİTE				FAALİYET RASYOLARI						MALİ YAPI						KARLILIK						
	L-1	L-2	L-3	F-1	F-2	F-3	F-4	F-5	F-6	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	K-1	K-2	K-3	K-4	K-5	K-6
REFERANS	2,21	2,03	0,84	27,98	11,09	5,50	4,14	2,57	1,39	0,18	0,07	0,11	0,82	0,02	4,50	0,85	0,22	0,31	0,81	0,23	0,92	0,82	0,31
MLP	0,79	0,65	0,16	14,78	7,09	-12,53	3,01	2,57	1,39	0,79	0,22	0,57	0,21	0,36	0,27	1,27	3,67	0,29	0,17	0,19	0,92	0,82	0,19
LKMNH	0,75	0,60	0,12	17,77	7,77	-12,35	4,14	1,63	1,17	0,66	0,26	0,40	0,34	0,40	0,52	1,17	1,91	0,21	0,13	0,12	0,32	0,52	0,15
EGEPO	1,70	1,58	0,75	27,98	11,09	5,50	2,44	0,80	0,60	0,38	0,23	0,14	0,62	0,23	1,65	0,88	0,61	0,21	0,01	0,02	0,01	0,24	0,02
FAPDI	2,21	2,03	0,84	16,29	10,75	3,91	2,11	0,78	0,57	0,18	0,07	0,11	0,82	0,02	4,50	0,85	0,22	0,31	0,81	0,23	0,44	0,23	0,31

## 6.2. Gri İlişkisel Setin Oluşturulması

Çok kriterli bir problemde m adet alternatif ve n adet kriter olduğunda, i. alternatifin j. kriterinin performans değeri  $y_{ij}$  olarak ifade edilir.  $Y_i$  terimi, 6,7 ve 8 numaralı eşitliklerden birinin kullanılmasıyla karşılaştırma dizisine çevrilebilir.

$$x_{ij} = \frac{y_{ij} - \text{Min}\{y_{ij}, i=1,2,\dots,m\}}{\text{Max}\{y_{ij}, i=1,2,\dots,m\} - \text{Min}\{y_{ij}, i=1,2,\dots,m\}} \quad i = 1,2,\dots,m \quad j = 1,2,\dots,n \quad (6)$$

$$x_{ij} = \frac{\text{Max}\{y_{ij}, i=1,2,\dots,m\} - y_{ij}}{\text{Max}\{y_{ij}, i=1,2,\dots,m\} - \text{Min}\{y_{ij}, i=1,2,\dots,m\}} \quad i = 1,2,\dots,m \quad j = 1,2,\dots,n \quad (7)$$

$$x_{ij} = 1 - \frac{|y_{ij} - y_j^*|}{\text{Max}\{\text{Max}\{y_{ij}, i=1,2,\dots,m\} - y_j^*, y_j^* - \text{Min}\{y_{ij}, i=1,2,\dots,m\}\}} \quad i = 1,2,\dots,m \quad j = 1,2,\dots,n \quad (8)$$

Çalışmada Eşitlik (1) en büyük değer en iyi değer ise, Eşitlik (2) en küçük değer en iyi değer ise ve Eşitlik (3) arzu edilen  $y_j^*$  değerine en yakın değer en iyi değer ise kullanılır. Denklem (6), (7) veya (8) kullanılarak üretilen performans değerleri  $[0, 1]$  değerleri arasında

ölçeklenecektir. Alternatif i'nin j niteliği için,  $x_{ij}$  değeri 1'e eşitse veya diğer herhangi bir alternatifin değerinden 1'e yakınsa, bu alternatif i'nin performansının j niteliği için en iyi performans olduğu anlamına gelmektedir. Sağlık şirketlerinin 2021 ve 2022 yılı finansal değerleri gri ilişkisel setin dağılımı Tablo 9'da görülmektedir.

**Tablo: 9**  
**Referans Dizisi Tablosu**

2021																							
ŞİRKETLER	LİKİDİTE			FAALİYET RASYOLARI						MALİ YAPI						KARLILIK							
	L-1	L-2	L-3	F-1	F-2	F-3	F-4	F-5	F-6	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	K-1	K-2	K-3	K-4	K-5	K-6
	Maks	Maks	Maks	Maks	Maks	Maks	Maks	Maks	Maks	Min	Min	Min	Maks	Min	Maks	Min	Min	Maks	Maks	Maks	Maks	Maks	Maks
REFERANS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLP	0.05	0.09	0.10	1.00	0.00	0.00	0.39	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	0.68	0.76	0.81
LKMNH	0.00	0.00	0.00	0.59	0.16	0.18	1.00	0.53	0.89	0.52	0.46	0.53	0.52	0.46	0.20	0.25	0.88	0.44	0.16	0.83	0.67	1.00	1.00
EGEPO	0.84	0.89	0.82	0.84	1.00	1.00	0.82	0.35	0.63	0.94	0.77	1.00	0.94	0.83	0.79	0.87	0.99	0.00	0.19	0.46	0.00	0.11	0.14
TAPDI	1.00	1.00	1.00	0.00	0.22	0.93	0.00	0.00	0.00	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00	0.66	1.00	0.00	1.00	0.00	0.00
2022																							
ŞİRKETLER	LİKİDİTE			FAALİYET RASYOLARI						MALİ YAPI						KARLILIK							
	L-1	L-2	L-3	F-1	F-2	F-3	F-4	F-5	F-6	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	K-1	K-2	K-3	K-4	K-5	K-6
	Maks	Maks	Maks	Maks	Maks	Maks	Maks	Maks	Maks	Min	Min	Min	Maks	Min	Maks	Min	Min	Maks	Maks	Maks	Maks	Maks	Maks
REFERANS	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLP	0.03	0.04	0.06	0.00	0.00	0.00	0.44	1.00	1.00	0.00	0.22	0.00	0.00	0.10	0.00	0.00	0.00	0.77	0.20	0.82	1.00	1.00	0.58
LKMNH	0.00	0.00	0.00	0.23	0.17	0.01	1.00	0.48	0.74	0.22	0.00	0.38	0.22	0.00	0.06	0.25	0.51	0.00	0.15	0.50	0.34	0.49	0.44
EGEPO	0.65	0.69	0.88	1.00	1.00	1.00	0.16	0.01	0.04	0.68	0.14	0.93	0.68	0.45	0.33	0.92	0.89	0.00	0.00	0.00	0.00	0.02	0.00
TAPDI	1.00	1.00	1.00	0.11	0.91	0.91	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.48	0.00	1.00

### 6.3. Gri İlişkisel Katsayısının Hesaplanması

Araştırmada  $x_{ij}$ 'nin  $x_{0j}$ 'ye yakınlığını belirlemek için gri ilişki katsayısı kullanılmıştır. Gri ilişkisel katsayı ne kadar büyükse,  $x_{ij}$  ve  $x_{0j}$  arası o kadar yakındır. Eşitlikteki  $y(x_{0j}, x_{ij})$ ,  $x_{ij}$  ve  $x_{0j}$  arasındaki gri ilişkisel katsayısının hesaplanmasında (9) numaralı formülden yararlanılmıştır. Hesaplanan veriler Tablo10'da görülmektedir.

$$\Delta_{ij} = |x_{0j} - x_{ij}| \text{ uzaklık mesafesi} \quad (9)$$

**Tablo: 10**  
**Normalizasyon Değeri ile Referans Değer Farkları Tablosu**

2021																							
ŞİRKETLER	LİKİDİTE			FAALİYET RASYOLARI						MALİ YAPI						KARLILIK							
	L-1	L-2	L-3	F-1	F-2	F-3	F-4	F-5	F-6	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	K-1	K-2	K-3	K-4	K-5	K-6
	Maks	Maks	Maks	Maks	Maks	Maks	Maks	Maks	Maks	Min	Min	Min	Maks	Min	Maks	Min	Min	Maks	Maks	Maks	Maks	Maks	Maks
MLP	0.95	0.91	0.90	0.00	1.00	1.00	0.61	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.32	0.24	0.19
LKMNH	1.00	1.00	1.00	0.41	0.84	0.82	0.00	0.47	0.11	0.48	0.54	0.47	0.48	0.54	0.80	0.75	0.12	0.56	0.84	0.17	0.33	0.00	0.86
EGEPO	0.16	0.11	0.18	0.16	0.00	0.00	0.18	0.65	0.37	0.06	0.23	0.00	0.06	0.17	0.21	0.13	0.01	1.00	0.81	0.54	1.00	0.89	0.86
TAPDI	0.00	0.00	0.00	1.00	0.78	0.07	1.00	1.00	1.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.34	0.00	1.00	1.00	1.00	1.00
2022																							
ŞİRKETLER	LİKİDİTE			FAALİYET RASYOLARI						MALİ YAPI						KARLILIK							
	L-1	L-2	L-3	F-1	F-2	F-3	F-4	F-5	F-6	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	K-1	K-2	K-3	K-4	K-5	K-6
	Maks	Maks	Maks	Maks	Maks	Maks	Maks	Maks	Maks	Min	Min	Min	Maks	Min	Maks	Min	Min	Maks	Maks	Maks	Maks	Maks	Maks
MLP	0.97	0.96	0.94	1.00	1.00	1.00	0.56	0.00	0.00	1.00	0.78	1.00	1.00	0.90	1.00	1.00	1.00	0.23	0.80	0.18	0.00	0.00	0.42
LKMNH	1.00	1.00	1.00	0.77	0.83	0.99	0.00	0.52	0.26	0.78	1.00	0.62	0.78	1.00	0.94	0.75	0.49	1.00	0.85	0.50	0.66	0.51	0.56
EGEPO	0.35	0.31	0.12	0.00	0.00	0.00	0.84	0.99	0.96	0.32	0.86	0.07	0.32	0.55	0.67	0.08	0.11	1.00	1.00	1.00	1.00	0.98	1.00
TAPDI	0.00	0.00	0.00	0.89	0.09	0.09	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	1.00	0.00

### 6.4. Gri İlişkisel Katsayılar Matrisinin Oluşturulması

Araştırmada ayırıcı katsayı ( $\zeta$  değeri, Zıtlık Kontrol Katsayısı) değeri olarak 0.5 kabul edilmiştir. Literatürdeki araştırmalar incelendiğinde zıtlık kontrol katsayısı olarak çoğunlukla 0,5 değerinin verildiği görülür (Ayçin, 2018: 595-622). Gri ilişkisel katsayılar hesaplanırken (10),  $\Delta_{\max}$  ve  $\Delta_{\min}$  değerleri için (11) ve (12) numaralı formüller kullanılmıştır. Hesaplanan  $\gamma$  değerleri Tablo 11'de görülmektedir.

$$\gamma(x_{0j}, x_{ij}) = \frac{\Delta_{\min} + \zeta \Delta_{\max}}{\Delta_{ij} + \zeta \Delta_{\max}} \quad (10)$$

$$\Delta_{\max} = \text{Max} \{ \Delta_{ij}, i = 1, 2, \dots, m; j = 1, 2, \dots, n \} \quad (11)$$

$$\Delta_{\min} = \text{Min} \{ \Delta_{ij}, i = 1, 2, \dots, m; j = 1, 2, \dots, n \} \quad (12)$$

**Tablo: 11**  
**Gri İlişkisel Katsayılar Tablosu**

		2021																					
ŞİRKETLER	LİKİDİTE			FAALİYET RASYOLARI						MALİ YAPI						KÂRLILIK							
	L-1	L-2	L-3	F-1	F-2	F-3	F-4	F-5	F-6	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	K-1	K-2	K-3	K-4	K-5	K-6
	Maks	Maks	Maks	Maks	Maks	Maks	Maks	Maks	Maks	Min	Min	Min	Min	Min	Min	Min	Min	Maks	Maks	Maks	Maks	Maks	Maks
MLP	0,35	0,35	0,36	1,00	0,33	0,33	0,45	1,00	1,00	0,33	0,33	0,33	0,33	0,33	0,33	0,33	0,33	1,00	0,33	1,00	0,61	0,67	0,73
LKMNH	0,33	0,33	0,33	0,55	0,37	0,38	1,00	0,51	0,82	0,51	0,48	0,51	0,51	0,48	0,39	0,40	0,80	0,47	0,37	0,75	0,60	1,00	1,00
EGEPO	0,76	0,82	0,73	0,76	1,00	1,00	0,74	0,44	0,58	0,89	0,68	1,00	0,89	0,75	0,70	0,79	0,98	0,33	0,38	0,48	0,33	0,36	0,37
TAPDİ	1,00	1,00	1,00	0,33	0,39	0,88	0,33	0,33	0,33	1,00	1,00	0,93	1,00	1,00	1,00	1,00	1,00	0,60	1,00	0,33	1,00	0,33	0,33

		2022																					
ŞİRKETLER	LİKİDİTE			FAALİYET RASYOLARI						MALİ YAPI						KÂRLILIK							
	L-1	L-2	L-3	F-1	F-2	F-3	F-4	F-5	F-6	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	K-1	K-2	K-3	K-4	K-5	K-6
	Maks	Maks	Maks	Maks	Maks	Maks	Maks	Maks	Maks	Min	Min	Min	Min	Min	Min	Min	Min	Maks	Maks	Maks	Maks	Maks	Maks
MLP	0,34	0,34	0,35	0,33	0,33	0,33	0,47	1,00	1,00	0,33	0,39	0,33	0,33	0,36	0,33	0,33	0,33	0,69	0,38	0,73	1,00	1,00	0,54
LKMNH	0,33	0,33	0,33	0,39	0,38	0,34	1,00	0,49	0,65	0,39	0,33	0,44	0,39	0,33	0,35	0,40	0,51	0,33	0,37	0,50	0,43	0,50	0,47
EGEPO	0,59	0,62	0,80	1,00	1,00	1,00	0,37	0,34	0,34	0,61	0,37	0,88	0,61	0,48	0,43	0,86	0,82	0,33	0,33	0,33	0,33	0,34	0,33
TAPDİ	1,00	1,00	1,00	0,36	0,85	0,85	0,33	0,33	0,33	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	0,49	0,33	1,00

Çalışma kapsamında 2021 ve 2022 yılları için ayrı yapılan hesaplamalarda  $\Delta_{\max}$  değeri 1,00 olduğu,  $\Delta_{\min}$  değerinin 0,00 olduğu saptanmıştır.

### 6.5. Önem Katsayısı Dikkate Alınmadan Gri İlişkisel Dereceler ve Alternatif Sıralama

Gri ilişki derecesi  $r_i$  ifadesi ile gösterilmiştir. Gri ilişkisel analizinde eşit önem derecelerine sahip kriterlerin olduğu durumlarda, i. serinin gri ilişki derecesi olan  $r_{0i}$  hesaplamasında (13) numaralı formül kullanılmıştır (Oral & Şenen, 2023: 899). Hesaplama sonuçları Tablo 12’de sunulmuştur.

$$r_{0i} = (1/n) \frac{1}{n} \sum_{j=1}^n \gamma_{0i}(j) \quad (13)$$

**Tablo: 12**  
**Önem Katsayısı Dikkate Alınmadan Gri İlişkisel Dereceler**

		2021																				$r_i$	Sıralama		
ŞİRKETLER	LİKİDİTE			FAALİYET RASYOLARI						MALİ YAPI						KÂRLILIK									
	L-1	L-2	L-3	F-1	F-2	F-3	F-4	F-5	F-6	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	K-1	K-2	K-3	K-4	K-5	K-6		
MLP	0,35	0,35	0,36	1,00	0,33	0,33	0,45	1,00	1,00	0,33	0,33	0,33	0,33	0,33	0,33	0,33	0,33	1,00	0,33	1,00	0,61	0,67	0,73	0,53	4
LKMNH	0,33	0,33	0,33	0,55	0,37	0,38	1,00	0,51	0,82	0,51	0,48	0,51	0,51	0,48	0,39	0,40	0,80	0,47	0,37	0,75	0,60	1,00	1,00	0,56	3
EGEPO	0,76	0,82	0,73	0,76	1,00	1,00	0,74	0,44	0,58	0,89	0,68	1,00	0,89	0,75	0,70	0,79	0,98	0,33	0,38	0,48	0,33	0,36	0,37	0,69	2
TAPDİ	1,00	1,00	1,00	0,33	0,39	0,88	0,33	0,33	0,33	1,00	1,00	0,93	1,00	1,00	1,00	1,00	1,00	0,60	1,00	0,33	1,00	0,33	0,33	0,74	1

		2022																				$r_i$	Sıralama		
ŞİRKETLER	LİKİDİTE			FAALİYET RASYOLARI						MALİ YAPI						KÂRLILIK									
	L-1	L-2	L-3	F-1	F-2	F-3	F-4	F-5	F-6	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	K-1	K-2	K-3	K-4	K-5	K-6		
MLP	0,34	0,34	0,35	0,33	0,33	0,33	0,47	1,00	1,00	0,33	0,39	0,33	0,33	0,36	0,33	0,33	0,33	0,69	0,38	0,73	1,00	1,00	0,54	0,50	3
LKMNH	0,33	0,33	0,33	0,39	0,38	0,34	1,00	0,49	0,65	0,39	0,33	0,44	0,39	0,33	0,35	0,40	0,51	0,33	0,37	0,50	0,43	0,50	0,47	0,43	4
EGEPO	0,59	0,62	0,80	1,00	1,00	1,00	0,37	0,34	0,34	0,61	0,37	0,88	0,61	0,48	0,43	0,86	0,82	0,33	0,33	0,33	0,33	0,34	0,33	0,57	2
TAPDİ	1,00	1,00	1,00	0,36	0,85	0,85	0,33	0,33	0,33	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	0,49	0,33	1,00	0,82	1

Önem katsayıları dikkate alınmadan yapılan hesaplamalarda, finansal performans bakımından belirlenmiş olan finansal oranlar için hem 2021 hem de 2022 yılı için TAPDİ, EGEPO, Lokman Hekim ve Medikal Park şeklinde sıralamanın oluştuğu gözlenmiştir.

## 6.6. Kriterlerin Ağırlıklandırılması Durumunda Gri İlişkisel Dereceler ve Alternatif Sıralama

Entropi ağırlık değerlerine göre gri ilişkisel dereceleri ( $r_{oi}$ ) hesaplanırken, (14) numaralı formülde belirtilen  $w_i(j)$ , j. kritere ait ağırlığı ifade etmektedir. Çalışmada 2021 ve 2022 yılı için elde edilen veriler ve sıralamaları, Tablo 13' de görülmektedir.

$$r_{oi} = \sum_{j=1}^n [w_i(j) \cdot \gamma_{oi}(j)] \quad (14)$$

**Tablo: 13**  
**Entropi Ağırlıklandırılması Durumunda Gri İlişkisel Dereceler**

2021																									
ŞİRKETLER	LİKİDİTE			FAALİYET RASYOLARI						MALİ YAPI						KÂRLILIK						r <sub>i</sub>	Sıralama		
	L-1	L-2	L-3	F-1	F-2	F-3	F-4	F-5	F-6	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	K-1	K-2	K-3	K-4			K-5	K-6
	MLP	0,35	0,35	0,36	1,00	0,33	0,33	0,45	1,00	1,00	0,33	0,33	0,33	0,33	0,33	0,33	0,33	0,33	1,00	0,33	1,00			0,61	0,67
LKMNH	0,33	0,33	0,33	0,55	0,37	0,38	1,00	0,51	0,82	0,51	0,48	0,51	0,51	0,48	0,39	0,40	0,80	0,47	0,37	0,75	0,60	1,00	1,00	0,53	
EGEPO	0,76	0,82	0,73	0,76	1,00	1,00	0,74	0,44	0,58	0,89	0,68	1,00	0,89	0,75	0,70	0,79	0,98	0,33	0,38	0,48	0,33	0,36	0,37	0,76	
TAPDİ	1,00	1,00	1,00	0,33	0,39	0,88	0,33	0,33	0,33	1,00	1,00	0,93	1,00	1,00	1,00	1,00	1,00	0,60	1,00	0,33	1,00	0,33	0,33	0,90	
2022																									
ŞİRKETLER	LİKİDİTE			FAALİYET RASYOLARI						MALİ YAPI						KÂRLILIK						r <sub>i</sub>	Sıralama		
	L-1	L-2	L-3	F-1	F-2	F-3	F-4	F-5	F-6	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	K-1	K-2	K-3	K-4			K-5	K-6
	MLP	0,34	0,34	0,35	0,33	0,33	0,33	0,47	1,00	1,00	0,33	0,39	0,33	0,33	0,36	0,33	0,33	0,33	0,69	0,38	0,73			1,00	1,00
LKMNH	0,33	0,33	0,33	0,39	0,38	0,34	1,00	0,49	0,65	0,39	0,33	0,44	0,39	0,33	0,35	0,40	0,51	0,33	0,37	0,50	0,43	0,50	0,47	0,41	
EGEPO	0,59	0,62	0,80	1,00	1,00	1,00	0,37	0,34	0,34	0,61	0,37	0,88	0,61	0,48	0,43	0,86	0,82	0,33	0,33	0,33	0,33	0,34	0,33	0,54	
TAPDİ	1,00	1,00	1,00	0,36	0,85	0,85	0,33	0,33	0,33	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	0,49	0,33	1,00	0,88	

Yapılan hesaplamalar sonrasında 2021 ve 2022 yılları için sağlık şirketlerinin finansal performansında entropi ağırlıklandırma yöntemiyle hesaplanan sıralamayla, önem katsayısı dikkate alınmadan yapılan sıralama arasında anlamlı bir farklılık gözlenmemiştir. Belirlenmiş olan 23 adet finansal oran verisi ışığında yapılan gri ilişkisel analiz sonucunda daha yakın zamanda halka arz edilen sağlık şirketlerinin finansal performanslarının daha iyi olduğu saptanmıştır. Söz konusu analiz yazarların belirlediği referans değerlerine göre biçimlendiğinden, borsadaki reel finansal performanslarla herhangi bir ilişkisi yoktur. Çalışma çok kriterli karar analizlerinden biri olan gri ilişkisel analiz yönteminin finansal oran verileri ile bir arada kullanılmasının, görece çok daha iyi karşılaştırmalı analizler yapılmasına katkı sağlayabileceğini ortaya koyması bakımından farklılaşmaktadır.

Mevcut veriler ışığında İnsan Sağlığı ve Sosyal Hizmet sektöründe halka arz işlemlerinin artırılarak bu işletmelerin finansal sürdürülebilirlikleri açısından önemli finansal kaynak elde edilebileceği düşünülmektedir.

## 7. Sonuç

Çalışma kapsamında Borsa İstanbul'da (BİST) işlem gören İnsan Sağlığı ve Sosyal Hizmet sektöründe faaliyet gösteren ve halka arz edilmiş olan sağlık işletmelerinin finansal performansları, entropi ağırlıklandırma modeli ve gri ilişkisel analiz yöntemiyle incelemiştir. Çalışmada 2021 ve 2022 yılı konsolide finansal tablo verileri kullanılmıştır. Veriler likidite, faaliyet, finansal yapı ve kârlılık olmak üzere dört ana başlıkta yer alan yirmi üç adet finansal gösterge üzerinden elde edilmiştir. Sağlık hizmeti işletmelerinin 2021 yılı finansal verileri incelendiğinde, görece daha yeni tarihlerde halka arz edilen EGEPO ve

TAPDİ işletmelerinin finansal performanslarının, MedicalPark ve Lokman Hekim'e göre daha iyi düzeyde olduğu gözlenmiştir. MedicalPark ve Lokman Hekim'in 2021 ve 2022 finansal performanslarında sıralamaları değişirken, EGEPOL ve TAPDİ işletmelerinin finansal performans bakımından mevcut sıralamalarını korudukları gözlenmiştir. Çalışmada nakit oranı, net işletme sermaye devir hızı, finansman oranı ve net kâr marjı yüksek olan hastanelerin, finansal performanslarının da yüksek olabileceği sonucuna varılmıştır.

Finansal performansta entropi ile katsayıların belirlenmesi ve ardından gri ilişkisel analizle sıralamaları belirlenirken sadece hastane işletmesi olarak BİST'te sağlık sektöründe sadece dört işletmenin yer alması sebebiyle, BİST'te işlem gören diğer sektör ortalamalarına kıyasla farklılıklar gözlemlenebilir. Bundan sonraki çalışmalarda diğer sektörlerle, sağlık sektörü finansal performanslarının çok kriterli karar verme yöntemleriyle karşılaştırmalı olarak incelenmesi önerilmektedir. Hastane işletmeciliği alanında hizmet veren sağlık işletmelerinin uluslararasılaşma girişimleri dikkate alındığında bundan sonra yapılacak çalışmalarda uluslararası düzeyde lider konumda olan hastane işletmeleri ile finansal performanslarının karşılaştırmalı analizlerinin yapılması, hastane işletmelerinin finansal performansı hakkında daha açıklayıcı bilgiler verebilir.

Gri ilişkisel analiz ve Entropi ağırlıklandırma yöntemi, sağlık sektörü dışında diğer diğer sektörlerde yer alan firmaların finansal performans değerlendirmelerinde kullanılabilir. Çalışmada GİA yöntemi kullanılarak işletmelerin yıllık bazda kısa dönemdeki performans değerlendirmeleri yapılmıştır. GİA sadece yıllık değil, dönemsel uzun ve kısa vadeli performans değerlemelerinde kullanılabilir. Özellikle uzun vadeli GİA hesaplamaları ile şirketlerin finansal raporlarının değerlendirilmesinde karşılaştırmalı daha somut somut veriler edinilebilir. Entropi yöntemi ile finansal performansların ağırlıkları sektör bazında belirlenerek, sektöre özel finansal ölçütler ve önem dereceleri belirlenebilir.

Araştırma bulgularında görüldüğü üzere, halka arz edilen son iki sağlık işletmesinin önceki yıllarda arz edilen sağlık işletmelerine göre finansal performans bakımından daha iyi düzeyde olmaları; sağlık alanında faaliyet gösteren diğer işletmeler için iyi örnek teşkil edebilir. Daha fazla sağlık işletmesinin ulusal ve uluslararası düzeyde kurumsal değerinin artması; nitelikli sağlık işgücü için bir çekim merkezi olmasına, sağlık hizmet kalitesinin artmasına katkı sağlayacaktır. Ulusal düzeyde sağlık işletmelerinin halka arz süreçlerinin teşvik edilmesi; buna yönelik sağlık ekonomi politikalarının geliştirilmesi önerilmektedir.

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## Profesyonel Site Yönetiminin Gerekliliği ve Gayrimenkulün Değerine Etkisi Konusunda Bir Araştırma

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### Research on The Necessity of Professional Site Management and Its Effect on The Value of Real Estate

#### Abstract

This study aims to determine the opinions of people living in collective housing complexes on the necessity of professional complex management and its impact on the value of real estate and to investigate whether their views differ based on their demographic characteristics. For the study, a field study was conducted in 26 housing complexes built by TOKİ in İstanbul by using the survey method. According to the findings obtained from the study, people with higher education and income levels believe that professional site management is necessary and that professional site management increases the value of real estate. There is a high degree of dependency between the opinion that professional site management is needed and that the value of real estate will increase in a professionally managed site. Since no related studies have been found demonstrating the relationship between facility management and real estate value, this study is thought to contribute to the literature. Real estate investors, academics, and professionals in the field of facility management will benefit from the study's findings.

**Keywords** : Facility Management, Professional Site Management, Real Estate Value.

**JEL Classification Codes** : L84, L85, R20.

#### Öz

Bu çalışmanın amacı, profesyonel site yönetiminin gerekliliği ve gayrimenkulün değerine etkisi konularında toplu konutlarda yaşayan kişilerin görüşlerini tespit etmek ve kişilerin demografik özelliklerine göre görüşlerin ayrışıp ayrışmadığı araştırmaktır. Çalışmanın amacı doğrultusunda İstanbul ilinde TOKİ tarafından inşa edilmiş 26 adet sitede anket yöntemi kullanılarak saha çalışması yapılmıştır. Çalışmadan elde edilen bulgulara göre eğitim ve gelir düzeyi yüksek olan kişiler, profesyonel site yönetiminin gerekli olduğu ve profesyonel site yönetiminin gayrimenkulün değerini artırdığı yönündeki görüşlere katılmaktadırlar. Kişilerin profesyonel site yönetiminin gerekli olduğu görüşü ile profesyonel olarak yönetilen bir sitede gayrimenkulün değerinin artacağına dair görüşü arasında yüksek derece bağımlılık olduğu tespit edilmiştir. Tesis yönetimi ile gayrimenkulün değeri arasında ilişki olduğunu ortaya koyan başka bir çalışmaya rastlanmadığından çalışmanın literatüre katkı sağlayacağı düşünülmektedir. Çalışmanın sonuçlarından gayrimenkul yatırımcıları, tesis yönetimi alanındaki profesyoneller ve akademisyenler yararlanabilecektir.

**Anahtar Sözcükler** : Tesis Yönetimi, Profesyonel Site Yönetimi, Gayrimenkulün Değeri.

## 1. Giriş

Kentleşmeyle birlikte başta konut alanları olmak üzere çevremizdeki tüm yapılar toplu yaşam ve çalışma alanları oluşturacak şekilde dönüşüm göstermiştir. Bu süreç içerisinde söz konusu bina ve tesislerin profesyonellerce yönetilmesi ihtiyacı ortaya çıkmıştır. Profesyonel bir tesis yönetiminde güvenlikten temizliğe, teknik bakım ve onarımlardan sosyal faaliyetlere kadar insanlara çeşitli konfor ve kolaylıklar sağlayan, insanların yaşam kalitesini yükselten çok boyutlu hizmetler verilmektedir. Kaliteli hizmet anlayışının geçerli olduğu bir tesiste, tesisin giderlerini düşürmek ve verimliliği artırmak mümkün olabilmektedir (Erentürk & Güven, 2018).

Başta büyük şehirlerde olmak üzere bina ve tesislerin değerinde hızlı yükselişler görülmektedir. Bu değer artışları hem bireysel hem de kurumsal yatırımcıları gayrimenkul alanına çekmektedir. Şüphesiz bir gayrimenkulün değerini etkileyen çok sayıda içsel ve dışsal faktör vardır. Bu faktörlerin arasında tesis yönetiminin olup olmadığı ise merak konusudur. Tesis yönetiminin birçok faydası olduğu kabul edilmiş bir konu olmakla birlikte, tesis yönetimi ile gayrimenkulün değeri arasında bağ olup olmadığı henüz incelenmiş bir konu değildir. Bu kapsamda "Profesyonel bir site yönetimi ile gayrimenkulün değeri artırılabilir mi?" sorusu çalışmanın temel araştırma sorusudur. Bunun yanı sıra çalışmada "Farklı yaş, eğitim ve gelir seviyesindeki kişilerin profesyonel site yönetiminin gerekliliği ve mülkün değerine etkisi konusundaki görüşleri aynı mıdır?" sorusuna da yanıt aranmaktadır.

Alt ve üst yapılar, alışveriş merkezleri, endüstriyel mülkler, ofis binaları, hastaneler tesis kavramının içerisinde yer almaktadır. Bununla birlikte ülkemizde tesis yönetimi faaliyetleri, "site yönetimi" ya da "bina yönetimi" adı altında daha dar kapsamlı olarak sürdürülmektedir. Buradan hareketle çalışmanın ilk kısmında bir şemsiye tanım olan tesis yönetimi kavramı anlatılmış daha sonra tesis yönetiminin ülkemizde en çok uygulandığı alan olan site yönetimi kapsamında incelenmiştir. Gayrimenkulün değerini belirleyen faktörler özetlenerek tesis yönetimi ile değer arasındaki ilişki literatür taraması yapılarak ele alınmıştır. İkinci kısımda çalışmada uygulanan yöntem hakkında bilgi verilmiştir. Bir sonraki kısımda İstanbul'da profesyonel site yönetimine sahip toplu konutlarda yaşayan kişiler üzerinde yapılmış anket çalışmasının bulgularına yer verilmiştir. Son kısımda ise, anket sonuçları tartışılarak konu ile ilgili çeşitli önerilerde bulunulmuştur.

Kişilerin görüşleri, konut piyasasının geleceği hakkında bilgiler vermektedir. Site yönetimini gerekli gören ve mülkün değerini artıracığına inanan kişilerin çoğunlukta olduğu bir ekonomide, gayrimenkul yatırımcıları iyi yönetilen sitelere yöneleceklerdir. Yatırımcıların bu sitelerdeki mülklere olan talebinin artması, mülk değerlerinde kaçınılmaz olarak bir artışa neden olacaktır. Bu durum profesyonel tesis yönetiminin önemini iyice anlaşılmasına katkı sağlayacaktır. Bu nedenlerle çalışmanın sonuçları, başta gayrimenkul yatırımcıları ve tesis yöneticileri olmak üzere gayrimenkul piyasasının içerisindeki aktörleri yakından ilgilendirmektedir.

## 2. Kavramsal Çerçeve ve Literatür Taraması

### 2.1. Tesis Yönetimi

Genel olarak tesis yönetimi, ana iş faaliyetlerini desteklemek ve bunların optimize edilmesini sağlamak için uygun maliyetli hizmetler sağlamayı amaçlayan sosyal boyutlu işletme yönetimi biçimidir (Potkany et al., 2015: 203). Giderek karmaşıklaşan bina sistemleri, daha fazla kullanıcı katılımı ve çeşitliliği, yaşam alanı olarak binalardan beklenen gereksinimler ve operasyonel süreçlerin karmaşıklığı karşısında, tesis yönetimi sorunları çözmeye, beklentileri karşılamaya ve sinerjileri belirlemeye çalışmaktadır (Salaj, 2021: 526-527).

Tesis yönetimi, bina hizmetlerinden çok daha geniş bir faaliyet yelpazesini temsil eder ve bunlar da tesis kullanıcıları için asli olmayan işlevlerdir (Araszkiewicz, 2017: 1034-1035). Ancak tesis yönetimini, asli olmayan işlerin odağına yerleştirmek bu disiplinin öneminin yeterince anlaşılmasına engel olabilmektedir (Roper, 2017: 236). Tesis, pek çok amaca hizmet eden resmi, sivil ya da ticari fiziki yapılardır. Bu yapıların nitelikleri ile buraları kullanan ya da yaşayanların beklenen değeri ve çıktıları elde edebilmesinde tesis yönetimi kilit bir role sahiptir. Zira tesisin kullanım amacına göre en başından itibaren mimari ve mühendislik planlarının tasarlanmasından, tesisin amaca göre en etkili ve verimli bir şekilde kullanılabilmesine ve kullanıcıların gereksinimlerini karşılayabilecek şekilde işletilmesine kadar her aşamada tesis yönetimi bir çözüm ortağı durumundadır (Cotts et al., 2010: 175; Kwok & Warren, 2005: 2).

Tesislerin, kullanıcıların amaçlarını ve beklentilerini karşılayabilmesinde temel aktör olan tesis yönetimi; tesis ve insan etkileşiminin merkezinde yer almaktadır (Jensen et al., 2013). Thompson (1990), tesis yönetiminin sadece inşaat, gayrimenkul, bina operasyonları, bakım onarım, kat hizmetleri gibi tek boyutlu bir süreç olmadığını savunmuş, insanların günlük yaşam ve iş hayatlarını kolaylaştıran, yaşam kalitesini artıran sürdürülebilirliği içeren kapsamlı bir yönetim disiplini olduğunu belirtmiştir (Thompson, 1990: 9-10). Tesis yönetimini disiplinler arası bir yere konumlayan Then'e (2004) göre ise; genellikle dış kaynak hizmeti temini bağlamında bir yaşam alanında mimariden mühendisliğe, yaşam konforundan binaların sağlıklı kalmasına, teknik süreçlerden operasyonlara kadar geniş bir alanı kapsamaktadır (Then, 2004: 4).

Drion, Melissen ve Wood (2012: 255), tesis yönetimini insanların ve kuruluşların iş ve yaşam süreçlerini desteklemek ve bunlara değer katmak için ihtiyaç duyulan fiziksel varlıkların nasıl geliştirileceğine, sürdürüleceğine ve iyileştirileceğine ve aynı zamanda bunlara ilişkin en uygun desteği sağlayan yapıların yaratılmasına ve sürdürülmesine odaklanan bir yönetim işlevi olduğunu belirtmektedirler.

Tesis yönetimi bir faaliyet ve iş olarak 2017 yılında ISO kalite standartları kapsamına alınmış ISO 41000 standartlarının bir parçası olarak geçerlilik kazanmıştır. Bu kapsamda tesis yönetimi; "insanların yaşam kalitesini ve temel işletmenin verimliliğini artırmak amacıyla inşa edilen çevre içinde insanları, yeri ve süreci bütünleştiren organizasyonel işlev"

olarak tanımlanmıştır (ISO, 2017). Uluslararası Tesis Yönetimi Derneği'ne (IFMA) göre tesis yönetimi; insanları, yeri, süreci ve teknolojiyi entegre ederek yapısal çevrenin işlevselliğini sağlamak için birden fazla disiplini kapsayan bir meslektir (IFMA, 2020). Avrupa Tesis Yönetim Ağı (EuroFM), tesis yönetimini 6 boyutta bir yönetim yaklaşımı olarak kabul etmiştir (Tablo 1).

**Tablo: 1**  
**Avrupa Tesis Yönetim Ağı (EuroFM) Tesis Yönetimi**

<b>İş organizasyonunu anlama</b>	<b>İnsanları yönetme</b>	<b>Binaları yönetme</b>
Kuruluşların yapısını ve davranışını anlamak İş ve organizasyon stratejisini anlama FM stratejisinin geliştirilmesi	İnsan yönetimi İletişim Tedarikçiler ve uzmanlarla çalışma	Mülk portföy yönetimi Bina tasarımı anlama Bina dokusu bakımı
<b>Hizmetleri yönetme</b>	<b>Çalışma ortamını yönetme</b>	<b>Kaynakları yönetme</b>
Bina hizmetlerini yönetme Destek hizmetlerini yönetme Proje Yönetimi Müşteri hizmetlerini yönetme	Çevre sorunları Alan yönetimi	Tedarik Risk yönetimi Finansal Yönetim Kalite Yönetimi Bilgi Yönetimi

Kaynak: EuroFM, 2011.

IFMA (2020) ise daha geniş açıdan bir sınıflama yaparak tesis yönetiminin fonksiyonlarını 11 maddede toplamıştır. Bunlar; iletişim, acil duruma hazırlık ve iş sürekliliği, çevre yönetimi ve sürdürülebilirlik, finans ve iş, insan faktörleri, liderlik ve strateji, işletme ve bakım, proje yönetimi, gayrimenkul ve mülk yönetimi, kalite ve teknolojidir (IFMA, 2020). Tesis yönetimi konusunda Türkiye’de faaliyet gösteren Tesis Yönetim Derneği (TRFMA), tarafından yapılan tanıma göre “insanların yaşadığı veya çalıştığı tüm binalar, iş merkezleri, plazalar, siteler, rezidanslar, AVM’ler, fabrikalar, hastaneler, havaalanları, oteller, okullar vb. mekânlarda tesis yönetimi, inşaatı tamamlanan tüm bu binaların, tesislerin sürdürülebilmesi ve geliştirilmesi için; insan, mekân, teknoloji ve süreçleri birleştiren, birden fazla disiplini kapsayan uzmanlık ve deneyim gerektiren yeni bir kavram, yeni bir meslek” olarak ifade edilmektedir (TRFMA, 2019).

## 2.2. Gayrimenkul Değerini Etkileyen Faktörler

Gayrimenkul, arsa ve üzerindeki yapılardan oluşmaktadır. Bu nedenle gayrimenkulün değeri arsa değeri ile binanın değeri toplamından oluşmaktadır. Dolayısıyla hem arsanın değerini hem de binanın değerini etkileyen tüm faktörler gayrimenkulün değerini de etkilemektedir. Piyasadaki arz ve talep dengesine göre arsa değerleri genellikle yükseliş eğilimindedir. Dünya üzerinde toprak miktarının sabit olması ve buna rağmen nüfusun her geçen gün artıyor olması özellikle büyük şehirlerdeki arsa değerlerini yükseltmektedir. Bunun yanı sıra arsanın bulunduğu coğrafi bölgenin özelliği, lokasyonun merkeziliği, ulaşım bakımından kolaylığı, yakınındaki diğer bina ve tesisler konumsal olarak değerini etkilemektedir (Heper-Baran, 2020: 11). Bina değeri ise yapının yaşından, malzeme ve işçilik kalitesinden, mimari özelliklerinden, sağlamlığından, depreme dayanıklılığından, kısa ve uzun ömürlü yapı unsurlarındaki eskime miktarından, bakım ve onarım süreçlerinden etkilenmektedir. Gayrimenkulün değerini etkileyen önemli bir faktör de gayrimenkulün getirisidir (Atik, 2015: 445). Gayrimenkulün getirisi, zaman içerisinde gayrimenkulün değerinde yaşanan artıştan ve dönemsel olarak elde edilen getirilerinin

toplamından oluşmaktadır. Kira getirisinin yüksek olması söz konusu gayrimenkule olan talebi artıran ve dolayısıyla gayrimenkulün değerini olumlu etkileyen bir faktördür.

Bir gayrimenkulün değerini etkileyen çok sayıda faktör olduğundan değeri tam olarak tespit etmek oldukça zor bir süreçtir. Bu kapsamda gayrimenkulün değerini etkileyen faktörler; içsel faktörler ve dışsal faktörler olmak üzere iki ana başlık altında incelenebilir (İçelloğlu, 2013: 11-14). İçsel faktörler gayrimenkulün kendisine has özelliklerini ifade etmektedir. Örneğin gayrimenkulün konumu, büyüklüğü, oda sayısı, balkon, teras, asansör, garaj, havuz, bahçe vb. unsurlara sahip olup olmadığı, ısıtma ve soğutma sistemleri, mutfak ve banyo gibi alanların durumu, kat sayısı, binanın yaşı, inşaat kalitesi gibi faktörler içsel olarak bir gayrimenkulün değerini etkiler. Gayrimenkulün kendi özelliklerinin yanı sıra dış faktörlerin etkisiyle de değeri etkilenebilir. Bu kapsamda dışsal faktörler; sosyal, ekonomik, yasal ve çevresel faktörler olmak üzere dörde ayrılarak incelenebilir. Sosyal faktörler gayrimenkul talebinde bulunan nüfusun demografik özelliklerini ve toplumun yaşam biçimini kapsamaktadır. Hanehalkı büyüklüğü, yaş, meslek, cinsiyet, medeni hal, çocuk sayısı gibi faktörler gayrimenkul talebini ve dolayısıyla gayrimenkul değerini etkiler. İkincisi ülkenin mevcut ekonomik durumu gayrimenkul arz ve talebi üzerinde büyük ölçüde etkilidir. Gelir, istihdam, faiz, döviz kuru, enflasyon, krediler, inşaat maliyetleri, alternatif yatırım araçlarının getirileri vb. ekonomik göstergeler gayrimenkul piyasalarındaki denge hakkında bilgi vermektedir. Ülkede uygulanan kanunlar, yönetmelikler, politikalar, teşvikler, kısıtlamalar, vergi oranları da yasal faktörler olarak gayrimenkulün değerini belirler. Son olarak değeri etkileyen bir başka dışsal faktör de gayrimenkulün bulunduğu lokasyonun çevresel özellikleridir. Çevredeki doğal güzellikler (deniz, orman, göl vb.), iklim ve toprak koşulları (hava sıcaklığı, nem, yağış miktarı, toprağın yapısı) ve insan yapımı unsurlar (karayolları, demiryolları, hava limanları, hastaneler, okullar, alışveriş merkezleri vb.) gayrimenkulün değerini etkileyen unsurlardır. Kavramsal olarak literatürde yer alan bu unsurların yanı sıra tesis yönetimine dair unsurların da gayrimenkulün değeri ile ilişkisi kurulabilir.

### **2.3. Tesis Yönetimi ve Gayrimenkul İlişkisi**

Tesis yönetimi uygulamalarının, gayrimenkullere en önemli katkısı, insanların yaşam alanlarına soyut ve somut değer katmasıdır. Özellikle konutlar ve konutların yer aldığı site tipi alanlarda tesis yönetimi uygulamaları insanlara iş ve özel yaşamlarında konfor, kalite, huzur gibi deneyimler sunabilmektedir (TRFMA, 2019; Li et al., 2019: 355; Drion et al., 2012: 256-257; Chotipanich, 2004: 365-366).

Tesis yönetimi uygulamaları ve gayrimenkul değeri ilişkisinde temel etken gayrimenkulün getiri ve değer bakımından yatırımcıya bir vaatte bulunabilmesidir. Bu vaat; gayrimenkulün güvenliğinden içinde yaşayanların konforuna, maliyetlemeden finansmana, hizmet kalitesinden kullanıcı memnuniyetine kadar geniş alana yayılmaktadır. Bunlar aynı zamanda tesis yönetiminin hizmet boyutlarını da meydana getirmektedir (Yalçın, 2018: 38-41; Erdoğan, 2013: 36-37; Hepşen, 2010).

Tesis yönetimi sürecinin ve bu hizmetleri verenlerin çok boyutlu olarak kalifiye hizmetler verebilmesi gerekmektedir. Nitekim günümüz bilgi çağında tesis yönetiminin profesyonelleşme sürecinde en önemli unsurlarına bakıldığında sırasıyla insan faktörü ve yapay zekaya dayalı hizmet yaklaşımı olduğu ifade edilmektedir. Diğer yandan deneyimsiz ve sadece ticari amaçlarla tesis yönetimi hizmetlerinin sunulması, başarısız sonuçlar alınmasına neden olabilmektedir. Bundan dolayı tesis yönetimi ve gayrimenkul değeri ilişkisinde kalite ve memnuniyet temelli bütünlük bir profesyonelleşmeye ihtiyaç olduğu düşünülmektedir. (CBRE, 2022; Gacap, 2019; ULI, 2017).

Günümüzde gayrimenkul ve tesis yönetimi, madalyonun iki yüzü gibidir. Alım, satım, kiralama ve işletme gibi süreçlerde gayrimenkul kararları, tesis yönetiminin varlığı ve niteliği ile yakından ilişkili hale gelmiştir. Verilen hizmetin maliyeti, kalitesi, sürekliliği, memnuniyet derecesi vb. boyutlarda iki kavram arasında karşılıklı bir ilişkinin varlığını ortaya çıkarabilmektedir. Örneğin bir gayrimenkulün bünyesindeki değer içeren konut, sosyal alan, otopark, çevre, bakım-onarım, temizlik, erişilebilirlik gibi unsurlarla birlikte bunlara ilişkin uygun maliyet, verimli sonuçlar, profesyonel çözümler ve etkili yönetim arasında doğrusal bir ilişkiden söz edilebilir. Tesis yönetimi, tüm binalarda yaşayanların beklentilerini karşılamak için hizmet verir. Ekonomik ve değişimlerin hızlandığı bir dünyada site, toplu yapı gibi yaşam alanlarının yönetim işinin profesyonel kişilerce yapılması zaman ve değer açısından faydalar sağlamaktadır. Tesis yönetimi yöneticileri vasıtasıyla yönetim işlerini kendi üzerlerine alarak gerekli olan etkili ve verimli çalışma ile site ve toplu konutlarda yaşam ortamları yaratmaya çalışırlar. Sonuçta, tesis yönetimi, bir mülk ne kadar verimli tutarsa o mülkün değerinin de artacağı ya da azalacağı varsayılmaktadır. (Jensen & Voordt, 2017: 46-49). Genel olarak tesis yönetimi ve gayrimenkul değeri ilişkisinde çok sayıda etkenden söz edilebilmektedir. Bu kapsamda tesis yönetimi uygulamalarının, hem gayrimenkul değeri hem de kullanıcı açısından değer ortaya çıkarabilmesi için (Erentürk & Güven, 2018);

- Verilen hizmet ile talep edilen maliyet arasında dengenin gözetilerek verilebilmesi,
- Verilen hizmetlerde kullanıcı memnuniyetiyle birlikte gayrimenkul sağlığının (bakım-onarım, yenileme, konfor üretimi, deneyimsel memnuniyet vb.) kesintisiz ve sürdürülebilir olması,
- Sadece ticari amaçlara odaklanan bir hizmet sürecinden ziyade uzun vadeli ve profesyonel bir yönetim yaklaşımının benimsenmesi,
- Değişen gereksinimler ve beklentilerin belli dönemlerde tespit edilmesi ve buna uygun çözümlerin geliştirilmesi gerekmektedir.

Ariffin vd. (2022), meta analiz çalışmalarında tesis yönetiminin kapsamı, içeriği, anlamı, fonksiyonları, sorumluluklar ve bilgi yönetimi boyutlarında heterojen bir alan olduğunu ortaya koymuşlardır. Ayrıca tesis yönetiminin inşaat, üretim, sağlık ve bakım da dahil olmak üzere çok sayıda iş fırsatı ortaya çıkardığını ve binaların önemli bir değer yaratıcı bileşen olduğunu tespit etmişlerdir. Bu tespitlere göre yazarlar tesis yönetiminin dünya gelişmeye devam ettikçe yüksek büyüme potansiyeli gösterdiğini, sektörde yeni

teknolojiler kullanıldıkça tesis yönetimi işinde çok sayıda ve gelişen fırsatlar olduğunu belirtmişlerdir.

Nataliia vd. (2021), 2020-2021 yıllarında koronavirüs pandemisi sırasında dijitalleşme bağlamında sağlık tesisleri yönetiminin rolünü inceledikleri çalışmalarında; tesis yönetimi uygulamalarıyla birlikte izolasyon altındaki hastaların ihtiyaç duyduğu gereksinimlerin karşılanmasında; süreçlerin, belgelerin ve iletişimin organizasyonunda; pandeminin yayılması, diyabetoloji, kardiyoloji, onkoloji, nöroloji ve psikolojinin sağlık hizmeti ihtiyaçlarını karşılamak için tıbbın diğer alanlarında teknolojik çözümlerin sunulması için itici güç olduğunu belirtmişlerdir.

Voordt (2017) çalışmasında tesis yönetimi ile kurumsal gayrimenkul yönetimi (CREM) arasındaki ilişkiyi incelemiştir. Çalışmasında hem tesis yönetimi hem de CREM, organizasyonel performansa katkıda bulunmak ve organizasyona değer katmak için kuruluşların fiziksel kaynaklarını organizasyonel stratejilerle uyumlu hale getirerek birincil iş süreçlerini desteklediğini ileri sürmüştür.

Ogungbile ve Oke (2015) tarafından Nijerya'da yapılan çalışmada özel binalarda profesyonel bağlamda tesis yönetimi uygulamaları ve tesis yönetimi bilincinin kamu binalarına göre daha yüksek olduğunu ve iki tür binalardaki tesis yönetimi uygulamalarının önemli oranda farklılaştığını tespit etmişlerdir.

Jensen vd. (2013), beş Avrupa ülkesinde yaptıkları çalışmada binalara yönelik profesyonel uygulamaların; tesis yönetiminin, kurumsal gayrimenkul yönetimi (CREM) ve işletmeden işletmeye (B2B) pazarlama süreçlerinde birbiriyle ilişkili olarak katma değer yarattığını tespit etmişlerdir.

Finch ve Zhang (2013) çalışmalarında profesyonel tesis yönetimi uygulamaları ile sürdürülebilir hedefler açısından sürekli performans iyileştirmeleri, binaların bir üründen ziyade çok katmanlı bir süreç olarak işletilmesi, tesislerin yaşam döngüsü ve bina ekonomisinin sürdürülebilir karar alma sürecine nasıl etkisi olduğunu belirtmişlerdir.

Kamarazaly vd. (2013), Yükseköğretim Tesisleri Yöneticileri Derneđi (TEFMA) üyelerinin katılımıyla yaptıkları çalışmada profesyonel tesis yönetimi uygulamalarında geniş perspektifli katkılarından söz etmişlerdir. Yetersiz finansman, acil durum yönetimi ve iş sürekliliđi planlaması, yasal uyum, sürdürülebilirlik ve çevre yönetimi, teknolojideki hızlı deđişimlere ayak uydurma, operasyonel verimlilik, paydaş ihtiyaçlarının belirlenmesi ve karşılanması, bakım ve insan gücü faktörlerinin süreç içerisinde önemli olduğunu vurgulamışlardır.

Kok vd. (2010), tesis yönetiminin katma değerini tanımlamak için yaptıkları çalışmalarında tesis yönetiminin ortaya çıkardığı katma değere bağlı olarak hizmetlerin kullanımının; süreçlerin sonuçları, iş ve operasyon maliyetleri, risk azaltma ve kullanım değeri, müşteri tarafından algılanan takas ya da mübadele (piyasa) değeri gibi faktörlerin etkisi olduğunu tespit etmişlerdir.



Lindkvist vd. (2021), çalışmalarında tesis yönetiminin "akıllı şehir" boyutunda kentsel gelişim ve dönüşüm sürecinde; şehir planlaması, yaşam alanları, yapı bilgisi modelleri, teknik ve beşeri katkıları bakımından önemli bir araç ve değer kaynağı olduğunu belirtmişlerdir. Yazarla göre tesis yönetimi kentsel gelişimde sunduğu uzmanlığı ile şehir planlamasında belirgin boşlukları doldurabilecek bir kapasite ve potansiyele sahiptir.

### 3. Yöntem

#### 3.1. Araştırmanın Anakütlesi ve Örnekleme

Nüfusu ve ekonomik potansiyel açısından Türkiye'nin en büyük şehri olan İstanbul ili çalışma bölgesi olarak tercih edilmiştir. İstanbul ilindeki toplam 54 proje ve 22 bin konut çalışmanın anakütlesidir.. Ana kütleli temsil edeceği düşünülen örnek alan olarak konut sayısı ölçütü dikkate alınmıştır. İstanbul'un Anadolu ve Avrupa yakasında TOKİ iştiraki Emlak Yönetim A.Ş. ile karşılıklı mutabakat çerçevesinde belirlenmiş 26 adet toplu konut projesi seçilmiştir. İstanbul ilinde 2022 yılı itibariyle yaklaşık 22.000 konut üzerinden "Basit Rassal Örnekleme" yöntemi kullanılmıştır. Örnekleme büyüklüğü, aşağıdaki formül üzerinden hesaplanmıştır (NEA,1960: 99; Krejcie & Morgan 1970: 607).

$$N = 22000$$

$$s = x^2 NP(1 - P) / (N - 1) + x^2 P(1 - P) \quad (1)$$

s = Gerekli örnek boyutu.

$X^2$  = İstenilen güven düzeyinde (3.841) 1 serbestlik derecesi için ki-karenin tablo değeri.

N = Anakütle büyüklüğü.

P = Anakütle oranı (maksimum örneklem büyüklüğünü sağlayacağı için 0,50 olduğu varsayılır).

d = orantı (.05) olarak ifade edilen doğruluk derecesi.

$$\frac{3,841 * 22000(0,50) * (0,50)}{(0,05)^2 * (22000 - 1) + 3,841(0,50) * (0,50)} = \frac{21125,5}{54,9975 + 0,96025} = \frac{21125,5}{55,0071} = 374,05$$

Yapılan anket çalışmasında kabul edilebilir örneklem büyüklüğü, 375 kişi olarak tespit edilmiştir. %5 hata payı ile kabul edilebilir nitelikte bir örneklem olduğu söylenebilir. İstanbul ilinde Anadolu ve Avrupa yakasında görüşülecek kişilerin sayısı kümeleme örneklem yöntemine göre belirlenmiştir.

Anadolu yakası örneklem büyüklüğü: n1 = 113

Avrupa yakası örneklem büyüklüğü: n2 = 262

Çalışma örneklem büyüklüğü 393 kişi üzerinden yapılmıştır.

### 3.2. Araştırmadaki Verilerin Toplanması

Kantitatif araştırma yöntemlerinden, WEB tabanlı online anket yöntemi kullanılmıştır. İstanbul'un Başakşehir, Beyoğlu, Çamlıbahçe, Fatih, Silivri, Kayaşehir, Maltepe, Üsküdar, Gaziosmanpaşa bölgelerinde 26 adet toplu konut projesinde (toplam 545 blok ve 7893 bağımsız bölüm içermektedir) yaşayan hanehalkını temsil eden bireylere SMS yoluyla anket soruları gönderilmiştir. Anket çalışmasında kullanılacak sorular Sakarya Üniversitesi İşletme Enstitüsünde Feyza Yıldız Yurtal (2019) tarafından yazılan "Bina ve Toplu Yapı Yönetiminde Kullanılan Bilişim Sistemlerinin, Benimsenmesinde Etkili Olan Yenilik Özellikleri: Apsiyon Yazılım Programı Örneği" başlıklı yüksek lisans tezindeki anket sorularından uyarlanmıştır. Anket sorularının kullanımı ile ilgili Feyza Yıldız Yurtal'dan gerekli izin alınmıştır.

Anket formu, toplam 19 sorudan ve 2 ana bölümden oluşmaktadır. Anket formunun ilk bölümü katılımcıların demografik özelliklerini incelemek, konut hakkında bilgi sağlamak amaçlı soru/ifadeler içermektedir. Anketin ilk bölümünde yer alan soru/ifadeler kategorik sorulardan oluşmaktadır. Anketin bu bölümünde, konutun yapısal özelliklerini, konutta yaşayan bireylerin özelliklerini belirlemek amacı ile kullanıcıların gelir durumu, hane halkı birey sayısı, çalışma durumu, eğitim durumunu öğrenmek amaçlı sorular hazırlanmıştır. Anket formunun ikinci bölümünde yer alan toplam 12 soruda, 5 noktalı likert tipi ölçeği kullanılmıştır. Ölçekte sayısal değerler ise şu şekilde belirlenmiştir: 1 = Kesinlikle Katılmıyorum, 2 = Katılmıyorum, 3 = Fikrim Yok, 4 = Katılıyorum ve 5 = Kesinlikle Katılıyorum. Anket verilerinin analizi için SPSS 24 paket programı kullanılmıştır. 03.06.2023 ile 18.06.2023 tarihleri arasında yapılan anket çalışmasında kantitatif araştırma yöntemlerinden, WEB tabanlı online anket yöntemi kullanılmıştır.

### 3.3. Araştırmadaki Verilerin Analizi

Araştırmanın sorularından elde edilen veriler için önce, frekans ve yüzde dağılımları tabloları verilmiştir. Daha sonra da istatistik analizlerde Ki-Kare testi ve Uyum (Correspondence) analizi yöntemleri kullanılmıştır.

#### 3.3.1. Uyum Analizi

Uyum analizi, değişkenler arasındaki ilişkilerin iki ya da daha çok boyutlu çapraz tablolarla incelendiği durumlarda kullanılan ve tanımlayıcı tipte olan çok değişkenli istatistiksel bir tekniktir. Uyum analizi; kontenjans tablosu durumuna getirilmiş kategorik verilerin sıra ve sütunlarının birlikte değişmelerini, daha az boyutlu bir uzayda grafiksel olarak göstermeyi amaçlayan çok değişkenli analiz yöntemidir.

Çok değişkenli veri setlerinde özellikle kategorik değişkenlerle çalışırken değişkenler arasındaki ilişkileri görselleştirmek ve analiz etmek için kullanılan etkili bir istatistiksel yöntemdir. Değişkenlerin şık sayısının çok olduğu durumlarda uyum analizi ile şık sayısı azaltılarak kontenjans tablosunun boyutları azaltılabilmektedir (Orhunbilge, 2010:

449). Bu analiz sonucunda her bir değişkenin kategorileri arasındaki ilişkiler (uyumlar) grafiksel olarak incelenerek yorumlanmaktadır (Alpar, 2013: 355).

Uyum analizi, temel olarak iki değişken arasındaki ilişkiyi gösteren bir uyum haritası oluşturmaktadır. Bu harita, kategorik değişkenlerin birbirleriyle olan ilişkilerini ve veri setinin yapısal düzenini anlamamızı sağlamaktadır. Uyum analizi, özellikle pazarlama araştırmaları, sosyal bilimler, biyoloji, ekoloji, genetik ve veri madenciliği gibi alanlarda kullanılmaktadır.

Uyum analizi çapraz tabloda yer alan değişken ve boyut sayısına göre iki farklı şekilde uygulanmaktadır. Bunlardan birincisi, en basit hali olan "Basit Uyum Analizi", iki yönlü çapraz tabloların incelenmesinde kullanılmaktadır. İkincisi değişken sayısının sınırlandırılmadığı, değişkenlerin bir matris olarak kodlanıp çok yönlü çapraz tablolarda uygulandığı "Çoklu Uyum Analizi"dir (Cangür vd., 2005: 153).

Uyum analizinin temel kavramlarına yönelik olarak "Ki-Kare İstatistiği" ve "Toplam İntertia" kavramlarından kısaca bahsetmek yararlı olacaktır.

Uyum analizinde, kategori frekansları ile beklenen frekanslar arasındaki farkı ölçmek için Ki-Kare istatistiği kullanılır. Ki-Kare istatistiği, gözlemlenen ve beklenen frekanslar arasındaki farkı ölçen bir uyum ölçüsüdür. Bu istatistik, uyum analizinde temel olarak kullanılan bir matris olan ölçeklendirilmiş kalıntı matrisinin hesaplanmasında da kullanılır.

Toplam Inertia ( $\Lambda^2$ ) ise, Uyum analizinde varyans kavramı Ki-Kare uzaklıkları ile ilgilidir. Bunun için genellikle inertia terimi benimsenir ve inertia ile varyans terimleri eşanlamlı terimler olarak kullanılır.

Toplam inertia, profil noktalarının merkez etrafındaki dağılımlarına ilişkin bir mesafe ölçümü olup, aşağıdaki formül yardımıyla hesaplanır (Kılıç, 2016: 5-6).

$$\Lambda^2 = \sum_i r_i d_i^2 \quad (2)$$

Yukarıdaki eşitlikte  $d_i$  i. satır noktasının merkeze olan uzaklığı ve  $r_i$  i. satır noktanın mass (tartı) değerini gösterir. Arzu edilen  $\Lambda^2$  'nin büyük bir değer almasıdır. Bu ise, satır noktalarının merkeze olan Ki-Kare uzaklıklarının ( $d_i$ ) artması ile mümkündür. Toplam inertia kavramı aşağıda gösterileceği gibi, Pearson Ki-Kare istatistiği ile direkt olarak ilişkilidir. Ayrıca toplam inertia phi-kare cinsinden aşağıdaki gibi de yazılabilir:

$$x^2 = \Lambda^2 n \quad (3)$$

$$\phi = \frac{x^2}{n} = \Lambda^2 \quad (4)$$

### 3.3.2. Cronbach Alfa Güvenilirlik Analizi

Maddelerin iç tutarlılığının bir ölçüsü olan Cronbach alfa katsayısı, ölçekte bulunan maddelerin homojen yapısını açıklamak veya sorgulamak üzere kullanılır. Cronbach alfa

katsayısı yüksek olan ölçekteki maddelerin birbirleriyle tutarlı bir o kadar da aynı özelliği ölçen maddelerden meydana geldiği yorumu yapılır. Cronbach alfa likert tipli ölçeklerde sıklıkla kullanılmaktadır (Yıldız & Kaasakal, 2018: 19).

Cronbach alfa aşağıdaki gibi ifade edilmektedir:

$0 < R^2 < 0.40$  ise güvenilir değil

$0.40 < R^2 < 0.60$  ise düşük güvenilirlikte

$0.60 < R^2 < 0.80$  ise oldukça güvenilir

$0.80 < R^2 < 1.00$  ise yüksek güvenilirlik

Demografik özelliklerin dışında hazırlanan anketin ölçek güvenilirliği, Cronbach's Alpha değerine göre belirlenmiştir. Güvenirlik analizi ne göre elde edilen sonuç aşağıdaki Tablo 2'de verilmiştir.

**Tablo: 2**  
**Araştırma Verilerinin Güvenirlik Analizi**

Cronbach's alpha	N of Items (Madde sayısı)
,791	14

Konut sakinlerinin site yönetimiyle ilgili görüşlerine belirlemeye yönelik 14 maddelik ölçeğin Cronbach alpha güvenilirliği %79,0 olarak bulunmuştur. Bu güvenilirlik değerinin oldukça yeterli olduğu görülmektedir. Diğer bir deyişle maddelerin güvenilirliği yüksek olduğunu söyleyebiliriz.

#### 4. Bulgular

Bu kısımda anket çalışmasının bulguları verilecektir. Tablo 3'de katılımcıların demografik özellikleri verilmiştir.

**Tablo: 3**  
**Katılımcıların Demografik Özellikleri**

Demografik Bilgiler		Frekans	%
Cinsiyet	Kadın	88	22,4
	Erkek	305	76,6
Yaş	15 - 25	1	0,3
	26 - 35	76	19,3
	36 - 45	171	43,5
	46 - 55	86	21,9
	55 ve üzeri	59	15,0
Eğitim Durumu	İlkokul mezunu	36	9,2
	Ortaokul mezunu	31	7,9
	Lise mezunu	132	33,6
	Önlisans mezunu	47	12,0
	Lisans mezunu	116	29,5
Lisansüstü mezunu	31	7,9	
Konut Mülkiyeti	Daire sahibi	352	89,6
	Kiracı	15	3,8
	Diğer	26	6,6

Gelir Düzeyi	10.000 TL ve altı	48	12,2
	10.001 - 25.000	210	53,4
	25.001 - 40.000	83	21,1
	40.001 - 55.000	23	5,9
	55.001 ve üzeri	29	7,4

Çalışmaya katılan 393 kişinin %22,4'ü kadın, %88'i erkektir. Katılımcılar arasında 36-45 yaş grubundaki kişiler %43,5 (171 kişi) oranında görece yüksek bir paya sahipken, 55 yaş üzerindeki kişiler ise, %15,0 (59 kişi) oranındadır. Katılımcılardan %33,6,1'si lise mezunu iken, %29,5'i da lisans mezunudur. Lisansüstü mezun oranı ise 7,9'dur. Katılımcıların gelir düzeyine bakıldığında (10.001 TL - 25.000 TL) arasında gelire sahip olanlar %53,4 gibi yüksek bir orandadır. (40.001 TL - 55.000 TL) arasında geliri olanların oranı ise sadece %5,9 dur. Anketin ikinci bölümünde katılımcıların profesyonel site yönetimiyle ilgili değerlendirmelerine yönelik olarak beşli likert tipi ölçek kullanılarak sorular sorulmuştur. Tablo 4'de katılımcıların sorulara verdikleri cevaplar frekans ve yüzde dağılımı olarak verilmiştir.

**Tablo: 4**  
**Site Sakinlerinin Profesyonel Site Yönetimine Yönelik Değerlendirmeleri**

İfadeler		Kesinlikle Katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Kesinlikle Katılıyorum	Ortalamalar
1) Oturulan sitede profesyonel site yönetiminin olduğu bilinmektedir	Frekans	88	83	70	114	38	2,82
	%	22,4	21,1	17,8	29	9,7	
2)Profesyonel site yönetiminin site yaşamı kalitesine etkisi vardır	Frekans	53	67	61	163	49	3,22
	%	13,5	17,0	15,5	41,5	12,5	
3) Profesyonel site yönetimi binaların ömrünü ve verimliliğini artıran önlemleri alır	Frekans	82	79	83	113	36	2,85
	%	20,9	20,1	21,1	28,8	9,2	
4) Site yönetiminde profesyonel site yönetimi gereklidir	Frekans	27	23	39	163	141	3,93
	%	6,9	5,9	9,9	41,5	35,9	
5) Profesyonel site yönetiminde verilen hizmetler gereklidir	Frekans	22	31	33	181	126	3,91
	%	5,6	7,9	8,4	46,1	32,1	
6) Profesyonel site yönetimi mülkün değerini artırır	Frekans	38	49	48	162	96	3,58
	%	9,7	12,5	12,2	41,2	24,4	
7) Site sakinleri profesyonel site yönetiminin faydalı olup olmadığını anlamada güçlük çekmektedir	Frekans	71	115	90	99	18	2,68
	%	18,1	29,3	22,9	25,2	4,6	
8) Site sakinleri profesyonel site yönetiminin farkındadır	Frekans	27	89	76	167	34	3,23
	%	6,9	22,6	19,3	42,5	8,7	
9) Profesyonel site yönetimi yenilikçidir	Frekans	33	44	82	165	69	3,49
	%	8,4	11,2	20,9	42,0	17,6	
10) Profesyonel site yönetimi gerekli her türlü teçhizat bakımını yapar	Frekans	18	23	43	201	108	3,91
	%	4,6	5,9	10,9	51,1	27,5	
11) Profesyonel site yönetimi olağanüstü krizi yönetir.	Frekans	50	61	129	113	40	3,08
	%	12,7	15,5	32,8	28,8	10,2	
12) Profesyonel site yönetimi aйдat bütçesini iyi yönetir.	Frekans	68	55	94	125	51	3,09
	%	17,3	14,0	23,9	31,8	13,0	
13) Profesyonel site yönetimi olası şikâyetleri çözer	Frekans	60	57	73	144	59	3,21
	%	15,3	14,5	18,6	36,6	15,0	
14) Site yönetiminde profesyonel site yönetimine ihtiyaç vardır	Frekans	130	131	43	56	33	2,31
	%	33,1	33,3	10,9	14,2	8,4	

Çalışmaya katılanların profesyonel site yönetimini değerlendirdikleri bu kısımda tüm sorulara verilen cevaplar tabloda tek tek verildiğinden tekrara kaçmamak adına dikkat çeken bazı önemli bulgulara yer verilmesi yerinde olacaktır. Profesyonel site yönetiminden en çok beklenen faaliyetin, %51,1 oranla sitedeki her türlü teçhizat bakımının yapılmasıdır.

Profesyonel site yönetiminde verilen hizmetlerin gerekli olduğunu düşünenlerin oranı ile profesyonel site yönetiminin site yaşamı kalitesine etkisi olduğunu ifade edenlerin oranı %41,5 düzeyindedir. Profesyonel site yönetimi mülkün değerini artıracakları ifade edenlerin oranı, %41,2 iken profesyonel site yönetimi yenilikçi olduğunu düşünenlerin oranı %42'dir. Tablodan da anlaşılacağı üzere site yönetiminde profesyonel site yönetiminin gerekli olduğu ve profesyonel site yönetiminin gerekli her türlü teçhizat bakımını yapar ifadeleri 3,93 ile en yüksek ortalamaya sahiptir. Tabloda dikkat çeken ilgili diğer çarpıcı bir sonuç ise profesyonel site yönetimine ihtiyaç duymayanların oranının %33,1 olmasıdır.

## 5. Uyum Analizi Sonuçları

Uyum analizi, veri setindeki yapısal düzeni ortaya çıkararak, ilgili değişkenler arasındaki güçlü ilişkilerin ortaya çıkmasına katkı sağlamaktadır. Araştırma modeline bağlı olarak aşağıdaki hipotezler geliştirilmiştir ve sınanmıştır.

Hipotez 1:

$H_0$  = Kişilerin yaş düzeyi ile profesyonel site yönetiminin gerekli olduğu görüşü arasında bir ilişki yoktur.

$H_1$  = Kişilerin yaş düzeyi ile profesyonel site yönetiminin gerekli olduğu görüşü arasında bir ilişki vardır.

**Tablo: 5**  
**"Profesyonel Site Yönetimi Gereklidir" İfadesinin Katılımcıların Yaş Düzeyine Göre Uyum Analizi**

Site Yönetimi Gerekliliği	Yaş Dağılımı					Toplam
	15 - 25	26 - 35	36 - 45	46 - 55	55 ve üzeri	
Hiç katılmıyorum	0	11	9	4	3	27
Katılmıyorum	0	3	10	6	4	23
Fikrim yok	0	4	28	5	2	39
Katılıyorum	1	22	72	35	33	163
Tamamen katılıyorum	0	36	52	36	17	141
Toplam	1	76	171	86	59	393

Tablo 5, frekanslar için oluşturulan tanımlayıcı tipte çapraz tablolamadır. Katılımcılardan toplam 393 kişinin 304 kişisi profesyonel site yönetiminin gerekli olduğu ifadesine katılıyorum ve tamamen katılıyorum cevabı vermiştir. Dolayısıyla site yönetiminin gerekli olduğunu düşünenlerin oranı %77,3 ile oldukça yüksek bir düzeydedir. Yaş gruplarını dikkate aldığımızda toplam içindeki en çok payı 36-55 yaş aralığının aldığı görülmektedir.

Değişkenliğin boyutlara göre ne kadar açıklandığını gösteren inertia değerlerine göre birinci boyut %60 ikinci boyut ise %32 açıklayıcılığı sahiptir ve ilk iki boyutun toplam değeri %92,7'dir. Üçüncü ve dördüncü boyutların toplam değişkenliğe katkısı çok düşük olduğundan ihmal edilmiştir. Inertia'nın 0'dan farklı olması satır ve sütunlar arasında ilişki olduğunu göstermektedir. Bu değer yaş ile site yönetiminin gerekliliği ifadesinden uzaklaşmaya neden olması değişkenlerinin kategorileri arasında bir ilişkinin olduğunu göstermektedir.

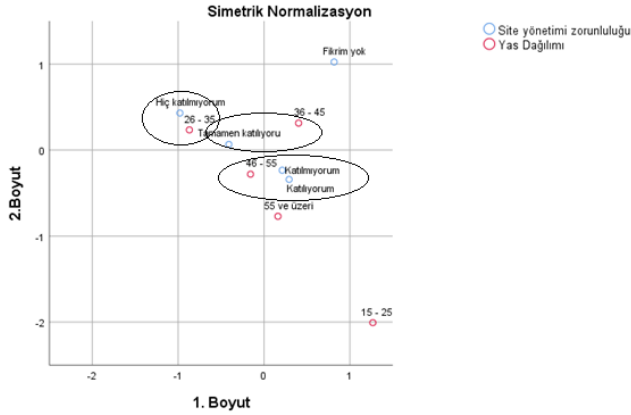
**Tablo: 6**  
**“Profesyonel Site Yönetimi Gereklidir” İfadesinin Katılımcıların Yaş Düzeyine Göre Uyum Analizi (Özet Tablo)**

Boyutlar	Tekil Değerler	Inertia	Ki-Kare	p	Inertia oranı		Tekil Değerler	
					%	Birikimli %	Standart Sapma	Korelasyon
1	,230	,053			,600	,600	,050	,135
2	,170	,029			,327	,927	,043	
3	,079	,006			,070	,997		
4	,015	,000			,003	1,000		
Total		,088	34,697	,004 <sup>a</sup>	1,000	1,000		

a. Serbestlik Derecesi: 16.

Tablo 6'dan da anlaşılacağı gibi ki-kare istatistiği  $\alpha = 0,05$  anlam düzeyinde p değeri = 0,004 olduğundan  $H_0$  reddedilir. Bu sonuca göre bina sahiplerinin yaşları ile site yönetiminin gerekliiği ifadesinin birbiriyle bağımlılığı çok yüksektir. Bu analize göre; oluşturulan değişkenler arasındaki uyum haritası Şekil 1'de verilmiştir.

**Şekil: 1**  
**Değişkenler Arasındaki Uyum Haritası**  
**(Profesyonel Site Yönetiminin Gerekliliği ve Yaş Düzeyi)**



Şekil 1 de site yönetiminin gerekli olduğu düşüncesine katılmayanların 26-35 yaş grubu olduğu, buna karşılık 36-45 yaş grubunun site yönetiminin zorunlu olması gerektiğine tamamiyle katıldığı görülmektedir. 46 yaş ve üstü bina sahiplerinin ise site yönetiminin zorunluluğu konusuna katılıp katılmamaya yönelik olarak bölündükleri dikkat çekmektedir.

Hipotez 2:

$H_0$  = Kişilerin eğitim düzeyi ile profesyonel site yönetiminin gerekli olduğu görüşü arasında bir ilişki yoktur.

$H_1$  = Kişilerin eğitim düzeyi ile profesyonel site yönetiminin gerekli olduğu görüşü arasında bir ilişki vardır.

**Tablo: 7**  
**“Profesyonel Site Yönetimi Gereklidir” İfadesinin Katılımcıların Eğitim Düzeyine Göre Uyum Analizi**

Site Yönetiminin Gerekliği	Eğitim Düzeyi						Satır Toplam
	İlkokul Mezunu	Ortaokul Mezunu	Lise Mezunu	Önlisans Mezunu	Lisans Mezunu	Lisansüstü Mezunu	
Hiç Katılmıyorum	2	3	9	4	9	0	27
Katılmıyorum	1	4	7	2	9	0	23
Fikrim Yok	6	3	27	2	1	0	39
Katılıyorum	18	14	51	21	47	12	163
Tamamen Katılıyorum	9	7	38	18	50	19	141
Toplam	36	31	132	47	116	31	393

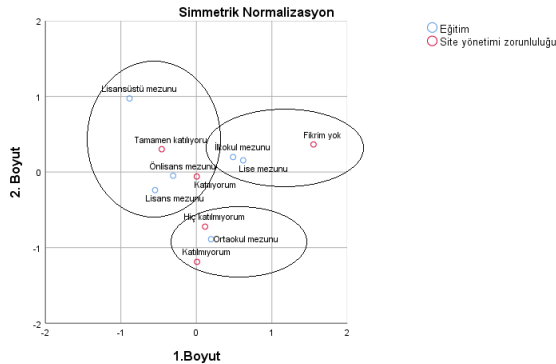
**Tablo: 8**  
**“Profesyonel Site Yönetimi Gereklidir” İfadesinin Katılımcıların Eğitim Düzeyine Göre Uyum Analizi (Özet Tablo)**

Boyutlar	Tekil Değerler	Inertia	Ki-Kare	P	Inertia Oranı		Tekil Değerler	
					%	Birikimli %	Standart Sapma	Korelasyon
1	,315	,099			,743	,743	,037	,078
2	,166	,027			,205	,948	,044	
3	,073	,005			,040	,988		
4	,040	,002			,012	1,000		
Total		,134	52,612	,000 <sup>a</sup>	1,000	1,000		

a. Serbestlik Derecesi: 20.

Katılımcılar eğitim düzeylerine göre incelendiğinde ilk iki sırada lise mezunları (%33,5) ve lisans mezunları (%29,5) yer almaktadır. Değişkenliğin boyutlara göre ne kadar açıklandığını gösteren inertia değerlerine göre ilk iki boyutun toplam değeri %94,8'dir. Tablo 8'de ki-kare istatistiği  $\alpha = 0,05$  anlam düzeyinde p değeri = 0,00 olduğu görülmektedir. Bu nedenle  $H_0$  reddedilir. Bina sahiplerinin eğitim düzeyi ile site yönetiminin gerekliliği ifadesinin birbiriyle bağımlılığı çok yüksektir. Bu analize göre; oluşturulan değişkenler arasındaki uyum haritası Şekil 2'de verilmiştir.

**Şekil: 2**  
**Değişkenler Arasındaki Uyum Haritası**  
**(Profesyonel Site Yönetiminin Gerekliliği ve Eğitim Düzeyi)**





Şekil 2 göre önlisans, lisans, lisansüstü mezunu olan kişiler arasında bir uyum olduğu ve üniversite mezunu statüsünde olan bu kişilerin profesyonel site yönetiminin gerekliğine inandıkları görülmektedir. Ortaokul mezunu olan kişilerin ise site yönetiminin gerekli olduğuna katılmadıkları anlaşılmaktadır.

Hipotez 3:

$H_0$  = Kişilerin gelir düzeyi ile profesyonel site yönetiminin gerekli olduğu görüşü arasında bir ilişki yoktur.

$H_1$  = Kişilerin gelir düzeyi ile profesyonel site yönetiminin gerekli olduğu görüşü arasında bir ilişki vardır.

**Tablo: 9**  
**“Profesyonel Site Yönetimi Gereklidir” İfadesinin Katılımcıların Gelir Düzeyine Göre Uyum Analizi**

Site Yönetimi Gerekliliği	Gelir Düzeyi					Toplam
	10.000 TL ve altı	10.001 - 25.000 TL	25.001 - 40.000 TL	40.001 - 55.000 TL	55.001 TL ve üzeri	
Hiç Katılmıyorum	8	11	7	1	0	27
Katılmıyorum	1	13	4	2	3	23
Fikrim Yok	6	31	2	0	0	39
Katılıyorum	23	86	33	11	10	163
Tamamen Katılıyorum	10	69	37	9	16	141
Toplam	48	210	83	23	29	393

**Tablo: 10**  
**“Profesyonel Site Yönetimi Gereklidir” İfadesinin Gelir Düzeyine Göre Uyum Analizi (Özet Tablo)**

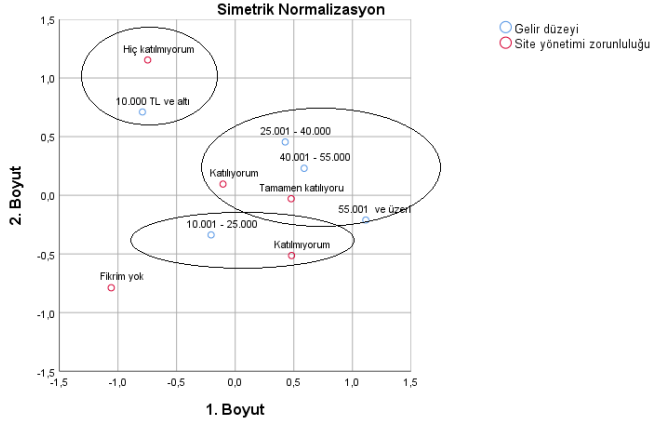
Boyutlar	Tekil Değerler	Inertia	Ki-Kare	p	Inertia Oranı		Tekil Değerler	
					%	Birikimli %	Standart Sapma	Korelasyon
1	,249	,062			,652	,652	,040	-,063
2	,173	,030			,313	,966	,053	
3	,055	,003			,032	,998		
4	,015	,000			,002	1,000		
Total		,095	37,361	,002 <sup>a</sup>	1,000	1,000		

a. Serbestlik Derecesi: 16.

Tablo 10’da yer alan ki-kare istatistiği  $\alpha = 0,05$  anlam düzeyinde p değeri = 0,002 ile  $H_0$  hipotezinin reddedileceğini göstermektedir. Buna göre bina sahiplerinin gelir düzeyi ile site yönetiminin gerekliği ifadesine verilen yanıtlar birbiriyle yüksek derecede bağımlıdır. Inertia değerleri ilk iki boyutun toplam değerinin %96,6 olduğunu göstermektedir. Değişkenler arasındaki uyum haritası Şekil 3’de verilmiştir.

Katılımcıların yarısından fazlası 10.000 - 25.000 TL aralığında düşük gelir elde etmektedir. Aylık geliri 25.000 TL altında olan düşük gelirli grubun profesyonel site yönetiminin gerekliğine inanmadıkları ve kendi içlerinde uyumlu oldukları görülmektedir. Verilere göre, daha üst gelir elde eden kişiler de uyum içerisindedirler. Gelir seviyesi yükseldikçe site yönetiminin gerekli olduğu görüşü yaygınlaşmaktadır.

### Şekil: 3 Değişkenler Arasındaki Uyum Haritası (Profesyonel Site Yönetiminin Gerekliliği ve Gelir Düzeyi)



Hipotez 4:

$H_0$  = Kişilerin yaş düzeyi ile profesyonel site yönetiminin mülkün değerini artıracığı görüşü arasında bir ilişki yoktur.

$H_1$  = Kişilerin yaş düzeyi ile profesyonel site yönetiminin mülkün değerini artıracığı görüşü arasında bir ilişki vardır.

**Tablo: 11**  
“Profesyonel Site Yönetimi Mülkün Değerini Artırır” İfadesi ile Katılımcıların Yaş Düzeyi Arasındaki Uyum Analizi

Mülkün Değerinin Artması	Yaş Dağılımı					
	15 - 25	26 - 35	36 - 45	46 - 55	55 ve üzeri	Toplam
Hiç Katılmıyorum	0	13	17	6	2	38
Katılmıyorum	0	10	9	12	18	49
Fikrim Yok	0	5	34	6	3	48
Katılıyorum	1	24	69	42	26	162
Tamamen Katılıyorum	0	24	42	20	10	96
Toplam	1	76	171	86	59	393

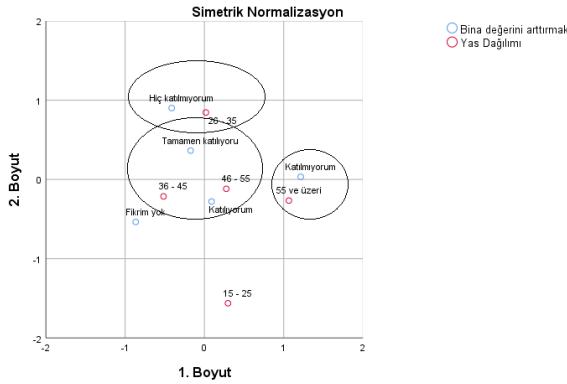
**Tablo: 12**  
“Profesyonel Site Yönetimi Mülkün Değerini Artırır” İfadesi ile Katılımcıların Yaş Düzeyi Arasındaki Uyum Analizi (Özet Tablo)

Boyutlar	Tekil Değerler	Inertia	Ki-Kare	P	Inertia Oranları		Tekil Değerler	
					%	Birikimli %	Standart Sapma	Korelasyon
1	,303	,092		,690	,690	,049	,006	
2	,178	,032		,238	,928	,051		
3	,096	,009		,069	,997			
4	,019	,000		,003	1,000			
Total		,133	52,197	,000 <sup>a</sup>	1,000	1,000		

a. Serbestlik Derecesi: 16.

Tablo 12’den de anlaşılacağı gibi ki-kare istatistiği  $\alpha = 0,05$  anlam düzeyinde p değeri = 0,00 olduğundan  $H_0$  reddedilir. Bu sonuca göre kişilerin yaşları ile profesyonel site yönetiminin mülkün değerini artıracacağı görüşü arasında ilişki vardır. Bu analiz göre; oluşturulan değişkenler arasındaki uyum haritası Şekil 4’de verilmiştir.

**Şekil: 4**  
**Değişkenler Arasındaki Uyum Haritası (Profesyonel Site Yönetiminin Mülkün Değerini Artırması ile Yaş Düzeyi)**



Yaş dağılımına göre uyum analizi yapıldığında, 26-35 yaş aralığında olan kişiler ile 55 yaş üzerinde olan kişilerin kendi içlerinde uyumlu oldukları ve profesyonel site yönetiminin mülkün değerini artıracacağı görüşüne katılmadıkları görülmektedir. Bununla birlikte yaş dağılımında daha ortada bulunan 36 ile 55 yaşları arasındaki kişiler ise site yönetiminin mülkün değerini artırdığı yönündeki görüşe katılmaktadırlar.

Hipotez 5:

$H_0$  = Kişilerin eğitim düzeyi ile profesyonel site yönetiminin mülkün değerini artıracacağı görüşü arasında bir ilişki yoktur.

$H_1$  = Kişilerin eğitim düzeyi ile profesyonel site yönetiminin mülkün değerini artıracacağı görüşü arasında bir ilişki vardır.

**Tablo: 13**  
**“Profesyonel Site Yönetimi Mülkün Değerini Artırır” İfadesi ile Katılımcıların Eğitim Düzeyi Arasındaki Uyum Analizi**

Mülkün Değerinin Artması	Eğitim						Toplam
	İlkokul Mezunu	Ortaokul Mezunu	Lise Mezunu	Önlisans Mezunu	Lisans Mezunu	Lisansüstü Mezunu	
Hiç Katılmıyorum	1	5	8	7	16	1	38
Katılmıyorum	10	5	15	6	12	1	49
Fikrim Yok	3	3	31	2	8	1	48
Katılıyorum	16	15	51	24	44	12	162
Tamamen Katılıyorum	6	3	27	8	36	16	96
Toplam	36	31	132	47	116	31	393

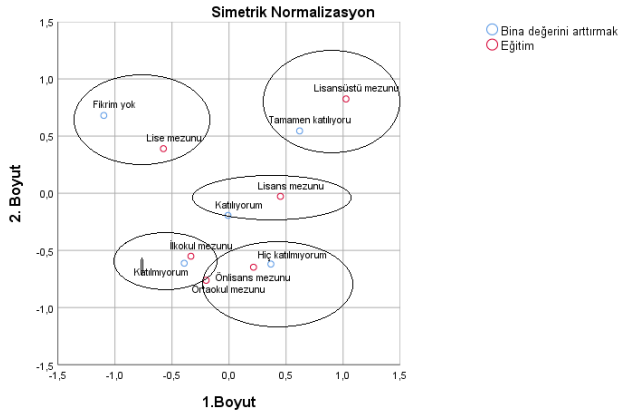
**Tablo: 14**  
**“Profesyonel Site Yönetimi Mülkünü Değerini Artırır” İfadesi ile Katılımcıların Eğitim Düzeyi Arasındaki Uyum Analizi (Özet Tablo)**

Boyutlar	Tekil Değerler	Inertia	Ki-Kare	P	İnertia Oranları		Tekil Değerler	
					%	Birikimli %	Standart Sapma	Korelasyon
1	,273	,074		,487	,487	,047	,188	
2	,229	,052		,342	,830	,046		
3	,150	,022		,146	,976			
4	,060	,004		,024	1,000			
Total		,153	60,024	,000 <sup>a</sup>	1,000	1,000		

a. Serbestlik Derecesi: 20.

Tablo 14’de ki-kare istatistiği  $\alpha = 0,05$  anlam düzeyinde p değeri = 0,00 olduğu görülmektedir. Bu sonuca göre  $H_0$  reddedilir. Kişilerin eğitim düzeyleri ile profesyonel site yönetiminin mülkünü değerini artıracağı ifadesinin birbiriyle bağımlılığı çok yüksektir. Bu analiz göre; oluşturulan değişkenler arasındaki uyum haritası Şekil 5’de verilmiştir.

**Şekil: 5**  
**Değişkenler Arasındaki Uyum Haritası (Profesyonel Site Yönetiminin Mülkünü Değerini Artırması ve Eğitim Düzeyi)**



En yüksek eğitim düzeyi olan lisansüstü eğitim düzeyindeki kişiler profesyonel site yönetiminin mülkünü değerini artıracağı yönündeki görüşe kendi içlerinde uyumlu olarak tamamen katılmaktadırlar. Lisans düzeyinde üniversite mezunu olan kişiler de söz konusu görüşe katılırlarken, lise mezunlarının fikir sahibi olmadıkları görülmektedir. Eğitim seviyesi daha düşük olan kişiler ise profesyonel site yönetiminin mülkünü değerini artıracağı yönündeki görüşe katılmamaktadırlar.

Hipotez 6:

$H_0$  = Kişilerin gelir düzeyi ile profesyonel site yönetiminin mülkünü değerini artıracağı görüşü arasında bir ilişki yoktur.

H<sub>1</sub> = Kişilerin gelir düzeyi ile profesyonel site yönetiminin mülkün değerini artıracağı görüşü arasında bir ilişki vardır.

**Tablo: 15**  
**"Profesyonel Site Yönetimi Mülkün Değerini Artırır" İfadesinin Katılımcıların Gelir Düzeyi İle Arasındaki Uyum Analizi**

Mülkün Değerinin Artması	Gelir Düzeyi					Toplam
	10.000 TL ve altı	10.001 - 25.000 TL	25.001 - 40.000 TL	40.001 - 55.000 TL	55.001 TL ve üzeri	
Hiç Katılmıyorum	4	24	8	2	0	38
Katılmıyorum	10	25	8	3	3	49
Fikrim Yok	5	34	7	1	1	48
Katılıyorum	24	81	33	9	15	162
Tamamen Katılıyorum	5	46	27	8	10	96
Toplam	48	210	83	23	29	393

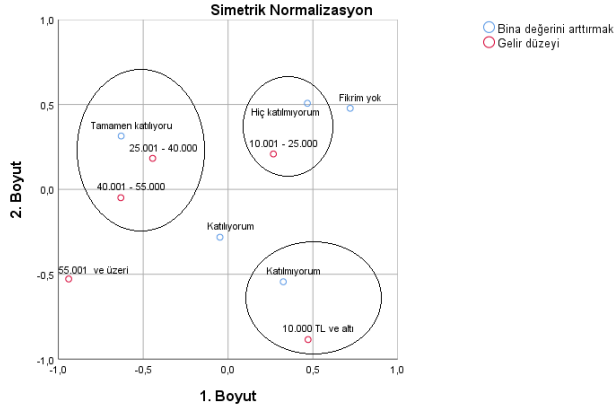
**Tablo: 16**  
**"Profesyonel Site Yönetimi Mülkün Değerini Artırır" İfadesinin Katılımcıların Gelir Düzeyi İle Arasındaki Uyum Analizi (Özet Tablo)**

Boyutlar	Tekil Değerler	Inertia	Ki-Kare	P	Inertia Oranları		Tekil Değerler	
					%	Birikimli %	Standart Sapma	Korelasyon
1	,195	,038			,607	,607	,046	,117
2	,147	,021			,341	,948	,049	
3	,056	,003			,049	,997		
4	,013	,000			,003	1,000		
Total		,063	24,729	,075*	1,000	1,000		

a. Serbestlik Derecesi: 16.

Tablo 16’da ki-kare istatistiği  $\alpha = 0,05$  anlam düzeyinde p değeri = 0,07 olduğundan H<sub>0</sub> reddedilemez. Bu takdirde profesyonel site yönetiminin mülkün değerini artıracağı görüşü ile kişilerin gelir düzeyleri arasındaki bağımlılık düşüktür. Burada Şekil 6’daki uyum haritasından anlaşılacağı üzere 0.02 lik bir hata değerinin ihmal edilebilir olduğunu vurgulamak gerekir. Dolayısıyla kişilerin gelir düzeyi arttıkça profesyonel site yönetiminin gayrimenkulün değerini artıracağı yönündeki hipotez kabul edilmektedir. Bu analize göre; oluşturulan değişkenler arasındaki uyum haritası Şekil 6’da verilmiştir.

### Şekil: 6 Değişkenler Arasındaki Uyum Haritası (Profesyonel Site Yönetiminin Mülkün Değerini Artırması ve Gelir Düzeyi)



En düşük gelire sahip ilk iki gruptaki kişiler (25.000 TL altında geliri olan), profesyonel bir site yönetiminin mülkün değerine katkı sağlayacağı görüşüne katılmamaktadırlar. Bununla birlikte orta gelire sahip 25.000 ile 55.000 TL geliri olan kişiler kendi içlerinde uyum göstererek site yönetiminin mülkün değerini artıracakları görüşüne tamamen katılmaktadırlar. 55.000 TL üzerinde gelir elde eden en düzey gelir grubunun ise tamamen ayrıştığı, kendi içerisinde uyumlu olmadığı görülmektedir.

Hipotez 7:

$H_0$  = “Profesyonel Site Yönetimi Mülkün Değerini Artırır” İfadesi İle “Profesyonel Site Yönetimin Gerekli Olduğu” İfadesi Arasında Bir İlişki Yoktur.

$H_1$  = “Profesyonel Site Yönetimi Mülkün Değerini Artırır” İfadesi İle “Profesyonel Site Yönetimin Gerekli Olduğu” İfadesi Arasında Bir İlişki Vardır.

**Tablo: 17**  
“Profesyonel Site Yönetimi Mülkün Değerini Artırır” İfadesi İle “Profesyonel Site Yönetimin Gerekli Olduğu” İfadesi Arasındaki Uyum Analizi

Mülkün Değerinin Artması	Site Yönetiminin Gerekliliği					Toplam
	Hiç Katılmıyorum	Katılmıyorum	Fikrim Yok	Katılıyorum	Tamamen Katılıyorum	
Hiç Katılmıyorum	15	5	1	9	8	38
Katılmıyorum	5	12	5	19	8	49
Fikrim Yok	2	3	25	15	3	48
Katılıyorum	4	3	7	101	47	162
Tamamen Katılıyorum	1	0	1	19	75	96
Toplam	27	23	39	163	141	393

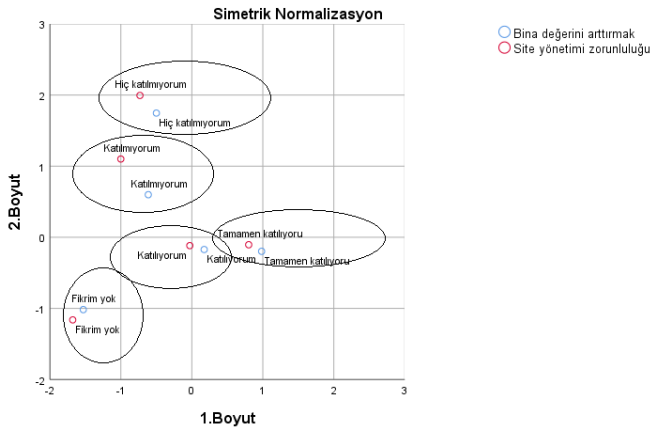
**Tablo: 18**  
**Boyutların Özet Tablosu**

Boyutlar	Tekil Değerler	Inertia	Ki-Kare	P	Inertia Oranları		Tekil Değerler	
					%	Birikimli %	Standart Sapma	Korelasyon
1	,605	,366			,459	,459	,039	,283
2	,488	,238			,298	,756	,060	
3	,374	,140			,175	,931		
4	,234	,055			,069	1,000		
Total		,799	314,061	,000 <sup>a</sup>	1,000	1,000		

a. Serbestlik Derecesi: 16.

Tablo 18’de ki-kare istatistiği  $\alpha = 0,05$  anlam düzeyinde p değeri = 0,00 olduğundan  $H_0$  reddedilir. Bu takdirde “Profesyonel Site Yönetimi Mülkün Değerini Artırır” ifadesi ile “Profesyonel Site Yönetimin Gerekli Olduğu” ifadesi arasında bağımlılık çok yüksektir. Profesyonel site yönetiminin gerekli olduğu görüşü ile profesyonel site yönetiminin mülkün değerini artırdığı görüşü arasında yüksek derecede ilişki vardır. Bu analiz göre; oluşturulan değişkenler arasındaki uyum haritası Şekil 7’de verilmiştir. Şekil 7’deki değişkenler arasındaki uyum haritasına göre katılımcıların verdiği cevaplarda “profesyonel site yönetiminin mülk değerini artıracakını” ifade eden kişilerle “profesyonel site yönetiminin gerekli olduğunu” ifade edenler arasında bütün cevap şıkları açısından tam bir uyum olduğu görülmektedir.

**Şekil: 7**  
**Değişkenler Arasındaki Uyum Haritası**



Şekil 7’deki değişkenler arasındaki uyum haritasına göre katılımcıların verdiği cevaplarda “profesyonel site yönetiminin mülk değerini artıracakını” ifade eden kişilerle “profesyonel site yönetiminin gerekli olduğunu” ifade edenler arasında bütün cevap şıkları açısından tam bir uyum olduğu görülmektedir. Uyum analizi sonucu elde edilen önemli bulgular aşağıda özetlenmiştir.

- Katılımcılar arasında 36-45 yaş grubunun profesyonel site yönetiminin gerekli olduğu yönündeki ifadeye tamamen katıldıkları görülmüştür. Site yönetiminin gerekli olduğu yönündeki görüşe hiç katılmayanlar 26-35 yaş grubundaki kişiler olmuştur.
- Yaş dağılımının ortasında bulunan 36 ila 55 yaşları arasındaki kişiler kendi içlerinde uyum göstererek profesyonel site yönetiminin mülkün değerini artırdığını yönündeki görüşe katılmışlardır. 36 yaş altı ve 55 yaş üzeri kişiler söz konusu görüşe katılmamaktadır.
- Profesyonel site yönetiminin gerekliliği konusunda üniversite mezunu olan kişiler arasında bir uyum olduğu görülmektedir. Eğitim seviyesi yüksek olan kişiler site yönetiminin gerekliliğine inanırlarken, ortaokul mezunu olan kişiler bu görüşe katılmamaktadırlar.
- Profesyonel site yönetiminin mülkün değerini artıracığı yönündeki görüşe en yüksek eğitim düzeyi olan lisansüstü eğitim düzeyindeki kişiler tamamen katılım gösterirken, eğitim seviyesi lise düzeyinin altında olan kişiler ise katılım göstermemektedirler.
- Düşük gelirli kişiler ve yüksek gelirli kişiler kendi içlerinde uyum göstermektedirler. Düşük gelirli kişiler profesyonel site yönetiminin gerekli olduğu görüşüne katılmazken, daha yüksek gelirli kişilerin site yönetiminin gerekliliğine inandıkları görülmektedir.
- Profesyonel bir site yönetiminin mülkün değerine katkı sağlayacağı görüşüne 25.000 TL altında gelir elde eden kişiler katılmazlarken, 25.000 ila 55.000 TL geliri olan kişiler söz konusu görüşe tamamen katılmaktadırlar.
- Uyum analizi profesyonel site yönetiminin gerekli olduğu görüşü ile profesyonel site yönetiminin mülkün değerini artırdığı görüşü arasında yüksek derecede ilişki olduğunu göstermektedir. Bu sonuçtan hareketle kişiler profesyonel site yönetiminin mülkün değerini artırdığına dair bir görüş içerisindeyler.

Özellikle belirli ekonomik düzeye erişmiş, aldığı profesyonel yönetim hizmetinin karşılığını mali olarak ödeyebilme gücüne sahip kişiler yaşam alanlarını daha güzel hale getirebilmek için profesyonel site yönetimlerinin gerekliliğine inanmaktadırlar. Benzer şekilde eğitim düzeyi yüksek olan kişilerin de yaşam standartları ile ilgili beklentileri daha yüksek olmaktadır. Eğitim ve gelir seviyesi yüksek kişilerin konfor, rahatlık, kalite arayışları öne çıkmaktadır. Bununla birlikte düşük gelirli kişiler zaten içindeki buldukları ekonomik şartlar nedeniyle zorlanmakta ve ilave bir maliyet unsuru olan profesyonel site yönetimini gerekli görmemektedirler. Demografik olarak yaş faktörü de kişilerin konut tipi tercihlerinde etkili olmaktadır. Genellikle 35 yaş üzerinde, çocuğu olan aileler oyun parkı, bahçe, havuz, güvenlik gibi unsurlara önem vermektedirler. Çok genç yaşta ya da ileri yaşta olan kişiler toplu konutların dışında farklı konut tiplerini tercih edebilmektedir. Profesyonel site yönetimlerini gerekli gören kişilerin aynı zamanda gayrimenkullerinin değerinin de artacağını düşünmeleri bu çalışmadan elde edilen önemli bir sonuç olmuştur. Bir tesisin bünyesindeki konut, işyeri, sosyal alan, otopark, güvenlik, temizlik, bahçe gibi unsurların



profesyonelce yönetilmesi o tesisin verimliliğini artırmaktadır. Verimliliği artan tesisin ise değerinde artış olmaktadır.

## 6. Tartışma

Gayrimenkul, farklı alanlardan araştırmacıların ilgisini çeken multi disiplinler bir alandır. Yapı ve arazi özellikleri açısından mimarlık ve mühendislik bilimleri, finansman imkanları, fiyat ve getiri oranları açısından iktisat bilimi, pazarlama, satış ve yönetim alanları açısından ise işletme bilimi ile yakın ilişkilidir. Bir mülkün değerini belirleyen çok sayıda faktör olmakla birlikte, mülkün değeri ile mülkün yönetimi arasındaki ilişkiyi araştıran uygulamalı bir çalışmaya literatürde rastlanılmamıştır.

Kok vd. (2010), tesis yönetimi uygulamalarının, maliyetleri azaltarak ve verimliliği artırarak katma değer yarattığını ve müşterilerin mübadele (piyasa) değeri üzerindeki algısını değiştirebileceğini ileri sürmüşlerdir. Jensen ve Voordt (2017) ise çalışmalarında mülkün verimli kullanımına bağlı olarak değer yaratılabileceğini ifade etmişlerdir. Li, Zhang, Wei ve Han (2019), Drion, Melissen ve Wood (2012) tarafından yapılan çalışmalarda tesis yönetimi uygulamalarının, gayrimenkullere konfor, kalite, kullanım, işlevsellik vb. boyutlarında katkılar sağladığı ileri sürülmüş ancak sonuç ampirik bulgularla desteklenmemiştir. Öte yandan Gacap (2019) ve ULI (2017) tarafından yapılan çalışmalarda tesis yönetimi hizmetlerinin kalitesinin tesis edilmesinde gerekli olan araç ve uygulamalardan, Nataliia vd. (2021) tarafından yapılan çalışmada koronavirüs pandemisi sırasında sağlık hizmetlerinde tesis yönetiminin öneminden, Voordt (2017) tarafından yapılan çalışmada tesis yönetimi ile kurumsal gayrimenkul yönetimi arasındaki ilişkiden, Ogungbile ve Oke (2015) tarafından yapılan çalışmada tesis yönetimi bilincinin öneminden, Jensen vd. (2013) tarafından yapılan çalışmada pazarlama ve tesis yönetimi ilişkisinden söz edilmiştir. Tesis yönetimi kapsamında verilen hizmetlerin, insanların iş ve yaşam süreçlerinde yarattığı değerler üzerine çalışmalar mevcut olsa da tesis yönetimi ile mülkün değerinin artabileceği konusu incelenmemiştir.

Bu çalışma daha önceden ele alınmamış bir yönüyle tesis yönetiminin faydasını ortaya koymaktadır. Mülkün piyasa değeri ile profesyonel site yönetimi arasında ilişki kurulması bu çalışmanın özgünlüğünü oluşturmaktadır. Literatürde görece dağınık olarak ele alınan tesis yönetimi ve gayrimenkul değeri arasındaki ilişki ampirik kanıtlarla desteklenmiştir. Çalışmada kullanılan veriler, Toplu Konut İdaresi Başkanlığının (TOKİ) iştiraki olarak kurulmuş Emlak Yönetim Hizmetleri ve Ticaret A.Ş. tarafından İstanbul'da yönetilen sitelerde yaşayan hane halkından anket yoluyla elde edilmiştir. Bu nedenle çalışmadan elde edilen sonuçlar, söz konusu katılımcıların görüşlerine dayanmaktadır. Ticaretin ve nüfusun yoğun olduğu İstanbul ili, ekonomik ve sosyal imkanlar açısından avantajlı ve dezavantajlı olarak nitelendirilebilecek kesimlerin sosyal ve mekansal ayrışmasını temsil etmede iyi bir örnektir. Uygulamanın İstanbul'da yapılması çalışmanın güçlü bir yanı olmakla birlikte araştırmaya sadece TOKİ tarafından inşa edilmiş toplu konutlarda yaşayan kişilerin katılmış olması çalışmanın zayıf yönünü oluşturmaktadır. Araştırmanın evreni dışında kalan sitelerde örneğin Büyükşehir Belediyesi

olmayan diğer illerde yaşayan sakinlerin görüşlerinin farklılık gösterebileceği dikkate alınmalıdır. Bu çalışma büyük kentlerde profesyonel site yönetim anlayışının yaygınlaşmasında ve mülkün değerini artırmaya yönelik unsurların belirlenmesinde mevcut literatüre katkı sağlayacaktır. Profesyonel site yönetiminin mülkün değeri üzerinde belirleyici olduğunu ortaya koyan bu çalışmanın bundan sonra yapılacak çalışmalara rehberlik edeceği düşünülmektedir.

## 7. Sonuç ve Öneriler

Tesis yönetimi birçok dönüşüm ve evreden geçerek gelişmektedir; sosyolojiden ergonomiye, mimariden tekniğe kadar geniş bir alandan beslenmektedir. Günümüzde insanlar, yaşadıkları ve kullandıkları tesislerden barınma ve fonksiyonel ihtiyaçlarının karşılanmasından çok daha fazlasını beklemektedirler. Bir tesiste yaşayan insanların yaşam alanlarındaki kaliteyi ve konforunu artırmak, iyi bir tesis yönetimi ile mümkün olabilmektedir. Tesis yönetimi, hem beşeri hem de teknik disiplinlerden yararlanarak ortaya çıkardığı ve geliştirdiği konseptlerle kalite ve yaşanabilirlik konularında tesislere hayat vermekte, tesisleri yaşayan ve hayata değer katan birer canlıya dönüştürmektedir.

Gayrimenkulün değerini etkileyen çok sayıda içsel ve dışsal faktör bulunmaktadır. Bu faktörlerden biri de gayrimenkulün verimli bir şekilde yönetilip yönetilmediğidir. Tesis yönetimi ve gayrimenkulün değeri arasında kalite ve memnuniyet temelli bütünlük bir ilişki vardır. Günümüz koşullarında çok maliyetli ve çok zor şartlar altında üretilen tesislerin bugünkü ve gelecekteki değerini artırmak, yaşam eğrisini standart süreler içerisinde tamamlanmasını sağlamak hatta potansiyel ömrünü uzatmak için verimli bir tesis yönetimine ihtiyaç duyulmaktadır.

Bu çalışmanın amacı; profesyonel tesis yönetimleri ile o tesis içerisindeki gayrimenkullerin değeri arasındaki ilişkinin varlığını tespit etmektir. Bununla birlikte çalışmada profesyonel site yönetimleri konusunda farkındalığı ölçmek ve profesyonel site yönetimlerinin gerekliliği konusunda kişilerin düşüncelerini almak hedeflenmektedir. Bu kapsamda İstanbul'da profesyonel site yönetimine sahip toplu konutlarda yaşayan insanlar üzerinde bir anket çalışması yapılmıştır. Anket verileri istatistiki olarak uyum analizi ile değerlendirilmiştir. Uyum analizi sonucunda, site yönetiminin gerekliliği ve mülkün değerine etkisi konularındaki görüşlerin kişilerin demografik özelliklerine göre farklılaştığı görülmüştür. Buna göre site yönetiminin gerekli olduğunu ve mülkün değerini artırabileceği ifade eden kişiler, eğitim ve gelir düzeyi yüksek olan orta yaş grubundaki kişilerdir.

Tesis yönetiminin Türkiye'de en çok uygulandığı alan olan site yönetimleri ile mülkün değeri arasında ilişki olduğunu ortaya koyan başka bir çalışmaya rastlanmadığından, bu çalışmanın alanındaki ilk çalışma olduğu, gelecekte yapılacak diğer çalışmalar için referans kaynağı olabileceği ve literatüre katkı sağlayacağı düşünülmektedir. Konuya ilgi duyan araştırmacıların İstanbul dışındaki diğer illerde de benzer bir çalışma yapması ve TOKİ tarafından inşa edilmiş sitelerle sınırlı kalmayıp örneklem büyüklüğünü genişletmesi faydalı sonuçlar elde etmelerini sağlayacaktır.

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## Organize Sanayi Bölgelerinin Bölgesel Kalkınmaya Etkisi: Trabzon İlinde Bir Alan Araştırması<sup>1</sup>

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### The Effect of Organised Industrial Zones on Regional Development: A Field Study in Trabzon Province<sup>2</sup>

#### Abstract

The study, conducted with the utmost rigour, aims to reveal the contributions of organised industrial zones to regional development and their positive/negative effects. To ensure the reliability of the findings, the authors created the 'Organized Industrial Zones Perception Scale'. This scale was applied to a robust sample of 600 participants, all over the age of 18, residing in Arsin, Akçaabat, and Beşikdüzü, three districts in Trabzon where organised industrial zones are located. The data obtained from this comprehensive field study were meticulously analysed using the SPSS23 package program. The findings, robustly supported by the data, confirm the relationship between organised industrial zones and regional development.

**Keywords** : Organized Industrial Zones, Regional Development, Trabzon, SPSS23.

**JEL Classification Codes** : R11, R58, O18.

#### Öz

Çalışma, organize sanayi bölgelerinin bölgesel kalkınmaya katkılarının ve olumlu/olumsuz etkilerinin ortaya çıkarılmasını amaçlamaktadır. Söz konusu ilişkinin ortaya çıkarılması için yazarlar tarafından oluşturulan "Organize Sanayi Bölgeleri Algısı Ölçeği" kullanılmıştır. Ölçekte yer alan sorular Trabzon'da organize sanayi bölgelerinin bulunduğu üç ilçe olan Arsin, Akçaabat ve Beşikdüzü'nde yaşayan 18 yaş üstü toplam 600 katılımcıya uygulanmıştır. Saha çalışması sonucu elde edilen veriler SPSS23 paket programında analiz edilmiştir. Analiz sonucunda elde edilen bulgular organize sanayi bölgeleri ile bölgesel kalkınma ilişkisini doğrular niteliktedir.

**Anahtar Sözcükler** : Organize Sanayi Bölgeleri, Bölgesel Kalkınma, Trabzon, SPSS23.

<sup>1</sup> Bu çalışma İstanbul Üniversitesi Sosyal Bilimler Enstitüsü Çalışma Ekonomisi ve Endüstri İlişkileri Anabilim Dalı'nda Prof.Dr. Sedat Murat danışmanlığında Dr. Ahmet Cem Esenlikci tarafından 2023 yılında tamamlanan "Kümelene Perspektifinde Türkiye'de Organize Sanayi Bölgelerinin Bölgesel Kalkınmaya Etkisi: Trabzon Örneği" başlıklı doktora tezinden türetilmiştir.

<sup>2</sup> This study is derived from the doctoral dissertation titled "The Effect of Organized Industrial Zones on Regional Development in Turkey in a Clustering Perspective: The Case of Trabzon", completed in 2023 by Dr. Ahmet Cem Esenlikci under the supervision of Prof.Dr. Sedat Murat at Istanbul University Institute of Social Sciences, Department of Labor Economics and Industrial Relations.

## 1. Giriş

Kalkınma, bütün devletler için en önemli hedeflerin başında gelmektedir. Bu nedenle hükümetler, ülkelerinin kalkınmasını sağlamak adına çeşitli politikalar uygulama yoluna gitmektedir. Üzerine çeşitli teoriler geliştirilen ve çokça çalışma yapılan kalkınma kavramı özellikle son elli yılda bölgesel anlamda değerlendirilen bir anlayış haline gelmiştir. Ülkelerin kalkınmasının yerelden başlayacağını savunan bu anlayış ülkeleri bölgelere ayırarak az gelişmiş bölgelere odaklanmış ve bu bölgelerin kalkınmasını sağlayacak politikalar oluşturulmasını sağlamıştır. Organize sanayi bölgeleri geçen yıllar içerisinde bu politikaların başlıca araçlarından biri haline gelmiştir.

Türkiye organize sanayi bölgelerini sanayileşmenin sağlanması ve az gelişmiş bölgelerin kalkınması için son 60 yıldır kullanmaktadır. Türkiye’de ilk organize sanayi bölgesinin inşasına 1962 yılında Bursa’da başlanmıştır (Çetin & Kara, 2008: 52). O tarihten günümüze hemen hemen bütün illerde çok sayıda organize sanayi bölgesi kurulmuştur. Türkiye’de 2023 yılı sonu itibari ile yaklaşık 2.500.000 kişinin istihdam edildiği toplam 399 organize sanayi bölgesi bulunmaktadır (OSBÜK, 2023).

Organize sanayi bölgeleri, bünyesinde faaliyet gösteren işletmelere başta altyapı, kurumsallık, iletişim ve koordinasyon olmak üzere çok sayıda avantaj sağlamaktadır. Söz konusu avantajların yanında ayrıca organize sanayi bölgelerinin kuruldukları il ve bölgelere de çeşitli alanlarda katkılar ve avantajlar sağladığı bilinmektedir. Bu doğrultuda değerlendirildiğinde organize sanayi bölgelerinin kuruldukları illerin/bölgelerin kalkınmasına hangi şekilde etki ettiği sorusu akıllara gelmektedir. Bu soru, organize sanayi bölgeleri ile bölgesel kalkınma ilişkisinin incelenmesinin gerekliliğini ortaya koymaktadır.

Bu çalışma organize sanayi bölgelerinin bölgesel kalkınmaya etkilerini/katkılarını incelemeyi amaçlamaktadır. Çalışma için Doğu Karadeniz Bölgesi’nin en büyük ili olan Trabzon seçilmiştir. Çalışmada yazarlar tarafından oluşturulan ve organize sanayi bölgeleri ile bölgesel kalkınma ilişkisini bölge halkının algıları üzerinden ölçmeye yarayan “Organize Sanayi Bölgeleri Algısı Ölçeği” kullanılmıştır. Saha çalışmasından toplanan veriler SPSS23 istatistik programında analiz edilmiş ve elde edilen bulguların organize sanayi bölgeleri ile bölgesel kalkınma ilişkisini doğrular nitelikte olduğu görülmüştür.

## 2. Literatür İncelemesi

Organize sanayi bölgeleri ile ilgili farklı kurum ve kişilerin yapmış olduğu çok sayıda tanım olmasına karşın üzerinde tam bir mutabakat sağlanmış bir tanım mevcut değildir. Organize sanayi bölgeleri ile ilgili tanımlar ülkeden ülkeye hatta zamandan zamana farklılık göstermektedir. Sanayi ve Teknoloji Bakanlığı; organize sanayi bölgelerini küçük ve orta büyüklükteki işletmelerin geliştirilmesi ve potansiyellerinin ortaya çıkarılması için gerekli olan altyapı hizmetlerinin ve planlı alanların inşa edilerek belirli standartlara eriştirilmesi ve organize edilmesi şeklinde tanımlamaktadır (Özdemir, 1990: 15). Birleşmiş Milletler ise organize sanayi bölgelerini “birbirleri ile işbirliği içerisinde mal ve hizmet üreten küçük ve

orta büyüklükteki firmaların planlı bir alanda ve ortak altyapı hizmetlerinden faydalanacak şekilde standart fabrika binalarında toplanmaları" olarak ifade etmektedir (Akpınar vd., 2011: 45).

Bölgesel kalkınma kavramı ise ülkelerin kalkınmasının bölgelerden başlamasının gerekliliği üzerinde durmaktadır. OECD, bölgesel kalkınmayı bölgelerde istihdam ve zenginlik yaratan ekonomik faaliyetlerin desteklenmesi ve bölgesel eşitsizliklerin azaltılmasına yönelik genel politikalar bütünü olarak tanımlamaktadır (OECD, 2020).

Türkiye’de organize sanayi bölgeleri ve bölgesel kalkınma konularına ilişkin ayrı ayrı çok sayıda çalışma olmasına karşın organize sanayi bölgeleri ile bölgesel kalkınma ilişkisine yönelik yapılan çalışma sayısı sınırlıdır. Çetin ve Kara (2008) Isparta Süleyman Demirel Organize Sanayi Bölgesi’nde bölgesel kalkınma ve organize sanayi bölgesi ilişkisine yönelik bir çalışma yapmıştır. Organize sanayi bölgesinde faaliyet gösteren 30 firmaya anket uygulaması yapılan çalışmanın sonucunda Isparta Süleyman Demirel Organize Sanayi Bölgesi’nden hareketle Türkiye’de organize sanayi bölgelerinin tarım arazilerine kurulması; teşvik uygulamalarının yetersizliği; işletmelerin işbirliği eksikliği; sanayici kültürünün gelişmemesi; enerji maliyetlerinin yüksekliği; bürokratik engeller ve kamu politikalarındaki yanlış uygulamalar gibi etkenlerle etkin faaliyet gösteremedikleri ve bu nedenle ülke kalkınmasına etkilerinin sınırlı olduğu ifade edilmiştir.

Koç ve Bulmuş (2014) yaptıkları çalışmada Kayseri ve Sivas illerinde bulunan organize sanayi bölgelerinin bölgenin kalkınmasına etkisini karşılaştırmalı olarak incelemişlerdir. Çalışmada söz konusu illerde organize sanayi bölgelerinin artmasının bölgeye yabancı yatırımcıların çekilmesi ve dolayısı ile bölgenin kalkınması açısından önem arz ettiği ifade edilmiştir. Ayrıca işletmelerin ve girişimcilerin organize sanayi bölgelerinin avantajları hakkında bilgilendirilmesinin ve teşvik edilmesinin bölge ekonomisinin gelişmesine katkı sağlayacağı vurgulanmıştır. Özden (2016) Türkiye’deki organize sanayi bölgelerinin kalkınmaya etkisini inceleyen bir araştırma yapmıştır. Çalışmanın sonucunda organize sanayi bölgelerinin, bölgelerin dengeli kalkınması ve özel sektör yatırımlarının belirli bölgelere yönlendirilmesi başta olmak üzere çok sayıda faydasının olduğu ifade edilmiştir.

Çelik ve Dinçsoy (2019) çalışmalarında Edirne Organize Sanayi Bölgesinin bölge ekonomisi ve işletmeler üzerindeki etkisini incelemiştir. Anket yönteminin kullanıldığı çalışmada Edirne Organize Sanayi Bölgesi’nin bölge içerisinde faaliyet gösteren işletmelere sağladığı avantajlar araştırılmıştır. Çalışmanın sonucunda organize sanayi bölgelerinin Türkiye’de bölgesel dengesizliklerin ortadan kaldırılması ve bölgesel kalkınmanın sağlanması amacı ile kurulduğu vurgulanmış; bu bağlamda değerlendirildiğinde Edirne Organize Sanayi Bölgesi’nin işletmeler için avantajlarının bulunmasına rağmen tamamlanması gereken eksikliklerinin de bulunduğu ifade edilmiştir.

Uluslararası literatür incelendiğinde, organize sanayi bölgeleri ile bölgesel kalkınma ilişkisini araştıran ve ağırlıklı olarak Asya ülkelerini ele alan çalışmaların olduğu



görülmektedir. Digiovanna (1996) yaptığı çalışmada sanayi bölgelerinin ekonomik kalkınmaya giden çekici bir yol olduğunu ifade etmiştir. Çalışmada Emilia-Romagna ve Baden Württemberg sanayi bölgeleri ile Silikon Vadisi incelenmiştir. Çalışmanın sonucuna göre başarılı bölgesel kalkınma yalnızca sanayi üretimi ve yerli firmaların satışlarındaki artışla değil; aynı zamanda kalkınma stratejilerinin bölgenin tüm üyelerinin paylaşabileceği istikrarlı, müreffeh bir ekonomi yaratıp yaratmadığına göre değerlendirilmez. Sanayi bölgeleri bu hedefi yerine getirdiği düzeyde başarılı olmaktadır. Scott (2001) tarafından yapılan ve 1897 ile 1939 yılları arasında İngiltere’de sanayi bölgeleri ve İngiliz sanayisinin gelişimini inceleyen çalışmada İngiltere’nin çeşitli bölgelerindeki sanayi bölgelerinin söz konusu bölgelerin kalkınmasına etkisi değerlendirilmiştir. Çalışma sonucunda sanayi bölgelerinin ülkenin Güneydoğusunda imalat sanayi, nüfus artışı ve istihdam yaratmada hatırı sayılır bir öneme sahip olduğu ve bu katkılar ile bölgeyi geliştirdiği ortaya çıkmıştır.

Saini ve Singh (2002) tarafından yapılan ve Hindistan’ın Malanpur-Ghirongi ve Lote-Parshuram sanayi bölgelerini kapsayan çalışma organize sanayi bölgesi ile bölgesel kalkınma ilişki kapsamında değerlendirilebilecek bir diğer çalışmadır. Sanayi bölgelerinin avantajları ve dezavantajlarına yer verilen çalışmada paydaşların katılımı ile yönetilecek sanayi bölgelerinin farklı sektörleri bir araya getirilerek, ölçek ekonomileri yaratarak ve altyapı yatırımlarının maliyetlerini azaltarak bölgesel kalkınmayı sağlayabileceği vurgulanmıştır. Wei, Li ve Wang (2007) tarafından yapılan çalışmada sanayi bölgelerinin yeniden yapılandırılması çerçevesinde Çin’in Zhejiang Eyaletindeki Wenzhou Bölgesinde bulunan sanayi bölgesinin bölgesel kalkınma ile ilişkisi incelenmiştir. Çalışmanın sonucunda sanayi bölgelerinin işletmelerin gelişmesine ayak uyduramamasının bölgenin kalkınmasını olumsuz etkilediği kanısına varılmakta; sanayi bölgelerinin yeniden yapılandırılması konusunu tartışmaya açmaktadır.

Anh ve arkadaşları (2019) tarafından yapılan çalışmada Vietnam’ın Thai Binh Eyaletinde bulunan 6 sanayi bölgesinin sosyo-ekonomik kalkınmaya etkileri incelenmiştir. Çalışmada sanayi bölgelerinin bölgelere önemli katkılarının yanında olumsuz etkilerinin de olduğu varsayımı üzerinde durulmuş; 6 sanayi bölgesinin içinde ve dışında 165 işletmeye anket yapılmıştır. Sanayi bölgelerinin ekonomiye, topluma ve çevreye olumlu ve olumsuz etkileri ile ilgili soruların bulunduğu anketlerin analizi sonucunda elde edilen veriler ışığında sanayi bölgelerinin olumlu etkilerinin teşvik edilmesi; olumsuz etkilerinin ise sınırlanması konusunda yazarlar tarafından çözümler sunulmuştur.

Konu ile alakalı bir başka çalışma Le ve arkadaşlarının (2020) yaptıkları Vietnam’ı kapsayan ve sanayi bölgelerinin gelişiminin bölge halkının yaşamları üzerine etkilerini inceleyen çalışmadır. Çalışmada sanayi bölgelerinin insanların hayatlarına etkileri istihdam, üretim araçları ve altyapı gibi farklı araçlar ile incelenmektedir. Çalışmanın sonucunda sanayi bölgelerinin gelişmesinin bölgede yaşayan insanlar için istikrarlı işlerin yaratılmasına katkıda bulunduğu ortaya çıkmıştır.

Borodavkina ve Mukovkina (2021) Rusya Federasyonu’nda sanayi bölgelerinin bölgelerin sürdürülebilir kalkınmasındaki rolünü inceleyen bir çalışma yapmışlardır.

Çalışmada ekonomik büyümenin lokomotifi olarak değerlendirilen sanayi bölgelerinin hem bölgenin ekonomik güvenliğini sağlamada hem de bölgenin kalkınmasına katkıda bulunduğu ifade edilmektedir. Çalışmanın sonucunda sanayi bölgelerinin bölgenin sadece ekonomik kalkınmasına değil aynı zamanda sosyal gelişimine ve çevre sorunlarının çözümüne de katkı sağladığına vurgu yapılmaktadır.

Türkiye’de ve uluslararası alanda yapılan çalışmalar incelendiğinde çalışmaların genellikle çeşitli göstergeler üzerinden yapılan değerlendirmelerden oluştuğu görülmektedir. Nicel yöntemler kullanılarak yapılan alan araştırmalarının ise istatistiki açıdan analiz edilerek geçerli ve güvenilir olduğu kabul edilen bir ölçekten yoksun olduğu görülmüştür. Ayrıca anket yönteminin kullanıldığı çalışmalarda katılımcılar organize sanayi bölgelerindeki işverenlerden oluşmaktadır. Bu çalışmanın hem geçerli ve güvenilir bir ölçme aracının kullanılması hem de katılımcıların organize sanayi bölgelerinin bulunduğu ilçelerde yaşayan halktan oluşması nedeni ile literatürdeki bir boşluğu dolduracağı düşünülmektedir.

### **3. Araştırmanın Yöntemi**

#### **3.1. Araştırmanın Evreni ve Örneklemi**

Çalışmanın alan araştırması Trabzon’da organize sanayi bölgelerinin bulunduğu üç ilçe olan Arsin, Akçaabat ve Beşikdüzü’nde yapılmıştır. Çalışmanın evrenini söz konusu üç ilçede yaşayan yaklaşık 185.000 nüfustan 18 yaş ve üstü kişiler oluşturmaktadır. Çalışmanın örneklem büyüklüğünün seçiminde Baş (2008) tarafından oluşturulan farklı evren büyüklükleri ve hata düzeyleri için ihtiyaç duyulan örneklem büyüklükleri tablosundan yararlanılmıştır. Söz konusu tabloya göre evren büyüklüğü 100.000 ile 1.000.000 kişi arasında olan araştırmalarda %95 güven aralığında en az 383 kişinin örneklem büyüklüğü olarak seçilmesi önerilmektedir. Bu doğrultuda çalışmada Arsin, Akçaabat ve Arsin’den 200’er kişi olmak üzere toplam 600 kişiye ulaşılmıştır.

#### **3.2. Araştırmadaki Verilerin Toplanması**

Çalışmada veri toplama aracı olarak anket türlerinden yüz yüze anket yöntemi uygulanmıştır. Ölçme aracı olarak ise yazarlar tarafından oluşturulan “Organize Sanayi Bölgeleri Algısı Ölçeği” kullanılmıştır. Organize sanayi bölgelerinin bölgesel kalkınmaya etkisini halkın algıları üzerinden incelemeye odaklanan söz konusu ölçek iki bölümden oluşmaktadır. Ölçeğin ilk bölümünde katılımcıların demografik bilgilerini elde etmeye yönelik 4 soru bulunmaktadır (Cinsiyet, Yaş, Çalışma Durumu, Eğitim). Ölçeğin ikinci bölümü ise “Yeşil Ekonomi ve Çevre”, “Ekonomik Büyüme”, “Sosyal Hayatın Gelişimi”, “Kümelene” ve “Sanayileşme” olmak üzere 5 boyutta toplam 21 sorudan oluşmaktadır. Ölçekte yer alan sorular 5’li Likert tekniğine göre tasarlanmıştır (1: Kesinlikle Katılmıyorum, 5: Kesinlikle Katılıyorum).

Literatürde yer alan çalışmaların incelenmesi sonucu oluşturulan ölçek soruları çeşitli aşamalardan geçerek son şeklini almıştır. Öncelikle ölçek soruları uzman görüşler alınmak

üzere 5 uzmana gönderilmiş; geri dönüşler neticesinde bazı sorularda değişiklikler yapılmıştır. Ardından 30 katılımcı ile yapılan pilot çalışmada soruların anlaşılabilir olduğu sonucuna varılmıştır. Ölçeğin geçerlik çalışması için açıklayıcı ve doğrulayıcı faktör analizi yapılmış ve elde edilen sonuçlar ölçeğin geçerli olduğunu ortaya koymuştur (CMIN/df: 2,824, AGFI: 0,905, GFI: 0,928, NFI: 0,923, CFI: 0,949, IFI: 0,949, TLI: 0,939 ve RMSEA: 0,055). Diğer taraftan ölçeğin güvenilirliğinin test edilmesi için Cronbach's Alpha içsel tutarlık testi uygulanmış ve ölçeğin yüksek derecede güvenilir olduğu kanıtlanmıştır (Cronbach's Alpha: 0,89).

### 3.3. Araştırmadaki Verilerin Analizi

Araştırma verilerinin analizinde Sosyal Bilimlerde sıklıkla kullanılan programlardan SPSS23 istatistik paket programı kullanılmıştır. Analizlerde hangi testlerin kullanılacağına tespit edilmesi amacı ile normallik testi yapılmıştır. Veri setinin dağılımında normalliği saptamak için çarpıklık ve basıklık değerleri incelenmiştir. Literatürde çarpıklık ve basıklık değerlerinin -3 ile +3 arasında değiştiği durumlarda veri setinin normal dağıldığını ifade eden kaynaklar bulunmaktadır (Rockinger & Jondeu, 2003: 1706; Kalaycı, 2008: 209). Yapılan analizler ayrı ayrı 5 faktörün ve "Organize Sanayi Bölgeleri Algısı Ölçeği"nin (Çarpıklık: -0,572 ve Basıklık: 0,889) çarpıklık ve basıklık değerlerinin kabul edilebilir sınırlar içerisinde yer aldığını göstermiştir. Bu bilgiler doğrultusunda verilerin analizlerinde parametrik testlerden "Bağımsız Örneklem İçin Tek Yönlü Varyans Analizi (ANOVA)" ve "Bağımsız Örneklem İçin t Testi" uygulanmasına karar verilmiştir.

### 3.4. Etik İzni

Çalışmanın alan araştırması kısmına başlamadan önce 09.12.2022 tarihinde İstanbul Üniversitesi Sosyal ve Beşeri Bilimler Araştırmaları Etik Kurul'una başvurulmuştur. Kurul, başvuruyu 26.12.2022 tarihli 11 sayılı toplantısında görüşerek etik yönden uygun bulmuştur.

### 3.5. Araştırmanın Hipotezleri

Araştırmada katılımcıların demografik özellikleri ile "Organize Sanayi Bölgeleri Algısı Ölçeği" alt boyutları ilişkilendirilmiş ve çalışmanın amaç ve kapsamı doğrultusunda aşağıdaki hipotezler ileri sürülmüştür.

**H1:** Organize sanayi bölgelerinin bulunduğu yer bakımından organize sanayi bölgeleri algısı ölçeğinin alt boyutlarına ilişkin yargılarda farklılık vardır.

**H2:** Çalışma durumu bakımından organize sanayi bölgeleri algısı ölçeğinin alt boyutlarına ilişkin yargılarda farklılık vardır.

**H3:** Yaş düzeyleri bakımından Organize sanayi bölgeleri algısı ölçeğinin alt boyutlarına ilişkin yargılarda farklılık vardır.

**H4:** Eğitim düzeyleri bakımından organize sanayi bölgeleri algısı ölçeği alt boyutlarına ilişkin yargılarda farklılık vardır.

**H5:** Cinsiyet bakımından organize sanayi bölgeleri algısı ölçeği alt boyutlarına ilişkin yargılarda farklılık vardır.

#### 4. Araştırmanın Bulguları

Araştırmada Ocak 2023-Mart 2023 tarihleri arasında Trabzon'da organize sanayi bölgelerinin bulunduğu 3 ilçe olan Arsin, Akçaabat ve Beşikdüzü'nde 200'er olmak üzere toplam 600 katılımcıya yüz yüze anket uygulanmıştır. Bu bölümde ilk olarak katılımcıların demografik özelliklerine ilişkin bulgulara değinilecektir. Ardından oluşturulan hipotezler test edilecek ve elde edilen bulgular değerlendirilecektir.

##### 4.1. Katılımcıların Demografik Profilleri

Tablo 1 araştırmada yer alan katılımcıların cinsiyet, yaş, eğitim ve çalışma durumuna ilişkin demografik profillerine ait bilgileri göstermektedir.

**Tablo: 1**  
**Katılımcıların Demografik Profilleri**

Değişken	Değişken Düzeyi	Frekans	Frekans (%)
Cinsiyet	Kadın	214	35,7
	Erkek	386	64,3
Yaş	30 Yaş ve Altı	117	19,5
	31-35 Yaş	93	15,5
	36-40 Yaş	107	17,8
	41-45 Yaş	89	14,8
	46-50 Yaş	71	11,8
	51 Yaş ve Üzeri	123	20,5
Eğitim Durumu	İlköğretim	43	7,2
	Ortaöğretim	193	32,2
	Önlisans	107	17,8
	Lisans	227	37,8
	Lisansüstü	30	5,0
Çalışma Durumu	Kamu (Memurlar)	210	35,0
	Özel Sektör	195	32,5
	Esnaf	108	18,0
	Çalışmıyor	58	9,7
	Öğrenci	29	4,8

Tablo 1 incelendiğinde katılımcıların %35,7'sinin kadın, %64,3'ünün ise erkek olduğu görülmektedir. Katılımcıların yaş aralıklarına bakıldığında %20,5'inin (123 kişi) 51 yaş ve üzeri kişilerden; %19,5'inin (117 kişi) 30 yaş ve altı kişilerden; %17,8'inin (107 kişi) 36-40 yaş aralığındaki kişilerden; %15,5'inin (93 kişi) 31-35 yaş aralığındaki kişilerden; %14,8'inin (89 kişi) 41-45 yaş arası kişilerden ve %11,8'inin (71 kişi) 46-50 yaş aralığındaki kişilerden oluştuğu görülmektedir. Eğitim durumu açısından en fazla paya sahip olan grubun %37,8 ile lisans mezunları olduğu görülmektedir. Eğitim durumu açısından en az katılımcıya sahip olan grup ise %5 ile lisansüstü mezunlarıdır. Ankete katılanların %60'ından fazlasının üniversite mezunu olduğu Tablo 1'den çıkarılabilecek bir sonuçtur. Son olarak katılımcıların çalışma durumlarına bakıldığında ankete katılanlar arasında en fazla paya sahip olan grubu %35 ile kamuda çalışanlar (memurlar) oluşturmaktadır; kamuda çalışanları %32,5 ile özel sektör çalışanları takip etmektedir. 18 yaş üzeri öğrenciler ise ankete katılan gruplar içerisinde %4,8 ile son sırada yer almaktadır.

## 4.2. Organize Sanayi Bölgelerinin Bölgesel Kalkınmaya Etkisine İlişkin Bulgular

Çalışmanın bu kısmında "Organize Sanayi Bölgesinin Bulunduğu Yer", "Yaş", "Eğitim" ve "Çalışma Durumu" bakımından organize sanayi bölgeleri algısı ölçeği alt boyutlarında farklılık olup olmadığını incelemek adına "Bağımsız Örneklem İçin Tek Yönlü Varyans Analizi (ANOVA)" uygulanmıştır.

"Cinsiyet" bakımından organize sanayi bölgeleri algısı ölçeği alt boyutlarında farklılık olup olmadığını incelemek adına ise "Bağımsız Örneklem İçin t Testi" uygulanmıştır.

### 4.2.1. Organize Sanayi Bölgeleri Algısı Ölçeğinin Alt Boyutlarının Organize Sanayi Bölgelerinin Bulunduğu Yere Göre Farklılıklarının Analizi

Çalışmanın saha araştırması, Trabzon'da organize sanayi bölgelerinin bulunduğu üç ilçe olan Akçaabat, Arsin ve Beşikdüzü'nde yürütülmüştür. Bu doğrultuda organize sanayi bölgeleri algısı ölçeğinin alt boyutlarının organize sanayi bölgelerinin bulunduğu yer bakımından farklılık gösterip göstermediğini incelemek adına 2'den fazla bağımsız grup bulunması nedeni ile ANOVA testi uygulanmıştır. Ayrıca analizde çoklu karşılaştırma testlerinden "Games-Howell" testi tercih edilmiş; bu doğrultuda test edilecek hipotezler aşağıdaki şekilde oluşturulmuştur.

**H0:** Organize sanayi bölgelerinin bulunduğu yer bakımından organize sanayi bölgeleri algısı ölçeğinin alt boyutlarına ilişkin yargılarda farklılık yoktur.

**H1:** Organize sanayi bölgelerinin bulunduğu yer bakımından organize sanayi bölgeleri algısı ölçeğinin alt boyutlarına ilişkin yargılarda farklılık vardır.

**H1a:** Organize sanayi bölgelerinin bulunduğu yer bakımından "Yeşil Ekonomi ve Çevre" alt boyutuna ilişkin yargılarda farklılık vardır.

**H1b:** Organize sanayi bölgelerinin bulunduğu yer bakımından "Ekonomik Büyüme" alt boyutuna ilişkin yargılarda farklılık vardır.

**H1c:** Organize sanayi bölgelerinin bulunduğu yer bakımından "Sosyal Hayatın Gelişimi" alt boyutuna ilişkin yargılarda farklılık vardır.

**H1d:** Organize sanayi bölgelerinin bulunduğu yer bakımından "Kümelenme" alt boyutuna ilişkin yargılarda farklılık vardır.

**H1e:** Organize sanayi bölgelerinin bulunduğu yer bakımından "Sanayileşme" alt boyutuna ilişkin yargılarda farklılık vardır.

**Tablo 2**  
**Yer Bakımından Organize Sanayi Bölgeleri Algısı Ölçeğinin Alt Boyutlarının Farklılık Analizi**

Faktör	Yer	N	M	SS	F	p	Grupların Karşılaştırılması
Yeşil Ekonomi ve Çevre	1.Akçaabat	200	3,34	0,74	4,926	0,008	1-3
	2.Arsin	200	3,17	1,01			
	3. Beşikdüzü	200	3,10	0,61			
	Toplam	600	3,20	0,81			
Ekonomik Büyüme	1.Akçaabat	200	3,86	0,62	32,828	0,000	1-2 1-3 2-3
	2.Arsin	200	4,05	0,53			
	3. Beşikdüzü	200	4,34	0,62			
	Toplam	600	4,09	0,62			
Sosyal Hayatın Gelişimi	1.Akçaabat	200	3,58	0,79	8,725	0,000	1-2 1-3
	2.Arsin	200	3,82	0,87			
	3. Beşikdüzü	200	3,93	0,85			
	Toplam	600	3,78	0,85			
Kümelene	1.Akçaabat	200	3,75	0,74	10,946	0,000	1-2 2-3
	2.Arsin	200	4,05	0,59			
	3. Beşikdüzü	200	3,86	0,62			
	Toplam	600	3,89	0,66			
Sanayileşme	1.Akçaabat	200	3,79	0,77	11,139	0,000	1-3 2-3
	2.Arsin	200	3,93	0,65			
	3. Beşikdüzü	200	4,11	0,60			
	Toplam	600	3,94	0,69			

Tablo 2, Organize Sanayi Bölgeleri Algısı Ölçeğinin alt boyutlarında yer bakımından farklılık olup olmadığını göstermektedir. Tablo 2 incelendiğinde öncelikle F değerlerinin anlamlılık sonucuna göre p değerleri 0,05'den küçük olduğu için "H<sub>0</sub>: Organize sanayi bölgelerinin bulunduğu yer bakımından organize sanayi bölgeleri algısı ölçeğinin alt boyutlarına ilişkin yargılarda farklılık yoktur." şeklindeki yokluk hipotezi reddedilmiştir. Bu duruma göre ortalamaları kıyaslanan 3 gruptan en az ikisinin ortalamaları arasında anlamlı fark bulunmuştur. Bu doğrultuda H<sub>1a</sub>, H<sub>1b</sub>, H<sub>1c</sub>, H<sub>1d</sub> ve H<sub>1e</sub> alt hipotezlerinin hepsi kabul edilmiştir.

Tablo 2'ye göre "Yeşil Ekonomi ve Çevre" alt boyutu açısından Akçaabat'ta yaşayanların algı düzeyleri ile Beşikdüzü'nde yaşayanların algı düzeyleri arasında anlamlı derecede fark bulunmaktadır. Tablodan söz konusu alt boyut istatistiklerine bakıldığında Akçaabat'ta yaşayanların sorulara verdikleri cevapların ortalamasının 3,34; Beşikdüzü'nde yaşayanların verdikleri cevapların ortalamasının ise 3,10 olduğu görülmektedir. Buna göre Akçaabat'ta yaşayanların, Beşikdüzü'nde yaşayanlara göre "Yeşil Ekonomi ve Çevre" alt boyutu açısından daha olumlu bir algı düzeyine sahip olduğu ortaya çıkmaktadır. Ankette yer alan sorular da dikkate alındığında Beşikdüzü'nden ankete katılanların organize sanayi bölgelerinin yeşil büyümeye katkı sağlama ve çevreyi koruma açısından Akçaabat'tan ankete katılanlara göre daha olumsuz bir düşünceye sahip oldukları söylenebilmektedir.

"Ekonomik Büyüme" alt boyutu açısından Tablo 2 incelendiğinde Akçaabat'ta yaşayanlar ile Arsin'de yaşayanlar; Akçaabat'ta yaşayanlar ile Beşikdüzü'nde yaşayanlar ve Arsin'de yaşayanlar ile Beşikdüzü'nde yaşayanlar arasında algı düzeyleri açısından anlamlı derecede farklılık olduğu görülmektedir. Akçaabat'ta yaşayanların sorulara verdikleri cevapların ortalaması 3,86, Arsin'de yaşayanların sorulara verdikleri cevapların ortalaması 4,05 ve Beşikdüzü'nde yaşayanların sorulara verdikleri cevapların ortalaması 4,34 olmuştur.

Organize sanayi bölgelerinin kuruldukları bölgede ekonomik canlılığı artırdığı ve bölgenin büyüüp gelişmesine katkıda bulunduğu birçok çalışmada ispatlanmış su götürmez bir gerçektir. Bu doğrultuda söz konusu üç ilçe, ilçede yaşayanların sorulara verdikleri cevapların ortalamalarına göre değerlendirildiğinde, Beşikdüzü'nde yaşayanların organize sanayi bölgesinin ilçeye ekonomik katkısının olduğuna yönelik olumlu algı düzeylerinin diğer iki ilçeden daha yüksek olduğu göze çarpmaktadır. Aynı şekilde Arsin'de yaşayanların organize sanayi bölgesinin ilçenin ekonomik büyümesine yönelik olumlu algı düzeylerinin Akçaabat'ta yaşayanlara göre daha yüksek olduğu görülmektedir.

"Sosyal Hayatın Gelişimi" alt boyutu açısından Tablo 2 incelendiğinde Akçaabat'ta yaşayanlar ile Arsin'de yaşayanlar arasında ve Akçaabat'ta yaşayanlar ile Beşikdüzü'nde yaşayanlar arasında algı düzeyleri açısından anlamlı derecede farklılığın olduğu göze çarpmaktadır. Bu alt boyutta Akçaabat'ta yaşayanların anket sorularına verdikleri cevapların ortalaması 3,58, Arsin'de yaşayanların anket sorularına verdikleri cevapların ortalaması 3,82, Beşikdüzü'nde yaşayanların anket sorularına verdikleri cevapların ortalaması ise 3,93 olmuştur. "Sosyal Hayatın Gelişimi" alt boyutunda yer alan soruların özetle organize sanayi bölgeleri çalışanların gelirlerini ve hayat standartlarını artırmada önemli rol oynar şeklinde olduğu düşünüldüğünde Beşikdüzü'nde yaşayanların ilçede bulunan organize sanayi bölgesinde çalışanların bölge dışında çalışanlara göre daha yüksek gelire ve daha iyi hayat şartlarına sahip oldukları yönündeki olumlu algı düzeylerinin Akçaabat'ta yaşayanlara göre daha yüksek olduğu söylenebilmektedir. Aynı şekilde Arsin'de yaşayanların organize sanayi bölgelerinin çalışanların gelirlerini ve hayat şartlarını artırmak koşulu ile ilçede sosyal hayatın gelişimini sağladığına yönelik olumlu algı düzeylerinin Akçaabat'ta yaşayanlara göre daha yüksek olduğu yapılan test sonucu tespit edilmiştir.

Tablo 2'ye göre "Kümelenme" alt boyutunda Akçaabat'ta yaşayanlar ile Arsin'de yaşayanlar ve Arsin'de yaşayanlar ile Beşikdüzü'nde yaşayanlar arasında algı düzeyleri açısından anlamlı derecede farklılığın olduğu göze çarpmaktadır. Bu alt boyutta Akçaabat'ta yaşayanların anket sorularına verdikleri cevapların ortalaması 3,75, Arsin'de yaşayanların anket sorularına verdikleri cevapların ortalaması 4,05, Beşikdüzü'nde yaşayanların anket sorularına verdikleri cevapların ortalaması ise 3,86 olmuştur. İlçelerde yaşayanların anket sorularına verdikleri cevapların ortalaması dikkate alındığında Arsin'de yaşayanların ilçedeki organize sanayi bölgesinin işletmelerin birbirleri ile uyumlu üretim yapmalarına ve benzer veya tamamlayıcı işleri yapan işletmelerin bir araya gelmesine olan katkısına yönelik olumlu algı düzeylerinin sırası ile Akçaabat'ta ve Beşikdüzü'nde yaşayanlardan daha yüksek olduğu görülmektedir.

"Sanayileşme" alt boyutu açısından Tablo 2 incelendiğinde Beşikdüzü'nde yaşayanlar ile diğer iki ilçede yaşayanlar arasında algı düzeyleri açısından anlamlı derecede farklılığın olduğu görülmektedir. "Sanayileşme" alt boyutunda Akçaabat'ta yaşayanların anket sorularına verdikleri cevapların ortalaması 3,79, Arsin'de yaşayanların anket sorularına verdikleri cevapların ortalaması 3,93, Beşikdüzü'nde yaşayanların anket sorularına verdikleri cevapların ortalaması ise 4,11 olmuştur. Beşikdüzü'nde yaşayanlar ilçedeki organize sanayi bölgesinin sanayinin disipline edilmesi ve sanayinin planlı

yerleşmesine katkısı açısından sırası ile Arsin ve Akçaabat'ta yaşayanlardan olumlu anlamda daha yüksek bir algı düzeyine sahip olduğu tespit edilmiştir.

#### 4.2.2. Organize Sanayi Bölgeleri Algısı Ölçeğinin Alt Boyutlarının Katılımcıların Çalışma Durumlarına Göre Farklılıklarının Analizi

Çalışmanın saha araştırmasında katılımcıların çalışma durumlarını tespit etmek amacı ile katılımcılara "Kamu", "Özel Sektör", "Esnaf", "Öğrenci" ve "Çalışmıyor" seçeneklerinin sunulduğu bir soru yöneltilmiştir. Bu doğrultuda organize sanayi bölgeleri algısı ölçeğinin alt boyutlarının katılımcıların çalışma durumları bakımından farklılık gösterip göstermediğini incelemek adına 2'den fazla bağımsız grup bulunması nedeni ile ANOVA testi uygulanmıştır. Ayrıca analizde çoklu karşılaştırma testlerinden "Tukey Testi (T)" ve "Games-Howell Testi (GH)" tercih edilmiş; bu doğrultuda test edilecek hipotezler aşağıdaki şekilde oluşturulmuştur.

**H0:** Çalışma durumu bakımından organize sanayi bölgeleri algısı ölçeğinin alt boyutlarına ilişkin yargılarda farklılık yoktur.

**H2:** Çalışma durumu bakımından organize sanayi bölgeleri algısı ölçeğinin alt boyutlarına ilişkin yargılarda farklılık vardır.

**H2a:** Çalışma durumu bakımından "Yeşil Ekonomi ve Çevre" alt boyutuna ilişkin yargılarda farklılık vardır.

**H2b:** Çalışma durumu bakımından "Ekonomik Büyüme" alt boyutuna ilişkin yargılarda farklılık vardır.

**H2c:** Çalışma durumu bakımından "Sosyal Hayatın Gelişimi" alt boyutuna ilişkin yargılarda farklılık vardır.

**H2d:** Çalışma durumu bakımından "Kümelenme" alt boyutuna ilişkin yargılarda farklılık vardır.

**H2e:** Çalışma durumu bakımından "Sanayileşme" alt boyutuna ilişkin yargılarda farklılık vardır.

Tablo 3, Organize Sanayi Bölgeleri Algısı Ölçeğinin alt boyutlarında katılımcıların çalışma durumu bakımından farklılık olup olmadığını göstermektedir. Tablo 3 incelendiğinde "Ekonomik Büyüme", "Sosyal Hayatın Gelişimi" ve "Kümelenme" alt boyutlarında F değerlerinin anlamlılık sonucuna göre p değerleri 0,05'den küçük olduğu için "H0: Çalışma durumu bakımından organize sanayi bölgeleri algısı ölçeğinin alt boyutlarına ilişkin yargılarda farklılık yoktur." şeklindeki yokluk hipotezi reddedilmiştir. Bu duruma göre ortalamaları kıyaslanan 5 gruptan en az ikisinin ortalamaları arasında anlamlı fark bulunmuştur. Bu doğrultuda H2b, H2c ve H2d alt hipotezleri kabul; H2a ve H2e alt hipotezleri ise reddedilmiştir.

Tablo 3 incelendiğinde "Ekonomik Büyüme" alt boyutunda esnaflar ile diğer gruplar arasında algı düzeyleri açısından anlamlı derecede farklılığın bulunduğu görülmektedir.



"Ekonomik Büyüme" alt boyutunda esnafların anket sorularına verdikleri cevapların ortalaması 4,43, özel sektörde çalışanların anket sorularına verdikleri cevapların ortalaması 4,07, kamu sektöründe çalışanların anket sorularına verdikleri cevapların ortalaması 3,98, öğrencilerin anket sorularına verdikleri cevapların ortalaması 3,97 ve çalışmayanların anket sorularına verdikleri cevapların ortalaması 3,92 olmuştur. Katılımcıların çalışma durumlarına göre anket sorularına verdikleri cevapların ortalamaları dikkate alındığında ilçelerde bulunan organize sanayi bölgelerinin ilçe ekonomilerine katkıları açısından esnafların diğer gruplardan olumlu anlamda daha yüksek bir algı düzeyine sahip olduğu tespit edilmiştir. Bu alt boyutta organize sanayi bölgelerinin kuruldukları ilçede istihdam, yatırım ve ihracatı artırdığı şeklinde yargılar bulunmaktadır. Bu anlamda değerlendirildiğinde ekonomide meydana gelen olumlu gelişmelerin yarattıkları çarpan etkileri ile esnafların ticaret hacmini artırdığı ve esnafların büyümesine katkıda bulunduğu söylenebilir. Esnafların ekonomi açısından diğer gruplardan daha yüksek algı düzeyine sahip olması bu nedenle anlamlıdır.

**Tablo 3**  
**Çalışma Durumu Bakımından Organize Sanayi Bölgeleri Algısı Ölçeğinin Alt Boyutlarının Farklılık Analizi**

Faktör	Çalışma Durumu	N	M	SS	F	p	Grupların Karşılaştırılması
Yeşil Ekonomi ve Çevre	1.Kamu	210	3,27	0,80	1,199	0,310	Anlamsız
	2.Özel Sektör	195	3,22	0,87			
	3.Esnaf	108	3,08	0,70			
	4.Öğrenci	29	3,29	0,72			
	5.Çalışmıyor	58	3,13	0,87			
	Toplam	600	3,20	0,81			
Ekonomik Büyüme	1.Kamu	210	3,98	0,61	11,934	0,000(T)	1-3 2-3 3-4 3-5
	2.Özel Sektör	195	4,07	0,66			
	3.Esnaf	108	4,43	0,51			
	4.Öğrenci	29	3,97	0,48			
	5.Çalışmıyor	58	3,92	0,57			
	Toplam	600	4,09	0,62			
Sosyal Hayatın Gelişimi	1.Kamu	210	3,68	0,82	3,868	0,004(GH)	1-3 3-5
	2.Özel Sektör	195	3,80	0,90			
	3.Esnaf	108	4,03	0,66			
	4.Öğrenci	29	3,72	1,00			
	5.Çalışmıyor	58	3,59	0,90			
	Toplam	600	3,78	0,85			
Kümelene	1.Kamu	210	3,89	0,67	4,110	0,003(GH)	3-5
	2.Özel Sektör	195	3,90	0,61			
	3.Esnaf	108	3,98	0,49			
	4.Öğrenci	29	4,01	0,76			
	5.Çalışmıyor	58	3,57	0,92			
	Toplam	600	3,89	0,66			
Sanayileşme	1.Kamu	210	3,91	0,70	1,847	0,118	Anlamsız
	2.Özel Sektör	195	3,88	0,70			
	3.Esnaf	108	4,08	0,59			
	4.Öğrenci	29	4,06	0,75			
	5.Çalışmıyor	58	3,93	0,76			
	Toplam	600	3,94	0,69			

Tablo 3’de katılımcıların çalışma durumları ile “Sosyal Hayatın Gelişimi” alt boyutu arasında istatistiksel olarak anlamlı farklılıklar görülmektedir. Bu farklılık esnaflar ile kamu sektöründe çalışanlar ve çalışmayanlar arasındaki farklılıklardan kaynaklanmaktadır. Bu alt boyutta esnafların anket sorularına verdikleri cevapların ortalamaları 4,03, kamu sektöründe çalışanların anket sorularına verdikleri cevapların ortalamaları 3,68 ve çalışmayanların anket

sorularına verdikleri cevapların ortalamaları 3,59 olmuştur. Bu anlamda değerlendirildiğinde organize sanayi bölgelerinin kuruldukları ilçede sosyal hayatın gelişimine katkı sağladıklarına yönelik esnafların algı düzeylerinin sırası ile kamu sektöründe çalışanlar ve çalışmayanlara göre olumlu anlamda daha yüksek olduğu söylenebilir. "Sosyal Hayatın Gelişimi" alt boyutunda organize sanayi bölgelerinin bölgede çalışanların gelirlerini ve hayat şartlarını geliştirdiğine yönelik yargılar bulunmaktadır. Organize sanayi bölgesi çalışanlarının gelirleri ve hayat şartlarındaki iyileşmelerin satın alma güçleri ve taleplerine yansıtacağı düşünüldüğünde esnafların bu durumdan olumlu etkileneceği şüphesizdir. Bu durum esnafların bu alt boyutta algı düzeylerinin diğer gruplardan yüksek olmasını açıklamaktadır.

"Kümelenme" alt boyutu açısından Tablo 3 incelendiğinde "esnaf" ve "çalışmıyor" grupları arasında algı düzeyleri açısından anlamlı bir farkın olduğu göze çarpmaktadır. Bu alt boyutta esnafların anket sorularına verdikleri cevapların ortalaması 3,98 olurken çalışmayanların anket sorularına verdikleri cevapların ortalaması 3,57 olmuştur. Bu bilgiler ışığında organize sanayi bölgelerinin birbirleri ile benzer veya tamamlayıcı işleri yapan ve uyumlu çalışan işletmeleri bir araya getirmesi noktasında esnafların çalışmayanlardan olumlu anlamda daha yüksek bir algı düzeyine sahip olduğu söylenebilmektedir. Sahada yapılan çalışmadan elde edilen deneyimler esnafların ilçelerde sanayi kuruluşları ve organize sanayi bölgeleri hakkında diğer gruplardan daha çok bilgi sahibi olduğunu göstermiştir. Bu nedenle "Kümelenme" alt boyutunda esnafların çalışmayanlara göre daha olumlu algı düzeylerine sahip olmalarının anlamlı olduğu düşünülmektedir.

#### **4.2.3. Organize Sanayi Bölgeleri Algısı Ölçeğinin Alt Boyutlarının Katılımcıların Yaş Durumlarına Göre Farklılıklarının Analizi**

Çalışmanın saha araştırmasında katılımcıların yaş düzeylerini tespit etmek amacı ile katılımcılara "30 yaş ve altı", "31-35 yaş", "36-40 yaş", "41-45 yaş", "46-50 yaş" ve "51 yaş ve üzeri" seçeneklerinin sunulduğu bir soru yöneltilmiştir. Bu doğrultuda organize sanayi bölgeleri algısı ölçeğinin alt boyutlarının katılımcıların yaş düzeyleri bakımından farklılık gösterip göstermediğini incelemek adına 2'den fazla bağımsız grup bulunması nedeni ile ANOVA testi uygulanmıştır. Ayrıca analizde çoklu karşılaştırma testlerinden "Tukey Testi (T)" ve "Games-Howell Testi(GH)" tercih edilmiş; bu doğrultuda test edilecek hipotezler aşağıdaki şekilde oluşturulmuştur.

**H0:** Yaş düzeyleri bakımından Organize sanayi bölgeleri algısı ölçeğinin alt boyutlarına ilişkin yargılarda farklılık yoktur.

**H3:** Yaş düzeyleri bakımından Organize sanayi bölgeleri algısı ölçeğinin alt boyutlarına ilişkin yargılarda farklılık vardır.

**H3a:** Yaş düzeyleri bakımından "Yeşil Ekonomi ve Çevre" alt boyutuna ilişkin yargılarda farklılık vardır.

**H3b:** Yaş düzeyleri bakımından "Ekonomik Büyüme" alt boyutuna ilişkin yargılarda farklılık vardır.

**H3c:** Yaş düzeyleri bakımından "Sosyal Hayatın Gelişimi" alt boyutuna ilişkin yargılarda farklılık vardır.

**H3d:** Yaş düzeyleri bakımından "Kümelenme" alt boyutuna ilişkin yargılarda farklılık vardır.

**H3e:** Yaş düzeyleri bakımından "Sanayileşme" alt boyutuna ilişkin yargılarda farklılık vardır.

**Tablo: 4**  
**Yaş Düzeyleri Bakımından Organize Sanayi Bölgeleri Algısı Ölçeğinin Alt Boyutlarının Farklılık Analizi**

Faktör	Yaş	N	M	SS	F	p	Grupların Karşılaştırılması
Yeşil Ekonomi ve Çevre	1. 30 yaş altı	117	3,13	0,84	0,859	0,508	Anlamsız
	2. 31-35 yaş	93	3,15	0,91			
	3. 36-40 yaş	107	3,22	0,82			
	4. 41-45 yaş	89	3,25	0,79			
	5. 46-50 yaş	71	3,35	0,64			
	6. 51 yaş üzeri	123	3,18	0,80			
	Toplam	600	3,20	0,81			
Ekonomik Büyüme	1. 30 yaş altı	117	3,93	0,57	3,222	0,007(T)	1-3 1-4
	2. 31-35 yaş	93	4,12	0,63			
	3. 36-40 yaş	107	4,21	0,56			
	4. 41-45 yaş	89	4,19	0,59			
	5. 46-50 yaş	71	4,10	0,64			
	6. 51 yaş üzeri	123	4,01	0,70			
	Toplam	600	4,09	0,62			
Sosyal Hayatın Gelişimi	1. 30 yaş altı	117	3,67	0,93	3,375	0,005(GH)	2-6 3-6
	2. 31-35 yaş	93	3,94	0,77			
	3. 36-40 yaş	107	3,94	0,69			
	4. 41-45 yaş	89	3,82	0,65			
	5. 46-50 yaş	71	3,78	0,90			
	6. 51 yaş üzeri	123	3,57	1,00			
	Toplam	600	3,78	0,85			
Kümelenme	1. 30 yaş altı	117	3,90	0,74	1,992	0,078	Anlamsız
	2. 31-35 yaş	93	4,00	0,57			
	3. 36-40 yaş	107	3,94	0,66			
	4. 41-45 yaş	89	3,92	0,51			
	5. 46-50 yaş	71	3,84	0,68			
	6. 51 yaş üzeri	123	3,74	0,73			
	Toplam	600	3,89	0,66			
Sanayileşme	1. 30 yaş altı	117	3,84	0,65	0,845	0,518	Anlamsız
	2. 31-35 yaş	93	3,92	0,73			
	3. 36-40 yaş	107	4,00	0,67			
	4. 41-45 yaş	89	3,95	0,59			
	5. 46-50 yaş	71	3,95	0,84			
	6. 51 yaş üzeri	123	4,00	0,70			
	Toplam	600	3,94	0,69			

Tablo 4, Organize Sanayi Bölgeleri Algısı Ölçeğinin alt boyutlarında katılımcıların yaş düzeyleri bakımından farklılık olup olmadığını göstermektedir. Tablo 4 incelendiğinde "Ekonomik Büyüme" ve "Sosyal Hayatın Gelişimi" alt boyutlarında F değerlerinin anlamlılık sonucuna göre p değerleri 0,05'den küçük olduğu için "H0: Yaş düzeyleri bakımından organize sanayi bölgeleri algısı ölçeğinin alt boyutlarına ilişkin yargılarda farklılık yoktur." şeklindeki yokluk hipotezi reddedilmiştir. Bu duruma göre ortalamaları kıyaslanan 6 gruptan en az ikisinin ortalamaları arasında anlamlı fark bulunmuştur. Bu doğrultuda H3b ve H3c alt hipotezleri kabul; H3a, H3d ve H3e alt hipotezleri ise reddedilmiştir.

Tablo 4 incelendiğinde "Ekonomik Büyüme" alt boyutunda "30 yaş altı" grup ile "36-40 yaş" ve "41-45 yaş" grupları arasında algı düzeyleri açısından anlamlı bir farkın olduğu görülmektedir. "Ekonomik Büyüme" alt boyutunda "30 yaş altı" grubundaki katılımcıların anket sorularına verdikleri cevapların ortalamaları 3,93, "36-40 yaş" grubundaki katılımcıların anket sorularına verdikleri cevapların ortalamaları 4,21 ve "41-45 yaş" grubundaki katılımcıların anket sorularına verdikleri cevapların ortalamaları 4,19 olmuştur. Bu bilgiler ışığında değerlendirildiğinde aralarında istatistiki olarak anlamlı fark bulunan gruplar arasında organize sanayi bölgelerinin kuruldukları ilçede ekonomik büyümeye katkı sağlaması açısından en yüksek olumlu algı düzeyinin "36-40 yaş" grubu olduğu ortaya çıkmaktadır. "30 yaş altı" grubu ise "36-40 yaş" ve "41-45 yaş" gruplarından daha düşük bir algı düzeyine sahiptir. Yapılan saha çalışması sonucu elde edilen deneyimlerde ilçelerde ikamet eden gençlerin organize sanayi bölgelerinde çalışmaya sıcak bakmadıkları ve organize sanayi bölgelerinde yer alan işletmelerin verdikleri ücretleri beğenmedikleri görüşü ile karşılaşılmıştır. Bu nedenle "30 yaş altı" grubunda yer alan katılımcıların organize sanayi bölgelerinin ekonomik etkileri konusundaki algı düzeylerinin düşük olduğu düşünülmektedir.

Tablo 4'e göre yaş düzeyleri arasındaki bir diğer anlamlı farkın "Sosyal Hayatın Gelişimi" alt boyutunda olduğu görülmektedir. "51 yaş ve üzeri" grubu ile "31-35 yaş" ve "36-40 yaş" grupları arasında algı düzeyleri açısından anlamlı farkın tespit edildiği bu alt boyutta "31-35 yaş" ve "36-40 yaş" grubunda yer alan katılımcıların anket sorularına verdikleri cevapların ortalaması 3,94; "51 yaş ve üzeri" grubunda yer alan katılımcıların ise anket sorularına verdikleri cevapların ortalaması 3,57 olmuştur. Bu anlamda değerlendirildiğinde ankete katılanlardan "31-35 yaş" ve "36-40 yaş" gruplarında yer alan katılımcıların "51 yaş ve üzeri" grubunda yer alan katılımcılara göre organize sanayi bölgelerinde bulunan işletmelerde çalışanların, organize sanayi bölgesi dışındaki işletmelerde çalışanlara göre gelir ve hayat şartları açısından daha iyi bir seviyede olduklarına yönelik olumlu anlamda daha yüksek algı düzeyine sahip oldukları söylenebilir. Yine sahadan elde edilen deneyimler sonucunda 51 yaş ve üzeri grupta yer alanların organize sanayi bölgelerinde çalışanların gelir ve çalışma şartları hakkında çok bilgiye sahip olmadıkları tespit edilmiştir. Bu tespit "51 yaş ve üzeri" gruptaki katılımcıların "Sosyal Hayatın Gelişimi" alt boyutunda neden daha düşük algı düzeyine sahip olduklarını açıklamaya olanak sağlamaktadır.

#### **4.2.4. Organize Sanayi Bölgeleri Algısı Ölçeğinin Alt Boyutlarının Katılımcıların Eğitim Durumlarına Göre Farklılıklarının Analizi**

Çalışmanın saha araştırmasında katılımcıların eğitim düzeylerini tespit etmek amacı ile katılımcılara "İlköğretim", "Ortaöğretim", "Önlisans", "Lisans" ve "Lisansüstü" seçeneklerinin sunulduğu bir soru yöneltilmiştir. Bu doğrultuda organize sanayi bölgeleri algısı ölçeğinin alt boyutlarının katılımcıların eğitim düzeyleri bakımından farklılık gösterip göstermediğini incelemek adına 2'den fazla bağımsız grup bulunması nedeni ile ANOVA testi uygulanmıştır.

Ayrıca analizde çoklu karşılaştırma testlerinden "Games-Howell" tercih edilmiş; bu doğrultuda test edilecek hipotezler aşağıdaki şekilde oluşturulmuştur.

**H0:** Eğitim düzeyleri bakımından Organize sanayi bölgeleri algısı ölçeğinin alt boyutlarına ilişkin yargılarda farklılık yoktur.

**H4:** Eğitim düzeyleri bakımından Organize sanayi bölgeleri algısı ölçeğinin alt boyutlarına ilişkin yargılarda farklılık vardır.

**H4a:** Eğitim düzeyleri bakımından "Yeşil Ekonomi ve Çevre" alt boyutuna ilişkin yargılarda farklılık vardır.

**H4b:** Eğitim düzeyleri bakımından "Ekonomik Büyüme" alt boyutuna ilişkin yargılarda farklılık vardır.

**H4c:** Eğitim düzeyleri bakımından "Sosyal Hayatın Gelişimi" alt boyutuna ilişkin yargılarda farklılık vardır.

**H4d:** Eğitim düzeyleri bakımından "Kümelene" alt boyutuna ilişkin yargılarda farklılık vardır.

**H4e:** Eğitim düzeyleri bakımından "Sanayileşme" alt boyutuna ilişkin yargılarda farklılık vardır.

**Tablo: 5**  
**Eğitim Düzeyleri Bakımından Organize Sanayi Bölgeleri Algısı Ölçeğinin Alt Boyutlarının Farklılık Analizi**

Faktör	Eğitim Durumu	N	M	SS	F	p	Grupların Karşılaştırılması
Yeşil Ekonomi ve Çevre	1.İlköğretim	43	3,45	0,83	1,206	0,307	Anlamsız
	2.Ortaöğretim	193	3,16	0,87			
	3.Önlisans	107	3,22	0,84			
	4.Lisans	227	3,18	0,75			
	5.Lisansüstü	30	3,25	0,61			
	Toplam	600	3,20	0,81			
Ekonomik Büyüme	1.İlköğretim	43	4,15	0,46	0,933	0,444	Anlamsız
	2.Ortaöğretim	193	4,13	0,59			
	3.Önlisans	107	4,09	0,65			
	4.Lisans	227	4,03	0,66			
	5.Lisansüstü	30	4,15	0,63			
	Toplam	600	4,09	0,62			
Sosyal Hayatın Gelişimi	1.İlköğretim	43	3,95	0,84	4,190	0,002	2-4 3-4
	2.Ortaöğretim	193	3,89	0,73			
	3.Önlisans	107	3,89	0,89			
	4.Lisans	227	3,61	0,88			
	5.Lisansüstü	30	3,65	1,00			
	Toplam	600	3,78	0,85			
Kümelene	1.İlköğretim	43	4,01	0,56	0,929	0,447	Anlamsız
	2.Ortaöğretim	193	3,87	0,66			
	3.Önlisans	107	3,95	0,65			
	4.Lisans	227	3,86	0,70			
	5.Lisansüstü	30	3,78	0,62			
	Toplam	600	3,89	0,66			
Sanayileşme	1.İlköğretim	43	3,89	0,56	0,555	0,696	Anlamsız
	2.Ortaöğretim	193	3,95	0,66			
	3.Önlisans	107	3,88	0,80			
	4.Lisans	227	3,98	0,67			
	5.Lisansüstü	30	3,88	0,82			

Tablo 5 Organize Sanayi Bölgeleri Algısı Ölçeğinin alt boyutlarında katılımcıların eğitim düzeyleri bakımından farklılık olup olmadığını göstermektedir. Tablo 5 incelendiğinde "Sosyal Hayatın Gelişimi" alt boyutunda F değerinin anlamlılık sonucuna göre p değeri 0,05'den küçük olduğu için "H0: Eğitim düzeyleri bakımından organize sanayi bölgeleri algısı ölçeğinin alt boyutlarına ilişkin yargılarda farklılık yoktur." şeklindeki yokluk hipotezi reddedilmiştir. Bu duruma göre ortalamaları kıyaslanan 5 gruptan en az ikisinin ortalamaları arasında anlamlı fark bulunmuştur. Bu doğrultuda H4c alt hipotezi kabul; H4a, H4b, H4d ve H4e alt hipotezleri ise reddedilmiştir.

Tablo 5 incelendiğinde, "Sosyal Hayatın Gelişimi" alt boyutunda lisans mezunları ile ortaöğretim ve önlisans mezunları arasında algı düzeyleri açısından anlamlı bir farkın olduğu göze çarpmaktadır. "Sosyal Hayatın Gelişimi" alt boyutunda ortaöğretim mezunlarının anket sorularına verdiği cevapların ortalaması 3,89, önlisans mezunlarının anket sorularına verdiği cevapların ortalaması 3,89 ve lisans mezunlarının anket sorularına verdikleri cevapların ortalaması 3,61 olmuştur. Bu anlamda değerlendirildiğinde ortaöğretim ve önlisans mezunlarının organize sanayi bölgelerinin çalışanların sosyal hayatlarını geliştirmesi hususu açısından lisans mezunlarından olumlu anlamda daha yüksek bir algı düzeyine sahip oldukları görülmektedir. Söz konusu üç grup karşılaştırıldığında eğitim seviyesinin yükseldikçe organize sanayi bölgelerinin çalışanların gelir ve hayat şartlarını yükselttiğine ilişkin algı düzeyinin düştüğü Tablo 5'deki veriler doğrultusunda tespit edilmiştir.

Saha çalışmasında organize sanayi bölgelerinde ortaöğretim ve önlisans mezunlarının diğer eğitim gruplarından daha fazla çalıştığı görülmüştür. Ayrıca yine saha deneyiminden katılımcıların organize sanayi bölgelerinde çalışan tanıdık ve akrabalarının da genellikle ortaöğretim ve meslek yüksekokullarının teknik bölümlerinden mezun oldukları bilgisine ulaşılmıştır. Lisans ve lisansüstü mezunu olan katılımcıların kamu sektöründe çalıştığı da dikkate alındığında algı düzeyleri arasındaki farkın anlamlılığı ortaya çıkmaktadır.

#### **4.2.5. Organize Sanayi Bölgeleri Algısı Ölçeğinin Alt Boyutlarının Katılımcıların Cinsiyetlerine Göre Farklılıklarının Analizi**

Organize sanayi bölgeleri algısı ölçeğinin alt boyutlarında katılımcıların cinsiyetleri açısından bir farklılık olup olmadığını saptanması için erkek ve kadın katılımcılara sorular yöneltilmiştir. 2 bağımsız grubun bulunması nedeniyle Bağımsız Örneklem için t Testinin kullanıldığı analizde test edilmek için aşağıdaki hipotezler oluşturulmuştur.

**H0:** Cinsiyete göre Organize sanayi bölgeleri algısı ölçeğinin alt boyutlarına ilişkin yargılarda farklılık yoktur.

**H5:** Cinsiyete göre Organize sanayi bölgeleri algısı ölçeğinin alt boyutlarına ilişkin yargılarda farklılık vardır.

**H5a:** Cinsiyete göre "Yeşil Ekonomi ve Çevre" alt boyutuna ilişkin yargılarda farklılık vardır.

**H5b:** Cinsiyete göre "Ekonomik Büyüme" alt boyutuna ilişkin yargılarda farklılık vardır.

**H5c:** Cinsiyete göre "Sosyal Hayatın Gelişimi" alt boyutuna ilişkin yargılarda farklılık vardır.

**H5d:** Cinsiyete göre "Kümelenme" alt boyutuna ilişkin yargılarda farklılık vardır.

**H5e:** Cinsiyete göre "Sanayileşme" alt boyutuna ilişkin yargılarda farklılık vardır.

**Tablo: 6**  
**Cinsiyete Göre Organize Sanayi Bölgeleri Algısı Ölçeğinin Alt Boyutlarının Farklılık Analizi**

Faktör	Cinsiyet	N	M	SS	t	p
Yeşil Ekonomi ve Çevre	Kadın	214	3,33	0,72	2,894	0,004
	Erkek	286	3,14	0,85		
Ekonomik Büyüme	Kadın	214	4,01	0,62	-2,050	0,041
	Erkek	286	4,12	0,62		
Sosyal Hayatın Gelişimi	Kadın	214	3,78	0,81	0,190	0,850
	Erkek	286	3,77	0,87		
Kümelenme	Kadın	214	3,90	0,62	0,301	0,764
	Erkek	286	3,88	0,69		
Sanayileşme	Kadın	214	3,95	0,68	0,295	0,768
	Erkek	286	3,94	0,70		

Tablo 6, Organize Sanayi Bölgeleri Algısı Ölçeğinin alt boyutlarında katılımcıların cinsiyetlerine göre farklılık olup olmadığını göstermektedir. Tablo 6 incelendiğinde "Yeşil Ekonomi ve Çevre" ve "Ekonomik Büyüme" alt boyutlarında t değerlerinin anlamlılık sonucuna göre p değerleri 0,05'ten küçük olduğu için "H0: Cinsiyete göre organize sanayi bölgeleri algısı ölçeğinin alt boyutlarına ilişkin yargılarda farklılık yoktur." şeklindeki yokluk hipotezi reddedilmiştir. Bu duruma göre ortalamaları kıyaslanan 2 grubun ortalamaları arasında anlamlı fark bulunmuştur. Bu doğrultuda H5a, H5b alt hipotezleri kabul; H5c, H5d ve H5e alt hipotezleri ise reddedilmiştir.

Tablo 6 incelendiğinde, "Yeşil Ekonomi ve Çevre" alt boyutunda kadınlar ile erkeklerin algı düzeyleri arasında istatistiki açıdan anlamlı bir farklılığın olduğu görülmektedir. "Yeşil Ekonomi ve Çevre" alt boyutunda kadınların anket sorularına verdikleri cevapların ortalamaları 3,33, erkeklerin anket sorularına verdikleri cevapların ortalamaları ise 3,14 olmuştur. Bu doğrultuda değerlendirildiğinde organize sanayi bölgelerinin çevresel sürdürülebilirliğin sağlanması, yenilenebilir enerji kaynaklarının kullanılmasına öncülük etmesi, sıfır atığı özendirilmesi ve çevresel risklerin ortadan kaldırılmasına yönelik politikalar izlemesi gibi yargıların bulunduğu "Yeşil Ekonomi ve Çevre" alt boyutunda kadınların erkeklerden olumlu anlamda daha yüksek bir algı düzeyine sahip oldukları söylenebilmektedir.

Benzer şekilde "Ekonomik Büyüme" alt boyutunda da erkek ve kadın katılımcılar arasında istatistiki açıdan anlamlı bir farkın olduğu tespit edilmiştir. Bu alt boyutta erkeklerin anket sorularına verdikleri cevapların ortalaması 4,12; kadınların anket sorularına verdikleri cevapların ortalaması ise 4,01 olmuştur. Organize sanayi bölgelerinin kurdukları ilçede istihdamı, yatırımları, ihracatı artırdığına yönelik yargıların bulunduğu bu alt boyutta erkek katılımcıların kadın katılımcılara göre olumlu anlamda daha yüksek algı düzeyine

sahip oldukları görülmektedir. Diğer bir ifade ile erkeklere göre organize sanayi bölgelerinin ilçelere ekonomik katkısı kadınların düşündüğünden ve algıladıklarından daha fazla olmaktadır. Saha çalışmasından elde edilen deneyime göre kadınlar organize sanayi bölgelerinde erkeklere oranla daha az oranda istihdam edilmektedir. Ayrıca organize sanayi bölgelerinin ekonomik etkileri hakkında kadınların erkeklerden daha az bilgiye sahip oldukları yine saha çalışmasında deneyimlenmiştir. Bu bilgiler ışığında "Ekonomik Büyüme" alt boyutunda ortaya çıkan istatistiki farklılığın normal olduğu düşünülmektedir.

## 5. Sonuç ve Tartışma

Organize sanayi bölgeleri ile bölgesel kalkınma ilişkisini konu alan bu çalışmada, söz konusu ilişkiyi organize sanayi bölgelerinin bulunduğu ilçelerde yaşayan halkın algıları üzerinden incelemek amaçlanmıştır. Çalışmada saha araştırması, 5 faktör ve 21 sorudan oluşan "Organize Sanayi Bölgeleri Algısı Ölçeği" kullanılarak yapılmıştır. Çalışmada organize sanayi bölgelerinin bölgelerin kalkınmasına olan etkileri "Yeşil Ekonomi ve Çevre", "Ekonomik Büyüme", "Sosyal Hayatın Gelişimi", "Kümelenme" ve "Sanayileşme" başlıkları altında ele alınmıştır. Organize sanayi bölgelerinin bulunduğu ilçelerde yaşayan halkın, belirlenen başlıklar altında çeşitli açılardan farklılık gösterdiği ve organize sanayi bölgelerini farklı açılardan algıladıkları çalışma sonucunda elde edilen bulgular ile kanıtlanmıştır. Çalışmada geçerliği ve güvenilirliği kanıtlanmış bir ölçme aracının kullanılması ve daha önce organize sanayi bölgelerinin bulunduğu bölgede yaşayan halkın algıları üzerinden yapılan bir çalışmanın bulunmaması; söz konusu çalışmanın özgünlüğü göstermektedir. Ayrıca çalışmanın bu noktada literatürdeki bir boşluğu dolduracağı düşünülmektedir.

Üç ilçede ankete katılanların verdikleri cevaplar dikkate alındığında Beşikdüzü'nde yaşayanların ekonomik büyüme, sosyal hayatın gelişimi ve sanayileşme alt boyutlarında; Arsin'de yaşayanların kümelenme alt boyutunda; Akçaabat'ta yaşayanların ise yeşil ekonomi ve çevre alt boyutunda diğer ilçelerden daha yüksek algı düzeyine sahip oldukları ortaya çıkmıştır. Diğer bir ifade ile Beşikdüzü halkı ilçede kurulan organize sanayi bölgesinin ilçenin ekonomik ve sosyal gelişimine katkıda bulunduğunu; sanayileşmeyi disipline ettiğini diğer ilçelerde yaşayanlara göre daha fazla düşünmektedir. Arsin'de yaşayan halkın organize sanayi bölgesinin kümelenmeye katkısına yönelik algısı diğer ilçelerden daha yüksektir. Akçaabat'ta yaşayanlar ise ilçede bulunan organize sanayi bölgesinin çevreye duyarlı üretim yaptığına bu konuda organize sanayi bölgesi yönetiminin tutarlı politikalar uyguladığına yönelik olumlu algısı Beşikdüzü'nde yaşayanlara göre daha yüksek çıkmıştır.

Ankete katılanların çalışma durumu dikkate alındığında, ekonomik büyüme alt boyutunda esnaflar ile diğer çalışma grupları arasında algı düzeyleri açısından anlamlı derecede fark bulunmaktadır. Esnafların ekonomi ile iç içe olması, ilçedeki gelişmeleri yakından takip etmesi ve organize sanayi bölgelerini daha iyi bilmesi hususları göz önünde bulundurulduğunda diğer çalışma gruplarından daha yüksek algı düzeyine sahip olmaları anlamlıdır. Sosyal hayatın gelişimi alt boyutunda esnaflar ile kamu sektöründe çalışanlar ve



çalışmayanlar grupları arasında algı düzeyleri açısından anlamlı derecede farklılık bulunmaktadır. Esnaflar, organize sanayi bölgelerinin ilçede sosyal hayatı geliştirmek yolu ile bölgesel kalkınmaya katkıda bulunduğu konusunda çalışmayanlar ve kamu sektöründe çalışanlardan olumlu anlamda daha yüksek bir algı düzeyine sahiptir. İlçedeki sosyal hayatın gelişimi, esnafların gelirini olumlu etkileyeceğinden bu alt boyuttaki esnafların yüksek algıya sahip olması anlamlıdır. Kümelenme alt boyutunda esnaflar ile çalışmayanlar arasında algı düzeyleri açısından anlamlı derecede farklılık bulunmaktadır. Sahada yapılan çalışmadan elde edilen deneyimler esnafların ilçelerde sanayi kuruluşları ve organize sanayi bölgeleri hakkında diğer gruplardan daha çok bilgi sahibi olduğunu göstermiştir. Bu nedenle Kümelenme alt boyutunda esnafların çalışmayanlara göre daha olumlu algı düzeylerine sahip olmalarının anlamlı olduğu düşünülmektedir.

Katılımcıların yaş düzeyleri açısından sonuçlar incelendiğinde, ekonomik büyüme alt boyutunda "30 yaş altı" grup ile "36-40 yaş" ve "41-45 yaş" grupları arasında algı düzeyleri açısından anlamlı bir fark bulunmaktadır. Organize sanayi bölgelerinin kuruldukları ilçede ekonomik büyümeye katkı sağlaması açısından en yüksek olumlu algı düzeyine "36-40 yaş" grubu sahiptir. "30 yaş altı" grubu ise "36-40 yaş" ve "41-45 yaş" gruplarından daha düşük bir algı düzeyine sahiptir. Yapılan saha çalışması sonucu elde edilen deneyimlerde ilçelerde ikamet eden gençlerin organize sanayi bölgelerinde çalışmaya sıcak bakmadıkları ve organize sanayi bölgelerinde yer alan işletmelerin verdikleri ücretleri beğenmedikleri görüşü ile karşılaşılmıştır. Bu nedenle "30 yaş altı" grubunda yer alan katılımcıların organize sanayi bölgelerinin ekonomik etkileri konusundaki algı düzeylerinin düşük olduğu düşünülmektedir. Sosyal hayatın gelişimi alt boyutunda 31-35 yaş" ve "36-40 yaş" gruplarında yer alan katılımcılar "51 yaş ve üzeri" grubunda yer alan katılımcılara göre organize sanayi bölgelerinde bulunan işletmelerde çalışanların, organize sanayi bölgesi dışındaki işletmelerde çalışanlara göre gelir ve hayat şartları açısından daha iyi bir seviyede olduklarına yönelik olumlu anlamda daha yüksek algı düzeyine sahiptir. 30 yaş altı grupta yer alan katılımcılar, düşük ücret verdikleri düşüncesi nedeni ile organize sanayi bölgelerinde çalışmak istememekte; organize sanayi bölgelerinin sundukları şartları beğenmemektedir. 51 yaş üstü katılımcılar ise organize sanayi bölgeleri hakkında çok fazla bilgiye sahip değildirler. Sahadan elde edilen bu deneyimler ışığında söz konusu nedenlerle bu yaş gruplarının diğer yaş gruplarına göre organize sanayi bölgelerinin ekonomik büyüme ve sosyal hayatın gelişimi konularında bölgesel kalkınmaya katkıda bulunmadığı konusunda düşük algı düzeyine sahip olması anlamlıdır.

Katılımcıların eğitim düzeyleri dikkate alındığında, sosyal hayatın gelişimi" alt boyutunda lisans mezunları ile ortaöğretim ve önlisans mezunları arasında algı düzeyleri açısından anlamlı bir fark bulunmaktadır. Ortaöğretim ve önlisans mezunları organize sanayi bölgelerinin çalışanların sosyal hayatlarını geliştirmesi hususu açısından lisans mezunlarından olumlu anlamda daha yüksek bir algı düzeyine sahiptir. Söz konusu üç grup karşılaştırıldığında eğitim seviyesinin yükseldikçe organize sanayi bölgelerinin çalışanların gelir ve hayat şartlarını yükselttiğine ilişkin algı düzeyinin düştüğü görülmektedir. Saha çalışmasında organize sanayi bölgelerinde ortaöğretim ve önlisans mezunlarının diğer eğitim gruplarından daha fazla çalıştığı görülmüştür. Ayrıca yine saha deneyiminden

katılımcıların organize sanayi bölgelerinde çalışan tanıdık ve akrabalarının da genellikle ortaöğretim ve meslek yüksekokullarının teknik bölümlerinden mezun oldukları bilgisine ulaşılmıştır. Lisans ve lisansüstü mezunu olan katılımcıların kamu sektöründe çalıştığı da dikkate alındığında algı düzeyleri arasındaki farkın anlamlılığı ortaya çıkmaktadır.

Sonuçlar katılımcıların cinsiyetleri açısından ele alındığında ise organize sanayi bölgelerinin çevresel sürdürülebilirliğin sağlanması, yenilenebilir enerji kaynaklarının kullanılmasına öncülük etmesi, sıfır atığı özendirmesi ve çevresel risklerin ortadan kaldırılmasına yönelik politikalar izlemesi gibi yargıların bulunduğu yeşil ekonomi ve çevre alt boyutunda kadınların erkeklerden olumlu anlamda daha yüksek bir algı düzeyine sahip olduğu görülmüştür. Organize sanayi bölgelerinin kurdukları ilçede istihdamı, yatırımları, ihracatı artırdığına yönelik yargıların bulunduğu ekonomik büyüme alt boyutunda erkek katılımcılar kadın katılımcılara göre olumlu anlamda daha yüksek algı düzeyine sahiptir. Diğer bir ifade ile erkeklere göre organize sanayi bölgelerinin ilçelere ekonomik katkısı kadınların düşündüğünden ve algıladıklarından daha fazla olmaktadır. Saha çalışmasından elde edilen deneyime göre kadınlar organize sanayi bölgelerinde erkeklere oranla daha az oranda istihdam edilmektedir. Ayrıca organize sanayi bölgelerinin ekonomik etkileri hakkında kadınların erkeklerden daha az bilgiye sahip oldukları yine saha çalışmasında deneyimlenmiştir. Bu bilgiler ışığında "Ekonomik Büyüme" alt boyutunda ortaya çıkan istatistiki farklılığın normal olduğu düşünülmektedir.

Yapılan saha araştırması ve bu araştırmadan elde edilen bulgular ışığında değerlendirildiğinde organize sanayi bölgelerinin bölgesel kalkınmanın sağlanması açısından önemli bir politika aracı olduğu görülmektedir. Ancak bazı noktalarda organize sanayi bölgelerinin bölgeye katkı sağlama ve bölge halkı ile kaynaşma açısından eksik kaldığı gerçeği ortaya çıkmaktadır. Bu eksikliklerin giderilmesi ve tamamlanması için organize sanayi bölgelerinin kuruldukları ilçe halkından kişileri daha çok istihdam etmeleri, organize sanayi bölgesi tüzel kişiliklerinin ilçe esnafı ve sivil toplum kuruluşları ile periyodik olarak belirli zamanlarda bir ara gelmeleri, organize sanayi bölgelerinde faaliyet gösteren işletmelerin kurulu oldukları ilçelere daha çok yatırım yapmaları ve organize sanayi bölgelerinde yer alan işletmelerin ihtiyaçlarının ilçe esnafından karşılamaları gibi konuların üzerinde durulması önerilmektedir.

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## Türk Kamu Yönetiminde Elektronik Vatandaş Katılımını Artırmada Dürtme: Yeni Davranışsal İktisat Perspektifinden Öneriler

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### Nudge to Increase Electronic Citizen Participation in Turkish Public Administration: Suggestions from the New Behavioural Economics Perspective

#### Abstract

The primary purpose of this study is to reveal the importance of the nudge theory in new behavioural economics in increasing electronic citizen participation in Turkish public administration. In this framework, the study first lists the factors affecting the e-participation of citizens in Türkiye, and then, by considering these factors, suggestions for improvements that can be made in the participation process through the findings of nudge theory are presented. As a result of the literature review conducted in the study, it was concluded that the suggestions listed as “utilising the default option implement, facilitating the selection process of individuals, heuristics beneficiation, focusing on the today's utility, making remarkable the message used, briefing, considering the effect of age in the decision-making process, reducing possible concerns about the registration process.”

**Keywords** : New Behavioral Economics, Public Administration, Electronic Citizen Participation, Nudge.

**JEL Classification Codes** : D73, D78, D8, D91, O33, O38.

#### Öz

Bu çalışmanın temel amacı; Türk kamu yönetiminde elektronik vatandaş katılımını artırmada yeni davranışsal iktisat alanındaki dürtme teorisinin önemini ortaya koyabilmektir. Bu çerçevede çalışmada öncelikle Türkiye’de vatandaşların e-katılımını etkileyen etmenler sıralanmış, daha sonra ise bu etmenler dikkate alınarak dürtme teorisinin bulguları aracılığıyla katılım sürecinde yapılabilecek iyileştirmelere yönelik öneriler sunulmuştur. Çalışmada yapılan literatür taraması neticesinde “varsayılan seçenek uygulamasından faydalanmak, bireylerin seçim sürecini kolaylaştırmak, kestirmelerden faydalanmak, bugün elde edilen faydaya odaklanmak, kullanılan görsel ve mesajları dikkat çekici kılmak, bilgilendirme yapmak, yaşın karar verme sürecindeki etkisini dikkate almak ve kayıt sürecine yönelik olası endişeleri azaltmak” şeklinde sıralanan önerilerin vatandaşların e-katılımını artırmada faydalı olacağı sonucuna ulaşılmıştır.

**Anahtar Sözcükler** : Yeni Davranışsal İktisat, Kamu Yönetimi, Elektronik Vatandaş Katılımı, Dürtme.

## 1. Giriş

1960'lı yılların sonlarına doğru kamusal karar alma ve uygulama sürecinde vatandaşa pasif bir rol yükleyen geleneksel yönetim yaklaşımı eleştirilere maruz kalmış ve "Yeni Kamu Yönetimi" olarak adlandırılan yönetim yaklaşımı ile vatandaşlar daha görünür hale gelmiştir. 1980'li yıllarla birlikte adını daha çok duyuran "Yeni Kamu İşletmeciliği" olarak adlandırılan ve özel yönetim tekniklerinin kamu yönetimine uygulanmasını öngören yönetim yaklaşımı ile vatandaşlar müşteri olarak algılanmıştır. Vatandaşları müşteri olarak gören "Yönetim Yaklaşımı", "Kamu Değeri Yaklaşımı" ve "Yeni Kamu Hizmeti Yaklaşımı" ile vatandaş katılımına da vurgu yapılarak eleştirilmiştir. Vatandaş katılımı, gelişmelere paralel olarak 2000'li yıllarla kamu yönetimlerinde yaygın bir şekilde yer almaya başlamıştır. Vatandaşların kamusal karar alma ve uygulama sürecinde yer almalarını ifade eden vatandaş katılımının devlet tarafından alınan kararların kalitesini artırmak, kamu politikalarının uygulanmasını kolaylaştırmak, hesap verilebilirliği artırmak gibi bazı önemli avantajları bulunmaktadır (Callahan, 2007; Lukensmeyer, 2013). Kandil (2023) vatandaş katılımını "vatandaşları karar alma sürecine doğrudan dahil eden ve bu kararın alınmasında halkın katkısını tamamen dikkate alan herhangi bir süreç" olarak tanımlamaktadır<sup>1</sup>.

Son yıllarda vatandaşların elektronik olarak katılımına ilişkin araç ve modeller artmakta ve elektronik katılım (e-katılım) yaygınlaşmaktadır. Genel olarak bilgi ve iletişim teknolojilerinde yaşanan gelişmeler, e-demokrasi ve e-yönetişimin değer ve ilkelerinin güçlenmesi, e-devlet uygulama ve araçlarının yayılması ve inkişaf etmesi, e-katılımın gelişmesine katkı sağlamaktadır (Le Blanc, 2020). Kamu yönetimine elektronik vatandaş katılımı, bilgilendirmeden vatandaşın politika yapım sürecinin ortak bir paydaşı olduğu geniş bir spektrumda değerlendirilmekte, en üst düzeyde vatandaş sisteme dahil eden katılım modelleri vurgulanmaktadır. Bunlardan yaygın olarak kullanılan, menşei özel sektör olan katılım modelleri BİT destekli ortak yapım, ortak yaratım, ortak tasarım ve kitle kaynak kullanımındadır (Saylam, 2021b; Saylam, 2021a). Literatürde bu katılım modelleri arasında kapsam, iletişim yönü ve odak açısından çok küçük nüanslar bulunmakta (farklılıklar için bkz. Saylam, 2021b), modeller temelde kamu politikalarının yapım sürecinin her aşamasında, kamu hizmetlerinin iyileştirilmesinde, sunulmasında ve geliştirilmesinde kamu hizmeti kullanıcılarının katılımını vurgulamaktadır.

Bilgi ve iletişim teknolojilerinin yaygınlaşması, vatandaşın yönetime katılımını çevrimiçi ortamlara taşıyarak kamu yöneticilerine, vatandaşla iletişim kurmada yeni yollar açmıştır (Jho & Song, 2015: 498). Teknoloji çağının katılıma yönelik sağladığı akışkan ortam, kamu yöneticilerine ve vatandaşa birçok açıdan imkân sunarken, teknoloji, doğasının gereği katılımın sağlanmasında bazı güçlüklerle de neden olabilmektedir. Bu kapsamda vatandaşın kamu yönetimine e-katılımını etkileyen etmenlere yönelik izlenecek politikalar, katılımın güçlendirilmesi açısından önem arz etmektedir. Bu politikaların tasarımında politika yapımcılar yasaklayıcı, bilgilendirici ve ödüllendirici nitelikte geleneksel politika

<sup>1</sup> Vatandaş katılımına ilişkin ayrıntılı bilgi için bkz. Nabatchi ve Leighninger (2015); Uçar-Kocaoğlu (2017); Uçar-Kocaoğlu ve Phillips (2017); Uçar Kocaoğlu, (2021).

araçlarına başvurabileceği gibi, yeni bir politika aracı olarak dürtme tekniğini de kullanabilir. Davranışsal devletin bir parçası olan vatandaşların kamu yönetimine katılımını artırmada, geleneksel araçlara göre daha az maliyetli ve vatandaşların seçim özgürlüklerini koruyan bir araç olarak değerlendirilen dürtme aracına (Sunstein, 2015: 313-314) başvurulması, politikaların potansiyel faydasını artırma ve demokratik bir görünüme buründürme potansiyeli olan bir araçtır. Bu çalışmanın amacı da kamu yönetiminde elektronik vatandaş katılımını artırmaya yönelik olası dürtme politikalarını belirlemektir. Bu minvalde çalışmada ilk olarak kamu yönetiminde elektronik vatandaş katılımını etkileyen etmenler incelenmiş, ardından Türk kamu yönetiminde elektronik vatandaş katılımını etkileyen faktörlere yönelik çıkarımlar yapılarak bir çerçeve oluşturulmaya çalışılmıştır. Son olarak dürtme ve e-katılım kavramı birlikte incelenerek, çıkarım yapılarak tespit edilen faktörlere yönelik dürtme politikaları geliştirilmiş ve değerlendirilmiştir.

Türk kamu yönetiminde elektronik vatandaş katılımının dürtme tekniği ile artırılmasına odaklanan herhangi bir çalışma bulunmamaktadır. Çalışmanın bu sınırlılığı ekseninde, ilerde birçok araştırmaya konu olacağı düşünülen bu alana yönelik bir çerçeve çizmek amacıyla ilgili literatür irdelenmiştir. Bu gayeyle ilk olarak kamu yönetiminde elektronik vatandaş katılımını etkileyen faktörlerin tespit edilmesi gereği duyulmuştur. Bu amaca yönelik Saylam (2021c) tarafından yapılan literatür analizinden faydalanılmıştır. Saylam (2021c), kamu yönetiminde e-katılımı etkileyen etmenleri idare ve vatandaş olarak iki başlık altında irdelenmiştir. Vatandaş kısmı, çalışmanın temel odağı olduğu için bu ana başlıktaki faktörler esas alınmıştır. Çalışma 2021 yılında yapıldığı için alandaki yeni çalışmalar da taranarak çalışmanın güncelliği teyit edilmiştir. Ardından çalışmanın temel amacı ekseninde Türk kamu yönetiminde elektronik vatandaş katılımını etkileyen etmenler belirlenmeye çalışılmıştır. Türk kamu yönetiminde e-katılımı etkileyen etmenlere yönelik de doğrudan yapılmış bütüncül bir saha çalışması mevcut değildir. Kamu yönetiminde vatandaş katılımı hem yüz yüze katılımı hem de elektronik vatandaş katılımı ve dijital vatandaş katılımını içeren bir olgudur. Bu anlamda kamu yönetiminde elektronik vatandaş katılımını etkileyen etmenler katılım ve teknoloji kavramı ile birlikte değerlendirilmiştir. Çalışmada bu çerçevede, "Türkiye'de e-katılımı etkileyen faktörler", "Türkiye'de katılımı etkileyen faktörler", "Türkiye'de vatandaş katılımını etkileyen etmenler", "Türkiye'de devlet uygulamalarını etkileyen etmenler", "Türkiye'de e-devlet hizmetlerinin kullanımını etkileyen faktörler", "Türkiye'de e-devlet uygulamalarında karşılaşılan sorunlar", "e-devletin başarısını etkileyen değişkenler", "Türkiye'de e-devletin başarısını etkileyen faktörler", "Türkiye'de e-devlette karşılaşılan sorunlar", "Türkiye'de e-devlette karşılaşılan güçlükler", "Türkiye'de e-devlet hizmetlerine katılım", "Türkiye'de dijital devlette karşılaşılan sorunlar", "Türkiye'de dijital devleti etkileyen etmenler" başlıklarında taranmıştır. Tarama sonucu elde edilen kaynakların (raporlar, dergi makaleleri, konferans bildirileri, kitap, editörlü kitap bölümleri) kaynakçaları da taranarak farklı kaynaklar elde edilmiş ve Türk kamu yönetiminde e-katılımı etkileyen etmenlere yönelik çıkarım yapılarak bir çerçeve çizilmiştir. Bu tespitin maksadı, Türk kamu yönetiminde vatandaş açısından e-katılımı etkileyen etmenlerin düzeylerini (en çok veya en az etkileyen etmenler) değerlendirmek değil, olası faktörlere yönelik geliştirilen dürtme politikaları ile kamu

yönetimi olarak neler yapılabilir sorusuna yönelik yol göstermektir. Son olarak, çalışmada çizilen çerçeve ekseninde vatandaş açısından e-katılımı etkileyen faktörlere yönelik dürtme teorisi literatürü dikkate alınarak önerilerde bulunulmuştur.

## 2. Kamu Yönetiminde Vatandaş Açısından E-Katılımı Etkileyen Etmenler

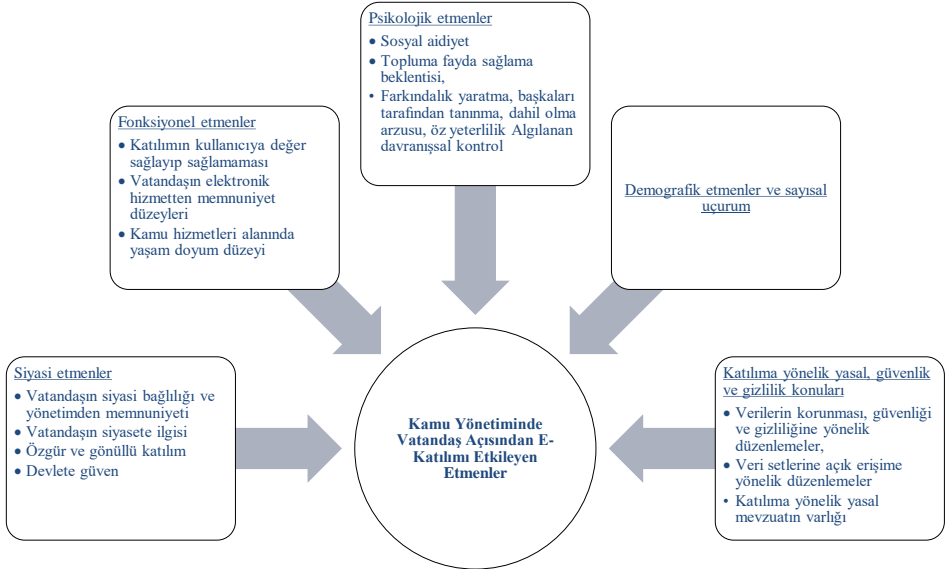
Literatürde kamu yönetimine vatandaş katılımını etkileyen faktörlere yönelik doğrudan çalışmalar son yıllarda giderek artmaktadır (Kim & Lee, 2012; Vincente & Novo, 2014; Wijnhoven et al., 2015; Alathur et al., 2016; Lee & Kim, 2018; Jong et al. 2019; Hu et al. 2019; Naranjo-Zolotov et al., 2019; Holum, 2023; Mertez et al., 2022; Araz, 2023; Randma & Lember, 2022; Pruin, 2022; Song & Ji, 2022; Kim et al., 2022; Hutajulu & Lestari, 2023; Deng & Fei, 2023; Pour et al., 2022; Hutahaeen et al., 2023).

Kamu yönetiminde e-katılımı etkileyen etmenlere yönelik sistematik literatür analizi 2021 yılında Saylam tarafından gerçekleştirilmiştir. Yapılan literatür analizinde kamu yönetiminde e-katılımı etkileyen etmenler idare ve vatandaş olarak iki başlık altında toplanmış, idare açısından bu etmenler dış etmenler ve iç etmenler olarak iki alt başlığa ayrılmış ve iç etkiler "çalışan, kurum ve yönetici" açısından irdelenmiştir. Vatandaş açısından "e-katılımı etkileyen faktörler *siyasi etmenler* (vatandaşın siyasi bağlılığı ve yönetimden memnuniyeti, vatandaşın siyasete ilgisi, özgür ve gönüllü katılım, devlete güven), *fonksiyonel etmenler* (katılımın kullanıcıya değer sağlayıp sağlamaması, vatandaşın elektronik hizmetten memnuniyet düzeyleri), *psikolojik etmenler* (sosyal aidiyet, topluma fayda sağlama beklentisi, farkındalık yaratma, başkaları tarafından tanınma, dahil olma arzusu, öz yeterlilik ve algılanan davranışsal kontrol), *demografik etmenler ve sayısal uçurum* ve son olarak da *katılıma yönelik yasal, güvenlik ve gizlilik konuları* olarak (verilerin korunması, güvenliği ve gizliliğine yönelik düzenlemeler, veri setlerine açık erişime yönelik düzenlemeler, katılıma yönelik yasal mevzuatın varlığı) beş kategoride değerlendirilmiş, başlıkların altında bazı alt kategoriler belirlenmiştir (Saylam, 2021c)". Literatür analizi sonucunda vatandaşın siyasi bağlılığı, vatandaşın idareden memnuniyeti, vatandaşın siyasete ilgisinin fazla olması, özgür ve gönüllü katılımın yüksekliği ve devlete güvenin katılımı olumlu etkilediği tespit edilmiştir.

Yukarıda ifade edilen saptamalara ek olarak, vatandaşın kamu yönetimine katılımının vatandaşın değer sağlaması, vatandaşın aldığı hizmetten memnuniyet düzeyi de katılımı pozitif etkileyen unsurlar olarak aynı analizde tespit edilmiştir. Bunlara ek olarak, vatandaşın sosyal aidiyet yüksekliği, katılımın topluma fayda sağlaması ve bahsi geçen diğer psikolojik etmenlerin katılıma katkı sağladığı araştırmalar sonucunda elde edilmiş diğer olumlu faktörlerdir. Dijital okuryazarlık açısından ise özellikle yaş, cinsiyet ve eğitim düzeyleri e-katılımı etkileyen faktörler arasında yer almış, çalışmalarda kadınların, yaşlıların ve eğitim düzeyleri düşük insanların e-katılım oranlarının daha düşük düzeyde olduğu tespit edilmiştir. Ayrıca acil durum yönetiminde özellikle engellilerin sürece aktif katılımında sorunlar ortaya çıktığı saptanmıştır (Alathur et al., 2021). Son olarak katılıma yönelik yasal güvencenin sağlanması, verilerin korunması, güvenliği ve gizlilik konularına yönelik pozitif girişimlerin e-katılımı olumlu etkilediği çalışmalarla ortaya konulmuştur (Saylam, 2021c). Yukarıdaki

bahsi geçen literatürdeki son iki yılda yapılan çalışmalar da dikkate alındığında bu kategorilere yeni bir kategori tespit edilmemekte, ancak yönetimden memnuniyete paralel olarak, Kim vd. (2022)'nin çalışması dikkate alındığında "kamu hizmetlerinden memnuniyetin" katılımı artırdığı belirlenmiştir. Kim vd. (2022)'nin yaptığı çalışmada, kamu hizmeti alanında yaşam doyumu yüksekliği artıkça sağlık hizmetleri alanına daha aktif katılım ihtimalinin arttığı gözlemlenmiştir. Bu alt kategori de fonksiyonel etmenler altında değerlendirilebilir (Kamu yönetiminde vatandaş açısından e-katılımı etkileyen etmenler için bkz. Şekil 1).

### Şekil: 1 Kamu Yönetiminde Vatandaş Açısından E-Katılımı Etkileyen Etmenler



Kaynak: Saylam (2021c) tarafından yapılan literatür analizinden geliştirilmiştir.

### 3. Türk Kamu Yönetiminde Elektronik Vatandaş Katılımını Etkileyen Etmenler

Türkiye'nin diğer uluslar, uluslararası ve ulus üstü kuruluşlar ile olan ilişkileri, bu ilişkilerin öngördüğü yaptırım ve hedefler, ekonomik gelişmeler, kamu yönetiminde yaşanan paradigma değişimlerinin etkileri, e-yönetişim ve e-demokrasi kavramlarının değerlerinin yükselişi, demokrasi söylemi ve talebinin giderek daha çok dile getirilmesi, bilgi ve iletişim teknolojilerinde yaşanan gelişmeler, Türk kamu yönetiminde yönetişim zihniyetin yaygınlaşmasına yol açmıştır (bkz. Saylam & Ünal, 2022; Saylam & Yıldız, 2022; Saylam vd., 2020). Türk kamu yönetiminde teknolojide yaşanan ilerlemeler de vatandaş ve yönetim arasındaki ilişkinin farklı bir zeminde etkileşimini geliştirmiş, merkezi ve yerel düzeyde e-katılım araçları ve uygulamaları yaygınlaştırılarak kullanılmaya başlanmıştır



(örn. Merkezi düzeyde CİMER (Cumhurbaşkanlığı İletişim Merkezi), CİMER Yönetime Katıl Uygulaması, Açık Kapı Uygulaması, bakanlıkların web siteleri ve sosyal medya siteleri; yerel düzeyde idarelerin web siteleri, mobil uygulamaları, dijital belediyeçilik uygulamaları, açık veri platformları, televizyon kanalları, sosyal medya siteleri, canlı yayın vb.).

Çalışmada belirtildiği gibi Türk kamu yönetiminde e-katılımı etkileyen etmenlere yönelik doğrudan yapılmış bir çalışma bulunmamaktadır. Araştırma yönteminde ayrıntılı şekilde açıklandığı gibi bu faktörlerin tespitinde teknoloji, katılım, e-katılım, e-devlet kavramı ve belirtilen diğer anahtar kelimeler de dikkate alınarak ilgili literatür taranmıştır. Çalışmanın ilerleyen paragraflarında ayrıntılı açıklandığı gibi Türkiye'ye yönelik yapılan çalışmalar "e-devlet adaptasyonunda etkili olan faktörleri; e-devlet güçlüklerini; e-devlet kapısı kullanıcılarının kullanılabilirlik ve güven açısından karşılaştıkları olası sorunlarını; Türkiye'de e-devlet dönüşüm başarısı ile literatürde bu dönüşüm başarısının nedenini; Türkiye'de e-devlete ilişkin yayınlanmış bazı strateji ve eylem planları" gibi raporları kapsamaktadır. Bu çalışmalar dikkate alınarak Türk kamu yönetiminde vatandaş açısından kamu yönetimine e-katılımı etkileyen etmenlere yönelik bir çerçeve çizilmeye çalışılmıştır. Bölümün ilerleyen kısmında bu çalışma ve raporlar ayrıntılı olarak irdelenmiştir.

Daştan ve Kurt (2016: 95, 104) e-devlet adaptasyonunda etkili olan faktörlerin belirlenmesine yönelik Yalova özelinde yaptıkları çalışmada *kaynakların kullanılabilirliğinin* (kaynakların kullanılabilirliği elektrik, telefon, bilgisayar, internet ve bilgi ve iletişim teknolojilerinin erişim, hız ve maliyet gibi rekabetçi özelliklerle kullanılabilirliği ve kullanım özgürlüğüdür) e-devlet uygulamalarının adaptasyonunda pozitif bir etki yarattığını tespit etmişlerdir. Alkan ve Ünver (2020), Türkiye İstatistik Kurumu'nun 2018 yılı Hanehalkı Bilişim Teknolojileri Kullanım Araştırması'nın mikro veri setinden faydalanarak çok değişkenli probit regresyon analizi ile Türkiye'de vatandaşların e-devlet kullanım durumlarını etkileyen faktörleri belirlemişlerdir. Çalışma sonucunda Türkiye'de bireylerin e-devlet kullanımında etkili olan değişkenlerin *cinsiyet, eğitim durumu, bölge, yaş, bilişim ekipmanı sayısı ve hane halkı büyüklüğü olduğu* tespit edilmiştir. Ateş (2021: 39) ise mobil devleti etkileyen etmenler üzerine bir çalışma yapmıştır. Ankara'da üç devlet üniversitesinde öğrenim gören 183 üniversite öğrencisinden toplamış olduğu verilere dayanarak *bilgi kalitesi, güvenlik algısı, güven, hizmet maliyeti, kullanım kolaylığı, sosyal etki, yararlılık* olmak üzere mobil devlet kullanımını etkileyen 7 faktörden hizmet maliyeti dışındaki faktörlerin vatandaşların mobil devlet kullanımını etkilediğini tespit etmiştir.

Naralan (2008: 4-15) çalışmasında, e-devlet güçlüklerini "hukuki alt yapı eksikliği, teknik altyapı eksikliği, sayısal uçurum ve bilgisayar okuryazarlığındaki düşüklük, standart eksikliği, fizibilite eksikliği ve geri dönüşün ölçülememesi, e-devlet portal eksikliği, yetişmiş bilgi teknolojileri personeli eksikliği, bilgi teknolojilerinin finansmanı sorunu" olarak belirtmiştir. Seferioğlu ve arkadaşları (2011) ise Naralan'a (2008: 295-299) referans vererek Türkiye'de e-devlet uygulamalarında karşılaşılan sorunlardan "etkili bir liderliğin olmaması, sayısal uçurum, toplumun e-devletin neyi amaçladığı konusunda bir fikir sahibi

olmayışı, bireylerin internet kullanımının yaygın olmayışı, kurumsal yapılanmalarda ve sistemler arasında birtakım standartların olmayışı, güvenlik ve gizlilik” gibi bazı sorunlara vurgu yapmışlar ve bu sorunlara yönelik çeşitli çözüm önerileri sunmuşlardır. Çakır (2015), e-devlet uygulamalarındaki sorunları “güvenlik, hukuki alt yapı, alışkanlıklar ve erişim sorunu, e-devletin finansmanı, lider inisiyatifi, eğitim/yetenek geliştirme/adaptasyon, dijital uçurum” olarak ele almıştır.

Kurfalı ve arkadaşları (2006) Türkiye’de vatandaşların e-devlet hizmetlerini kullanma kararlarında rol oynayan temel faktörleri araştırmışlardır. Türkiye’nin farklı bölgelerinden seçilen 529 kişiye anket yapılarak gerçekleştirilen çalışma sonucunda “*performans beklentisi, sosyal etki, kolaylaştırıcı koşullar ve internete güvenin*” devlet hizmetlerini kullanmaya yönelik davranışsal amaç üzerinde olumlu etkisi olduğu tespit edilmiştir. Ek olarak güven faktörlerinin e-devlet hizmetlerinin performans beklentisi üzerinde olumlu etki yaptığı da gözlemlenmiştir. Yıldırım (2010: 14-15) çalışmasında ise yurttaşların kamu yönetimine güveninin e-devlet çabalarından nasıl etkilendiğini araştırmıştır. Yönetişim sürecini kendi içinde tamamlayamayan ülkeler için *güven sorununun* özellikle dış aktörlerin de sisteme dahil edilmesiyle daha da derinleşebileceğine vurgu yapmakta ve bilgi ve iletişim teknolojilerinde yaşanan güvenlik sorunlarının ve *dijital bölünme* olgusunun yine kamu yönetimine güven açısından birtakım sorunlara yol açabileceğinin altını çizmektedir. Şişman ve arkadaşları (2011) tarafından da Türkiye’de e-devlet ve m-devlet uygulamalarının hayata geçirilmesi ve yaygınlaştırılmasında engel teşkil eden unsurlar belirlenmeye çalışılmış ve *sayısal uçurum* sorunu üzerinde durulmuştur.

Alan (2021: 347) çalışmasında, e-devlet kapısı kullanıcılarının kullanılabilirlik ve güven açısından karşılaştıkları olası sorunları araştırmıştır. Araştırma sonucunda kullanıcıların uygulamayı genel olarak yararlı ve kullanımı kolay buldukları gözlemlenmiş ancak uygulamada sunulan veri gizliliği hakkındaki *bilgilere erişimin zorluğunun*, kullanıcı güveninin azalmasına neden olduğu tespit edilmiştir. Çelik ve Orhan (2021) çalışmalarında e-devlet kapısını kullanmayı etkileyen faktörleri araştırmışlardır. Bu çerçevede 1427 e-devlet kullanıcı ile test yapılmıştır. Çalışmada e-devlet sistemi kullanıcı tatmininin olası belirleyicileri olarak *sistem kalitesi, algılanan kullanım kolaylığı, algılanan fayda, bilgi kalitesi, dış etki ve kişilerarası etki* belirlenmiştir. Analiz sonuçları, ‘algılanan fayda, algılanan kullanım kolaylığı, bilgi kalitesi, kişilerarası etki ve dış etkinin’ kullanıcı tatmini üzerinde anlamlı ve olumlu bir etkiye sahip olduğunu, ancak sistem kalitesinin tatmin üzerinde anlamlı bir tesirinin olmadığını ortaya koymuştur. Buna ek olarak, kullanıcı tatmininin, e-devlet sistemini kullanmayı sürdürme düşüncesini anlamlı ve olumlu bir şekilde etkilediği belirlenmiştir.

İskender ve Özkan (2013: 323, 330) çalışmalarında Türkiye’de e-devlet dönüşüm başarısı ile literatürde bu dönüşüm başarısının nedeni olarak kabul edilen 18 yaygın başarı faktörleri arasındaki ilişkiyi analiz etmişlerdir. Araştırma sonucunda dönüşüm başarısı ile başarı faktörleri arasında anlamlı ve pozitif bir ilişki tespit edilmiş, ancak benzer çalışmalarda da varsayıldığı gibi bu ilişkinin hiçbirinin neden sonuç ilişkisine bağlanamayacağı belirlenmiştir. İlgili 18 bağımsız faktör ise çalışmada “*teknik erişebilirlik*

*düzei, standartların varlığı, birlikte çalışabilirliğin varlığı, bütünlük düzei, kullanım kolaylığı düzei), sosyal (paydaşlar arasındaki farkındalık düzei, paydaşlar arasında amaçların varlığı, paydaşların eğitim düzei, risksiz bir ortamın varlığı), organizasyon (vizyon sahibi liderlerin varlığı, organizasyonel dönüşüm planlarının varlığı, yönetim desteği düzei, kurumsal destek düzei, kurum kültürünün varlığı, yatırım düzei) ve siyasi ve hukuki (siyasi desteğin varlığı, makro dönüşüm planlarının varlığı, tutarlı düzenleyici çerçevenin varlığı)" olmak üzere 4 boyutta incelenmiştir.*

Türk kamu yönetiminde vatandaşların e-katılımını etkileyen etmenleri belirlemeye yönelik yukarıda yer alan çalışmalar önemli veriler sunmakta iken Türkiye’de e-devlete ilişkin yayınlanmış bazı strateji planları, eylem planları gibi raporlarda e-katılımı etkileyen etmenlerin tespiti noktasında önemli ipuçları sunabilecek niteliktedir.

Devlet Planlama Teşkilatı tarafından 2006 yılında yayınlanan “*Bilgi Toplumu Stratejisi (2006-2010)*” nde Türkiye’nin sayısal uçurumla karşı karşıya kaldığı belirtilmiştir. İlgili stratejide “bilgi ve iletişim teknolojileri kullanımının çalışanlar, işsizler, öğrenciler, ev kadınları, emekliler vb. işgücü durumu ile gelir düzei, eğitim seviyesi, cinsiyet, yaş grubu ve yaşanan coğrafi bölge itibarıyla önemli farklılıklar” gösterdiği belirtilmiştir. Stratejide bireylerin bilgi teknolojilerini kullanmalarına engel teşkil eden konulardan birisinin de *güvenli bir internet ortamının yaratılması* olduğu belirtilmiş ve gerekli tedbirlerin alınacağına değinilmiştir. Ayrıca stratejide e-devlet hizmetlerinin sunumunda, kişisel bilgilerin mahremiyetine saygı gösterilerek, *kişisel verilerin korunmasına* ilişkin yasal düzenleme yapılacağı vurgulanmıştır (2006: 7, 23, 36).

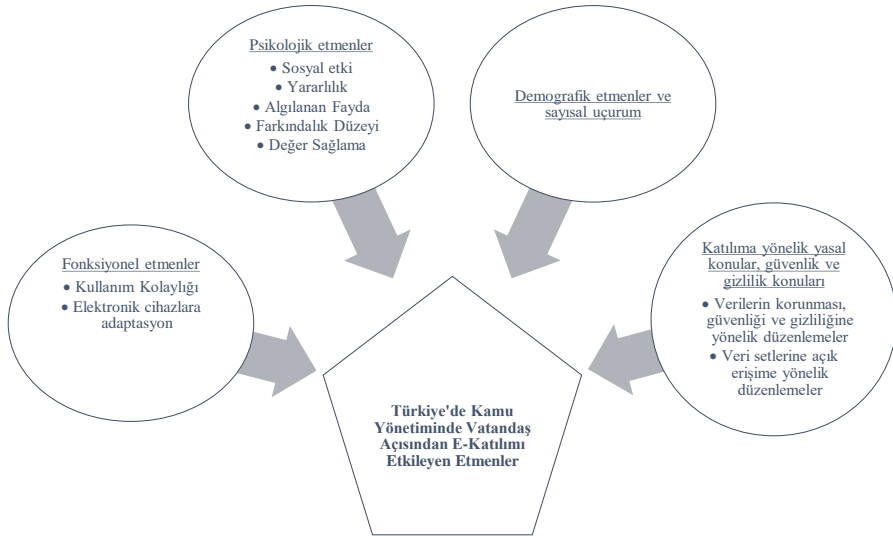
Kalkınma Bakanlığı tarafından yayınlanan “*Bilgi Toplumu Stratejisi ve Eylem Planı 2006-2010 Nihai Değerlendirme Raporu*” nda da bir önceki stratejide sayısal uçurum olarak ifade edilen sorun *sayısal bölünme* şeklinde ifade edilmiş ve bilgi toplumuna ulaşma hedefinin önündeki en büyük engel olarak belirtilmiştir. Raporda internette karşılaşılan güvenlik sorunlarının da stratejik dönemde artış gösterdiğinden bahsedilmiştir (2006-2010: 19,22). Kalkınma Bakanlığı tarafından 2008 yılında yayınlanan “*On Birinci Kalkınma Planı (2019-2023): E-Devlet Hizmetlerinin Geliştirilmesi Çalışma Grubu Raporu*”nda e-devlet alanında mevzuata yönelik bazı eksikliklerin bulunması gibi sorunlardan bahsedilerek sayısal bölünmenin azaltılması için hesap verilebilirlik, katılım gibi bazı alanlarda çalışılması gerektiği belirtilmiştir (2008: ix,x). Kalkınma Bakanlığı tarafından 2015 yılında yayınlanan “*2015-2018 Bilgi Toplumu Stratejisi ve Eylem Planı*”nda ise yine bilgi toplumu dönüşümünün ‘siber saldırılar, bilişim suçları, kişisel verilerin izinsiz kullanımı, veri hırsızlığı gibi’ bazı sorunlara neden olabildiği ve durumunun “*kullanıcılarda güven eksikliği ve hizmetlerde aksaklıklar*” doğurabileceğinden bahsedilmiştir. Yine raporda daha önceki raporlarda da tespit edilen Türkiye’de *sayısal bölünmenin* varlığından bahsedilerek buna ilişkin bazı rakamlar paylaşılmıştır (2015: 28, 50).

Ulaştırma Denizcilik ve Haberleşme Bakanlığı tarafından 2016 yılında yayınlanan “*2016-2019 Ulusal E-Devlet Stratejisi ve Eylem Planı*” nda ise e-devlet hizmetlerine yönelik kullanıcı güveninin artırılması çalışmaları ile *bilgi güvenliği ve kişisel verilerin korunması*,

*açık veri üretimi ve kullanımına dair mevzuatın tamamlanması ihtiyacından ve sayısal bölünme endeksi oluşturulmasından bahsedilmiştir.*

Türk kamu yönetiminde e-katılımı vatandaş açısından etkileyen etmenler yukarıda yer alan çalışma ve raporlardan yola çıkarak Şekil 2’de görüldüğü gibi 4 grup altında gruplandırılabilir: Fonksiyonel etmenler (kullanım kolaylığı, elektronik cihazlara adaptasyon); psikolojik etmenler (sosyal etki, yararlılık, algılanan fayda, farkındalık düzeyi, değer sağlama); demografik etmenler ve sayısal uçurum; katılıma yönelik yasal konular, güvenlik ve gizlilik konuları (verilerin korunması, güvenliği ve gizliliğine yönelik düzenlemeler; veri setlerine açık erişime yönelik düzenlemeler).

## Şekil: 2 Türk Kamu Yönetiminde Vatandaş Açısından E-Katılımı Etkileyen Etmenlere Yönelik Bir Çerçeve



*Kaynak: Gerçekleştirilen literatür taraması sonucu yazarlar tarafından Saylam (2021c)'dan yararlanılarak geliştirilmiştir.*

Türk kamu yönetiminde vatandaşlar açısından e-katılımı etkileyen etmenler içerisinde literatürde "işgücü durumu, gelir düzeyi, eğitim seviyesi, cinsiyet, yaş grubu, yaşanan coğrafi bölge itibariyle toplumun farklı kesimlerinde bilgi ve iletişim teknolojilerine erişim ve kullanımda yaşanan farklılıklar" (Kalkınma Bakanlığı, 2006-2010: 19) olarak tanımlanan sayısal bölünmenin diğer faktörlere nazaran daha fazla yer aldığı söylenebilir. Çalışmanın devam eden bölümünde; vatandaşların e-katılım düzeylerini etkileyen fonksiyonel, psikolojik, demografik etmenler ve sayısal uçurum ile yasal konular ve güvenlik, gizlilik konularına yönelik yaşanan sorunlara çözüm üretmede yeni bir yol olarak dürtme tekniğine yer verilecektir. Son dönemde kamu otoritelerinin ve kamu politikası teorisinin gündemini meşgul ederek geleneksel kamu politikası araçlarına

alternatif oluşturan dürtme tekniğinin vatandaşların e-katılım oranlarını artırma amacıyla nasıl kullanılabilirliğine dair önerilerde bulunulacaktır.

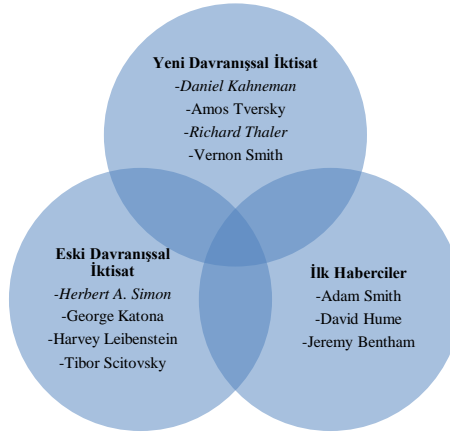
#### 4. Yeni Davranışsal İktisat, Dürtme ve E-Katılım

Türk kamu yönetiminde vatandaşların e-katılım düzeylerini artırma çalışmalarının başarıya ulaşılabilmesinin yolu, bireylerin karar verme süreçlerini anlamaktan geçmektedir. II. Dünya Savaşı ve takiben Bilişsel Devrim'e kadar insan; "ekonomik insan (homo economicus)" varsayımı doğrultusunda değerlendirilmiştir. 1776'da yayımlanan "The Wealth of Nations" adlı çalışması ile Adam Smith; insanın bencil ve çıkarları peşinde koşan bir varlık olduğunu ve ekonomik davranışının kişisel çıkarları tarafından belirlendiğini öne sürerek ekonomi, siyaset, sosyoloji gibi disiplinlerin de temelini oluşturan insan davranışının pek çok özelliğinin anlaşılmasına ve iktisadın sistematik bir disiplin haline gelmesine katkı sağlamıştır (aktaran Akyıldız, 2008: 34). Klasik ve neo-klasik teorilerin temel aktörü olan ekonomik insan (homo economicus), "kendi çıkarı için kararlar alan ve zenginlik peşinde koşan rasyonel insana" işaret etmektedir (Efeoğlu & Çalışkan, 2018: 28). Melé ve Cantón (2014: 9) ise ekonomik insanı, "basit bir ifadeyle; çıkarları ve tercihleri olan ve genellikle bunları gözeten, tercihlerini maksimize etmeye yönelik rasyonel bir kapasiteye sahip birey" olarak tanımlamışlardır. Bu kişinin "bencil olduğu, rekabet güdüsüyle hareket ettiği, her zaman isteklerini ve tüm sahip olduğu seçenekleri bildiği, söz konusu seçenekleri faydalarına/maliyetlerine göre sıralayabildiği ve kendi faydasını en çoklaştıran kararları aldığı (Kamber, 2018: 172)" kabul edilmiştir. Bireylerin moral davranışlarını bir diğer ifade ile rasyonalite ile bağdaşmayan davranışlarını dışlayan bu yaklaşıma; klasik iktisatçıların büyük bir çoğunluğu, teorilerinin testi aşamasında psikolojik kısıtların modellenmesine gerek olmadığı gerekçesiyle başvurmuştur (Dumludağ & Ruben, 2015). Bunun yanı sıra Smith'in 1759'da yayımlanan "The Theory of Moral Sentiments" adlı çalışmasında insan davranışının psikolojik ilkelerine yönelik tahliline yer verdiği halde "The Wealth of Nations" adlı eserinde psikolojik ve sosyolojik faktörleri dışlayarak insan davranışını rasyonellik temelinde ele almasında ve bunun hakim iktisadi görüş olarak kabul görmesinde iktisadın, bilimsel bir statüye eriştirilmesi gayesinin de etkisi olduğu söylenmektedir (aktaran Ashraf et al., 2005: 1). Bu hâkim görüşün ekonomik krizleri ve piyasa başarısızlıklarını (Erdoğan & Karagöl, 2019: 3) açıklamada yetersiz kalması ile de "rasyonel birey" sorgulanmaya başlamıştır. Aynı zamanda bu dönem ABD ve müttefiklerinin savaşta galibiyet elde edebilmek için matematiksel ve istatistikî yöntemlere başvurduğu, kullanılan bu yöntemlerin ve merkezi planlamanın artan önemi ile birçok ülkede kamu yönetimine ilişkin verilerin sistematik analizinin önem kazandığı bir dönemdir. II. Dünya Savaşı sonrası pek çok ülkede kurulan merkezi planlama birimleri, uzun vadeli kalkınma planlarının bilimsel yöntemlerle nicel verilere dayalı olarak hazırlanması; proje, program ve yatırımların ekonomik model ve analizlerle değerlendirilmesi gibi gelişmeler kamu politikası alanında bilimselliğin önem kazanmasına neden olmuştur (Köseoğlu, 2013: 7; Kuşseven, 2022: 7).

Yirminci yüzyıl, iktisadın ve kamu yönetiminin psikoloji ile temasının artmaya başladığı dönemdir. Bunda; Şekil 3'te yer verilen eski davranışsal iktisatçılar ya da birinci nesil davranışsal iktisatçılar olarak anılan teorisyenlerin etkisi büyüktür. ABD'de Carnegie

Mellon Üniversitesi ve Michigan Üniversitesi'nin, İngiltere'de ise Oxford Üniversitesi ve Stirling Üniversitesi'nin önemli temsilcilerinin<sup>2</sup> sınırlı rasyonalite, tatmin, simülasyon, tüketici davranışları, belirsizlik gibi araştırma konuları ile neo-klasik iktisata yönelik psikolojik temelli eleştirilere yer verdikleri çalışmaları davranışsal iktisada önemli katkılar sunmuştur (Sent, 2004: 740; Eser & Toigonbaeva, 2011: 296). Ancak Carnegie Mellon Üniversitesi'nden Herbert Alexander Simon'un “sınırlı rasyonalite”<sup>3</sup> kavramsallaştırmasının Şekil 3'te de görüldüğü üzere davranışsal iktisat ve bu alandan beslenen davranışsal kamu politikaları için bir dönüm noktası olduğu kabul edilmektedir (Eser & Toigonbaeva, 2011: 296; Aydın vd., 2019: 531). Simon (1947) kârını en yükseğe çıkarmayı hedefleyen tek bir girişimci anlayışı yerine riski minimum seviyede tutma, ekonomik değişkenlerin kabul edilebilir (doyurucu) bir düzeyine ulaşma gibi süreçte etkili olabilecek psikolojik etken ve güçlerin çeşitliliğine dikkatleri çekerek (aktaran Özer, 2016: 171) rasyonel karar verme modeline alternatif olarak öne sürdüğü “sınırlı rasyonalite (1957)” kavramı ile dikkatleri, bireylerin karar alma mekanizmalarına odaklanan psikolojik çalışmalara çekmiştir.

### Şekil: 3 Davranışsal İktisadın Önemli İsimleri<sup>4</sup>



Kaynak: Aktan & Yavuzaslan, 2020: 107.

<sup>2</sup> Detaylı okuma için bkz. Sent (2004), *Behavioral Economics: How Psychology Made Its (Limited) Way Back Into Economics*, 740-742.

<sup>3</sup> Herbert Simon ilk olarak rasyonalitenin sınırlarına 1947 yılındaki *Administrative Behavior* (Yönetimsel Davranış) başlıklı kitabında yer vermiş; daha sonra ise sınırlı rasyonalite kavramsallaştırmasına “limited rationality” şeklinde 1955 yılındaki “A Behavioral Model of Rational Choice” adlı makalesinde, ‘bounded rationality’ şeklinde ise *Models of Man* (1957) başlıklı çalışmasında yer vermiştir (Sent & Klaes, 2005: 11-13).

<sup>4</sup> Çalışmanın bakiş açısını dürtme teorisinin oluşturması nedeniyle ilgili başlıkta davranışsal iktisat alanına katkı sağlayan Nobel ödüllü teorisyenler olan Simon (1978 Nobel Ödülü), Kahneman (2002 Nobel Ödülü) ve Thaler (2017 Nobel Ödülü)’ün isimleri (ilgili şekilde de italik bir şekilde gösterilerek) ön plana çıkarılmıştır. Şekil 3’te bir kısmına yer verilen, alanın diğer önemli teorisyenleri ile ilgili detaylı okuma için bkz. Ayroza vd. (2018), *The Old and the New Behavioral Economics: Highlights of a Trajectory*, Rev. Text. Econ, 21(2), 50-72.

Birinci nesil davranışsal iktisatçıların insan davranışının rasyonaliteden sapan davranışlarına yönelik ampirik dataya dayalı sundukları verilerle oluşmaya başlayan davranışsal iktisat alanına ilgi; 1970'lere gelindiğinde özellikle Daniel Kahneman ve Amos Tversky'nin çalışmalarında<sup>5</sup> ekonomik modellerden faydalanması (Eser & Toigonbaeva, 2011: 298) ile ikinci ve yeni bir dalga sonucu her geçen gün daha da artmıştır (Sent, 2004: 742). İnsanların bilişsel sınırlılıkları, önyargıları ya da yanlılıkları nedeniyle düştükleri hataları ortaya koyan bu çalışmaların açtığı yeni yoldan yürüyen Thaler ve Sunstein 2003 yılında "Libertarian Paternalism"<sup>6</sup> makalesi ile; Camerer vd. ise "Regulation for Conservatives: Behavioral Economics and the Case for 'Asymmetric Paternalism'"<sup>7</sup> "başlıklı makaleleri ile aralarında kamu politikalarının da olduğu pek çok alanın psikoloji yöntem ve teorileri ile olan etkileşimlerini zorunlu hale getirmiştir.

İnsana yönelik bakış açısının değişimi, kamu politikalarının tasarımında politika yapıcıların başvurdukları yolların da değişimini doğurmuştur. Geleneksel kamu politikası araçları olan yasaklama (ceza/sopa) ya da teşvik (ödül/havuç) yöntemlerinin işlerliği, yeni dönem davranışsal iktisatçılardan Thaler'in birey davranışının sistematik ve öngörülebilir bir şekilde rasyonel iktisat teorisinin temel normlarından saptığı bulgusu (Kılıç, 2020: 244) ile sorgulanmaya başlamıştır. Sunstein ile 2008 yılında yayınladıkları "Nudge: Improving Decisions About Health, Wealth, and Happiness" adlı eserde sundukları ve dürtme adını verdikleri yeni araç ise etkin politika tasarımı konusundaki teorik ve politik tartışmaların seyrini değiştirmiştir.

Thaler ve Sunstein (2008: 4-7) liberal paternalist bir yöntem olarak değerlendirdikleri dürtmeyi "insan davranışını tahmin edilecek bir şekilde, seçenekleri yasaklamadan ya da insanların muhatap olduğu ekonomik teşvikleri fazla değiştirmeden yönlendiren bir seçim mimarisi" olarak tanımlamışlardır. Bireyleri sağlıklı beslenmeye yönlendirebilmek için yemekhanedeki sağlıksız yiyecekleri yasaklamak yerine, yemeklerin sunulduğu sırasına dikkat ederek onları sağlıklı alternatiflere doğru dürtmenin etkili sonuçlar doğuracağını savunmuşlardır. Özellikle uzun süreli ekonomik teşviklere ve katı yasal gerekliliklere dayalı geleneksel politika araçlarının başarısız olduğu ya da sürdürülebilir olmadığı durumlarda küçük ve yumuşak müdahaleler ile kaçınılması kolay ve maliyetsiz bir şekilde bireylerin

<sup>5</sup> Belirsizlik altında karar vermenin insan davranışına etkisine ilişkin 1979 yılında sundukları "beklenti teorisine" göre; bireyler olumlu beklentilere sahip olduğunda (mutlak kazanç beklentisinde) riskten kaçınırken, olumsuz beklentiye sahip olduklarında (mutlak kayıp beklentisinde) ise risk almaktadırlar (Kahneman & Tversky, 1979: 268-269). Aynı zamanda Kahneman ve Tversky başvurdukları kayıptan kaçınma kavramı ile insanların olumlu etkilere veya kazanımlara kıyasla olumsuz etkilere veya kayıplara daha duyarlı olduğunu öne sürmüştür (Avineri, 2012: 515). Detaylı okuma için bkz. Kahneman ve Tversky (1979), *Prospect Theory: An Analysis of Decision Under Risk*, *Econometrica*, 47(2), 263-291.

<sup>6</sup> Thaler ve Sunstein (2003: 179) liberal paternalizmi "bireylerin seçim özgürlüğünü koruyan ancak hem özel sektöre hem de kamu otoritelerine insanları refahlarını artırıcı tercih ve kararlar yönlendirme yetkisi veren" bir yaklaşım olarak tanımlamıştır. Detaylı okuma için bkz. Thaler & Sunstein (2003), *Libertarian Paternalism*, *The American Economic Review*, 93(2), 175-179.

<sup>7</sup> Camerer vd. (2003: 1212) asimetrik paternalizmi; bir politikanın sınırlı rasyonel insanları hata yapmaktan alıkoyarak onlara fayda sağlarken tamamen rasyonel insanlara neredeyse hiç zarar vermemesi şeklinde gerçekleştirilen bir düzenleme olarak ifade etmişlerdir.

davranışlarında değişiklik yapılabileceği öngörülmüştür (Kuşseven, 2022: 60). Diğer politika araçlarına göre görece uygulaması daha kolay, daha az maliyetli, daha çağdaş bir yöntem ve insanlara özgür iradeleri ile karar verme seçeneği verdiği için de toplum nezdinde daha olumlu bir algı oluşturacağı düşünülen dürtmenin (Voyer, 2015: 3; Özdemir, 2017: 184) aynı zamanda kamu otoritelerinin mevcut siyasi ideolojilerle çatışma riskinde de azaltıcı bir etki yapacağı (Hansen & Jespersen, 2013: 7) öngörülmüştür.

Dürtme tekniği son yıllarda giderek popülaritesini artırsa da pek çok eleştiriyle de karşı karşıyadır. Özerklik, refah, haysiyet gibi *etik ilkelerle uyumsuzluk*; kamu otoritelerinin de sınırlı rasyonaliteye sahip insanlar olmaları ve vatandaşlara göre görece güce sahip olmaları nedeniyle *manipülasyon amacıyla kullanılma riski*; başvurduğu *metodoloji* ve davranış bilimi ile kamu politikası alanları arasındaki *tipolojik farklılıklar* dürtmeye yöneltilen en temel eleştiri<sup>8</sup> başlıklarıdır. Aynı zamanda dürtme, bireylerin karar verme süreçlerinin kusurlu olduğu önermesinden yola çıktığı için bireye pasif rol (Pykett, 2020) biçtiği şeklinde de eleştirilmektedir.

Dürtme yöntemine yönelik söz konusu endişelerin önemli bir oranda giderilmesinin ve bireylerin rasyonel uzmanlardan oluşan hükümetin edilgen, sınırlı rasyonaliteye sahip parçaları olarak algılanmasının önüne geçilmesinin yollarından biri, dürtmenin vatandaş katılımını artırma amacıyla kullanılmasıdır. Günümüzde kamu kurumlarının, demokratik meşruiyetlerini sağlamlaştırmak ve vatandaşlara daha kaliteli hizmet sunabilmek amacıyla vatandaş katılımını artırıcı uygulamalara giderek daha fazla önem verdiği (Uçar-Kocaoğlu & Saylam, 2017: 123) düşünüldüğünde, dürtmenin bu amaç için kullanılması toplumsal ve bireysel faydayı artırmanın dışında dürtme tekniğine yönelik olumsuz algıya yönelik de azaltıcı etkisi olacaktır. "İnsanlar yalnızca bilişsel cimri değillerdir, aynı zamanda yetenekli düşünürlerdir (John & Stoker, 2019)" önermesi yönetim anlayışına daha uygun bir önermedir. Yetenekli düşünürler olarak vatandaşların e-katılım oranlarını artırmada dürtmeden faydalanılması önem arz etmektedir. Ancak Türkçe literatürde "e-katılım" "vatandaş katılımı" ve "dürtme" anahtar kelimeleri ile yapılan araştırmada herhangi bir çalışmaya ulaşılamazken; İngilizce literatürde "citizen e-participation", "digital citizen participation" ve "nudge" anahtar kelimeleri ile yapılan araştırmada sınırlı sayıda çalışmaya<sup>9</sup> ulaşılmıştır. Bu nedenle çalışmanın sonraki başlığında Türk kamu yönetiminde vatandaşların e-katılımını engelleyen etmenlerle mücadelede davranışsal iktisat

<sup>8</sup> Dürtme yaklaşımına yönelik eleştirilere dair okuma için bkz. Özdemiray (2023), *Rethinking the Role of Nudge in Public Policy*, içinde: *Citizen-Centered Public Policy Making in Turkey* (ed.: Göçoğlu & Karkın), Springer Cham, 61-78.

<sup>9</sup> Google Scholar veri tabanında "citizen e-participation" ve "nudge" anahtar kelimeleri ile yapılan araştırmada 23 adet; "digital citizen participation" ve "nudge" kelimeleri ile yapılan araştırmada ise 5 adet çalışmaya ulaşılmıştır. Çalışmaların büyük çoğunluğunda (Ertiö, 2013; Ertiö, 2018; Aichholzer & Kubicek, 2013) dürtme tekniğinin sıklıkla kullanıldığı politika alanlarından olan enerji, iklim, geri dönüşüm, kent ve kentsel planlama-gelişme gibi konulara odaklanıldığı ve dürtmeye bu alanlarda başvurulabilecek bir politika aracı olarak yer verildiği görülmüştür. Yapılan literatür taramasında, çalışmanın amacı ile paralel bir şekilde bütüncül bakış açısıyla vatandaşların e-katılımını etkileyen faktörlere yönelik dürtme tekniğinin nasıl kullanılabileceğine odaklanan herhangi bir çalışmaya ulaşılamamış olup; belirli faktörlere yönelik dürtme tekniği ile tasarlanmış öneriler yer veren sınırlı sayıda çalışmaya (Butteris, 2015; Mason et al., 2012) ulaşılmıştır.



perspektifinden faydalanılarak dürtme tekniği ile yapılabilecek düzenleme önerileri sunulacaktır.

## 5. Vatandaşların E-Katılım Oranlarını Artırmaya Yönelik Bazı Dürtme Politikaları

Dürtme tekniği, davranışsal içgörülerini kullanarak bireyleri arzu edilen karara ya da tercihe yönlendirirken Şekil 3'te yer alan 4 temel ilkedен<sup>10</sup> faydalanmaktadır (Ekonomi Bakanlığı, 2018: 98-99; Halssworth et al., 2016: 4-5):

**Şekil: 3**  
**Dürtme Yönteminin Kullandığı Temel Davranışsal İçgörüler**



Kaynak: Ekonomi Bakanlığı'ndan (2018) yararlanılarak geliştirilmiştir.

Bireylerin karar verme süreçlerine yönelik önemli içgörülerden biri; bireylerin verdikleri kararlarda ya da eylemlerinde mümkün olduğunca çaba harcamaktan kaçınma isteğidir (Halssworth et al., 2016: 4). Bir eylemi gerçekleştirmek için gereken eforu azaltmak o eylemin gerçekleşme olasılığını artıracaktır (Ekonomi Bakanlığı, 2018: 98). E-katılıma yönelik farkındalığın ve bilincin gelişmesi için de e-katılımın vatandaşlar tarafından nasıl uygulanacağına yönelik bilginin açık, anlaşılır ve basit bir biçimde, efor gerektirmeyecek şekilde bireylere sunulması önemlidir. Çünkü bireyler kendilerine sunulan hizmetlerin ne olduğuna ve buna nasıl katılacaklarına yönelik çaba harcamada dururlarsa, çoğu zaman eylemde bulunmaktan kaçınacaklardır. Ayrıca, elektronik vatandaş katılımına yönelik politikaların insanlar üzerinde etki sağlaması için, dikkat çekici bir biçimde sunulması önem taşımaktadır. İnsanlar genellikle dikkat çeken şeyleri yapmaya eğilimlidirler (Halpern, 2015). Bireylerin e-katılım uygulamalarına yönelik en olumsuz çevrimiçi deneyimleri; çok fazla seçenekle karşı karşıya kalmaları, bu seçeneklerin kötü bir

<sup>10</sup> Bu ilkeler, İngilizce karşılıklarının ilk harflerinden oluşan EAST (easy, attractive, social, timely) kısaltması ile İngiltere'de Davranışsal İçgörü Takımı (Behavioral Insights Team) tarafından geliştirilmiştir (Murayama et al., 2023: 7-8; Ekonomi Bakanlığı, 2018: 18).

tasarımla sunulması ve anlaşılması güç bilgilerle şeffaflığın sağlanamaması (Butteriss, 2015) durumunda ortaya çıkacaktır.

E-katılıma yönelik sosyal etkiden faydalanmak için vatandaşların, diğer insanların da e-katılım yoluyla tercihlerini ifade ettiğini bilmesi faydalı olacaktır. Çünkü bireyler, diğer insanların ne yaptığından etkilenir (Thaler, 2015). Dürtme politikaları için en uygun zaman bireylerin hayatlarında önemli değişikliklerin olduğu, alışkanlıklarının değiştiği zamanlardır. Böylesi zamanlarda, onlara kısa vadede fayda ya da maliyet getirecek olan karar ve tercihlerin diğer ilkelere de dikkat ederek sunulması önemlidir (Ekonomi Bakanlığı, 2018: 99).

Bu temel ilkeler ışığında çalışmanın önceki bölümlerinde yer verilen Türk kamu yönetiminde e-katılımı vatandaş açısından etkileyen 4 ana etmene yönelik tasarlanacak dürtme politikaları vatandaş katılımını artıracaktır. Vatandaş katılımının artması ise Saylam'a (2021c: 81) göre kamu politikalarına ilişkin süreçlerde ve/veya kamu hizmetlerinin sunulmasında, iyileştirilmesinde ve geliştirilmesinde hem vatandaşlara hem de devletlere az maliyetle önemli katkılar sağlayacaktır. Vatandaşların e-katılımını artırmada geleneksel yöntemlerin yerine dürtme tekniğinden faydalanılması hem hedef davranış hem de başvuru politikaları açısından daha demokratik bir süreci de beraberinde getirecektir. Bu nedenle çalışmanın bundan sonraki başlığında vatandaş açısından e-katılımı etkileyen 4 temel faktöre yönelik dürtme teorisi ışığında önerilerde bulunulacaktır.

### **5.1. Vatandaşların E-Katılım Kararlarını Etkileyen Fonksiyonel Etmenlere Yönelik Dürtme**

Çalışmada Türk kamu yönetiminde vatandaş açısından kamu yönetimine e-katılımı etkileyen etmenlere yönelik çizilen çerçevede doğrultusunda, vatandaşların e-katılım kararlarında etkili olan faktörlerden biri fonksiyonel faktörlerdir. E-katılımın gerçekleştiği ortamın fonksiyonel nitelikleri bireylerin katılım kararları üzerinde etkiye sahiptir. Bu ortamın dürtme teorisinin önermelerinden faydalanılarak tasarlanması e-katılım oranlarını olumlu yönde etkileyerek vatandaşların ve toplumun elde edeceği fayda ve/veya değeri de artıracaktır. Geleneksel katılıma kıyasla e-katılım vatandaşlara zaman, maliyet ve kalite gibi avantajlar sağlamaktadır (Zheng & Schachter, 2017: 6-7). Dürtme tekniğinden faydalanılarak vatandaşların e-katılım uygulamalarına daha çok yönelmelerinin sağlanmasının bu avantajlar üzerinde artırıcı etkide bulunması olasıdır. Bu nedenle aşağıda dürtme teorisinden faydalanılarak fonksiyonel etmelere yönelik bazı önerilere yer verilmiştir:

#### ***Varsayılan seçenek uygulamasından faydalanmak***

Dürtme teorisinin dayandığı önemli davranışsal içgörülerden biri, bireylerin kayıpları kazançlardan daha büyük görmesidir. Bu sınırlılık nedeniyle bireyler mevcut durumlarını devam ettirme noktasında güçlü bir eğilime sahiptir. Söz konusu eğilim, bireylerin çoğu zaman -özellikle belirsizlik altında- kendilerine sunulmuş seçeneğe bağlı kalmalarına yol

açar (Kahneman et al.,1991). Örneğin Türkiye’de 2017 yılı itibari ile bireysel emeklilik sisteminde uygulamaya konulan otomatik katılım sistemi bu sınırlılıklardan faydalanılarak oluşturulmuş bir dürtme tasarımıdır. Çalışanlar için bireysel emeklilik sistemine dahil olma seçeneği kamu otoritelerince varsayılan seçenek olarak seçilmiş ve istendiği takdirde sistemden çıkılabilmesi noktasında bireylere özgürlük tanınmıştır. Bu sayede çalışanların sistemde kalma oranlarının artırılması amaçlanmıştır (Arısoy & Özdemiray, 2022). Örnekte olduğu gibi insanların davranışlarını olumlu yönde yönlendirmek için, seçeneklerin varsayılan olarak ayarlanması (opt in) önemli bir dürtme yöntemidir. Buradan yola çıkarak vatandaşların e-katılım oranlarını artırmak için;

- Türk kamu yönetiminde seçim mimarları; kamu politikalarına yönelik çevrimiçi tartışma/fikir beyanı forumlarında, bireylerin yorumlarına yanıt verilmesi durumunda bilgilendirme talep edip etmediğine yönelik beyanlarının sorulduğu işaret kutularından “bir yanıt gönderildiğinde bana bildir” seçeneğinin bireye seçili bir şekilde (varsayılan seçenek olarak) sunulmasını tercih edebilir. Bu müdahale, statüko eğiliminden yola çıkarak bireyleri daha fazla ve derin diyalog kurma noktasında dürtecektir (Butteris, 2015).

### ***Bireylerin seçim sürecini kolaylaştırmak***

Dürtme teorisinin temel ilkelerinden biri olan “kolaylaştır” ilkesine uygun olarak insanların kendilerine sunulan seçenekler arasında en “iyi” seçeneği seçmelerini sağlamak için;

- Türk kamu yönetiminde seçim mimarları; bireyleri internet ile etkileşime girme noktasında korkutmamak ve karar verme sürecini kolaylaştırmak için anlaşılır, sade ve kapsayıcı bir dil kullanmalıdır (Masonvd.,2012). Etkili bir çevrim içi ortam tasarımı için aşağıda yer alan temel kurallara dikkat edilmelidir (Butteris, 2015):
  - Sade bir dil ile yazmak,
  - Net bir eylem çağırısı yapmak,
  - Katılım için net bir teşvik sağlamak,
  - Mesajı, deneyimi kısa tutmak,
  - Gerek olan durumlar dışında, teknik ayrıntıları açılış sayfası metninin dışında bırakarak konuşma dili kullanmak.
- Türk kamu yönetiminde seçim mimarları; e-katılım aracı olarak geri bildirim kısıtlılığı nedeniyle görece anti-sosyal araçlar olan çevrimiçi anketler yerine çevrimiçi forumlar, çevrimiçi soru-cevap gibi farklı alternatiflere şans verebilir (Butteris, 2015). Bunun bireylerin elektronik cihazlara adaptasyonu üzerinde kolaylaştırıcı etkisi olabilir.

## 5.2. Vatandaşların E-Katılım Kararlarını Etkileyen Psikolojik Etmenlere Yönelik Dürtme

Türk kamu yönetiminde vatandaşların e-katılıma yönelik niyet ve girişimleri üzerinde etkili olan faktörlerden bir diğeri psikolojik faktörlerdir. Çalışmanın önceki başlıklarında yer verilen “sosyal etki, yararlılık, algılanan fayda, farkındalık düzeyi ve değer sağlama” unsurlarına yönelik aşağıda dürtme teorisinden faydalanılarak bazı önerilere yer verilmiştir:

### ***Psikolojik bir referans noktası yaratmada sosyal normların etkisinden faydalanmak***

Dürtme teorisi insanlara belli referans noktasının gösterilmesinin, kararlarında bu psikolojik referans noktasını baz alarak hareket etmelerine neden olacağını kabul eder (Erdoğan & Koç, 2021). Bu referans noktası için de sosyal normların gücünden faydalanmak mümkündür. Sosyal norm; bireylerin karar ve tercihlerinin toplumun çoğunluğa uyma yanlılığıdır (Thaler & Sunstein, 2019: 74-75). Bu yanlılıktan yola çıkarak vatandaşların e-katılımını artırmak için;

- Türk kamu yönetiminde seçim mimarları, “diğerlerinin” e-katılım davranışına yönelik bilgilerini vatandaşlara dikkat çekici bir şekilde sunmalıdır. Burada dikkat edilmesi gereken ise bilginin sunulma şeklidir. Gerber ve Rogers (2009: 178) New Jersey ve California’da gerçekleştirdikleri deneyde, ilgili yerlerde yapılan genel seçimlerde bireylerin oy kullanma niyeti üzerinde “diğerlerinin” davranışına yönelik bilginin sunulma şeklinin etkisini analiz etmişlerdir. Deney sonucunda genel seçimlere yönelik düşük katılım beklentisini vurgulayan mesajlardansa, yüksek katılım beklentisini vurgulayan mesajların daha etkili olacağını ortaya koymuşlardır. Buradan hareketle örneğin vatandaşların CİMER Yönetime Katıl Uygulaması’na yönelik katılımını artırma amacıyla tasarlanacak dürtme politikalarında diğerlerinin davranışına yönelik bilgi sunulurken, olası mesajın katılım oranının yüksekliğine dair çarpıcı bir nitelik taşıması faydalı olacaktır.

### ***Kestirmelerden faydalanmak***

Dürtme teorisi bireylerin gün içerisinde aldığı pek çok kararda sezgilerine ve deneyimlerine güvenme eğilimi ile kestirmeleri, aklına ilk geleni kullanma eğiliminde olduğunu kabul eder (Thaler & Sunstein, 2019). Bu önermeden yola çıkarak vatandaşların e-katılımını artırmak için;

- Türk kamu yönetiminde seçim mimarları; çevrim içi hizmetleri çevrim dışı alternatiflerine göre daha hızlı ve daha kaliteli bir hizmet olarak tanıtmalıdır. Nitekim bireyler statüko eğilimleri nedeniyle deneyimledikleri, bildikleri bir yolu ya da kararı devam ettirme eğilimindedirler. Bu sınırlılığın önüne geçmenin yolu özellikle ilk ve son tecrübelerinde kalite ve verimlilik yaşamalarıdır (Mason et al., 2012). Holgersson ve Karlsson’ın (2014) yaptıkları çalışmada da vatandaşların

kamu hizmetlerinin geliştirilmesi yönünde karar alma mekanizmalarına dahil olurken, e-katılıma yönelik önceki tecrübelerinin ve bu tecrübelerindeki memnuniyetlerinin etkili olduğu sonucunu elde etmişlerdir.

- Türk kamu yönetimindeki seçim mimarları için insanlardan bir kamu politikasına yönelik görüş bildirmelerini istemenin 'doğru zaman'ı genellikle, tartışılan konunun bireyler tarafından öğrenildiği ilk anlardır (Butteris, 2015). Nitekim bireyler aldıkları kararlarda çoğunlukla kestirmelerden faydalanırlar ve akıllarına hemen gelen olaylar, zihinsel olarak daha az erişilebilir olanlara göre karar süreçlerinde daha etkilidir (Kahneman et al.,1991; Thaler & Sunstein, 2019).

### ***Bugün elde edilen faydaya odaklanmak***

Dürtme teorisine göre bireyler bugün elde edecekleri faydaya, ileride elde edecekleri faydadan daha fazla değer verirler (Thaler & Susntein, 2019; Peksevim & Peksevim, 2020). Bireylerin bu sınırlılığınan yola çıkarak vatandaşların e-katılımını artırmak için;

- Türk kamu yönetiminde seçim mimarları; katılımın anlık çıktılarını olumlu, yaratıcı ve yapıcı hale getirerek sunmalıdır (Butteris, 2015).

### **5.3. Vatandaşların E-Katılım Kararlarını Etkileyen Demografik Etmenlere ve Sayısal Bölünmeye Yönelik Dürtme**

E-katılım konusu üzerine yapılan çalışmalarda bireylerin e-katılım oranlarını etkileyen faktörlerin başında katılımcıların demografik özellikleri ve dijital okuryazarlık yer almaktadır. Sayısal uçurumun oluşmasında ise cinsiyet, yaş, eğitim gibi kriterler etkilidir (Saylam, 2021c: 87). Çalışmanın ilk başlığında yer verildiği üzere dünyada kadınların, yaşlıların ve eğitim seviyesi düşük insanların e-katılım oranlarının daha düşük düzeyde olduğu görülmektedir. Türkiye İstatistik Kurumu'nun 2023 yılı Ağustos ayı Hanehalkı Bilişim Teknolojileri Kullanımı Araştırması sonuçları da ilgili tespit ile paralellik arz etmektedir. 2023 yılında evden internete erişim imkânı olan hanelerin oranı %95,5 olmuştur. İnternet kullanım oranı ise 16-74 yaş grubunda %87'dir. İnternet kullanım oranı erkeklerde %90,9, kadınlarda ise %83,3 olarak tespit edilmiştir. Son 12 ay itibariyle e-devlet hizmetlerini kullanan bireylerin oranı %73,9'dur. Son 3 aylık veri itibariyle 16-24 yaş grubu 96.6; 25-34 yaş grubu 97.7; 35-44 yaş grubu 94.6; 45-54 yaş grubu 88.6; 55-64 yaş grubu 68.1; 65-74 yaş grubu 40.7 olarak belirlenmiştir. Eğitim durumuna göre internet kullanma oranına bakıldığında ise okul bitirmede grubunda 35.3; ilkokul 75.9; ortaokul 93.6; lise 97.2; üniversite/yüksek lisans/doktora 99.4 olarak belirlenmiştir (<<https://data.tuik.gov.tr>>, 2023).

Demografik özellikler ve sayısal uçurumdan yola çıkarak kadınların, yaşlıların ve eğitim seviyesi düşük bireylerin e-katılım düzeylerini artırma noktasında aşağıda dürtme teorisinden faydalanılarak bazı önerilere yer verilmiştir:

### ***Kullanılan görsel ve mesajları dikkat çekici kılmak***

Dürtme teorisi insanların davranışlarını etkileyip yönlendirmede yazılı metinler yerine görselliğin ön plana çıktığı iletişim yollarını kullanmanın daha etkili olacağını kabul eder (Aldemir & Kaya, 2020). Görsel metinlerde ise özellikle toplum içerisinde e-katılım oranları görece düşük olan kesimlere odaklanılması faydalı olacaktır. Buradan yola çıkarak vatandaşların e-katılımını artırmak için;

- Türk kamu yönetiminde seçim mimarları; kullandıkları görsellerde yaşlıların, kadınların ve eğitim seviyesi düşük kişilerin görüntülerine yer vermeye; metinlerde, mesajlarda ise bu kişilerle benzer demografik özelliklere sahip olan bireylerin deneyimlerine yer vermeye dikkat etmelidir (Mason et al., 2012).

### ***Bilgilendirme***

Dürtme teorisi, bireylerin pek çok kararında sezgilerine, yakın tecrübelerine güvenerek hataya sürüklendiğini kabul eder. Bunun önüne geçilmesi bireylerin tam bilgiye ulaşması ve rasyonel karar verme süreci ile mümkündür. İnsanları bazı şeyler hakkında bilgilendirme ile davranışlarını yönlendirmek olasıdır (Erdoğan & Koç, 2021: 3). Bu nedenle vatandaşların e-katılımını artırmak için;

- Türk kamu yönetiminde seçim mimarları; yaşlıların, kadınların ve eğitim seviyesi düşük kişilerin e-katılım konusunda bilgilendirme sürecine önem vermeli, bu süreci dürtme teorisinin 4 temel ilkesine uygun bir şekilde yönetmelidir. Ekonomi Bakanlığı (2018: 223-227) tarafından yayınlanan "Senin Kararın Mı?" başlıklı çalışmada bakanlık personelinin kurum içi katılımçılık kültürünün gelişmesi için sunulan davranışsal müdahalelerden biri olan Lets Talk, Friday Talk gibi haftalık bilgilendirici toplantılara benzer toplantıların; vatandaşların e-katılımını artırma amacıyla toplumun farklı kesimlerine hitap edecek şekilde çevrim içi/dışı, kadınlara/yaşlılara/eğitim seviyesi düşük kişilere özel bir şekilde planlanması faydalı olacaktır.

### ***Cinsiyetin karar verme sürecindeki rolünü dikkate almak***

Bireylerin karar verme süreçlerinde cinsiyetin etkili olduğu; erkek ve kadınların karar verirken beyinlerinin farklı bölgelerinin aktif olduğu bilinmektedir (Bolla et al., 2004). Cinsiyetteki bu nörolojik farklılığı bireylerin karar verme davranışında da görmek olasıdır (Karademir, 2020). Lizarraga vd.'ye (2007) göre kadınlar karar verme süreçlerinde belirsizlikten ve şüpheden daha çok etkilenmekte, verdikleri kararların sonuçlarından daha fazla endişe duymakta ve sosyal baskıyı daha çok hissetmektedir. Erkekler ise, karar vermede kendilerine sunulan bilgilerin analizine ve kararın amacına ulaşmasına daha fazla önem vermektedir. Buradan yola çıkarak;

- Türk kamu yönetiminde seçim mimarlarının; kadınların e-katılım oranlarını artırmada onların katılım sürecine dair olası endişelerini azaltmak için çalışmanın

sonraki başlığında sunulan güvenlik ve gizlilik kriterleri çerçevesinde yasal konulara odaklanması anlamlıyken; erkeklerin e-katılımın oranlarını artırmada bilgilendirme tekniğinden faydalanması anlamlıdır.

#### ***Yaşın karar verme sürecindeki etkisini dikkate almak***

Yaş, karar verme davranışı üzerinde etkili olabilen faktörlerden biridir. Mata vd. (2011) çalışmalarında yaşlı bireylerin karar verirken, görece daha az bilgiyi daha uzun sürede kullanma ve bilişsel olarak daha az zorlayıcı stratejilere başvurma eğiliminde olduklarını ortaya koymuşlardır. Bu öngöründen yola çıkarak;

- Türk kamu yönetiminde seçim mimarları, yaşlıların e-katılıma karşı anlaşılabilir isteksizliğini kırmak için davranışsal değişim müdahalelerini "yaşlıların olduğu yerden" başlatarak öncelikle onları çevrimiçi ortamlara çekmelidir. Bunun için de yaşlılara normalde çevrim içi unsurlardan faydalanmadıkları ancak sık sık gerçekleştirdikleri davranışları internet aracılığıyla gerçekleştirmeleri imkânı tanınmalıdır. Örneğin yerel yönetim birimleri ya da postane gibi yerlerde yaşlıların kira, vergi ödemeleri gibi işlemlerini internet aracılığıyla yapmalarını teşvik etmek için personeller bulundurulmalıdır. Aynı zamanda hayatlarının büyük bir kısmında interneti kullanmayan yaşlılar için internetin kendisi karmaşık bir seçim ortamını temsil edebilir. Bu nedenle çevrim içi ortamlardaki mevcut içerik yelpazesi vatandaşların yaşının bilindiği durumlarda daraltılarak sade ve anlaşılır bir içerikle sunulmalıdır (Mason et al., 2012: 38-39).

#### **5.4. Vatandaşların E-katılım Kararlarını Etkileyen Yasal Konular, Güvenlik ve Gizlilik Etmenlerine Yönelik Dürtme**

Vatandaşların elektronik düzeyde sistemde olup olmadıklarını etkileyen önemli faktörlerden bir diğeri güvenlik ve gizlilik kriterleri çerçevesinde yasal konulardır. E-katılıma yönelik uygulamaların büyük bir çoğunluğunda vatandaşların kimlik bilgileri talep edilmektedir (Saylam, 2021c: 88). Bireylerin kişisel verilerinin gizliliğinin sağlanması ve bunların korunmasına yönelik endişe taşımamaları e-katılım kararını verme sürecinde önemli bir etmendir. Bireyleri karar verirken kaygılandıran durumlardan biri belirsizliktir. Bireyler belirsizliğin yarattığı güvensizlik hissi ve oluşturabileceği tehditlerin olası olumsuz etkisi ile karar süreçlerini yönlendirebilmektedir (Karademir, 2020: 179). Bu nedenle e-katılıma yönelik güvenlik ve gizlilik konusunun yasal mevzuatlarla garanti altına alınması önemli bir faktördür. Bunun dışında süreçteki olası endişeleri azaltarak bireylerin e-katılım düzeylerini artırma noktasında aşağıda dürtme teorisinden faydalanılarak öneride bulunulmuştur:

- Türk kamu yönetiminde hizmet sağlayıcılar stratejik hedeflere bağlı olarak<sup>11</sup> çevrimiçi anketlerde kayıt sürecini minimum tutmalı ve mümkünse tamamen ortadan kaldırmalıdır. Bir diğer alternatif ise önce girdileri toplamak ve ardından 'gönderim' sürecini tamamlamaktır (Butteris, 2015). Bireyler için her zaman bir politika veya planlama süreci, nihai karara ne kadar yakınsa ve dolayısıyla katılımının karar üzerinde potansiyel olarak ne kadar fazla etkisi olacaksa, karara yaptıkları katkıyı sahiplenme sorumluluklarının da o kadar fazla olduğu söylenilebilir. Bu öngörü bireylerin kişisel verilerinin kayıt altına alınması noktasında gizlilik ve güvenlik nedeniyle hissettikleri olası endişe ile birlikte değerlendirildiğinde; politika geliştirme sürecinin ilk aşamalarında çok geniş bir grup insanın fikirlerini, bu insanların katılım için kayıt yaptırmalarını talep etmeden kabul etmekte bir sakınca olmayabilir. Buna karşılık, politika geliştirme sürecinin sonraki, daha eleştirel ve sorgulayıcı aşamasında küçük, kararlı, daha şeffaf ve daha az endişeli bir grup insandan girdi almak ve bu nedenle oldukça derinlemesine bir kayıt süreci planlamak daha faydalı olacaktır (Butteris, 2015).

Yukarıda dürtme teorisinin temel ilkeleri ışığında kamu otoritelerinin birer seçim mimarı olarak vatandaşların e-katılım kararlarını yönlendirmede faydalanabileceği bazı öneriler sunulmuştur. Kamusal karar alma ve uygulama sürecinde vatandaşların etkisini artırmada teşvik etme, bilgilendirme ya da ceza yöntemi gibi geleneksel yöntemlerin dışında; süreçte etkili olan fonksiyonel, psikolojik, demografik etmenler ve sayısal uçurum sorunu ile yasal mevzuat, güvenlik ve gizlilik konularında yaşanan sorunlara çözüm üretmede dürtme dikkate değer bir alternatiftir.

## 6. Sonuç

Vatandaşların kendilerini ve toplumu ilgilendiren konulardaki karar mekanizmalarına katılımı (kamu politikaların oluşturulması, uygulanması, denetimi) ve idare ile etkileşim içerisinde olması devlet ve vatandaşa birçok açıdan fayda sağlamaktadır. Teknolojideki inovasyon ve gelişmeler de vatandaşın yönetimde söz sahibi olmasına yönelik kolaylaştırıcı araçlar sunarak, sürecin daha çok katılımıyla, şeffaf, hesapverebilir ve az maliyetli sürdürülebilir olmasını hedeflemektedir. Demokrasinin vazgeçilmez unsuru olarak vatandaşın kamu yönetimine katılımı Türk kamu yönetiminde de çeşitli uygulamalarla merkezi ve yerel düzeyde artarak kendine yer edinmektedir. Vatandaşın kamu yönetiminde e-katılımını artıracak politikalar ile bu süreç daha etkin yönetilebilir. Bu kapsamda Türk kamu yönetiminde nispeten yeni ve giderek önem kazanan elektronik vatandaş katılımında, vatandaşların davranışlarını yönlendirmeye yönelik dürtme politikaları katılımı artırmada önemli bir araç olarak kullanılabilir.

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<sup>11</sup> Katılım oranını artırmak ya da bireylerin bilgilerinden oluşan bir veri tabanı oluşturmak gibi farklı hedefler kayıt sürecinin zamanının ve içeriğinin şekillenmesinde etkili olmakla birlikte dikkat edilmesi gereken bireylerin harcayacağı eforun asgari seviyede tutulmasıdır.



Bireylerin karar verme sürecinde rasyonelitetlerini sınırlandıran psikolojik etmenlere yönelik ortaya konan davranışsal içgörülerini temel alan dürtme; seçim mimarları olarak politika yapımcıların bireyleri, kendileri ve toplum için faydalı olana yönlendirmesidir. Geleneksel politika araçlarına nazaran daha az maliyetle etkili sonuçlar doğurma potansiyeli, bireyler için daha özgürlükçü bir seçim ortamı sunması ve daha az müdahaleci bir hükümet ile daha iyi bir yönetim imkânı sağlama olasılığı ile dürtme, çoğunlukla çağdaş bir kamu politikası aracı olarak değerlendirilmektedir. Ancak dürtme tekniğinin bireyleri karar verme sürecinde pasivize ettiği ve seçimlerini görece güce sahip politika yapımcıların manipülasyonuna açık hale getirdiği eleştirileri de göz ardı edilmemelidir. Nitekim bu eleştirileri dürtmenin, katılım ve kamusal diyalog gibi demokratik değerlerle çelişmesi olarak algılamak da mümkündür. Kamu otoritelerinin dürtme tekniğine, kamu yönetiminde vatandaşların e-katılımını artırma amacıyla başvurmasının; devlete ve vatandaşlara sağlayacağı olası faydaların dışında dürtme teorisyenlerinin bu eleştirilerden kurtulabilmesine de katkısı olacağı öngörülmektedir. Bu doğrultuda çalışmada Türk kamu yönetiminde vatandaş açısından e-katılımı etkileyen faktörlere olası bir çerçeve çizilerek, katılımı artırmaya yönelik dürtme politikaları geliştirilmiştir. Çalışmada Türk kamu yönetiminde e-katılımı etkileyen faktörler literatürden yararlanılarak 'fonksiyonel, psikolojik, demografik etmenler, sayısal uçurum ve katılma yönelik yasal konular, güvenlik ve gizlilik konuları' olarak dört temel olası etken olarak kategorileştirilmiş, bu kategorilere yönelik dürtme politikaları geliştirilmiştir (bkz. Tablo 1).

**Tablo: 1**

**Vatandaşların E-katılım Oranlarını Artırmaya Yönelik Bazı Dürtme Politikaları**

<b>Vatandaşların E-Katılım Kararlarını Etkileyen Fonksiyonel Etmenlere Yönelik Dürtme</b> Varsayılan seçenek uygulamasından faydalanmak Bireylerin seçim sürecini kolaylaştırmak
<b>Vatandaşların E-Katılım Kararlarını Etkileyen Psikolojik Etmenlere Yönelik Dürtme</b> Kestirmelerden faydalanmak Bugün elde edilen faydaya odaklanmak
<b>Vatandaşların E-Katılım Kararlarını Etkileyen Demografik Etmenlere ve Sayısal Uçuruma Yönelik Dürtme</b> Kullanılan görsel ve mesajları dikkat çekici kılmak Bilgilendirme Yaşın karar verme sürecindeki etkisini dikkate almak
<b>Vatandaşların E-katılım Kararlarını Etkileyen Yasal Konular, Güvenlik ve Gizlilik Etmenlerine Yönelik Dürtme</b> Kayıt sürecine yönelik ortaya çıkabilecek endişeleri azaltmak

Tablo 1'de politika yapımcıların Türk kamu yönetiminde vatandaşların e-katılımını artırmada başvurabileceği alternatif bir yol olarak sunulan dürtme tekniği ile tasarlanmış öneriler yer almakla birlikte bu önerilerin geleneksel politika araçlarının tamamlayıcısı olarak mi kullanılması gerektiği, yoksa tek başına dürtme tekniğinin yeterli mi olacağı sorusu akıllara gelmektedir. Bu sorunun cevaplanabilmesi için ilgili politikaların etkinliğinin kontrollü deneysel tasarımlar ve alan araştırmaları aracılığıyla test edilerek kanıtlanması gerekmektedir. Ayrıca çalışmada Türk kamu yönetiminde vatandaş açısından e-katılımı etkileyen faktörlere yönelik yapılan çıkarımların da alan araştırmaları ile genişletilmesi ve kategorileştirilebilmesi mümkündür. Gelecek çalışmaların bu odaklara yönelmesinin vatandaşların kamu politikalarının ortak bir paydaşı olabilmesinde önemli katkılar sağlayacağı öngörülmektedir.

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## Finansal Kısıtların Firmaların Vergi Planlama Eğilimleri Üzerindeki Etkisi<sup>1</sup>

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### The Effect of Financial Constraints on The Tax Planning Tendencies of Companies<sup>2</sup>

#### Abstract

In the face of financial constraints, companies often turn to tax planning to raise funds without an increase in their debt or equity capital. This study aims to analyse the impact of financial constraints on the tax planning tendencies of firms in Türkiye. For that purpose, regression analysis has been performed on data collected from semi-structured interviews with 35 companies operating in Türkiye. Based on the results of the regression analysis, it was found that there is a positive and statistically significant relationship between the two variables. The regression analysis was repeated by including dummy variables such as number of employees, type of company, annual turnover and period of operation. It was concluded that each variable has a positive and significant effect on the tax planning tendency of the companies.

**Keywords** : Tax Planning, Financial Constraint, Tax Planning Tendency, Tax Avoidance.

**JEL Classification Codes**: G32, H25, H26.

#### Öz

Finansal kısıt yaşayan firmalar borçlarını veya öz sermayelerini artırmadan kaynak yaratmanın bir yolu olarak vergi planlamasını kullanmaktadır. Bu çalışmanın amacı Türkiye’de finansal kısıtların firmaların vergi planlama eğilimleri üzerindeki etkisini analiz etmektir. Bu kapsamda Türkiye’de faaliyetlerini sürdüren 35 firmadan yarı yapılandırılmış görüşme yöntemi ile elde edilen verilere regresyon analizi yapılmıştır. Değişkenler arasındaki ilişkinin istatistiki olarak anlamlılığını test etmek için yapılan regresyon analizi sonuçlarına göre iki değişken arasındaki ilişkinin pozitif ve istatistiksel olarak anlamlı olduğu bulunmuştur. Son olarak regresyon analizleri, firmalara ait çalışan sayısı, firma türü, yıllık ciro ve faaliyet süresi gibi kukla değişkenler dahil edilerek yeniden yapılmış ve her bir değişkenin firmaların vergi planlama eğilimi üzerinde pozitif ve anlamlı bir etkiye sahip olduğu sonucuna ulaşılmıştır.

<sup>1</sup> Bu çalışma Prof.Dr. Hakan Ay danışmanlığında Öznur Yuvalı tarafından hazırlanmakta olan “Türkiye’de Finansal Kısıtların Firmaların Vergi Planlamaları Üzerindeki Etkisi” adlı doktora tezi esas alınarak hazırlanmıştır. (Doktora Tezi, Dokuz Eylül Üniversitesi, İzmir, Türkiye, 2024).

<sup>2</sup> This article is derived from Öznur Yuvalı’s doctoral dissertation, “The Effect of Financial Constraints on The Tax Planning of Companies in Turkey,” supervised by Prof.Dr. Hakan Ay (Ph.D. Dissertation, Dokuz Eylül University, İzmir, Türkiye, 2024).

**Anahtar Sözcükler** : Vergi Planlaması, Finansal Kısıt, Vergi Planlama Eğilimi, Vergiden Kaçınma.

## 1. Giriş

Devletler açısından önemli bir gelir kaynağı olan vergiler, mükellefler açısından bir maliyet unsuru olabilmektedir. Bu sebeple vergilendirme alanında meydana gelen değişikliklerin mükelleflerin vergi yüklerini artırması durumunda mükelleflerin vergi düzenlemelerine karşı tepkilerinin oluşması muhtemeldir. Bu tepkinin şiddeti kullanılabilir gelirin azalmasına, yatırım alanlarındaki kazancın düşmesine ve diğer sosyal ve psikolojik etkilere bağlı olarak değişebilmektedir. Bazı mükellefler tepkisini yasal sınırlar içinde vergi yüklerini azaltmaya çalışarak gösterirken, bazı mükellefler de yasal gerekliliklere uymayarak vergi ödememeyi tercih edebilmektedirler.

Günümüzde giderek yaygınlaşan vergi planlaması uygulaması mükelleflerin vergi yüklerini azaltmaya yönelik bir tepkisi olarak karşımıza çıkmaktadır. Genel olarak baktığımızda vergi planlamasını, mükelleflerin vergi yüklerini azaltmak için kendilerine yasal olarak sunulan muafiyet, istisna, teşvik ve indirim gibi uygulamaları optimum düzeyde kullanması olarak tanımlanmak mümkündür. Firmalar vergi planlaması ile sadece vergi yüklerini azaltmakla kalmaz, aynı zamanda kullanılabilir gelirlerini artırarak kendilerine iç kaynak yaratma noktasında çeşitli avantajlar da sağlayabilmektedir. Şöyle ki, firmalar genellikle oluşan finansman ihtiyaçlarını kredi temin etme yoluyla karşılayabilmektedir. Ancak gerek firmanın bilanço yapısından gerekse de ülkelerin içinde bulunduğu ekonomik koşullardan dolayı firmaların kredi imkanlarına erişebilmesi zor olabilmektedir. Dolayısıyla firmalar finansal kısıt yaşadıkları bu tür dönemlerde vergi planlamasını bir finansman kaynağı olarak kullanabilmektedir. Nitekim vergi planlaması, özellikle dış finansman kaynaklarına ulaşmakta zorluk yaşayan firmaların finansal kısıt yaşadıkları süreçte başvurdukları güvenilir bir alternatif olarak değerlendirilmektedir.

Bu açıdan çalışmanın amacı, Türkiye’de finansal kısıtın firmaların vergi planlama eğilimleri üzerindeki etkisini analiz etmektir. Çalışmanın Türkiye özelinde ele alınmamış olması, çalışmanın literatüre katkı sunma potansiyeline sahip olduğunu göstermektedir. Ayrıca konu finansal açıdan firmaları etkileyebileceği için firmalar üzerinde farkındalık oluşturabileceği değerlendirilmekte olup vergi planlamasına yönelik kamu politikalarının gözden geçirilmesi noktasında da öneriler sunmaktadır.

Bu kapsamda çalışmanın ilk bölümünde vergi planlaması kavramına değinilmiş, ikinci bölümünde vergi planlamasının nedenleri ve bu alanda yapılan literatür incelenmiş, özeldense finansal kısıtların vergi planlamasına etkisine yönelik literatür ayrı bir başlıkta ele alınmıştır. Son bölümde ise yarı yapılandırılmış görüşmelerden elde edilen verilerin analizi ve değerlendirmesi yapılmıştır.

## 2. Vergi Planlaması Kavramı

Vergi planlaması literatürde ilk kez 1920’li yıllarda Alman maliyeci ve hukukçular tarafından “işletme vergiciliği” olarak kullanılmış, Almanya’dan Amerika’ya geçişinde “vergi planlaması” olarak değişmiştir (Buyrukoğlu & Şimşek, 2022: 59). Vergi planlaması genel olarak vergi mükelleflerinin vergi yüklerini azaltma, vergi yüklerini azaltırken de sıfır vergi riskini gerçekleştirme amaçlarına ulaşmak için yaptıkları işlemleri ifade etmektedir (Ting et al., 2018: 831). Ancak günümüzde vergi planlamasını sadece mükellefler değil, vergi politikalarını etkin bir şekilde uygulamak ve vergi gelirlerini artırmak maksadıyla devletler de kullanmaktadır. Bu açıdan baktığımızda mükelleflerin daha az vergi ödemeye yönelik yaptıkları vergi planlamasına *mikro vergi planlaması*, devletlerin daha fazla vergi toplamaya yönelik yaptıkları vergi planlamasına ise *makro vergi planlaması* denilmektedir (Eroğlu & Eftekin, 2015: 240). Her ne kadar vergi planlaması hem mükellefleri hem de devleti ilgilendiren bir konu olsa da genel uygulamada akıllara ilk olarak mikro vergi planlaması gelmektedir. Mikro vergi planlamasını mükellefin niteliğine göre *bireysel ve kurumsal vergi planlaması* olarak; yetki sınırına göre *ulusal ve uluslararası vergi planlaması* olarak ayırmak mümkündür (Kabakçı-Karadeniz, 2020: 11). Genel bir tanım olarak baktığımızda mikro vergi planlaması, mükelleflerin vergi yüklerini azaltırken yasa dışı yollara başvurmaksızın, yasaların tanıdığı muafiyet, istisna ve indirim gibi hakların daha bilinçli kullanılmasıyla daha az vergi ödemeyi sağlamaya yönelik bir süreçtir. Kısaca yasal sınırlar dahilinde kalarak vergiden kaçınmaya yönelik yol ve yöntemlerin sistematik olarak planlanmasıdır (Gökten & Karabudak, 2017: 548).

Vergi planlamasına ilişkin literatürde yer alan çeşitli tanımların yanı sıra vergi planlaması başka kavramlarla benzerlik göstermekte, hatta karıştırılabilmektedir. Bu kavramların başında vergiden kaçınma gelirken, vergi kaçakçılığı, vergi yumuşatması, vergi arbitrajı gibi kavramlar da akla gelmektedir. Vergi yumuşatması planlı ve yasal bir eylem iken vergi kaçırma plansız ve yasadışı bir eylem olarak tanımlanmaktadır. Vergiden kaçınma ise bu iki kavram arasında kalmaktadır. Yasalar dahilinde gerçekleştirilmesi ve suç teşkil etmemesi yönleriyle vergi yumuşatmasına benzemekte (Şengül-Çelikay, 2019: 357); devletin planlaması dahilinde olmaması, kanunların kötüye kullanılması ve istismarı şeklinde ortaya çıkabilmesi yönüyle de vergi kaçırma benzemektedir (Çiçek & Sabbağ, 2016: 44). Vergi arbitrajı ise mükelleflerin, vergi türleri içerisinde oran ve işlemsel olarak daha hafif ve kolayını seçerek vergi avantajı elde etme çalışması olarak tanımlanmaktadır (Ay, 2019: 178). Genel çerçeveden baktığımızda vergi planlaması, vergi kanunlarına uygun olarak tüm vergi ödev ve yükümlülüklerinin yerine getirildiği, vergiyi doğuran olayı engellemek yerine işlemlerin hem ekonomik kazanç sağlayacak hem de vergi yükünü azaltacak şekilde dizayn edildiği stratejik bir yaklaşım olarak diğer tüm düzenlemelerden ayrılmaktadır.

## 3. Vergi Planlamasının Nedenleri

Firmaların vergi planlaması yapma tercihleri değişebileceği gibi vergi planlaması yapma nedenleri de değişkenlik göstermektedir. Vergi planlamasının nedenlerini (i)

mevzuat kaynaklı nedenler, (ii) ekonomik ve mali nedenler ve (iii) sosyo-psikolojik nedenler olarak sınıflandırmak mümkündür. Vergi oranlarının ve vergi yükünün yüksekliği, vergi sisteminin karmaşıklığı ve sık sık değişmesi mevzuat kaynaklı nedenler içerisinde yer alırken; enflasyon oranları, rekabet koşulları, finansal kısıtlar, firmaların kârlılık düzeyi ve likidite ihtiyacı ekonomik nedenleri oluşturmaktadır. Firma sahiplerinin veya yöneticilerin vergi bilinci, vergiye uyum süreci ve vergi adaletine olan güveni de vergi planlamasının sosyo-psikolojik nedenleri arasında sayılabilir (Saraçoğlu & Çakır, 2017: 97). Vergi planlamasının uygulanmasında etkili olan bu nedenlerden bazıları literatürde çeşitli açılardan ele alınarak incelenmiştir.

Bu çalışmaların bir kısmı vergi planlamasını vergiden kaçınma özelinde incelemiş ve mükelleflerin profilinin vergiden kaçınma davranışı üzerindeki etkilerine odaklanmışlardır. Çiçek ve Sabbağ (2016) Isparta ilinde yaşayan gelir vergisi mükellefleri üzerine yaptıkları çalışmada mükelleflerin çoğunda vergiden kaçınma davranışının rasyonel bir davranış olarak görüldüğünü bulgulamışlar ve bu kişilerin tüketim ve yatırım tercihlerinde daha az vergi ödeme eğiliminde olduklarını tespit etmişlerdir. Demografik özelliklerden ise yaş, cinsiyet ve eğitim durumunun vergiden kaçınma algısı üzerinde daha anlamlı sonuçlar verdiğini gözlemişlerdir. Wu (2018) ise yöneticilerin kişisel özelliklerinin vergiden kaçınma üzerindeki etkilerini incelediği çalışmasında, siyasi bağlantı, kişisel vergi saldırganlığı, narsist davranış ve askeri geçmişi birer etken olarak ele almış ve yöneticileri vergiden kaçınma konusunda etkileyen bir başka unsurun ise özellikle mali kısıtları olan firmalarda teşvik ve fırsatların değerlendirilme çabası olduğunu ortaya koymuştur. Sandalcı (2020) tarafından yapılan çalışmada ise ekonomik faktörlerin, vergi sistem faktörlerinin (vergi sisteminin karmaşıklığı, vergi denetimleri, vergi mevzuat bilgisi), ahlaki-psikolojik faktörlerin vergiden kaçınma üzerindeki etkisi araştırılmıştır. TR33 bölgesinde yaşayan ve doğrudan ve dolaylı vergi mükellefi olan kişiler üzerine yapılan araştırmanın sonucuna göre ekonomik faktörlerin ve vergi sistem faktörlerinin vergiden kaçınma üzerinde olumlu, ahlaki-psikolojik faktörlerin ise olumsuz yönde etkili olduğu ve mükelleflerin vergiden kaçınma eğilimlerinin yüksek olduğu tespit edilmiştir. Butt vd. (2021) ise vergi mükellefi olarak firmaları mali açıdan kısıtlı ve kısıtlı olmayan firmalar olarak ayırmış ve vergiden kaçınma ve yatırım stratejileri arasındaki bağlantıyı bu firmalar özelinde analiz etmiştir. Çalışmada, kısıtlı firmaların agresif bir şekilde vergiden kaçınma davranışlarında buldukları, nakit tasarrufu için vergi tasarrufuna odaklandıkları ve iç finansman yoluyla elde ettikleri nakit tasarruflarını gelecekteki yatırım projeleri için kullandıkları sonucuna ulaşılmıştır. Mali açıdan kısıtlı olmayan firmaların ise kısa vadede vergiden kaçınma faaliyetlerinde buldukları, ancak uzun vadede bulunmadıkları tespit edilmiştir. Vergiden kaçınma konusunu ele alan bir diğer çalışma ise Bayar vd. (2018) tarafından gerçekleştirilmiş, ancak yazar yukarıdaki çalışmalardan farklı olarak kurumsal yönetimin firmaların vergiden kaçınma davranışı ve finansal kısıtlar üzerindeki etkisine odaklanmıştır. Çalışmadan elde edilen ampirik bulgular, vergi yönetiminin finansal kısıtlar üzerindeki etkisinin, yönetim düzeyine ve finansal kısıtlara bağlı olarak değiştiğini göstermiştir. Buna göre, güçlü kurumsal yönetime sahip firmalarda, vergi yönetimi ve vergi korumasının finansal kısıtlar üzerindeki etkisi daha zayıf veya önemsiz olarak tespit edilmiş; aynı şekilde

zayıf yönetime sahip firmalarda vergi yönetimi ve vergi korumasının daha büyük mali kısıtlarla ilişkili olduğu ortaya konmuştur.

Vergi planlaması konusu vergiden kaçınma dışında prestij göstergesi olarak da ele alınmıştır. Cooper ve Nguyen (2019) Amerika'daki çok uluslu şirketleri vergi planlamasına teşvik eden motivasyon ve fırsatlar arasındaki etkileşimi inceledikleri çalışmalarında firmaların ortalama vergi oranlarını minimum seviyeye çekmek yerine optimum düzeyde tutmaya çalıştıklarını gözlemişler, yöneticilerin bu yolla şirket itibarını korunmaya ve denetim riskini azaltılmaya çalıştıklarını tespit etmişlerdir. Yazarlar ayrıca firmaların vergi planlaması yapma motivasyonlarını şu şekilde özetlemişlerdir: (i) Firma stratejisinin görünümü; firma kültürü, firmanın hissedarlarına karşı sorumluluğu ve hissedarlar üzerindeki etkileri; merkez ve yan kuruluşlar arasındaki ilişkiler, (ii) bir firma için itibarın önemi; risk ve ödül dengesi, (iii) firmayı yöneten kişiler, kişisel etik ve deneyimleri, (iv) firmanın mali durumu ve (v) ödenen vergilerin miktarı.

Vergi planlamasının ele alındığı bir diğer husus ise vergi planlamasının bir iç finansman kaynağı olmasıdır. Edwards vd. (2013) firmaların bir iç fon kaynağı olan vergi planlaması yoluyla elde ettiği nakit tasarrufları ile makroekonomik ve firmaya özgü düzeydeki finansal kısıtları arasındaki ilişkiyi analiz etmişlerdir. Buna göre dış fonları daha maliyetli olan firmaların vergi planlaması yoluyla iç fonlarını artırma çabasına girdiklerini ve finansal kısıt dönemlerini takiben hem kalıcı hem de ertelemeye dayalı stratejilerle vergi planlama düzeyini artırdıklarını tespit etmişlerdir. Çelikay ve Şengül-Çelikay (2021) ise vergi planlamasını etkin vergi oranına ulaşmada bir iç finansman kaynağı olarak ele almışlar ve bunun araştırma-geliştirme (Ar-Ge) faaliyetleri üzerindeki etkisini incelemişlerdir. 2010-2019 yılları arasında faaliyet gösteren ve bu dönemler arasında süreklilik arz edecek şekilde Ar-Ge faaliyetlerinde bulunan 73 firma üzerinden elde edilen bulgular etkin vergi oranının toplam araştırma geliştirme harcamaları üzerinde etkili olmadığını, ancak araştırma geliştirme harcamalarının dağılımını etkilediğini ortaya koymuştur. Öte yandan Şanver (1968), vergi oranlarının ve çeşitliliğinin artmasının, verginin mali amacının dışında sosyal ve ekonomik amaçlarla kullanımının yaygınlaşmasının, devletin bazı vergisel işlemlerde firmaları sorumlu kılmasının firmaların vergi yüklerini artırdığını ve bu sebeple firmaların vergi planlamasına yöneldiğini vurgulamıştır.

Ayrıca günümüzde vergiler, bir firmanın sermaye yapısı, coğrafi konumu, temettü politikaları gibi birçok yönetsel kararda da rol oynayan bir unsur haline gelmektedir. Tüm bunlara ek olarak vergilendirme; ürün yatırımları, yatırım fonlarının seçimi, varlık tahsisi ve diğer finansal yatırımlara yönelik alternatiflerin seçilmesi gibi çeşitli yatırım kararlarını etkilemektedir (Malaquias & Borges-Junior, 2019: 842). Dolayısıyla vergi planlaması, firmaların sermaye yapısı, temettü politikaları, finansman ve borç kararları, tazminat politikası ve hatta risk yönetimi gibi birçok alandaki karar verme süreçlerinde göz önünde bulundurulmaktadır (Kouroub & Oubdi, 2022: 596). Firmaları vergi planlaması yapmaya yönelten süreçlerden biri de firmaların karşılaştığı finansal kısıtlar olup bir alt başlıkta vergi planlaması ve finansal kısıt ilişkisi ele alınmıştır.

#### 4. Vergi Planlaması ve Finansal Kısıt İlişkisi

Finansal kısıt, bir firmanın gelirlerinin giderlerinden az olması durumunu ifade eder. Carreira ve Silva (2010) finansal kısıtı bir firmanın optimal büyüme yollarını finanse etmek için gerekli miktarları (genellikle dış finansman sıkıntısı nedeniyle) arttıramaması olarak da tanımlamıştır. Dolayısıyla finansal kısıtlar, firmaların arzu ettikleri yatırımları yapmalarının önündeki engeller olarak ifade edilebilir. Bu engellerin nedenleri, kredi kısıtları, hisse senedi ihraç sorunları, finansal kurumlara bağlılık veya varlıkların likit olmaması olabilmektedir (Butt et al., 2021: 130). Finansal kısıtların olduğu aşamada firmalar, mevcut giderlerini azaltma ve kendilerine yeni bir kaynak yaratma arayışına girebilmektedir. Bu noktada firmalar açısından bir maliyet unsuru olan vergilerin diğer maliyet unsurlarında olduğu gibi firmalar tarafından azaltılması çabası söz konusu olabilmektedir (Eroğlu & Eftekin, 2015: 241). Zira finansal işlemlerle yakın ilişkisi olan vergi uygulamaları, mükelleflerin ekonomik kararları üzerinde oldukça etkilidir. Vergi mevzuatındaki değişiklikler, işletmelerin özellikle üretim ve satış planlarında değişikliklere yol açabilmektedir (Eroğlu & Eftekin, 2015: 240). Bu kapsamda vergi planlaması; vergi mükelleflerini, finansal işlemlerinin zamanlamasını vergi planlaması ile uyumlu hale getirmeye yönelmektedir. Gerek gelirin gerek satın almaların gerekse diğer harcamaların zamanlaması, daha az vergi ödemeye yönelik planlandığından vergi planlaması, bir mali durum analizi olarak da kabul edilebilir (Çelikay & Şengül-Çelikay, 2021: 148). Ayrıca vergi planlaması firmalara çeşitli avantajlar sağlamaktadır. Vergi planlamasını bilinçli bir şekilde yapan firmalar özellikle cezai işleme maruz kalmaksızın vergi yüklerini azaltabilmekte, nakit akışlarını düzenleyebilmekte, rakiplerine karşı maliyet avantajı elde edebilmekte ve daha esnek ticari politikalar oluşturarak alternatif politika tasarımları üretebilmektedirler (Eroğlu & Eftekin, 2015: 241). Vergi planlamasını, ayrıca, firmaya nakit girişi sağlayan bilanço dışı bir finansman kaynağı olarak gören yaklaşımlar da mevcuttur. Buna göre vergi planlaması dış finansman maliyetlerindeki artıştan ya hiç etkilenmediği ya da çok az etkilendiği için firmanın finansman ve yatırım kararları arasındaki etkileşimin bir aracı olarak kullanılabilir (Campbell et al., 2021: 1964). Bu nedenle vergi planlaması sermaye yönetiminde bir finansman kaynağı olarak görülmekte, özellikle dış finansmana erişememe olasılıkları vergi planlaması konusunda firmaları motive etmektedir. Ayrıca vergi planlamasının, işgücü maliyetlerinin azaltılması, kullanılmayan varlıkların elden çıkarılması gibi diğer maliyet azaltma yöntemlerine nazaran işletmeye daha az zarar verdiği de düşünülmektedir (Sun et al., 2020: 510). Bu kapsamda firmaların karşılaştığı bu finansal kısıtlar, firmalar açısından vergi planlamasının önemini artırmaktadır. Özellikle sermaye piyasası yeterince gelişmemiş ülkelerde finansal kısıtlarla karşılaşan firmaların dış finansmana erişmesi ya çok zordur ya da çok maliyetlidir. Bu da firmaların iç kaynaklarına yönelmesini, çeşitli faaliyetlerini sürdürdürebilmesi için vergiden kaçınarak kendisine iç kaynak yaratma çabasına girmesine yol açmaktadır (Alm et al., 2019: 73).

Finansal kısıt - vergi planlaması ilişkisi literatürdeki çalışmalarda iki yönlü olarak ele alınmıştır. İlk grupta yer alan çalışmalar vergi planlamasının finansal kısıt üzerindeki etkisine odaklanırken, diğer grupta yer alanlar finansal kısıtın vergi planlaması üzerinde etkili olduğunu belirtmişlerdir. Bu iki gruptan bağımsız olarak Can ve Coşar (2023) finansal

kısıt endeksi oluşturma üzerine bir çalışma gerçekleştirmiştir. Türkiye Cumhuriyet Merkez Bankası tarafından yapılan Yatırım Eğilim Anketi kullanılarak yaptıkları çalışmalarında, Türkiye ekonomisinde faaliyet gösteren firmalar için daha uygun olan bir finansal kısıt endeksi oluşturmuşlardır. Endeksin oluşturulmasında firmalara özgü değişkenler olan firma yaşı, büyüklük, büyüklükteki değişim, kaldıraç, maddi duran varlıklar ve ihracat payı birer ölçüt olarak kullanılmıştır. Çalışmada bu endekse göre finansal kısıtlı kabul edilen firmaların kredibilitelerinin daha düşük olduğu, krediye erişimde zorlandıkları, finansal kısıtların uzun vadede firma değeri ve yatırımları üzerinde azaltıcı bir etkisinin olduğu tespit edilmiştir. Finansal kısıt - vergi planlaması ilişkisinin ilk grubunda bulunan çalışmalar arasında yer alan Sun vd. (2020) tarafından yapılan çalışmada, kurumlar vergisi planlamasının finansal kısıtları azaltıp azaltmadığı incelenmiştir. Çin’de borsaya kayıtlı firmalar üzerinde yapılan araştırmada vergi planlamasının finansal kısıtları azalttığı tespit edilmiş, ayrıca kurumlar vergisi planlamasının finansal kısıtları azaltma etkisinin KİT’lerde, büyük firmalarda, siyasi olmayan firmalarda ve Çin’in doğu bölgesindeki firmalarda daha belirgin olduğu tespit edilmiştir. Son olarak vergi planlamasının kısa vadede finansal kısıtları hafiflettiği, uzun vade için ise daha sürdürülebilir politikalar öngörülmesi gerektiği vurgulanmıştır. Finansal kısıtın vergi planlaması üzerindeki etkisini inceleyen ikinci grupta bulunan çalışmalar arasında yer alan Alm vd. (2019) tarafından yapılan çalışmada finansal kısıtların firmaların vergi kaçırma eğilimleri üzerindeki etkisi araştırılmıştır. Dünya Bankasının çeşitli ülkelerdeki firmalar üzerinde yaptığı İş Ortamı ve Kurumsal Performans Anketi’nden elde edilen verilerin kullanıldığı çalışmada, firmaların karşılaştığı finansal kısıtların (özellikle kredi kısıtları) vergi kaçırma oranını etkilediği ortaya konmuştur. Buna göre finansal olarak daha kısıtlı firmaların vergi kaçırma faaliyetlerine katılma olasılığının daha yüksek olduğu tespit edilmiştir. Malaquias ve Borges-Junior (2019) ise likidite kısıtları ve vergi planlaması arasındaki etkileşimin Brezilya yatırım fonlarının performansı üzerindeki etkisini analiz ettikleri çalışmalarında vergilerin yönetim kararları ve politikaları üzerinde etkili olduğu sonucuna ulaşılmışlardır. Çalışmadan elde edilen bir diğer sonuç ise vergi planlaması ve likidite kısıtlarının, fonların rekabet avantajı sağlayabilmesine imkân sunan iç kaynakları temsil etmesi yönünde olmuştur. Campbell vd. (2021) tarafından yapılan çalışmada ise firma düzeyindeki finansman kısıtlarının kurumlar vergisi planlama faaliyetleri üzerindeki etkileri incelenmiş ve vergi planlamasının firmaların yatırımlarını telafi etme derecesi araştırılmıştır. Elde edilen bulgular, finansman kısıtları ile kurumlar vergisi planlaması arasında pozitif bir ilişkinin olduğunu ortaya koymuştur. Çalışma ayrıca vergi planlamasının, firmaların finansman kısıtlarına cevaben nakit akışları üretebilecekleri ödeme politikasıyla bağlantılı olarak öne çıkan yollardan biri olduğunu da göstermiştir.

Türkiye’de finansal kısıt ve vergi planlaması arasındaki ilişki sınırlı bir alanda ele alınmış (Can & Coşar, 2023), daha çok vergi planlamasının farklı değişkenlerle ilişkisi incelenmiştir (Demir & Gökçen, 2014; Çelikay & Şengül-Çelikay, 2021; Çakır & Karakaş, 2022). Bazı çalışmalar ise daha çok vergi planlamasına imkân veren yasal düzenlemeler üzerine yoğunlaşmıştır (Eroğlu & Eftekin, 2015; Bahçe & Gümüş, 2017; Gökten & Karabudak, 2017; Kılıçer & Peker, 2017; Taşkın & Peker, 2019; Buyrukoğlu & Şimşek, 2022). Çalışmamız diğer çalışmalardan farklı olarak Türkiye’de finansal kısıtların kurumlar



vergisi mükellefi olan firmaların vergi planlaması üzerindeki etkisini ele almıştır. Çalışmada firmaların faaliyet süresi, çalışan sayısı, firma türü, yıllık cirosu gibi değişkenlerinin finansal kısıt ve vergi planlaması arasındaki ilişkiye etkisi de ayrıca analiz edilmiştir.

## 5. Finansal Kısıtların Firmaların Vergi Planlama Eğilimlerine Etkisinin Analizi

Çalışmada yarı yapılandırılmış görüşme yöntemi kullanılarak firmalardan hazırlanan sorulara<sup>3</sup> cevaplar vermesi istenmiştir. Görüşmede kullanılacak sorular iki temel alanda oluşturulmuştur<sup>4</sup>. İlk bölümde firmaların vergi planlamasına bakış açıları değerlendirilmiş, vergi planlaması yapıp yapmadıklarına dair sorular yöneltilmiştir. Firmaların vergi planlaması konusunda yeterli bilgiye sahip olamama ihtimalleri düşünülerek vergi planlaması kapsamında olan ama firmaların vergi planlaması olarak görmediği muafiyet, istisna, indirim, af ve uzlaşma gibi uygulamaları kullanıp kullanmadığına dair sorular hazırlanmıştır. İkinci bölümde ise firmaların finansal kısıt yaşayıp yaşamadıkları, ne kadar sıklıkla finansal kısıtla karşılaştıkları, finansal kısıtların ana kaynağı ve çözüm yollarına yönelik sorular yöneltilmiştir. Bu bölümde verilen cevaplarla firmaların hem finansal kısıt düzeylerinin ölçülmesi hem de finansal kısıt sürecinde vergi planlama stratejilerinin analiz edilmesi amaçlanmıştır.

Yarı yapılandırılmış görüşme sorularının dışında firmalardan; firma yaşı, faaliyet alanı, çalışan sayısı, yıllık cirosu gibi bilgiler de alınmıştır. Böylece firmalara özgü değişkenlerin, vergi planlaması ve finansal kısıtla ilişkisi çalışmaya dahil edilmiştir.

Uzmanlık gerektiren vergi planlaması yapılırken muhasebeciden, mali müşavirden, mali danışmanlardan veya akademik çevrelerden destek alınması ya da vergi planlamasının firma içinde istihdam edilen muhasebe ve finans birimlerinin görev tanımları içinde yer alması gerekmektedir (Eroğlu, 2014: 7). Bu kapsamda görüşmelerin firma sahipleri ya da mali işler sorumlusu veya muhasebecileri ile yapılmış olması sorulara verilen cevapların güvenilirlik derecesini artırmaktadır. Ancak sorunların açık uçlu olması, görüşmenin yüz yüze yapılması ve zaman alması, firmaların görüşmeyi kabul etmeleri noktasında kısıtlamalar yaratmıştır. Ayrıca yöntemin yüz yüze görüşmeye dayalı olması farklı bölge ve şehirlerdeki firmalara ulaşılabilirliği kısıtlamaktadır. Bu nedenle firmaların büyük bir çoğunluğu Ege Bölgesi'ndeki firmalardan oluşurken, daha az bir kısmı farklı bölge ve şehirlerde faaliyetlerini sürdürmektedir.

Vergi planlaması gerek küçük gerekse büyük ölçekli firmalar tarafından uygulanabilir olmasına karşın ölçek ekonomilerinden yararlanabilen, vergi konusunda daha profesyonel elemanlarla çalışabilen gerek ulusal gerekse uluslararası vergi avantajlarını

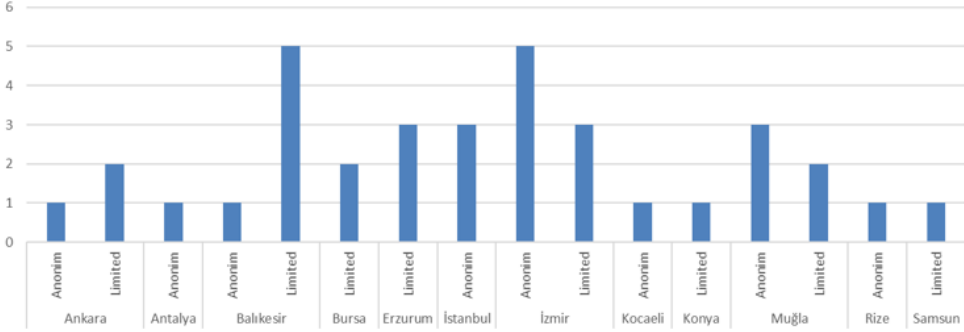
<sup>3</sup> Yarı yapılandırılmış görüşme sorularının hazırlık aşamasında ilk önce maliye alanında uzman üç öğretim üyesinin ardından bir muhasebe-finans ve bir makro iktisat alanında uzman iki öğretim üyesinin görüş ve önerileri alınmıştır. Daha sonra alanında yetkin iki serbest muhasebeci mali müşavirin görüş ve önerilerine başvurulmuştur. Son olarak beş firma ile yapılan pilot görüşme sonrasında sorulara son hali verilmiştir.

<sup>4</sup> Analizde kullanılan sorular Ek-1'de sunulmuştur.

takip edebilen büyük firmalarca daha çok tercih edilmektedir. Zira küçük ölçekli firmalar vergi yükünden kurtulmak için vergi kaçırma yöntemlerine de başvurabilmekte vergi planlamasını daha az kullanabilmektedir (Kabakçı-Karadeniz, 2020: 13). Bu sebeple çalışmada vergi planlama algısının nispeten yüksek olduğunu düşündüğümüz firmalar üzerine bir araştırma yapılması uygun görülmüştür. Firmaların seçiminde öncelikle kurumlar vergisi mükellefiyeti aranmış, ardından piyasada daha çok yer alan şirket türleri içerisinde limited ve anonim şirket yapısındaki firmalar tercih edilmiştir. Böylece finansal kısıt sürecinde hem kurumlar vergisine yönelik vergi planlama stratejilerinin değerlendirilmesi hem de limited ve anonim şirketlerin vergi planlamasına bakış açısı ve uygulamasına yönelik karşılaştırma yapılması imkânı elde edilmiştir. Ayrıca firmaların kurumsallık düzeylerinin, vergi planlaması ve finansal kısıt ilişkisindeki etkisi analize dahil edilmiştir.

Görüşmeye katılacak firmalarda öncelikle gönüllülük esası dikkate alınmıştır. Çalışma kapsamında belirlenen kriterlere uygun olan firmalara kartopu örnekleme yöntemiyle ulaşılmış, görüşme yapılan firmalardan görüşme kriterlerine uygun başka firma önerilerinde bulunmaları istenmiştir. Önerilen firmalar içerisinde rassal olarak seçilen firmalarla görüşmeler tamamlanmıştır. Çalışma kapsamında tek bir bölge, il veya sektör seçmenin verilecek cevapların eğilimli çıkma ihtimalini artıracığı düşüncesi ile herhangi bir bölge ve sektör sınırlamasına gidilmemiştir. Farklı bölge ve sektörlerdeki firmalarla ulaşılabildiği ölçüde görüşmeler yapılmıştır. Görüşme yapılacak firma sayısının belirlenmesinde ise öncelikle görüşme yapılan firmaların çalışmaya marjinal katkısına bakılmıştır. Marjinal katkının azaldığı veya ortadan kalktığı durumda görüşmelere son verilmiştir. Ayrıca nitel görüşme yöntemlerinin genellikle az sayıdaki kişilerden detaylı bilgiler elde edilmesi üzerine kurulu çalışma esası da firma sayısının belirlenmesinde başka bir referans kaynağını oluşturmaktadır (Dömbekçi & Erişen, 2022: 144). Bu kapsamda toplam 35 firma ile yarı yapılandırılmış görüşme yapılmıştır. 15 firma sorulara yüz yüze cevap verirken, 13 firma telefon yoluyla soruları cevaplandırmış, 7 firma mail yoluyla sorulara cevap vermeyi tercih etmiştir. Firmaların faaliyet yeri ve işletme türüne ilişkin dağılım Grafik 1'de verilmiştir.

**Grafik: 1**  
**Firmaların Faaliyet Yeri ve İşletme Türü**



Çalışmada analize dahil edilen firmalara ait bilgiler ise Tablo 1’de sunulmuştur. Buna göre 16 firma anonim şirket yapısında faaliyetlerini sürdürürken, 19 firma limited şirket olarak faaliyetlerine devam etmektedir.

**Tablo: 1**  
**Analiz Edilen Firmalara Ait Bilgiler**

Firma ismi	İşletme türü	Faaliyet süresi	Çalışan Sayısı	Yıllık ciro su	Firma ismi	İşletme türü	Faaliyet süresi	Çalışan Sayısı	Yıllık ciro su
F1	Limited	1	2	₺ 5.500.000	F19	Limited	22	13	₺ 8.113.000
F2	Anonim	40	250	₺ 1.285.000.000	F20	Limited	4	127	₺ 35.000.000
F3	Limited	7	11	₺ 5.600.000	F21	Anonim	4	8	₺ 1.680.000
F4	Anonim	15	20	₺ 2.000.000	F22	Anonim	29	19	-
F5	Anonim	53	160	₺ 1.085.000.000	F23	Limited	6	4	₺ 10.000.000
F6	Limited	27	64	₺ 45.420.000	F24	Anonim	75	21	₺ 113.443.000
F7	Anonim	1	5	₺ 5.000.000	F25	Anonim	39	50	₺ 1.000.000
F8	Anonim	8	8	₺ 40.000.000	F26	Limited	36	150	₺ 40.000.000
F9	Limited	18	2	₺ 1.000.000	F27	Limited	30	18	₺ 25.000.000
F10	Anonim	7	200	₺ 3.500.000.000	F28	Limited	5	47	₺ 36.000.000
F11	Anonim	6	50	-	F29	Anonim	7	3	₺ 7.500.000
F12	Limited	16	18	₺ 116.601.000	F30	Limited	2	1	₺ 3.500.000
F13	Anonim	36	400	₺ 500.000.000	F31	Limited	14	10	₺ 96.000.000
F14	Limited	16	2	₺ 35.000.000	F32	Limited	13	3	₺ 2.000.000
F15	Anonim	33	8000	₺ 1.000.000.000	F33	Limited	35	10	₺ 3.000.000
F16	Anonim	75	7000	₺ 1.000.000.000	F34	Limited	3	28	₺ 3.346.944
F17	Limited	7	9	₺ 15.579.000	F35	Limited	3	11	₺ 3.000.000
F18	Anonim	37	9	₺ 7.840.000					

Tablo 1 incelendiğinde faaliyet süresi 20 yıldan fazla olan 14 firma olduğu, çalışan sayısına bakıldığında ise 50’nin üzerinde çalışan olan 15 firma olduğu ve ciro su 50.000.000 ₺’nin üzerinde olan 9 firma olduğu görülmektedir.

Tablo 2’de firma sahiplerine, yöneticilerine veya sorumlularına yöneltilen vergi planlama eğilimi (*vpe*) ve finansal kısıt (*fk*) ile ilgili sorulardan elde edilen değerlerin birbirleri ile korelasyon değerleri verilmiştir. Korelasyon tablosu simetrik bir karaktere sahip olduğundan sadece alt üçgen matrisi verilmiş ve takibi kolaylaştırmak için renklendirilmiştir.

**Tablo: 2**  
**Korelasyon Matrisi**

	vpe1	vpe2	vpe3	vpe4	vpe5	fk1	fk2	fk3	fk4	fk5
vpe1	1.00									
vpe2	0.54	1.00								
vpe3	0.42	0.69	1.00							
vpe4	0.28	0.63	0.50	1.00						
vpe5	-0.01	0.06	0.08	0.11	1.00					
fk1	-0.03	0.08	0.20	0.05	0.19	1.00				
fk2	0.06	0.06	-0.02	0.18	0.23	0.26	1.00			
fk3	-0.13	-0.22	-0.18	0.04	0.34	0.24	0.31	1.00		
fk4	0.00	0.30	0.33	0.58	0.38	0.28	0.55	0.45	1.00	
fk5	0.01	0.20	0.17	0.08	-0.07	-0.23	-0.22	-0.35	0.09	1.00

Çalışmamız açısından vergi planlama eğilimi ile finansal kısıt sorularının birbirleri ile korelasyonu incelenmeye değerdir. Bu nedenle tabloyu yatay ve dikey şekilde iki eşit parçaya böldüğümüzde sol altta kalan 5x5'lik matris, vergi planlama eğilimi ile finansal kısıt arasındaki ilişkinin anlaşılabilirliği açısından değerli bilgiler sunmaktadır. Bu matriste yer alan değerlerden en yükseği 0.58 ile vpe4<sup>5</sup> ile fk4<sup>6</sup> arasındadır. Korelasyon değerinin yüksekliği, finansal sıkıntıyı çözmek için daha fazla yönetim başvuran firmaların, daha iyi düzeyde vergi planlama eğilimi gösterdiği anlamına gelmektedir. Tablodaki en düşük değer ise -0.22 ile vpe2<sup>7</sup> ile fk3<sup>8</sup> arasındadır. Bu değer, firmaların yaşadığı finansal sorun sayısı ile vergi planlama eğilimi arasında ters yönlü bir ilişki olduğu anlamına gelmektedir. Bu durum pek beklediğimiz bir durum olmasa da bu durumun ana kaynağının, firmaların önemli bir kısmının vergi planlama eğilimi göstermemesinden kaynaklandığını tespit etmekteyiz. Tablonun sol alt matrisinde geri kalan diğer değerlerin çoğunluğunun pozitif olduğu ve bu iki değer arasında dağıldığı görülmektedir. Bu durum finansal kısıt ile vergi planlama eğilimi arasında doğru yönlü bir ilişki olma olasılığını artırmaktadır. Ancak Tablo 2'de vpe1<sup>9</sup> sorusu ile neredeyse tüm fk soruları sıfır veya sıfıra yakın değerler almıştır. Bu durum firmaların vergi ile ilgili hususları takip eden kişi veya kişilerin kimler olduğu ile finansal kısıt arasında ilişki olma ihtimalinin zayıf olduğu anlamına gelmektedir ki bu sonuç beklentilerimizle de uyumludur.

Korelasyon tablosu her ne kadar görüşmelerde sorulan sorular arasındaki karşılıklı ilişkileri anlamamıza imkân sağlasa da bu tabloda yer alan değerlerin sadece istatistiksel bir değer olduğunu da unutmamak gerekir. Değişkenler arasında gerçekten bir ilişkinin mevcut olup olmadığını anlamak için regresyon analizine ihtiyaç vardır. Vergi planlama eğilimi ile ilgili 5 soruya verilen cevaplar toplanarak vergi planlama eğilimi (vpe) göstergesi, aynı şekilde finansal kısıt ile ilgili 5 soruya verilen cevaplar toplanarak finansal kısıt (fk) göstergesi elde edilmiştir. Her 5 soru 1 ile 5 arasında puanlandığı için gerek vpe gerekse de

<sup>5</sup> Faaliyet gösterdiğiniz sektördeki diğer şirketlerin vergi planlamasına bakış açısının nasıl olduğunu düşünüyorsunuz?

<sup>6</sup> Finansal sıkıntınızı çözmek için aşağıda sıralayacağım yöntemlere başvurduunuz mu ve başvurduysanız yoğunluğu ne idi?

<sup>7</sup> Şirketinizde vergi planlama stratejileri uygulanıyor mu? Eğer uygulanıyor ise nasıl bir strateji izliyorsunuz?

<sup>8</sup> Son 1 yılda aşağıda sıralayacağım finansal sorunlarla karşılaştınız mı ve karşılaştıysanız derecesi nasıldı?

<sup>9</sup> Şirketinizin vergi ile ilgili hususlarını muhasebecinin dışında takip eden sorumlu bir kişi var mı?

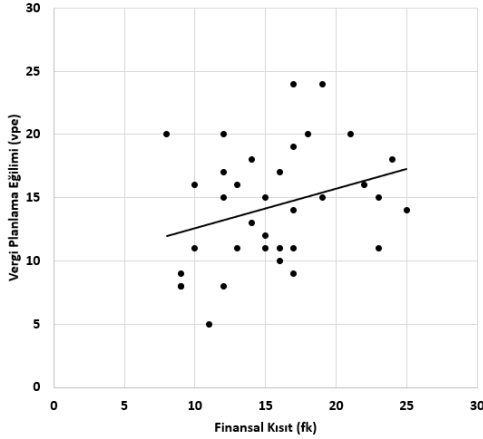
$fk$  değeri minimum 5, maksimum 25 değerini alabilmektedir. Aşağıda yer alan Tablo 3, bu iki değişken arasındaki korelasyon matrisini vermektedir. Korelasyon katsayısının 0,31 değerini alması, bu iki değişken arasında pozitif yönlü bir ilişkinin mevcut olabileceğine işaret etmektedir.

**Tablo: 3**  
**Korelasyon Matrisi (Ana Değişkenler)**

	$vpe$	$fk$
$vpe$	1.00	
$fk$	0.31	1.00

Korelasyon matrisinin dışında değişkenler arasında olası ilişkinin varlığını gözleminin bir diğer yolu serpilme diyagramına bakmaktır. Serpilme diyagramı incelendiğinde yatay ekseninde  $fk$  değişkeni var iken değişkenler arasında pozitif yönlü bir ilişkinin olduğu gözlemlenmektedir. Ancak bu ilişkinin istatistiksel olarak anlamlı olup olmadığının anlaşılabilmesi için hipotez testlerinin oluşturulması ve bunların istatistiksel olarak test edilmesi gerekmektedir.

**Şekil: 1**  
**Finansal Kısıt ile Vergi Planlama Eğilimi Değerleri İçin Serpilme Diyagramı**



Çalışmamızın ilk hipotezi, finansal kısıtın vergi planlama eğilimi üzerinde etkili olduğu şeklindedir. Şöyle ki bir firma eğer finansal kısıt ile karşı karşıya kalırsa, bu firmanın finansal kısıt probleminden kurtulmak için alternatif yollar arayacağı kesindir. Firma eğer fon piyasasına erişim sağlamada problem yaşıyorsa -yani bankadan kredi çekme imkânı azalmış veya farklı bir kanaldan borç bulma imkânı sınırlanmış ise- bu firmanın vergi planlama davranışına yönelme olasılığı artmaktadır. Bir diğer ifade ile finansal kısıt ile vergi planlama eğilimi arasında pozitif bir ilişkinin mevcut olması beklenmektedir. Tablo 4'ün ilk sütunu bize finansal kısıt ile vergi planlama eğilimi arasındaki regresyon ilişkisinin

sonucunu göstermektedir. Tabloya göre firmaların finansal kısıt (*fk*) değeri ile vergi planlama eğilimi arasındaki ilişkiyi temsil eden katsayı pozitif değer almıştır (0.3126) ve %10 düzeyinde istatistiksel olarak anlamlıdır. Bu bulgu finansal kısıt (*fk*) değerindeki bir birimlik bir artışın, firmaların vergi planlama eğilimini 0.3126 birim artırdığını göstermektedir.

Konuyla ilgili daha önce yapılan çalışmalar incelendiğinde benzer sonuçlar elde edildiği görülmüştür. Örneğin, Sun vd. (2020), yapmış oldukları çalışmada diğer tüm değişkenlerin sabit olduğu varsayımı altında, vergi planlamasının finansal kısıtları hafifletmesi üzerindeki olumlu etkisinin, özel sektördeki firmalarda daha belirgin olduğunu ortaya koymuşlardır. Yine aynı çalışmada vergi planlamasının olumlu etkilerinin küçük firmalara nazaran büyük firmalarda daha belirgin olduğu tespit edilmiştir. Butt vd. (2021), Pakistan firmaları üzerinde yaptıkları çalışmada finansal kısıt içinde bulunan firmaların daha agresif vergiden kaçınmaya gittiklerini, finansal kısıt yaşamayan firmaların ise kısa vadede vergiden kaçınmaya gittiklerini, uzun vadede ise vergiden kaçınmadıkları tespit etmişlerdir. Bu durum finansal kısıt yaşamayan firmaların finansal erişimlerinin daha kolay olduğunu, uzun vadede yatırımları ile ilgili nakit tasarrufları açısından endişe duymadıklarını ortaya koymaktadır. Alm vd. (2019), ise firma düzeyinde yaptıkları çalışmada finansal kısıt yaşayan firmaların, vergi kaçırma faaliyetlerine katılma olasılığının daha yüksek olduğu sonucuna ulaşmışlardır. Finansal kısıtın etkilerinin firma sahipliği, firma yaşı, firma büyüklüğü bazında farklılıklar gösterdiğini tespit etmişlerdir. Bu değerlendirmeler, çalışmadan elde ettiğimiz bulguların literatürdeki bulgular ile paralellik gösterdiğine işaret etmektedir.

**Tablo: 4**  
**Regresyon Bulguları**

Katsayılar	Bağımlı Değişken: <i>vpe</i>				
	Model 1	Model 2	Model 3	Model 4	Model 5
<i>c</i>	9.4906*** (2.7098)	8.8273*** (2.2021)	7.6732*** (2.6601)	8.7328*** (2.5219)	9.1016*** (2.3183)
<i>fk</i>	0.3126* (0.1685)	0.2386* (0.1377)	0.3307** (0.1584)	0.2306 (0.1590)	0.2099 (0.1468)
<i>dum_calisan</i>	-	5.7441*** (1.3457)	-	-	-
<i>dum_tür</i>	-	-	3.3672** (1.4424)	-	-
<i>dum_ciro</i>	-	-	-	3.7270** (1.4479)	-
<i>dum_süre</i>	-	-	-	-	4.9347*** (1.3593)
<b>Tamsal Testler</b>					
$R^2$	0.0945	0.4230	0.2263	0.2498	0.3586
$\bar{R}^2$	0.0670	0.3869	0.1779	0.2029	0.3186
<i>Qstat</i>	2.5748	0.4392	2.2385	0.3300	2.2966

(i) \*, \*\* ve \*\*\* sırasıyla %10, %5 ve %1 düzeyinde anlamlılığı göstermektedir.

(ii) Parantez içindeki değerler standart hataları vermektedir.

(iii) *Q*-stat değeri hata terimlerinin birbirleriyle ilişkisini vermektedir.

Firmalar üzerinde bulunduğu bölge veya ülkenin yapısal farklılıklarının etkisi olsa da firmanın çalışan sayısı, yıllık cirosu, üretim kapasitesi, sermaye miktarı, işletme türü, makine ve teçhizat kullanım kapasitesi, pazar payı gibi nitel ve nicel unsurlar firma

büyüklüğü ve yapısı hakkında genel standartları oluşturan ölçütlerden bazılarını oluşturmaktadır (Mecek, 2020: 49). Çalışmada finansal kısıt ile vergi planlama eğilimi arasındaki ilişkiyi etkileme olasılığı olan firmalara ait bu unsurlardan bazılarının etkisi de test edilmiştir. Bu unsurlardan ilki çalışan sayısıdır. Görüşme gerçekleştirilen firmaların çalışan sayısı oldukça farklı bir dağılım göstermesine karşın teorik olarak çalışan sayısı ile temsil edilebilecek firma büyüklüğü arttıkça firmanın vergi planlama davranışının da artabileceğinden hareketle firmalar *az sayıda çalışana sahip olanlar (50 kişiden az çalışanı olanlar)* ve *çok sayıda çalışana sahip olanlar (50 kişiden fazla çalışanı olanlar)* biçiminde ikiye ayrılmıştır. İlk gruptakiler için 0, ikinci gruptakiler için ise 1 değeri kullanılarak bir kukla değişken oluşturulmuş ve daha önceden tahmin edilen regresyon bu değişken ilave edilerek yeniden tahmin edilmiştir. Tahmin sonuçları Tablo 4'te ikinci sütunda sunulmuştur. Tablodan elde edilen katsayı (5.7441), çalışan sayısına ilişkin kukla değişkenin %1 düzeyinde anlamlı olduğunu göstermektedir. Modelin sabit terimi 8.8273'tür. Buna göre eğer bir firma az sayıda çalışana sahipse ortalama *vpe* puanı 8.8273'tür; ancak çok sayıda çalışanı mevcutsa *vpe* puanı 14.5714 olmaktadır<sup>10</sup>. Bu durum çalışan sayısının vergi planlama eğilimi üzerinde beklendiği gibi pozitif bir etki gösterdiği anlamına gelmektedir. Bu modelde *fk* değişkeninin katsayısı yine pozitif ve %10 düzeyinde istatistiksel olarak anlamlı tespit edilmiştir.

Finansal kısıt ile vergi planlama eğilimi arasındaki ilişkiyi etkileme potansiyeli olan bir diğer unsur ise firmanın türüdür. Firmanın anonim veya limited şirketi olması, vergi planlama eğilimi üzerinde etkili olabilir. Bir firma anonim ortaklık yapısına sahip olduğunda kurumsal bir karaktere sahip olma potansiyeli artış göstermektedir. Ülkemizde özellikle halka açık anonim şirketlerde kurumsal yönetim anlayışı bir zorunluluk olarak görülürken diğer şirketlerde ihtiyari bir unsur olarak yer almaktadır. Anonim şirketlerin kurumsal yönetim gereği yaptıkları işlemlerde şeffaflık, hesap verebilirlik, sorumluluk, hakkaniyetli ve planlı olma gibi ilkelere uygun davranması gerekmektedir (Özdemir & Tamer, 2019: 334-335). Bu yapısal özelliklerin vergisel süreçlerde de varlığını sürdüreceği varsayılmaktadır. Dolayısıyla vergi planlama davranışı kurumsal bir karaktere sahip olan firmalarda daha olası olduğundan anonim şirketlerin vergi planlama eğiliminin daha yüksek olmasını beklemekteyiz. Limited şirketlerde ise bu ilkelerin nispeten az olduğu düşünülmektedir. Bu nedenle anonim şirket ortaklık yapısına sahip olan firmalar için 1, limited şirket ortaklık yapısına sahip olan firmalar için 0 değeri verilerek yine bir kukla değişken oluşturulmuştur. Tablo 3'te üçüncü sütunda sunulan tahmin sonuçları şirket türünün vergi planlama eğilimi üzerinde etkili olduğunu göstermiştir. Buna göre bir firma limited şirket ise *vpe* değeri 7.6732 olmakta, ancak firma anonim ortaklığa sahip ise *vpe* değeri 3.3672 puan daha yükselerek 11.0404 olmaktadır. Bu durum firma türünün beklendiği gibi vergi planlama eğilimi üzerinde pozitif bir etki gösterdiği anlamına gelmektedir. Modeldeki *fk* değişkenin halen istatistiksel olarak anlamlı ve pozitif çıkması, finansal kısıtın vergi planlama eğilimi üzerinde halen anlamlı olduğu biçiminde yorumlanmalıdır.

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<sup>10</sup>  $8.8273 + 5.7441 = 14.5714$ .

Finansal kısıt ile vergi planlama eğilimi arasındaki ilişki üzerinde etkili olabilecek bir diğer unsur da firmanın yıllık cirosudur. Firmaların finansal performansının ve firma büyüklüğünün ölçülmesinde bir gösterge olan cironun, firmaların vergi planlama eğilimleri üzerinde etkisi olduğu düşünülmektedir. Yüksek ciroya sahip firmalar genellikle daha büyük mali kaynaklara sahip olduklarından profesyonel vergi danışmanlarına, mali müşavirlere ve hukuk uzmanlarına erişim sağlayabilirler. Ayrıca büyük firmalar uzman vergi danışmanlarına sahip olduklarından vergi kanunlarındaki boşlukları veya avantajlı hükümleri daha iyi değerlendirebilirler. Bu nedenle yüksek ciroya sahip firmaların vergi planlama eğilimlerinin daha fazla olması beklenmektedir. Düşük ciroya sahip firmalar daha küçük ölçekli firmalar olmaları sebebiyle hem mali kaynakları sınırlı hem de vergisel kaygıları nispeten daha az olabilmektedir. Bu firmalar vergi planlaması yapamadıkları durumda vergi ödemelerini ertelemeyi ya da vergi kaçırma yollarına başvurmayı tercih edebilmektedir. Buradan hareketle görüşmeye katılan firmalardan elde edilen ciro bilgileri analize dahil edilerek regresyon tahmini yeniden yapılmıştır. Bunun için yıllık cirosu 50.000.000 ₺'nin üzerinde olan firmalara 1, altında olan firmalara 0 değeri verilerek bir kukla değişken oluşturulmuştur. Sonuçlar Tablo 4'te dördüncü sütunda sunulmuştur. Buna göre bir firmanın yıllık cirosu 50.000.000 ₺'nin altında ise *vpe* değeri 8.7328 iken firmanın yıllık cirosu 50.000.000 ₺'nin üzerinde olduğunda *vpe* değerinin 3.7270 puan yükselerek 12.4598 puan olduğu görülmektedir. Bu sonuç bize firmanın yıllık cirosunun, vergi planlama eğilimi üzerinde pozitif yönlü bir etkisinin olduğunu göstermektedir. Ancak modeldeki *fk* değişkeninin, yıllık ciro değişkeninin eklendiği regresyon tahmininde istatistiksel olarak anlamlı çıkmadığı görülmüştür.

Finansal kısıt ve vergi planlama eğilimi üzerinde etkisi olduğu düşünülen son unsur firmanın faaliyet süresidir. Faaliyet süresi uzun olan firmaların vergi planlaması konusunda daha stratejik ve kurumsal bakış açısına sahip olması düşüncesinden hareketle bu firmaların vergi planlama eğilimlerinin de daha fazla olması muhtemeldir. Sektörde uzun yıllar faaliyet gösteren bir firmanın vergisel süreçlerinin daha sistemli hale gelmesi ve kendi alanındaki vergi avantajlarına hâkim olması beklenmektedir. Bununla birlikte faaliyet süresi uzun olan firmaların geçmiş tecrübelerine dayalı olarak vergi politikalarına karşı öngörülebilirlik düzeylerinin daha yüksek olduğu düşünülmektedir. Dolayısıyla bu firmaların vergi planlaması yapması, faaliyet süresi kısa olan firmalara nazaran daha kolaydır. Ayrıca faaliyet süresi kısa olan firmaların kredi geçmişlerinin kısa olmasından dolayı finansmana erişimde zorluk yaşama ihtimalleri daha yüksek olmaktadır. Bu durumun vergi kaçırma veya vergiden kaçınma hassasiyetlerini nispeten artırdığı düşünülmektedir (Alm et al., 2019: 95). Görüşmeye katılan firmaların faaliyet sürelerinin ortalaması baz alınarak, faaliyet süresi 20 yıldan fazla olan firmalara 1, az olan firmalara 0 değeri verilmiş ve yeni bir kukla değişken oluşturulmuştur. Tablo 4'te beşinci sütunda yer alan tahmin sonuçlarına göre faaliyet süresi 20 yılın altında olan firmaların *vpe* değeri 9.1016 puan çıkmıştır. Faaliyet süresi 20 yıldan fazla olan firmaların *vpe* değeri ise 4.9347 puan yükselerek 14.0363 puan çıkmıştır. Bu sonuç beklentimizi destekleyerek faaliyet süresinin *vpe* değeri üzerinde pozitif yönlü bir etkisi olduğunu ortaya koymaktadır. Buna karşın *fk* değeri model 4'te olduğu gibi model 5'te de istatistiki olarak anlamlı sonuç vermemiştir.



## 6. Sonuç

Firmaların varlıklarını sürdürebilmeleri ve nakit akışlarını düzenleyebilmeleri açısından finansal kısıtlar büyük öneme sahiptir. Çünkü finansal kısıtlar firmaların faaliyetlerini sürdürme ve yatırımlarını gerçekleştirme noktasında bir engel olarak görülmektedir. Rasyonel yaklaşım doğrultusunda firmaların finansal kısıtlarını en makul düzeyde atlatmak ve faaliyetlerini sürdürebilmek amacıyla gerek dış gerekse iç kaynaklarını azami ölçüde kullanmaya çalışmaları olağan bir süreçtir. Özellikle dış kaynak bulmada sıkıntı yaşayan firmaların, finansal kısıt süreçlerini atlatabilmeleri için alternatif yollar bulmaları ve iç kaynak yaratmaları gerekmektedir. Kimi firmalar bunu olağan faaliyetleri ile yaparken kimi firmalar vergi planlaması yoluyla yapmaktadır. Bu açıdan baktığımızda finansal kısıtların firmaların vergi planlamasına yönelmelerinde itici bir güç olduğu düşünülmektedir. Türkiye’de finansal kısıtların firmaların vergi planlama eğilimleri üzerindeki etkilerinin analiz edildiği bu çalışmada yarı yapılandırılmış görüşme yöntemi ile toplam 35 firmayla görüşmeler yapılmıştır. Çalışmadan elde edilen verilerle öncelikle finansal kısıt ve vergi planlama eğilimi arasında korelasyon analizi yapılmış, sorular arasındaki ilişkinin anlamlılık düzeyi incelenmiştir. Analiz sonuçlarına göre iki değişken arasındaki ilişkinin pozitif ve anlamlı olduğu belirlenmiştir. Daha sonra bu ilişkinin istatistiki olarak anlamlı olup olmadığını tespit etmek için iki değişken arasında regresyon analizi yapılmıştır. Analiz sonuçlarının çalışmanın temel hipotezini destekler nitelikte olduğu, finansal kısıtların firmaların vergi planlama eğilimleri üzerinde pozitif yönlü bir etki gösterdiği ve aradaki ilişkinin istatistiki olarak anlamlı olduğu tespit edilmiştir. Ayrıca çalışmada firmaların finansal kısıt ile vergi planlama eğilimi arasındaki ilişkiyi etkileme olasılığı olduğu düşünülen bazı değişkenler de analize dahil edilmiştir. Sırasıyla firmaların çalışan sayısı, firma türü, yıllık cirosu ve faaliyet süresi esas alınarak oluşturulan 4 kukla değişkenin kullanıldığı regresyon analizleri yapılmıştır. Buna göre analizde kullanılan tüm değişkenlerin firmaların vergi planlama eğilimlerini pozitif yönlü etkilediği ve aradaki ilişkinin istatistiki olarak anlamlı olduğu sonucuna ulaşılmıştır. Finansal kısıt değişkeni ile çalışan sayısı ve firma türü arasında istatistiki olarak anlamlı bir ilişki olduğu ancak finansal kısıt değişkeni ile firmanın yıllık cirosu ve faaliyet süresi arasında istatistiki olarak anlamlı bir ilişki olmadığı görülmüştür.

Sonuç olarak kurumsal yapıda olan firmaların vergi planlaması konusunda daha bilinçli olduğu ve finansal kısıt sürecinde vergi planlamasını daha etkin bir şekilde kullandığı görülmüştür. Ayrıca görüşmeye katılan firmaların bir kısmının vergi planlamasını bilmediği, bir kısmının ise yaptığı işlemleri vergi planlaması olarak tanımlamadığı tespit edilmiştir. Bazı firmaların da vergi planlamasını önemsemediği görülmüştür. Bu noktada firmaların vergi planlaması konusunda daha bilinçli hale getirilmesi ve firmaların vergi planlamasına yönelik bakış açılarının değiştirilmesi amacıyla kamu politikalarının oluşturulması önem arz etmektedir. Bu bağlamda Gelir İdaresi Başkanlığı bünyesinde mükellefleri bilgilendirmeye yönelik yapılan çalışmaların yanı sıra vergi planlaması özelinde ilgili meslek kuruluşları ile gerçekleştirilecek iş birlikleri yoluyla düzenli olarak sunulacak eğitim ve danışmanlık hizmetleri, mükelleflerin vergi planlaması konusunda bilinçlendirilmesine katkı sağlayabilir. Bilinçlendirme faaliyetinin dışında vergi

planlamasının yaygınlaştırılması ve firmaların kullanabileceği vergi planlama araçlarına ulaşımın kolaylaştırılması amacıyla vergi mevzuatının sadeleştirilmesi yoluna gidilebilir. Ayrıca firmaların vergi planlamasını daha etkin yapabilmeleri için vergi planlamasının ne olduğu, nasıl yapıldığı, ne gibi faydalar sağladığı hakkında broşürler hazırlanabilir ve kamu spotları oluşturulabilir. Bu sayede hem firmaların vergi planlamasını bir finansman kaynağı olarak görmeleri hem de verginin daha fazla tabana yayılması sağlanabilir. Bundan sonra yapılacak çalışmalarda vergi planlama eğilimi düşük olan firmaların neden vergi planlaması yapmadıkları üzerine araştırmalar geliştirilebilir. Vergi planlaması üzerinde etkili olabilecek diğer faktörlerin ise hem gerçek hem de tüzel kişi mükellefler açısından incelenmesinin vergi planlaması alanındaki literatürün genişletilmesine katkı sunabileceği düşünülmektedir.

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## **EK-1: YARI YAPILANDIRILMIŞ GÖRÜŞME SORULARI**

### **Birinci Bölüm**

### **Vergi Planlama Eğilimi**

1) Şirketinizin vergi ile ilgili hususlarını muhasebeciniz dışında takip eden sorumlu bir kişi var mı?
2) Şirketinizde vergi planlama stratejileri uygulanıyor mu? Eğer uygulanıyor ise nasıl bir strateji izliyorsunuz?
3) Vergi planlamasına imkân veren yasal düzenlemelere iktisadi olarak nasıl bakıyorsunuz?
4) Devletin uyguladığı muafiyet, istisna, indirim, teşvik gibi uygulamalar sizin vergi planlamanızı nasıl etkiliyor?
5) Devletin uyguladığı vergi afları, uzlaşma, cezada indirim vb uygulamalar sizin vergi planlamanızı nasıl etkiliyor?

### **İkinci Bölüm**

### **Finansal Kısıt Düzeyi**

1) Firmanız son 1 yılda veya geçmiş yıllarda herhangi bir finansal bir sıkıntı yaşad mı? Yaşadıysa hangi yıllarda yaşadı?
2) Sizce sektördeki firmaların son 1 yılda yaşadıkları finansal sıkıntı artış gösterdi mi?
3) Son 1 yılda aşağıda sıralayacağım finansal sorunlarla karşılaştınız mı ve karşılaştıysanız derecesi nasıldı?
4) Finansal sıkıntınızı çözmek için aşağıda sıralayacağım yöntemlere başvurduğunuz mu ve başvurduysanız yoğunluğu ne idi?
5) Finansal kısıtınızı ortadan kaldıracak imkânlara (örneğin daha düşük faizli banka kredisine) daha kolay erişim sağlayabildiydiniz, ilave vergi planlaması yöntemlerine yine de başvurur muydunuz, yoksa direkt kredi çekip sorunu çözmevi mi tercih ederdiniz?

Yuvalı, Ö. & H. Ay (2024), "Finansal Kısıtların Firmaların Vergi Planlama Eğilimleri Üzerindeki Etkisi", *Sosyoekonomi*, 32(62), 393-411.

## İşgücü Piyasasında Yaşanan Dönüşümler: Standart Dışı İstihdam ve Çalışan Yoksulluğu İlişkisi

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### Labour Market Dynamics: Examining the Link between Non-Standard Employment and In-Work Poverty

#### Abstract

With the collapse of the Fordist production system in the 1970s and the subsequent Neoliberal economic policies implemented, the liberalisation of markets was encouraged, and the intervention power and role of the state on the markets were ideologically transformed. The rise of neoliberal policies, in the form of flexibilisation and deregulation, transformed the conditions of the labour markets and resulted in the expansion of non-standard employment (NSE). The literature explains this situation by the spread of NSE and informal employment, labour market segmentation, insiders-outsiders, and dual labour market approaches. It is associated with the concept of the working poor. This study uses an eclectic approach to analyse the connection between NSE and in-work poverty at macro and micro levels. This paper adopts a comparative approach and uses the content analysis method to depict the reality of the relationship between NSE and working poverty. This article argues that concern over in-work poverty, the polarisation of labour markets, and the expansion of low-quality jobs has recently increased, and those employed in non-standard jobs are more likely to be exposed to the risk of poverty. It is recommended that the inadequacy of decent work related to NSE be identified and the necessary arrangements made. Further research and policy changes are needed to thoroughly understand and address these issues.

**Keywords** : Labour Market, Flexibilization, Neoliberalism, In-Work Poverty, Non-Standard Employment.

**JEL Classification Codes** : I32, I38, J01.

#### Öz

1970'lerde Fordist üretim sisteminin çöküşü ve akabinde uygulamaya konulan Neoliberal ekonomi politikalarıyla, hem piyasaların serbestleştirilmesi teşvik edilmiş ve hem de devletin piyasalar üzerindeki müdahale gücü ve rolü ideolojik olarak dönüştürülmüştür. Neoliberal politikaların yükselişi ise esnekleştirme ve kuralsızlaştırma şeklinde işgücü piyasasındaki şartları dönüştürmüş ve Standart Dışı İstihdam (SDİ) yaygın bir istihdam biçimi olarak ön plana çıkmıştır. Bu durum literatürde SDİ ve kayıt dışı istihdamın yaygınlaşması, işgücü piyasası bölümlenmesi, içeridekiler-dışardakiler ve ikili işgücü piyasası yaklaşımları ile açıklanmakta ve çalışan yoksul kavramı ile ilişkilendirilmektedir. Bu çalışmanın amacı, SDİ ile çalışan yoksulluğu arasındaki ilişkiyi makro ve mikro düzeyde eklettik yaklaşımla analiz etmektir. Bu makalede, SDİ ile çalışan yoksulluğu arasındaki ilişkinin gerçekliğini tasvir etmek için karşılaştırmalı bir yaklaşım benimsenmiş ve içerik analizi yöntemi kullanılmıştır. Bu makalede çalışan yoksulluğunun, işgücü piyasalarının kutuplaşması ve düşük kaliteli işlerin yaygınlaşması ile ilgili endişeleri artırdığı ve SDİ edilenlerin görece daha yüksek yoksulluk riskine maruz kaldığını ileri sürmektedir. SDİ ile ilgili insan onuruna yaraşır işlerin yetersizliğinin tespit edilmesi ve gerekli düzenlemelerin yapılması önerilmektedir.

**Anahtar Sözcükler** : İşgücü Piyasası, Esnekleşme, Neoliberalizm, Çalışan Yoksulluğu, Standart Dışı İstihdam.

## 1. Giriş

Ücretli çalışma, genellikle yoksulluğun panzehri olarak değerlendirilmektedir. Kazançlı bir istihdamın olması, birey veya hane için temelde yoksulluğu önlemeye yönelik en etkili araç olarak kabul edilmektedir (Halleröd et al., 2015: 474). Bu kabul, Avrupa Birliği (AB) yaklaşım ve stratejilerine de yansımakta, yoksulluk ve sosyal dışlanma ile mücadelede istihdam artışının önemli olduğu inancı, uzun zamandır AB gündeminde büyük bir yer kaplamaktadır (Bodea & Herman, 2014: 711-2). Bu nedenle, yoksulluk ve eşitsizlikle mücadeleye yönelik politika stratejileri, genellikle sosyal transferlere yapılan harcamaları artırmaya gerek kalmaksızın yoksulluğu azaltmayı hedeflediği için istihdamı artırmaya odaklanmaktadır (Cantillon, 2011: 432; Brülle et al., 2019: 115). Ancak Marx vd. (2012: 473), istihdamdaki artışın, her zaman yoksulluğu azaltacak şekilde etkilemediğini ifade etmektedirler. Dolayısıyla birçok ülkede istihdamdaki artışa, düşük kaliteli işlerdeki görece genişleme nedeniyle yoksulluk oranlarındaki artışın eşlik ettiği veya yoksulluk oranlarında önemli bir azalmanın olmadığı ifade edilebilir. Bu ise istihdamın artmasının tek başına yeterli olmadığını ve istihdamın niteliğinin de önemli olduğunu gündeme getirmektedir (Fraser et al., 2011: 2-4, 6; Bodea & Herman, 2014: 712). Bu çalışma; SDİ ile çalışan yoksulluğu arasında nasıl bir ilişki olabileceğine odaklanarak ve istihdamın niteliğine dikkat çekmeyi hedefleyerek, istihdamın niteliğinin çalışanların refahları üzerinde potansiyel bir etkiye sahip olduğunu vurgulamaktadır. SDİ, standart istihdam ilişkisinden farklılaşması açısından tanımlanmakta ve geçici istihdam, kısmi süreli çalışma, geçici taşeron işçiliği ve özel istihdam bürosu tarafından gerçekleştirilen diğer çalışma türleri (çok taraflılığın kapsayan), gizli istihdam ve bağımlı kendi hesabına çalışmayı kapsamaktadır.

Çalışan yoksulluğu sorununun var olması, ekonominin ve işgücü piyasasının temel yapısal özelliklerinin sorgulanmasını gündeme getirmektedir. Çalışan yoksulluğu, işgücü piyasalarının kutuplaşması ve düşük kaliteli işlerin yaygınlaşması ile ilgili endişeleri artırmaktadır (Brülle et al., 2019: 115-6). Bu artışın kaynağı olarak ise SDİ'nin, tam zamanlı, istikrarlı ve kazancın bir aileyi geçindirmek için yeterli olduğu Fordist Üretim sistemine dayanan standart istihdamın yerini alması gösterilmektedir (Horemans, 2018: 146). Standart istihdamdan ayrılmalar çeşitli şekillerde olmakla birlikte, bu çalışmada, işgücü piyasasının esnekleşmesinin bir çıktısı olarak artan kısmi süreli çalışma ve geçici çalışma ile yoksulluk arasındaki ilişkiye odaklanılacaktır.

Bu çalışma kapsamında dünyada ekonomik alanda yaşanan dönüşüm eğilimlerini yansıtabilmek amacıyla, işgücü piyasasında yaşanan dönüşümler ve bu dönüşümlerin işgücü üzerindeki etkisi, istihdamın standart dışı hale gelmesi ile çalışanların yoksullaşması ilişkisi temelinde incelenecektir. İşgücü piyasasında yaşanan gelişmeler ışığında, istihdamın niteliğinin işçilerin gelirleri ve yaşam standartları üzerindeki etkisi ile çalışanların yoksullaşma riskine katkı sağlayıp sağlamadığına odaklanılacaktır. Bu kapsamda işgücü

piyasasında yaşanan dönüşümlerden; i. işsizlik oranlarındaki artış, ii. işgücü piyasasında esneklik, iii. kayıt dışı istihdamın artması, iv. SDİ'nin yaygınlaşması -özelde kısmi süreli çalışma ve geçici çalışma- artması gibi gelişmeler ele alınarak çalışan yoksulluğu açıklanacaktır. Betimsel analiz yönteminin kullanıldığı çalışmada, çalışan yoksulluğu konusunda makro (odağa sanayileşme, küreselleşme, sanayiden arınma, finansallaşma, teknolojik gelişme vb. alan) ve mikro (odağa hanehalkı ve bireysel özellikler, çalışma yoğunluğu, ihtiyaçlar vb. alan) yaklaşımı birlikte ele alan eklettik yaklaşım çerçevesinde; işgücü piyasasında yaşanan gelişmelere bağlı olarak yaygınlaşan SDİ ile çalışanların yoksullaşması arasındaki ilişkiye ve çalışanların yoksullaşması sürecinde istihdamın niteliğinin önemine dikkat çekebilme amaçlanmıştır.

## 2. Tarihsel Arka Plan: Artan Standart Dışı İşler ve Çalışan Yoksulluğu

İkinci Dünya Savaşı'nı takip eden "Altın Yıllar" olarak adlandırılan dönemde, istihdamın Avrupa'da bireyleri yoksulluktan yeterince koruduğu açıkça varsayılmıştır (Fraser et al., 2011: 2). Bu dönemin büyük bölümünde, refah devletleri karşılaşılan sorunlara genel olarak Keynesyen ekonomi politikaları ile çare bulmaya çalışmışlar ve devletin ekonomiye etkin müdahalesine güven esas olmuştur. Keynesyen paradigmanın amacı, ekonomiyi tam istihdam seviyesine çıkarmaktır ve bunu sürdürmek için devletin müdahalesine güvenmek esas kabul edilmiştir (Evans & McBride, 2017: 3; Talyor-Gooby et al., 2015: 84). Bu çerçevede ekonomik ve sosyal kalkınma, birbirini tamamlayan bir ilişki içinde bir araya getirilmiş, makro ekonomi politikaları, sosyal politikalar ve işgücü piyasası düzenlemeleri gibi ulusal kurumlar ve düzenlemelerle desteklenmiştir (Whittaker et al., 2020: 54, 139)<sup>1</sup>. Ancak küreselleşme, finansallaşma ve post-endüstriyel toplumlara geçişle bağlantılı ekonomik, sosyal ve politik değişimler refah devletleri üzerinde baskı oluşturmuştur. Bu değişiklikler, tam istihdam ve güçlü sosyal güvencelere odaklanan önceki refah düzenlemesini ve yeniden dağıtımçı çözümü sürdüren siyasi ve kurumsal faktörleri zayıflatmış, devletin doğrudan müdahalesine dayanan ekonomi yönetimine yönelik saldırılar, serbest piyasa ideolojisinin yeniden güçlenmesini ve el üstünde tutulmasını beraberinde getirmiştir (Standing, 2009: 85)<sup>2</sup>. 1980'lerden günümüze kadar olan süreçte, küreselleşmenin hızlanması, üretim teknolojilerinde ve süreçlerinde yaşanan yeni gelişmeler gibi gerçekleşen birçok gelişme ile işgücü piyasalarının da uluslararası ticaretin serbestleşmesine paralel dönüştüğü görülmektedir (Güllü, 2021: 1). Bu gelişmelerin ışığında

<sup>1</sup> Savaş sonrası dönem, güç mücadelelerinin ve örgütlü emek ile yönetim arasındaki güç asimetrisinin geçici bir sonucu olarak nitelendirilen Fordist sınıf uzlaşısından önemli ölçüde etkilenmiştir. Bu büyüme stratejisi, esas olarak endüstriyel kitlesel üretim ve dayanıklı malların kitlesel tüketimine dayanan bir "birikim rejimi" ile ulusal devletin rekabetçi çıkarları çalışanların kolektif haklarıyla tamamlamada kilit rol oynadığı bir "düzenleme tarzının" geçici olarak uyumlaştırılmasına ve sonuç olarak uzun süreli bir ekonomik büyüme ve tam istihdam dönemine yol açmıştır (Koch & Fritz, 2013: 2).

<sup>2</sup> Fordist yönetim-işgücü değişimi, istihdam standardı ve buna karşılık gelen sosyoekonomik entegrasyon modeli 1970'lerin ortalarında krize eğilimli hale gelmiştir. Böylelikle sosyoekonomik düzenleme kurumlarının birçoğu tartışmaya açılmış, değiştirilmiş ve/veya zayıflatılmıştır. Özelleştirme ve küreselleşme eğilimleri ile mali piyasaların kural dışılaştırılması, örgütlü emeğin sermaye karşısındaki yapısal konumunu zayıflatmıştır (Koch & Fritz, 2013: 3).



işgücü piyasalarının esnekleştirilmesi ve kural dışılaştırılması ise, neoliberal politikalara yönelik olumlu atmosferin ve yükselişin doğal sonucu olmuştur. Sermaye ile emek arasındaki ilişkiye aracılık eden toplumsal kurumlar, işgücü piyasasının kural dışılaştırılması ve imalat sektörü yerine hizmet sektörü tarafından karakterize edilen sanayi ötesi toplum veya post endüstri toplumuna geçişe paralel olarak çalışma hayatında büyük bir değişimin şartlarını hazırlamıştır<sup>3</sup>. Söz konusu değişikliklerin ayrıca artan yoksulluk eğilimleri ve eşitsizlik üzerinde etkileri olmuştur<sup>4</sup> (Taylor-Gooby et al., 2015: 84-93; Whittaker et al., 2020: 139).

Keynesyen talep yönlü politikaların ikinci dünya savaşından sonra uygulanmasıyla ekonomik ve sosyal hayatta sağlanan olumlu gelişmeler "altın çağı" yaratmış ve bunun yerini Hayek ve Friedman gibi düşünürlerin öncülük ettiği neoliberal çağ almış, yaşanan dönem ise neoliberal dönem olarak nitelendirilmiştir (Bakır, 2018: 1760)<sup>5</sup>. Klasik liberal kapitalizme tam anlamıyla bir geri dönüş olmasa da neoliberalizm serbest piyasalara, rekabete, verimliliğe ve kâr odaklı özel sektör kuruluşlarının kamu varlıklarını daha başarılı bir şekilde yönetebileceği inancına ideolojik bir bağlılıkla desteklenmiştir (Harvey, 2005; Lloyd, 2018; 37). Bu dönüşün getirisi olarak devletin ekonomi üzerindeki rolünde önemli değişiklikler gerçekleşmiştir. Neoliberalizm; rekabet, laissez-faire, verimlilik, üretkenlik, kârlılık ve bireysel özerklik/seçim ilkelerine dayanmaktadır (Larner, 2000: 5) ve çoğunlukla "daha fazla piyasa" ilkesine dayanarak serbestleşme, deregülasyon ve özelleştirme gibi politikalar şeklinde kendini göstermiştir (Vogel, 2018: 119-20). Neoliberal ekonomi politikalarının özü; devletin ekonomiye müdahalesinin ortadan kaldırılması, ekonomik kararların serbest piyasanın işleyişine bırakılması ve tam istihdamı ve sosyal refahı sürdürme

<sup>3</sup> ABD ve Avrupa'da savaş sonrası döneminde sendikalara kayıtlı işgücü oranı sürekli olarak azalmış, çoğu işyerinde sendika yoğunluğu düşmüş, sendikasız çalışan bulunan -ya da sendikalı olanları tanımayı reddeden- şirket sayısı artmıştır. Yapısal değişim ve sendikaların ücret pazarlığı haklarını kısıtlayarak onları üye olmak için daha az cazip hale getiren mevzuat bu düşüşe katkıda bulunmuştur. Ayrıca 1970'lerde tam istihdamdan uzaklaşılması, sendikalaşabilecek işçi havuzunu sınırlamıştır (Shipman et al., 2018: 240).

<sup>4</sup> Piketty, birçok dönemde -ekonomik büyüme ve küreselleşme dönemleri de dahil olmak üzere- ekonomik büyümeden elde edilen kazanımların büyük ölçüde zenginler tarafından ele geçirildiğini tespit etmiştir. Ekonomi büyüdüğünde ancak bu sadece zenginlere fayda sağladığında, eşitsizliğin kötüleşmesine yol açmakta, başka bir deyişle, zenginler daha zengin olurken yoksullar yoksul kalmaktadır (Ritzer & Dean, 2019: 418).

<sup>5</sup> Chicago okulunun teorileri ekonomide yaygın bir şekilde kabul edilmeye başlamıştır. "Piyasa devletten iyidir" ideolojik sloganı batı ekonomisinde egemen kavram haline gelmiştir. Neoliberal yaklaşıma göre, sosyal politika ve refah devleti, ekonomik ilerlemenin önünde engel oluşturmaktadır (Eijfel et al., 2014: 2-3). **Friedman ve Hayek** gibi piyasa yanlı-radikal düşünürlere göre, özgürlük ancak devletin sadece serbest piyasa düzenini ve istikrarlı fiyatları garanti altına alması ve ekonomik dinamiklerin kurtuluşu ile sınırlandırılmasıyla güvence altına alınabilir. Bu anlamda ekonomik büyümeyi teşvik etmek için yoksullara destek verilmemelidir. Friedman'a göre refah sistemleri, bir sahtekarlık olan en kötü devlet müdahalesi türüdür (Eijfel et al., 2014: 45). Neoliberallerin çoğu olmak üzere, ekonomik küreselleşme ilerledikçe eşitsizliğin kaçınılmaz olarak azalacağını savunmaktadırlar. Ürün ve para akışının giderek serbestleştiği küresel bir serbest piyasanın, en azından "uzun vadede" herkesi zenginleştireceği düşünülmektedir. Bu görüş, serbest ve açık bir küresel pazarın küresel ekonomide büyük bir büyümeye yol açacağı ve tüm insanların bu büyümeden faydalanacağı genel önermesine dayanmaktadır. Ticaret ve yatırımın önündeki engellerin en aza indirilmesi veya ortadan kaldırılmasıyla, giderek daha fazla insan küresel ekonomiye katılabilir ve bundan kazanç sağlayabilir. Söz konusu büyüme ve artan kazanç eşitsizliği büyük ölçüde azaltacaktır (Ritzer & Dean, 2019: 418).

konusunda devletin üstlendiği sorumluluğun ve bunun ekonomik yükünün artık taşınamaz hale geldiğinden hareketle refah devletinin geri çekilmesi ve kısıtlanmasıdır. Tam istihdam devletin üstlendiği bir görev olmaktan çıkarılmıştır. Bunun yerine, işsizliğin doğal seviyesine ya da "enflasyonu hızlandırmayan işsizlik oranı" (NAIRU), diğer bir ifadeyle istikrarlı enflasyon oranlarıyla tutarlı işsizlik seviyesine yönelmesine izin verilmelidir (Evans & Mcbride, 2017: 4). Devletin rolü ise, "hem yerli hem de yabancı sermaye açısından kârlı sermaye birikimi koşullarını" kolaylaştırmakla ilgilidir (Harvey, 2005: 7; Evans & Mcbride, 2017: 5)<sup>6</sup>. Dolayısıyla, 1980'ler ve 1990'larda piyasaların 'serbestleşmesi' devletin geri çekilmesiyle değil, piyasa hakimiyetinin yeniden inşasını gerektiren neoliberalizme uyumlu devlet eylemiyle gerçekleşmiştir (Vogel, 2018: 50-1; Whittaker et al., 2020: 56).

Zenginden yoksula doğru gelirin yeniden dağıtımını yaparak ya da aşırı zenginlik veya yoksulluğa doğru hareket özgürlüğünü azaltarak eşitsizliği azaltan siyasi müdahaleler, 1970'lerin sonlarından bu yana çoğu ülkede istikrarlı bir şekilde geri çekilmiştir (Shipman et al., 2018: 238). Firmalar, azalan kârlar karşısında hissedarlarının çıkarlarına öncelik vermeleri nedeniyle, organizasyonlarını yeniden yapılandırmışlar, istihdamı azaltmaya ve genel olarak istihdam edilenleri de esnek çalışma şartlarında istihdam etmeye yönelmişlerdir<sup>7</sup> (Whittaker et al., 2020: 59-60). SDİ'nin genişlemesi üç ana neden ile açıklanabilir (Koch & Fritz, 2013: 3): (i) artan küresel rekabet ve teknolojik süreçler arasındaki etkileşim<sup>8</sup>, (ii) ekonomide neoklasik bakış açısının ve politika yapımında neoliberal yaklaşımın artan hegemonyası<sup>9</sup> ve (iii) Batı toplumlarındaki demografik

<sup>6</sup> Bu değişim, temelde devletin yeniden yapılandırılmasıyla ilgilidir. Bir bütün olarak ele alındığında, odak noktası devletin kendi içindeki neoliberalleşme süreçleridir; bu süreçler ilk olarak yeniden dağıtımçı politikaları ve savaş sonrası Keynesyen refah devletini dönüştürürken, ikinci olarak sermaye birikimi, rekabetçilik ve zorlama ile ilgili kapasitelerini ve rollerini güçlendirmektedir (Evans & Mcbride, 2017: 10-1). İçerdiği özgürlükler özel mülkiyet sahiplerinin, işletmelerin, çokuluslu şirketlerin ve finansal sermayenin çıkarlarını yansıtmaktadır (Harvey, 2005: 7).

<sup>7</sup> Keynesyen dönemde güvenceli istihdamın kurumsallaşmasına tanıklık edilmiştir (Marx, 2015: 1). Ancak neoliberal dönem, her şeyden önce üretimde esnekliği sağlamak, emek maliyetini düşürerek ülkeler arası rekabet şansını artırabilmek adına esnekleşmeyi artırmakta ve çalışma hayatının geleneksel kurallarını göz ardı ederek kural dışılaşmayı giderek yaygınlaştırmıştır (Mahiroğulları, 2012: 11).

<sup>8</sup> İlk eğilime ilgili olarak Kalleberg (2000: 342), iletişim ve bilgi teknolojilerindeki ilerlemelerin, kuruluşların üretimlerini uzmanlaştırmalarını, projeler için geçici işçileri hızlı bir şekilde bir araya getirmelerini ve dış tedarikçilere daha fazla güvenmelerini kolaylaştırdığını belirtmektedir. Lojistik ve taşımacılık teknolojileri de küresel ticaretin ve mal ve hizmet alışverişinin kapasitesini ve etkinliğini geliştirmiş ve iyileştirmiştir. Dolayısıyla teknolojik değişimler, ulusötesi düzeylerde artan rekabetin ön koşulu olmuş ve aynı zamanda hem çeşitlenen talepleri karşılamak hem de işgününün daha esnek şekillerde yeniden organize edilmeleri için şirketler üzerindeki rekabet baskısının bir sonucu olmuştur. Sonuç olarak, istihdam özellikleri daha çeşitli hale gelmiş ve istihdamın sosyal güvenlik ve ücret standartlarını düşürerek maliyetleri azaltmak giderek daha kazançlı bir seçenek haline gelmiştir.

<sup>9</sup> İkincisi, literatür şirketlerin iç yapılarının yeniden düzenlenmesinin yanı sıra yatırımdaki yeniden yerelleşme ve ulusötesileşme eğilimlerini de SDİ'nin genişlemesiyle ilişkilendirmektedir. Tüm bu gelişmeler; sosyoekonomik düzenleme ve politika oluşturmaya yönelik neoliberal yaklaşımlar tarafından aktif bir şekilde desteklenmiştir ve bu yaklaşımlar şu şekildedir: (i) Sermayenin, özellikle de finans sermayesinin kural dışılaştırılması ve serbestleştirilmesi, sermayenin küresel çapta mobil hale gelmesine yol açarken, işgücü standart istihdam gibi kolektif hakları savunma konusunda daha az elverişli olduğu bilinen ulusal ve bölgesel konumlara çok daha büyük ölçüde sabitlenmiştir. (ii) Emlak vergisi, kurumlar vergisi ve gelir vergisi gibi

değişiklikler. İnsana yaraşır bir iş ve günün şartlarına uygun makul ücret getiren istihdam imkanlarının eksikliği, yoksulluğun ve sosyal dışlanmanın en önemli dayanağını oluşturmaktadır (Aykaç, 2021a: 8).

1970’lerden itibaren finans sektörünün reel ekonomiyle ilişkisinin kesilmesi ve sanayi üretimine yönelik finansal desteklerin zayıflamasıyla birlikte küresel serbest finansal akımların önem kazanması, yüksek sermaye kazancına odaklanan para akımlarının bağımsız bir alan haline gelmesiyle (Whittaker et al., 2020: 59)<sup>10</sup> “Kumarhane Kapitalizmi” ortaya çıkmıştır (Daldal, 2010: 106; Jha & Mishra, 2022: 350)<sup>11</sup>. Finansal piyasalar, kamu borcunun azaltılması ve vergilerin düşürülmesi için baskı uygulayarak sosyal harcamalarda kesintilere, özelleştirmelere ve aynı zamanda kredi genişlemesi yoluyla özel borçlarda büyük bir artışa yol açmışlardır. Zenginler paralarını finansal piyasalara taşıyarak büyük kârlar elde ederken, daha az varlıklı veya yoksul kesimler borç batağında (Whittaker et al., 2020: 56) sömürülmüştür. Tüm bu gelişmeler, tam istihdam ve yeniden dağıtım öncelayen politika tercihlerine ters düşmüştür ve düşmeye de devam etmektedir. Son yıllarda tanık olunan piyasa gelir eşitsizliklerinin yaygınlaşması ve yeni risklerin ortaya çıkması itirazları da birlikte getirmiştir. Artan eşitsizlik, bir refah devletinden bir “iş devleti”ne ve Keynesyen bir kamu müdahalesi stratejisinden piyasa dogmatizmine geçişin bir sonucudur (Eißel et al., 2014: 43).

Sanayiden uzaklaşma (arınma)<sup>12</sup>, dış kaynak kullanımı ve hizmet sektörünün büyümesiyle<sup>13</sup> birlikte ‘standart dışı’ veya ‘atipik’ işler artmıştır. İşgücü piyasasının

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*doğrudan vergilerin azaltılması, işverenlerin kârlarını ve servetlerini hissedarlara yeniden dağıtımalarında bir rahatlama işlevi görmüştür. Hükümetler, ortaya çıkan açıkları ise dolaylı tüketim vergilerini artırarak telafi etmeyi amaçlamakta, bu ise fiilen reel ücretlerde daha fazla düşüş anlamına gelmektedir. Diğer her şey eşit olduğunda, standart dışı çalışanlar standart çalışanlardan daha düşük gelire sahiptir ve dolayısıyla daha zayıf tüketiciler olma eğilimindedir. Aslında, standart dışı işlerden elde edilen kazançlar her zaman bir almayı geçindirmeye ve yoksulluk sınırının üzerinde bir yaşam tarzına izin vermeye yetmemektedir. (iii) Eskiden kamusal olan malların özelleştirilmesi, özellikle de yerel yönetimlere ve devlete ait şirketlerinin satışı, Fordist uzlaşmayı da aşındırmaktadır; çünkü yeni sahipler esas olarak kısa vadede kâr elde etmekle ilgilenmekte ve sonuç olarak ‘yalın yönetim’ gibi önlemler uygulayarak şirketlerini yeniden yapılandırmakta ve küçültmektedirler (Koch & Fritz, 2013: 3-6).*

<sup>10</sup> Bu durum, emeğin örgütsel gücünün azalması ve yönetimin gücünün artması, özel sektörün artan rolünü içeren devlet düzenlemelerinin yeniden düzenlenmesi ve yeniden ölçeklendirilmesi, artan işgücü piyasası esnekliği ve özellikle mali piyasaların kuralılaşmasıyla ve özellikle doğrudan yabancı yatırım olarak mali sermayenin yatırımı için daha fazla dünya bölgesinin açılması ile ilişkilidir (Standart istihdam ilişkilerinden SDİ ilişkilerine geçiş ile Fordizmden Finansal Kapitalizme geçiş süreci için bkz. Koch, 2013: 34).

<sup>11</sup> Keynes (Genel Teori, 1936), finans kapitalizmini “kumarhane kapitalizmi” olarak nitelendirmektedir (Kazgan, 2012: 6).

<sup>12</sup> Gelişmiş veya gelişmekte olan tüm ülkeler; kaybolan sektörler ve üretim süreçleri sonucunda işsizliğin kitlesel bir hale geldiği, doğrudan yabancı yatırım çekebilmek amacıyla, işgücü piyasalarında sosyal damping ya da çalışma standartlarında dibe doğru yarışın gerçekleştiği süreçten olumsuz olarak etkilenmiştir (Güllü, 2021: 2-3).

<sup>13</sup> Modern ekonomilerde istihdamın yapısını inceleyen çalışmalar; işgücü hacminin artan bir şekilde hizmet sektöründe istihdam edildiğini açıkça göstermiştir. Bu kapsamda istihdam düzeyi sanayi sektöründe belirli bir seviyede sabit kalırken, tarım sektöründe sürekli olarak azalmaktadır. Hizmetler sektörü ise ağırlıklı olarak yeni bilgi ve iletişim teknolojilerinin kullanılması ve genellikle yeni ve şimdiye kadar bilinmeyen modern hizmetlere

kuralsızlaştırılması, istihdam ilişkilerinin piyasalaştırılması ve yönetimlerin esneklik arayışları yeni bir ikilik ve artan eşitsizlik yaratmıştır. Weil (2014: 4)'e göre; istihdam daha az doğrudan ve sıklıkla belirsiz hale gelmiştir (Whittaker et al., 2020: 139). Yarı-vasıflı ve vasıfsız işçileri ekonominin geleneksel çekirdek sektörlerindeki istikrarlı ve iyi ücretli istihdamdan uzaklaştırmış, sosyal koruma ve yeniden dağıtım çabalarından uzaklaşmıştır (Swank & Martin, 2009: 15). Dolayısıyla, piyasada işleyen bir "görünmez el" yoktur, aksine ticari işletmeler düşük ücretli çalışma ve SDİ düzenlemelerini bir iş stratejisi olarak kullanımlarını hızla genişletmişlerdir (Evans & McBride, 2017: 10)<sup>14</sup>.

1970'lerden itibaren küresel iş uygulamaları esnekliğe doğru yöneldikçe, kurumsallaşmış iş güvencesi bir dezavantaj olarak görülmeye başlamıştır. İstihdam ilişkilerinde daha fazla esnekliğe izin vermek doğal bir çözüm olarak ortaya çıkmış ve birçok akademik çalışma ile istihdam güvencesizliğinin son yıllarda arttığı savunulmuştur (Marx, 2015: 2; Anderson & Pontusson, 2007: 213; Blossfeld et al., 2011: 125-6; Hacker et al., 2013: 24). Sanayiden arınma, düşük ücretli çalışma oranındaki artışın yanı sıra eşitsizliğin ve emek piyasasında ikili (düalism) yapının yaygınlaşmasıyla ilişkilendirilmektedir (Swank & Martin, 2009: 25-7)<sup>15</sup>. Dolayısıyla neoliberal politikalar, büyümeyi sağlamak yerine, eşitsizliği artırmış ve bu da kalıcı ekonomik genişleme için tehlike oluşturmuştur (Ostry et al., 2016: 38; Franzini, 2020: 140). Ayrıca ekonomik büyümenin ortasında bile 'standart' istihdam gerilemiştir (Whittaker et al., 2020: 156). Neoliberal politikalar, genel olarak esnekleşmeye ve güvencesizliğe sebep olarak işgücünün yapısında ve istihdamının sektörel dağılımında değişimler ve SDİ'nin yaygınlaşması ile sonuçlanmıştır<sup>16</sup>. 1970li yılların sonlarına doğru yeniden yapılandırılan işgücü piyasasının yapısı ve çalışma/istihdam

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*yönelik artan talebin neden olduğu yoğun değişikliklere bağlı olarak gelişmektedir (Wegrzyn, 2018: 302). Sanayileşmiş ülkelerdeki gelişmelere bağlı olarak, özellikle gelişmekte olan ülkelerin üretim yapısında ve buna dayalı olarak işgücü piyasalarında önemli dönüşümler yaşanmıştır. Bu dönüşümlerle birlikte sanayi üretimi gerilemiş; hizmet sektöründe ise yeni teknolojileri kullanan, nitelikli işçi çalıştıran, yüksek verimliliğe sahip sektörler ile düşük ücret ve düşük verimlilik ekseninde gelişen ve kayıt dışı olma eğilimleri yüksek olan sektörlerden oluşan, işgücü piyasasının kutuplaşması olarak nitelendirilen (Sissons et al., 2018: 1081) ikili bir yapı ortaya çıkmıştır (Şenses, 2008: 190). Hizmetler sektörünün ekonomik faaliyetler içerisinde ön plana çıkması, istihdam açısından düşük niteliklere sahip olanlar ile nitelikli uzmanlara yönelik yeni işlere zemin hazırlamaktadır (Wegrzyn, 2018: 303). Dolayısıyla yeni istihdam oluşturulması konusunda hizmet yapısının önemi gün geçtikçe artmaktadır. Ancak sektörel yapıda meydana gelen değişiklik, her zaman tercih edilebilir bir istihdam dağılımı oluşturamayabilecektir. Bu anlamda sektörel yapıda meydana gelen bir değişiklik, istihdam yapısında kabul edilebilir bir değişikliğe denk düşmediği sürece yoksulluk oranında bir artışla ilişkilendirilebilir (Aggarwal & Kumar, 2012: 12-13).*

<sup>14</sup> Yaygın düşük ücretli çalışma, gönülsüz çalışma ve geçici işler gibi işgücü piyasası ikiciliğinin biçimleri, post-endüstriyel kapitalist ekonomilerde bu koşullarda ortaya çıkmıştır (King & Rueda, 2008: 284; Swank & Martin, 2009: 3).

<sup>15</sup> Esnek bir işgücü piyasası hedefleyen siyasi reformun teşvik ettiği serbest meslek, geçici işçilik ve standart dışı sözleşmelerin büyümesi, sendikaların büyüklüğü ve eylem özgürlüğü üzerindeki kısıtlamaları artırmıştır. Çalışmalar, sendikalaşma ve sendikal güçteki düşüşün gelir eşitsizliğini artırdığını göstermektedir (Shipman et al., 2018: 240).

<sup>16</sup> Küresel gelişmelerle birlikte işgücü piyasalarının esnekleşmesi, istihdam edilenler içerisinde geniş bir kesimi, geçici ve güvencesiz işlere razı olmak durumunda bırakmakta ve kayıt dışı istihdama katılmak konusunda baskı oluşturmaktadır (Metin & Özyayın, 2016: 114).

anlayışının kapsamı, standart dışı çalışma ilişkileri -kayıt dışılık, kötü çalışma şartları, düşük ücretler, sosyal haklar ve güvenceden yeterince faydalanamama vb.- çerçevesinde şekillenmiştir (Yılmaz, 2019: 1716). Bununla birlikte, esnekleşme kapsamında gündeme gelen esnek çalışma türleriyle birlikte güvencesiz işler küresel olarak yaygınlaşmıştır (Arisoy & Parlak, 2022: 661). SDİ edilenlerin yoksulluk riski ile karşılaşmaları ve yoksullaşma eğiliminde olmaları bu koşullarda gerçekleşmektedir.

Keynesyen dönemde elde edilen haklar ve refah artışlarının, neoliberal politikaların uygulama alanı bulması ile kaybedilmeye başlandığı görülmüştür. Söz konusu gelişmeler ile kısmi süreli ve geçici çalışma yaygınlaşmıştır ve 1980'lerden bu yana AB'de yaratılan işlerin çoğunu standart dışı işler oluşturmaktadır (Schwander & Häusermann, 2013: 249). Aynı zamanda çalışan yoksulluğu da tekrar ortaya çıkmış ve bir dönem çalışma ve yoksulluk arasında koparılan ilişki tekrar gündeme gelmiştir. Ayrıca, yoksulluğun azaltılmasına yönelik ulusal hükümetler ve uluslararası kuruluşlar tarafından geliştirilen politikalar ve bu alanda elde edilen başarıların, COVID 19 pandemisinin etkisiyle küresel durgunluğa ve yoksullukla mücadeleye kapı araladığı görülmüştür (Aykaç, 2021b: 299).

### 3. Çalışan Yoksulluğunu Açıklamaya Yönelik Yaklaşımlar

Çalışma ile yoksulluk<sup>17</sup> arasındaki ilişki tekrar gündeme geldiğinde, istihdamın niteliği -çalışmanın çalışana sağladığı maddi ve maddi olmayan haklar- önemli tartışma konuları arasına girmiştir. Bu noktada çalışan yoksulluğu literatürlerinin incelenmesi ve SDİ<sup>18</sup> ile yoksulluk arasında bir köprü kurulması, akabinde ise istihdamın niteliğini yansıtacak şekilde esnek olarak çalışanların yoksulluğunun incelenmesi gerekmektedir.

Çalışma ekonomisi literatüründe çalışan yoksulluğu ile ilgili ilk yaklaşım olan *Birleşik Teori (unified theory)*, özellikle küreselleşme, sanayileşme ve teknolojik gelişmeler gibi makroekonomik şoklar ile ulusal kurumsal bağlamlar arasındaki ilişkiye odaklanmaktadır<sup>19</sup>. Makroekonomik şoklar, tüm sanayileşmiş ülkelerde düşük vasıflı işçilerin ücretleri üzerinde aşağı yönlü bir baskı ve ücret eşitsizliği üzerinde yukarı yönlü

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<sup>17</sup> Geniş bir kitleyi oluşturan çalışanlar, çalışmaları karşılığında elde ettikleri gelir ile kendilerinin ve bakmakla yükümlü oldukları kişilerin temel ihtiyaçlarını karşılayamamakta ve bu kesim çalışan yoksul olarak adlandırılmaktadır. Çalışan yoksulluğu, bir işte çalışıp da elde edilen gelir düzeyi ile asgari ekonomik ve sosyal faydalara ulaşamayan, toplumun diğer kesimlerine göre görece yoksulluk içinde kalan, birey ve haneler için kullanılan bir kavramdır (Öcal & Kaya, 2019: 581).

<sup>18</sup> ILO yayınladığı bir raporda, SDİ ilişkisinin resmi bir tanımının olmadığını ifade etmiştir. Bununla birlikte SDİ, standart istihdam ilişkisinden farklılaşması açısından tanımlanmakta ve daha çok tam zamanlı, belirsiz süreli ve ikili bir istihdam anlayışı çerçevesinde ele alınan standart istihdam düzenlemeleri dışında kalan çalışma biçimlerini kapsamaktadır. Bu raporda SDİ kapsamında dört türe yer verilmiştir. Bunlar; geçici istihdam, kısmi süreli çalışma, geçici taşeron işçiliği ve özel istihdam bürosu tarafından gerçekleştirilen diğer çalışma türleri (çok taraflılığı kapsayan), gizli istihdam ve bağımlı kendi hesabına çalışanlardır (ILO, 2016:7; ILO, 26.01.2024; Bercusson, 2009: 362).

<sup>19</sup> Bu makroekonomik şoklar ise verimlilik artışında düşüş, 1970'lerde yüksek enflasyon ve akabinde 1980'ler boyunca stagflasyon ve 1990'lar boyunca enflasyonun düşmesi, artan uluslararası ticaret ile teknolojik gelişmelere bağlı olarak düşük vasıflı işgücüne yönelik talepte yaşanan düşüş olarak açıklanmaktadır.

baskı oluşturmuştur (Blau & Khan, 2002: 5; DiPrete et al., 2003: 8-9)<sup>20</sup>. Birleşik Teori, 1990'ların sonlarından 2000'lerin sonunda ortaya çıkan krize kadar, çok daha ileri derecede düzenlenmiş işgücü piyasalarına sahip olmalarına rağmen Danimarka, Norveç, İsviçre ve Avusturya gibi birçok Avrupa ülkesinin sürekli olarak ABD'den daha iyi bir istihdam düzeyine sahip olduğu gerçeğini açıklayamaması sebebiyle eleştirilmiştir<sup>21</sup> (Cretaz, 2013: 349).

Gelişmiş ekonomilerdeki düşük vasıflı işgücünü etkileyen olumsuz durumu ele alan ve Birleşik Teori'nin açıklamalarına katılmayan ve çalışan yoksulluğu konusunda katkı sağlayan ikinci yaklaşım ise, eşitsizliğin artmasıyla ilgili tartışmaların yapıldığı "*Küreselleşme Tezi*" (*globalization thesis*)'dir. Buna göre, gelişmiş ekonomilerdeki düşük vasıflı işgücünü etkileyen olumsuz durum açıklanırken, küreselleşmenin, doğrudan yabancı yatırımların, artan sermaye hareketlerinin, uluslararası rekabet ve göçteki artışın ve kuzey-güney arasındaki ticaretin (Nielsen & Alderson, 2002: 1244-56) önemi tartışılmıştır. Benzer şekilde, Birleşik Teori'nin açıklamalarını paylaşmayan diğer bazı yazarlar da gelişmiş ülkelerdeki düşük vasıflı işçilerin içinde buldukları durumu "*beceriye dayalı teknolojik değişiklikler*" çerçevesinde açıklamışlardır (Cretaz, 2013: 349)<sup>22</sup>.

Birleşik Teori ve teknolojiye karşı küreselleşme (*globalization-versus-technology*) tartışmaları için yapılan bir eleştiri ise, tartışmaların düşük ücretli işçilerin içinde buldukları durumları açıklamaya yönelik olmasıdır. Ancak literatürde, düşük ücret ile çalışan yoksulluğu arasında düşük bir kolerasyon bulunduğu ifade edilmektedir. Düşük ücret çoğu durumda çalışan yoksulluğu için gerekli bir koşuldur, ancak düşük ücretli çalışanların çoğu yoksul değildir (Fraser et al., 2011; Halleröd & Larsson, 2008; Maitre et al., 2012; Marx & Nolan, 2014; Halleröd et al., 2015: 474). Buna göre çoğu düşük ücretli çalışan, hanehalkı bağlamı ve sosyal transferler sayesinde yoksul olarak kabul edilmeyebilmektedir (Gündoğan, 2007: 30; Pena-Casas & Latta, 2004: 33-5; Andreß & Lohmann, 2008: 3; Cretaz, 2013: 349). Ancak düşük ücret oranı veya düşük ücretin, hanede başka bir yetişkin

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<sup>20</sup> Buna göre, ABD'de makroekonomik şoklar ile esnek işgücü piyasası kurumlarının varlığı, işsizlikte düşüş ile ücret eşitsizliğinde yükseliş eğilimleri üretmiştir. Ayrıca benzer şoklar Avrupa'da katı işgücü piyasası kurumları tarafından sağlanan ücret istikrarının bir sonucu olarak, vasıfsız işgücüne olan talebin azalmasına neden olmuş, dolayısıyla sabit veya düşük istihdam artış oranları ve yüksek işsizlik ortaya çıkarmıştır (DiPrete et al., 2003: 6; Cretaz, 2013: 349).

<sup>21</sup> Diğer taraftan, Almanya ve ABD'de işsizlik oranları üzerine yapılan bir çalışmaya göre, ABD'de düşük vasıflı işçilerin ücretleri düşerken, Almanya'da düşük vasıflı işçilerin ücretleri hem reel hem de nominal olarak artmasına rağmen, düşük vasıflı işgücünün istihdam artış oranları Almanya ve ABD için benzer şekilde gerçekleşmiştir. Bu durum ise görece yüksek ücretleri nedeniyle, yukarıda da izah edildiği üzere düşük vasıflı Alman işçilerin, özellikle sabit veya düşük istihdam artış oranları yaşamaları gerektiğini savunan Birleşik Teori'nin varsayımı ile çelişmektedir (Krueger & Pshcke, 1997: 9-10; DiPrete et al., 2003: 9-10).

<sup>22</sup> Bu çerçevede 1979-1990 döneminde, Birleşik Krallık kapsamında teknoloji ve ticaretin vasıf üzerine etkilerinin incelendiği araştırmada teknolojinin beceri talepleri üzerine büyük bir etkiye, ticaretin ise nispeten daha az bir etkiye sahip olduğu tespit edilmiştir. Buna göre; teknolojik değişime bağlı olarak özellikle hizmetler sektöründe düşük vasıflı işlerden çok yüksek vasıflı işler ortaya çıkmıştır. Bu bağlamda teknolojik değişim ile yüksek vasıflı işlerde işgücünün istihdamında önemli ölçüde artış olurken, orta ve düşük vasıflı işlerin ve istihdamın azaldığı tespit edilmiştir (Gregory et al., 2001: 22-3).

yaşamadığı veya diğer yetişkin hanehalkı üyelerinin çalışmadığı durumlarda, açık bir şekilde yoksulluğun söz konusu olabileceği kabul edilebilir (Crettaz & Bonoli, 2011: 46)<sup>23</sup>.

Çalışan yoksulluğu ile ilgili literatüre katkıda bulunan, özellikle refah devletiyle ilgili karşılaştırmalı araştırmalar da bulunmaktadır. Bu literatürde yapılan çalışmalar ise çoğunlukla Esping-Andersen (1990) tarafından sınıflandırılan liberal, muhafazakâr / kurumsal ve sosyal demokrat refah devleti rejimleri kapsamında gerçekleşmektedir. Refah rejimleri ise üç kriterle dayanmaktadır. Bu kriterler; *dekomodifikasyon (metadan arındırma, piyasa dışına çıkarma)*, *katmanlaşma* ve *kamu-özel sektörün rolünden oluşmaktadır*. Bu kriterlere göre yapılan sınıflandırmanın merkezinde metasızlaştırma (*decommodification*) bulunmaktadır (Gümüş, 2020: 103-104)<sup>24</sup>. Refah devleti organizasyonu hem genel yoksulluk ve hem de çalışan yoksulluğu açısından ülkeler arasındaki farklılıklarla ilişkilendirilmektedir. (Fraser et al., 2011; Lohmann, 2009; Peña-Casas & Latta, 2004; Halleröd et al., 2015: 475). Metalaşmanın derecesi -sosyal yardımlar, gelir koruma planları ve emeklilik maaşları yoluyla yeniden dağıtımın bireylerin ve hanehalkının piyasaya bağımlılığını ve gelirin piyasa dağılımını ne ölçüde azalttığı- ülkeler arasındaki yoksulluk oranları arasındaki farklılıkları en azından kısmen açıklayabilir (Halleröd et al., 2015: 475). Lohmann ve Marx (2008: 25-30), refah rejimlerinin karakteristik özelliklerini ve yaşanan ekonomik ve sosyal değişimleri dikkate alarak çalışan yoksulluğu konusunu incelemiştir. Avrupa ülkeleri arasında karşılaştırma yapıldığı görülmektedir. Liberal rejimdeki ülkeler ile Güney Avrupa refah rejimine dahil olan ülkeler, genel olarak görece yüksek çalışan yoksulluğu oranlarına sahiptir. Sosyal demokrat refah rejimindeki ülkelere ise nispeten düşük bir çalışan yoksulluğu oranının olduğu sonucuna ulaşılmıştır. Refah rejimleri ve işgücü piyasası özellikleri ile çalışan yoksulluğu ilişkisini ele alan çalışmalarda, bu ilişkiyi incelemenin bir yolu olarak rejim özellikleri ile işgücü piyasalarının düalizmini ortaya koyan

<sup>23</sup> Eurofound (2017: 9) tarafından yayınlanan rapora göre, çocuklu bir ailede yaşayanlar, çalışma çağına erişmiş olan ortalama kişilerin bulunduğu ailelerde yaşayanlara göre daha fazla yoksulluk riski içindedirler. Dolayısıyla düşük ücretli çalışmanın, çalışanların yoksullaşması riskini yükselttiği de gözden kaçırılmamalıdır. Nitekim ABD’de 2002 yılında, çalışanların yoksullaşmasına neden olan işgücü piyasası sorunlarının başında, %65 oranda düşük ücret sorunuyla birlikte diğer sorunlarla maruz kalmak gelmektedir. 2012 yılına gelindiğinde ise çalışanların yoksullaşmasına etki eden sorunların başında, %68 oranında düşük ücretlerle birlikte diğer işgücü piyasası sorunlarına maruz kalmak bulunmaktadır. Bu oran; 2013’te %66, 2014’te %67, 2015’te %68 ve 2016’da %77 olarak gerçekleşmiştir (BLS, 2014: 5; Kaya, 2019: 55).

<sup>24</sup> Crettaz (2011: 2, 4, 7-8), çalışan yoksulluğunun farklı türleri ile sebepleri, çalışan yoksul nüfusun büyüklüğü ile bileşimi, çalışan yoksulluğu mekanizmalarının refah rejimleri arasında ne ölçüde farklılık gösterdiği, yoksullukla mücadelede politika araçları ve bunların etkisi gibi konuları araştırmıştır. Asgari ücret, sosyal transferler ve istihdam katılımlarını maksimize edilmesi stratejilerini kapsayan sosyal politikalar ile işgücü piyasası düzenleme mekanizmaları ve bunların çalışanlar üzerindeki etkisi analiz edilmiştir. Bu kapsamda ilk olarak çalışan yoksul olmadığı, ancak en az üç tür çalışan yoksulluğu olduğu ifade edilmiştir. Buna göre, bazı işçiler düşük ücret aldığı için yoksuldur; diğerleri daha fazla çalışmaları durumunda yoksulluktan kurtulabilirler ancak çalışamazlar; üçüncü bir grup ise hanehalkı ihtiyaçları nedeniyle yoksul olmaktadır. İkinci olarak, farklı refah rejimlerinde farklı çalışan yoksulluğu türlerinin deneyimlendiği ifade edilmiştir. Bununla birlikte, refah rejimlerinin belirlenen üç çalışan yoksulluğu mekanizması üzerindeki etkisi araştırılmış ve refah yaklaşımlarının bu mekanizmalar üzerinde yaygın bir etkisi olduğu vurgulanmıştır. Üçüncü olarak ise çalışan yoksulluğu mekanizmalarının nispi ağırlığı, refah rejimleri arasında önemli ölçüde farklılık gösterdiği için her rejimde aynı etkinliğe sahip olacak tek bir politika karışımı olmadığı ifade edilmiştir.

teoriler ilişkilendirmektedir (Halleröd et al., 2015: 476). Bu anlamda, hem en yüksek vasıflı mesleki ve idari pozisyonlar ve hem de öncelikle hizmet sektörü içindeki düşük vasıflı yan meslekler arasında istihdamda artış yönünde bir eğilim bulunmakta (Marx & Nolan, 2014) ve bu da Standing (2011)'in ifade ettiği üzere prekarya (güvencesiz ve düşük gelirli işler)'nin oluşmasına zemin hazırlamaktadır.

Genel olarak refah devletlerinin veya özelde gelir transferlerinin gelir eşitsizliği ve maddi yoksulluk üzerindeki etkisine odaklanan çalışmalar da bulunmaktadır. Nelson (2012: 159), sosyal yardımların düzeyinin, Avrupa genelinde maddi yoksunluk farklılıklarını açıklamada önemli olduğunu ifade etmiştir. Buna göre; evli olmayan kişiler, tek ebeveynler, işsizler ve eğitim durumu düşük olan kişiler arasında görülen yoksulluk olasılığı, sosyal yardımların daha düşük olduğu ülkelerde görece daha yüksek olma eğiliminde olmaktadır. Refah devletleri ile ilgili bu analizlerin temelinde ise süreç içinde yaşanan makroekonomik gelişmelere bağlı olarak değişen istihdam politikaları ve işsizlik sigortası sistemleri ile aktivasyon politikalarının geliştirilmesine doğru yaşanan geçişin (Emmenegger et al., 2012: 19-20) ve refah rejimlerinin karakteristik özelliklerinin olduğu görülmektedir.

Andreß ve Lohmann (2008), Crettaz (2011) ve Fraser vd. (2011) çalışmalarında refah rejimlerinin çalışan yoksulluğu üzerindeki etkisini değerlendirmişlerdir (Lohmann & Marx, 2008: 17-46; Andreß & Lohmann, 2008; Crettaz, 2011: 171-2). Andreß ve Lohmann (2008: 5-7), çalışan yoksulluğunun Avrupa gündemine neden tekrar geldiği sorusuna cevap aramışlardır. Bu mevcut endişelerin çoğunun ise işgücü piyasasında yaşanan değişikliklerden kaynaklandığını ifade etmişlerdir. Makroekonomik değişikliklere bağlı olarak işgücü piyasasında dönüşümler yaşanmış, bu kapsamda düşük ücretli ve düşük vasıflı işlerde bir artış ortaya çıkmıştır. Dolayısıyla, düşük ücretli işlerdeki artışı, kısmen yeni işgücü piyasası politikaları (deregülasyon, esnekleştirme, sendikasılaştırma, âdem-i merkezileşme vb.) ile açıklamışlardır. Diğer taraftan ise çalışma ilişkilerinin yapısı da gelir dağılımı üzerinde etkilidir<sup>25</sup>. Dolayısıyla bu unsurlarda yaşanan değişikliklerin de çalışan yoksulluğu konusunda belirleyici olduğu vurgulanmıştır.

Çalışan yoksulluğu ile ilgili geliştirilen spesifik modeller de bulunmaktadır. Strengmann-Kuhn (2003), bireysel kazançlardan hanehalkı eşdeğer harcanabilir gelire giden yolu tanımlamıştır<sup>26</sup>. Bu model ile işgücü piyasasında bireylerin durumu kadar hanehalkının yapısının da önemli bir faktör olabileceği ifade edilmiştir. Örneğin, tek işçi geliri kolay bir şekilde tek kişinin ihtiyaçlarını karşılayabilecek iken, aynı gelir çocuklu aileler için yeterli olmayabilir (Andreß & Lohmann, 2008: 5). Lohmann (2010), kaynaklara erişimi sınırlı ve ihtiyaçları fazla olan ve işgücü piyasasına erişim konusunda da sıkıntılar yaşayan hanelerdeki bireylerin çalışan yoksulluğu sorununa karşı daha korumasız olduğunu vurgulamıştır (Crettaz, 2013: 349). Benzer şekilde hane yapısı dikkate alındığında, tek yetişkin veya iki yetişkin bulunan bir hanede tek başına gelir elde etmek gibi bir durum,

<sup>25</sup> İşgücü piyasası kurumları ve refah devleti uygulamalarının çalışma koşullarını düzenlediği, pazarlık gücünü artırdığı, kazançlı istihdamı desteklediği ve alternatif gelir koruma imkânlarını sağladığı bilinmektedir.

<sup>26</sup> *Andress ve Seeck (2007) ve Lohmann (2010) gibi araştırmacılar da benzer modeller geliştirmişlerdir.*



yoksulluk için belirleyici bir faktör olarak görülebilmektedir (Pena-Casas & Latta, 2004: 32-3). Diğer taraftan hanehalkı özelliklerine bağlı bazı işçiler işgücü arzını kısıtlayan zaman kısıtlarıyla da karşı karşıya kalabilmektedir. Çocuk bakım kurumları eksik veya yetersiz olduğunda, çocuklu anneler tam zamanlı olarak çalışamazken, çocuksuz kadınlar çalışma saatlerini seçme konusunda nispeten daha serbest olacaktır. Bu durumda gelir miktarı ve dolayısıyla yoksulluk durumu büyük ölçüde çalışma süresine bağlı olacaktır (Andreß & Lohmann, 2008: 5).

Crettaz ve Bonoli (2011: 25), refah devletleri ve çalışan yoksulluğu konusunda yaptıkları karşılaştırmalı bir araştırmada çalışan yoksulluğa yol açan mekanizmaları açıklayan bir model geliştirmişlerdir. Literatürde tartışılan çalışan yoksulluğuna yönelik çok sayıda makro ve mikro düzeyde faktör olduğu, ancak çalışan yoksulluğuna yol açan temelde üç mekanizmanın bulunduğu ifade edilmiştir. Diğer bir ifadeyle, literatürde tartışılan tüm yoksulluk faktörlerinin çalışan haneler üzerinde doğrudan bir etkiye sahip olduğu üç temel neden üzerine odaklanılmıştır. Bu mekanizmalar ise *i. birim zaman başına düşük kazanç (düşük ücret oranı)*, *ii. hanehalkı düzeyinde ortalamanın altında gerçekleşen işgücüne katılma* ve *iii. çalışma çağındaki yetişkin başına düşen çocuk sayısı* olarak açıklanmıştır. Buna göre, çalışan yoksulluğu sorunu bu mekanizmaların birinin ve birkaçının birleşimi sonucunda ortaya çıkabilir (Crettaz, 2011a: 8-9). Bu mekanizmaların birinin veya birkaçının ortaya çıkması durumunda çalışan yoksulluğu riskini yükselteceği ifade edilebilir. Çalışan yoksulluğu ile ilgili bu mekanizmaların göreceli ağırlığı ise, hâkim olan refah rejimlerine göre değişiklik gösterebilecektir (Crettaz & Bonoli, 2011: 48-9; Crettaz, 2011: 36; Kaya, 2022).

Bir çalışmada, Avrupa ülkelerinde, genelde yoksulluğun ve özeldede ise çalışan yoksulluğunun açıklanmasına yönelik belirlenen refah rejimleri sınıflandırmalarının temel özelliklerine odaklanılarak, farklı refah rejimlerinde ve temsilen seçilen ülkelerde (Birleşik Krallık-Liberal, Almanya-Muhafazakâr, İspanya-Güney Avrupa ve İsveç-Sosyal Demokrat) çalışan yoksulluğu incelenmiştir. Çalışmada incelenen refah rejimlerinde ve temsilen seçilen ülkelerde, yoksulluğun ve çalışan yoksulluğunun yoğunluğunu belirleyen mekanizmaların ağırlığı ve etkisinin refah rejimlerine -işgücü piyasası kurumları, sosyal koruma sistemleri vb.- göre değişebildiği sonucuna ulaşılmıştır (Kaya, 2022).

Makro ve mikro yaklaşımları birlikte inceleyen eklektik yaklaşımla ele alındığında, çalışan yoksulluğu konusunda birçok faktörün tartışıldığı görülmektedir. Bu bağlamda küreselleşme sürecinde dünyada yaşanan eğilimler, makroekonomik politikalar ve/veya kamu politikası alanında birçok değişimi gündeme getirmiş ve bu değişiklikler işgücü piyasasında bir yeniden düzenleme, esnekleşme ve kuralsızlaştırma ile sonuçlanmıştır. Çalışan yoksulluğu, konuyu makroekonomik faktörler ve kamu politikalarında yaşanan değişimlerle inceleyen yaklaşım çerçevesinde ele alındığında, küreselleşme süreci, bu süreçte yaşanan teknolojik değişimler ve neoliberal hakimiyet uluslararası ticaret ve üretim organizasyonunu da etkilemiştir. Kamu politikalarında yaşanan değişimler, devletin ekonomideki rolünden etkilenmiştir. Devletin doğrudan müdahalesine dayanan ekonomi yönetimine yönelik saldırılar sonucunda, devletin rolü sermaye açısından kârlı birikim

koşullarının oluşturulması yönünde şekillendirilmiştir. Devletin ekonomiye müdahalesinin ortadan kaldırılması ve ekonomik kararların serbest piyasanın işleyişine bırakılması, refah devletinin geri çekilmesi ve kısıtlanması, diğer bir ifadeyle piyasa hakimiyetini gerektiren neoliberalizmin ideolojisi ile uyumlu bir devlet dönüşümü ile gerçekleştirilmiştir. Yeni bir uluslararası işbölümünün ortaya çıkması ile üretim ve emek sürecinde yeniden yapılandırmanın söz konusu olması, işgücü piyasası üzerinde belirleyici olmuş, işlerin ve işgücünün niteliğinin değişmesi ile sonuçlanmıştır. Söz konusu süreçte işsizliğin yapısal bir hal alması, işgücü piyasalarının esnekleştirilmesi ve kuralsızlaştırılmasına yönelik eğilimlerin ortaya çıkması ve buna bağlı olarak istihdamın yapısında ve istihdam ilişkilerinde yaşanan değişiklikler gibi işgücü piyasasında yaşanan dönüşümlerin, işçilerin gelirleri, çalışma şartları, ailevi yapıları ve yaşam standartları üzerine etkileri söz konusu olabilir.

#### **4. İşgücü Piyasasında Yaşanan Dönüşümler**

Küreselleşme sürecinde neoliberal politikalar, genel olarak işsizliğin yüksek seviyelerde seyretmesine, esnekleşme ve güvencesizliğe sebep olarak işgücünün yapısında ve istihdamın sektörel dağılımında değişimler ve SDİ'nin yaygınlaşması ile sonuçlanmıştır. Altın çağ döneminin sembolik istihdam ilişkisi, diğer bir deyişle sürekli bir tam zamanlı iş sözleşmesi ve en azından büyük ölçekli sanayi şirketlerinde "ömür boyu istihdam" olanakları sağlayan istihdam türleri yerini, çok sayıda standart dışı türlere ve daha esnek iş sözleşmelerine bırakmıştır (Boulin et al., 2006: 15). Çalışmanın bu aşamasında işsizlik oranları, işgücü piyasasında esnekleşme ve kayıt dışılık, istihdamın yapısında meydana gelen değişimler, SDİ ilişkilerinde yaşanan gelişmeler ile çalışanların yoksullaşması süreci arasında bir ilişki kurulmaya çalışılacaktır.

##### **4.1. İşsizlik Oranlarında Artış**

Gelişmekte olan ülkelerde tarım toplumundan sanayi toplumuna geçiş sürecinin sonucu olarak ortaya çıkan işsizlik, gelişmiş ülkelerde de sanayi toplumundan sonraki süreçte vasıfsız işgücüne olan talebin azalmasına paralel olarak artmış, yaygınlaşmış ve yapısal bir sorun haline gelmiştir. Birçok Avrupa ülkesinin iktisadi ve siyasi gündemlerine işsizlikle mücadele ve yeni iş yaratma politikaları hâkim olmuştur (Boulin et al., 2006: 15). Dünya genelinde de ortaya çıkan bu sorun, gelişmişlik düzeyi ne olursa olsun bütün ülkeleri istihdamı artırma doğrultusunda politikalar geliştirmeye ve uygulamaya yöneltmiştir. Genel olarak istihdamı artırmaya yönelik politikaların bir kolu, refah devleti ve sosyal politikaların çalışma teşviklerini azaltmasına engel olmak ve insanların işgücüne katılmasını artırmak amacıyla aktif emek piyasası politikalarının uygulanması şeklinde gelişmiştir. Gündoğan (2007: 32)'a göre; bu durumda istihdam oluşturulmakta, ancak yaratılan istihdamın niteliği geri plana itilmektedir. İstihdamın niteliği ile yoksulluk arasındaki ilişki ise bu noktada kendini göstermektedir.

1980'lerden sonra, gerileme dönemi olarak kabul edilen dönemde ABD ve Avrupa'da geçici işler hızla yaygınlaşmıştır. Standing (2011)'e göre işsizlik döneminden

sonra geçici bir işe sahip olmak, gelecek yıllarda daha düşük kazançlara neden olabilir. Bu bağlamda kariyer inşası için bir basamak olarak tercih edilen geçici bir iş, yukarı doğru sosyal mobilité ve daha iyi gelir elde etme olasılığını kalıcı olarak azaltmakta ve daha düşük bir gelir statüsü ile sonuçlanmaktadır. Standing (1995), işsizliğin, ücretler üzerinde aşağı yönlü bir baskı oluşturduğu gerçeğinden hareketle, halen istihdam edilen işçiler üzerinde de bir etkisinin olabileceğini ifade etmiştir. Bu durum ise yaygın işsizlik döneminde belirli süreli iş sözleşmeleri ve geçici taşeron işlerinin daha yaygın hale gelmesiyle birlikte, bu işlerin ücretler üzerinde aşağı yönlü baskıya sebep olarak etkileyebileceği düşüncesi ile açıklanmıştır (Crettaz, 2011: 27).

1970'lerin ortalarından itibaren ortaya çıkan şiddetli durgunlukla birlikte, 1980'lerin başında işsizlik oranları geçmişe oranla önemli ölçüde artış göstermiş, birçok ülkede yaklaşık iki kat artış olurken, diğer bazı ülkelerde işsizlik oranı %10'u aşmıştır. 1990'lardan itibaren ise birçok ülke ekonomisi toparlanmaya başlamış, bu durum özellikle gelişmiş ülkelerin işsizlik oranlarına da yansımıştır. Ancak yoksulluk oranları ise neredeyse hiç azalmamıştır. Bu nedenle de 1980'lerde yaşanan eşitsizlik artışı, daha sonra ortaya çıkan ekonomik büyümenin olumlu etkisini ortadan kaldırmıştır. Dolayısıyla bir taraftan durgunluktan kaçınmak ve ekonomiyi canlandırmak gerekirken, bu durumun yoksulluk sorunu için yeterli bir çözüm olmadığı görülmüştür (Crettaz, 2011: 28). Söz konusu dönemde organizasyon ve iş modellerinde yaygınlaşan esnekleşme uygulamaları, çalışma koşulları üzerinden bireyler üzerinde etkili olmuştur. Bir taraftan görelî olarak işsizlik oranlarından düzelmeye günceme gelirken, diğer taraftan esneklik ile ortaya çıkan korumasızlık ve güvencesizlik nedeniyle SDİ artmış ve bu kesimlerin yoksulluk riskine maruz kalma eğilimleri yükselmiştir.

## 4.2. İşgücü Piyasasında Esnekleşme

1970'li yılların ortalarında başlayan ve neoliberal küreselleşme ile işgücü piyasalarının katı olduğu yönünde eleştiriler<sup>27</sup> de yapılmıştır. 1980'lerden itibaren birçok gelişmiş ve gelişmekte olan ekonomi istihdam oluşturabilme ve yüksek işsizlik oranlarını azaltma hedefleriyle işgücü piyasalarında reform çalışmalarını başlatmıştır (DiPrete et al., 2003: 11-2; Barbieri & Scherer, 2009: 677; Ferreiro & Gomez, 2018: 1-3). Bu reformlar, esneklik uygulamalarını gündeme getirmiş ve katı işgücü piyasası kuralları ve kurumlarının piyasada olumsuz sonuçları olduğu varsayımına dayanmıştır<sup>28</sup>. 1980'lerden sonra, birçok

<sup>27</sup> Friedman (1968), doğal işsizlik oranı kavramını açıklayınca, birçok araştırmacı işgücü piyasası kurumlarının istihdam ve işsizlik üzerinde belirleyici olduğu düşüncesine önem vermiştir. Bu düşünceye göre; işgücü piyasası ne kadar fazla katı ise doğal işsizlik oranı o kadar yüksek; işgücü piyasası ne kadar esnek ise doğal işsizlik oranı da o ölçüde düşük olacaktır (Ferreiro & Gomez, 2018: 1).

<sup>28</sup> Esas olarak işgücü piyasalarını daha fazla esnekleştirilmesine dayanan reformlar birtakım amaçlara yönelmiştir. İlk olarak, piyasadaki değişikliklere karşılık verebilmek için verimliliği yükseltmek amacıyla emek arzı ve talebi arasında uygun eşleşmeyi sağlayabilme hedeflenmiştir (Fraser et al., 2011: 2). İkinci olarak; rekabet nedeniyle, üretim maliyetlerinin azaltılması yoluyla, ulusal malların uluslararası piyasada daha rekabetçi hale getirilmesi gerektiği kabul edilmiştir. Üçüncü olarak, ülkelerde gözlemlenen yüksek seviyede ve kalıcı işsizliğin azaltılabilmesi amaçlanmıştır. Son olarak ise yatırım seviyesinin artırılabilmesi için daha yüksek

ülkede işten çıkarma maliyetlerini ve SDİ sözleşmelerinin kullanımındaki kısıtlamaları azaltan işgücü reformlarını hayata geçirildiği (Arestis et al., 2020: 294-6) ve standart istihdam ilişkilerinde çözümlerin olduğu görülmüştür.

2008 mali krizi, Avrupa ülkelerinde işsizliğin artması ile sonuçlanmış, bu kapsamda iş kayıplarını en aza indirmek amacıyla işgücü piyasasının serbestleşmesi ve deregülasyon süreci daha fazla hızlandırılmıştır. Dolayısıyla, reform yapma gerekliliği, Avrupa işgücü piyasasının tüm yapısında, ulusal hükümetlerin durgunluk döneminde işsizlikle başa çıkmak için kullandıkları bir dizi kamu politikasının parçası olmuştur (Liotti & Canale, 2020: 278)<sup>29</sup>. Ancak konu ile ilgili yapılan çalışmalarda yüksek işsizlik oranlarının, işgücü piyasası kurumlarından kaynaklandığını ya da bu kurumların daha esnek hale getirilmesinin işsizliğin azaltılmasına katkıda bulunduğunu gösteren kesin sonuçlar bulunmadığı, aksine esnekliğin geçici istihdam yaratma çerçevesinde etkileri olduğu ortaya konulmuştur (Ferreiro & Gomez, 2018: 3-4,26; Arestis et al., 2020: 295)<sup>30</sup>. Bu önlemlerin olası olumsuz sonucu ise genel olarak işçilerin ve sendikaların pazarlık gücünün azalması ile güvencesiz ve düşük ücretli kötü iş olgusunun ortaya çıkması şeklinde olmuştur. Bu durum ise yoksullukta bir artış ve makroekonomik koşullarda genel bir düşüşle sonuçlanmıştır (Liotti & Canale, 2020 278).

Birçok akademik çalışmada<sup>31</sup>, işgücü piyasasında yapılan deregülasyonun istihdam ve işsizlik üzerindeki etkisi konusunda birtakım şüpheleri gündeme getirdiği ifade edilmiştir. Liotti vd. (2018), İtalya'da esnekliğin, genç işsizliği üzerinde olumsuz bir etkisi olduğu sonucuna ulaşmışlardır (Liotti & Canale, 2020: 278). Bu olumsuz etki ise işgücü piyasası esnekliğinin bir sonucu olarak işe yeni girecek kişilerin iş sözleşmelerinin daha düşük ücretli, daha az istikrarlı ve korumalı olacak hale getirilmesi ile açıklanmıştır. Dolayısıyla İtalyan mesleki refah modelinin -genellikle yalnızca sürekli tam zamanlı iş sözleşmesiyle çalışanlara refah haklarına erişim sağlayan- özellikleri göz önüne alındığında, bu süreç, daha genç işçi gruplarının sosyal haklarında keskin bir düşüşle sonuçlanmıştır. Barbieri ve Scherer (2009: 677-678) tarafından İtalya örneğinin analiz edildiği çalışmada ise daha yüksek işgücü piyasası esnekliğinin, gençlerin istihdam performansını artırdığını gösteren

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*kâr oranlarının teşvik edilmesi ile sermaye birikim süreci desteklenmek istenmiştir (Liotti & Canale, 2020: 277-8).*

<sup>29</sup> Ayrıca, bazı Avrupa bölgesi ülkeleri, Avrupa kurumlarının gözetiminde, özünde işgücü piyasasında daha yüksek esneklik ve kamu sektörü ücretlerinde kesintiler sağlama yoluyla kamu dengesini gözetme amacı olan yapısal reformlara maruz kalmıştır (Liotti & Canale, 2020: 278).

<sup>30</sup> Ayrıca geçici sözleşmelerin kullanımına getirilen kısıtlamaların kaldırılmasına, bu tür bir sözleşmenin sona erdirilmesi için daha düşük tazminatların belirlenmesi eşlik ederek, standart dışı iş sözleşmeleri ve artan oranda katmanlı bir işgücü piyasasına yol açmıştır (Arestis et al., 2020: 295-6).

<sup>31</sup> O'Higgins ve Valentino Moscardiello (2017: 3, 17-8), asgari ücretteki bir artışın, işsizlik oranında önemli bir artışa yol açmadığını, gençlerin istihdamını biraz azaltabildiğini ve bazı durumlarda gençlerin istihdamını artırdığını ifade etmişlerdir. Buna göre; asgari ücretin uygulanması veya artırılmasının genç istihdamına önemli ölçüde zarar vermesinin olası olmadığı -benzer şekilde uygulamadan kaldırılması veya düşürülmesinin olası herhangi bir olumlu etkisinin olmadığı-, hatta olumsuz etkisi olduğu durumlarda dahi, bu olumsuz etkinin asgari ücretteki artışa kıyasla görece daha küçük oranda olacağı vurgulanmıştır. Ancak asgari ücretin ortalama ücretlere yaklaşması durumunda etkisi de daha büyük olabilecektir.

herhangi bir kanıt olmadığı tespit edilmiştir. Diğer taraftan İtalya’da yapılan reformlar, daha az koruma bulunan marjinal işlerin, standart istihdam ilişkilerinin olduğu işlerle yer değiştirilmesine neden olmuştur. Bu nedenle bu reformlar, işgücü içerisinde bir bölünmeye veya ikili yapıya zemin hazırlamaktadır. Bu ise çalışma ekonomisi literatüründe “içerdekiler-dışardakiler” modeli şeklinde nitelendirilen bir işgücü piyasası yapısına yol açmaktadır. Bu ikili yapı içindeki dışardakiler veya ikincil işgücü piyasası içinde yer alanlar, istihdama bağlı sosyal hakları büyük ölçüde aşağı çekmekle ve dibe doğru bir yarışa yol açmakla eleştirilmektedir.

Esnekliğin etkililiğiyle ilgili endişeler, diğer birçok araştırmacının da çalışmasına yansımıştır. Eichorst vd. (2010) çalışmalarında dış ve iç esneklik arasında ayırım yapmışlardır<sup>32</sup>. Eichorst vd. (2010: 11, 25)’ne göre, dışsal esneklik dış şoklara uyum konusunda daha dinamik bir bakış açısı geliştirmek için tipik olarak işgücü piyasası kurumları tarafından belirlenmekte, ancak bir şok durumunda işgücü piyasasının uyarlanmasını etkileyen tek kanal olarak görülmemektedir. Olumsuz bir ekonomik şok durumunda, başlangıçta firmaların krizin büyüklüğü ve süresi ile ilgili belirsizlik yönünde beklentileri olduğu göz önüne alındığında, işverenler nitelikli işçileri işten çıkarma konusunda isteksiz davranmakta ve çalışma saatlerinin kısıtlanmasıyla ayarlama yapılmaktadır<sup>33</sup>. Bu çerçevede, içsel esneklik, çalışan yoksulların önemli bir yönünü temsil etmekte, uyarlanmanın ise iki etkisi ortaya çıkmaktadır. Bir taraftan, içsel esneklik işsizlik oranındaki artışı engellemekte; diğer yandan da işçilerin çalışma süreleri ve/veya ücretlerini etkilemekte ve dolayısıyla çalışan yoksulların sayısını artırmaktadır (Liotti & Canale, 2020: 278-279).

İşgücü piyasası kurumlarındaki değişiklikler ve bunların çalışan yoksulluğu üzerine etkileri ile ilgilenen çalışmalar da bulunmaktadır. Crettaz (2015: 316), 2008-2012 yılları arasındaki dönemde, Almanya, Avusturya, Birleşik Krallık, Fransa, İspanya, İrlanda ve Yunanistan’a ilişkin verileri incelemiş ve Avusturya, Birleşik Krallık ve Yunanistan dışında diğer ülkelerdeki esneklik uygulamaları ile yoksulluk arasında pozitif bir ilişki olduğunu ve geri kalan beş ülkede çalışan yoksulluğunun yükseldiğini tespit etmiştir. Marx ve Nolan (2014: 7, 37), çalışan yoksulluğunun, örneğin hane düzeyinde düşük iş yoğunluğu, hanehalkı büyüklüğü ve tek bir ücretin varlığı gibi çeşitli faktörlere bağlı olabileceğini vurgulamıştır. Bu faktörlerin ise işgücü piyasası, vergi ve sosyal yardım sistemi ve daha kapsamlı refah devleti kurum ve yapılarıyla bağlantılı olduğunu ifade etmişlerdir. Güvencesizliğin, işgücü piyasasındaki etkisini inceleyen Amuedo-Dorantes ve Serrano-Padial (2010: 632), belirli süreli iş sözleşmelerin yaygınlaştırılmasının, sınırlı iş istikrarı, zayıf gelişme olanakları ve düşük ücretler yoluyla çalışanlar için yoksulluk riskini artırdığı sonucuna varmışlardır.

<sup>32</sup> İşgücü piyasası esnekliği, esnekliğin çeşitlerine göre birçok başlık altında incelenmektedir. Çalışma hayatında esneklik türleri; sayısal esneklik (dışsal ve içsel), işlevsel esneklik ve finansal esneklik olarak sayılabilmektedir (Tangain, 2005: 11; Eichhorst et al., 2010: 11; Parlak & Özdemir, 2011: 5-6, 30-34).

<sup>33</sup> İçsel esneklik, emek yoğunluğundaki değişikliklerle, diğer bir ifadeyle, bir şirketin mevcut koşullara uyum sağlayabilmesi için çalışma süresinin ayarlanmasıyla ilgilidir.

Standing (2011) de geçici işlerin çalışanlar için güvencesizlik anlamına geldiğine ve geçici bir işte çalışmanın düşük gelir statüsü ile sonuçlanabileceğine dikkat çekmektedir.

Liotti ve Canale (2020: 279-286), 2005-2016 döneminde; 15 Avrupa ülkesinde işgücü piyasası kurumlarındaki değişikliklerin çalışan yoksulluğu üzerindeki etkisini irdelemişlerdir. Buna göre; belirlenmiş kurumsal değişiklikler, diğer bir deyişle emeğin deregülasyon düzeyindeki bir artış, güvencesiz işlerde bir artışı ve çalışanların yoksullaşmasını teşvik etmiştir. Ayrıca esneklik hem ülkeler içinde hem de uluslararası düzeyde sosyal çatışmayı besleyen düşük ücretli çalışanlarda bir artışa neden olmuştur. İşgücü piyasasında daha fazla esneklik, çalışan yoksulluğunu artırabilecektir<sup>34</sup>.

Son yıllarda Avrupa işgücü piyasalarında esneklik ve güvencenin birbiriyle ilişkisi gündeme gelmiştir. 2020 Avrupa Stratejisi'nde de atfı yapıldığı üzere, esneklik ve güvenlik ihtiyaçları arasında daha iyi bir denge olmasının işverenler ve işçiler için karşılıklı faydalar sağlayacağına ilişkin "güvenceli esneklik"<sup>35</sup> kavramının önemi artmıştır (Fraser et al., 2011: 5). Özellikle AB'nin mal ve hizmet piyasalarında dış rakipleriyle rekabette yaşadığı sorunlar karşısında kavram olarak güvenceli esneklik ile uygulamaları gündeme gelmiştir (Öcal, 2014a: 1164). Güvenceli esneklik, AB işgücü piyasalarının makro ekonomik değişimler sonucunda karşılaştığı sorunlara ve piyasaların değişen ihtiyaçlarına ve dönüşümlerine uyum sağlamaya yönelik bir politika olarak tanımlanabilir (Öcal, 2014b: 61). Güvenceli esneklik kavramı, işgücü piyasasında işverenlerin esneklik arayışına, işgücünün ise esneklik koşullarında güvence gereksinimlerinin karşılanmasına vurgu yapılarak, işgücü piyasasında karşılıklı destek ve denge temelinde sosyal taraflar arasında uzlaşmanın sağlanmasını hedefleyen bir kavram olarak değerlendirilmektedir (Çakır, 2009: 80). Bununla birlikte, bu bakış açısı iyimser olarak değerlendirilmekte ve itiraz edilmektedir. Buna göre güvenceli esnekliğin, sadece istihdam esnekliği konusunda olanak sağladığı, ancak güvenlik düzeylerine erişim konusunda ise başarısız olduğu ve dolayısıyla çalışanların durumlarını olumsuz etkilediği yönünde eleştiriler yapılmaktadır (LehweB-Litzman, 2012: 70)<sup>36</sup>. LehweB-Litzman (2012: 69), AB ülkeleri için yoksulluk ile istihdam esnekliği arasındaki ilişkiyi analiz etmiştir. Güvenceli esneklik düşüncesinin aksine, ele alınan bütün ülkelerde istihdam esnekliği olmayan işçilerin hala ayrıcalıklı olduğu tespit edilmiştir.

<sup>34</sup> Dolayısıyla, işgücü piyasası reformlarının deregülasyonu, bir yandan firmaların işgücü maliyetlerini azaltmalarına ve uluslararası pazarlarda daha rekabetçi olmalarına olanak tanımakta; öte yandan, işçilerin pazarlık gücünün azaltılmasına, onları işsizlik durumunda düşük istihdam koruması ve sınırlı sosyal yardım ile güvencesiz işleri kabul etmeye zorlamaktadır.

<sup>35</sup> Güvenceli esneklik (flexicurity) olarak nitelendirilen kavram ile esneklik ve güvenliğin karşılıklı olarak birbirini destekleyen bir şekilde ilişkilendirilmesi ve böylece her ikisinden de daha fazla yararlanılması amaçlanmaktadır.

<sup>36</sup> SDI'nin gelişmesiyle ilişkili olarak çalışan yoksulluğunun süreklilik kazanmasının, esneklik ve güvenlik arasındaki dengenin koşullarıyla çelişmekte olduğu ifade edilebilir. Avrupa işgücü piyasalarında esneklik ile (gelir) güvenliği arasında bir tamamlayıcılık yerine değiş tokuşun olduğuna yönelik bir şüphede artış olmuştur (Fraser et al., 2011: 5).

Ekonomik gerileme dönemlerinde yenilenmeyen standart dışı sözleşmelerin aşırı kullanımına izin veren değişikliklerin yapılması, gençler ve vasıfsız işçiler gibi belirli işçi kesimlerinin çalışma ve yaşam koşullarını kötüleştirilmektedir (Crettas, 2013: 350). Standart olmayan sözleşmelerin kullanılması ve standart dışı işlerin artması, düşük ücretli işlerin oluşturulmasına olanak sağlamakta ve işgücü piyasasındaki istikrarsızlığı artırmaktadır (Liotti & Canale, 2020: 279). Diğer taraftan işe alma ve işten çıkarma mevzuatının esnekleştirilmesi, cömert sosyal koruma, eğitim ve aktif işgücü piyasası politikaları ile desteklenebilirse istihdam üzerine olumlu etkileri olabilir (Hemerijck & Eichorst, 2009: 27). Ancak refah sistemleri ve kamu kurumlarının, uzun süreli ve artan bir şekilde uygulanan kemer sıkma politikaları dikkate alındığında, işin artan esnekliği karşısında işçilere yeterli bir güvenlik sağlama kapasitesi de sorgulanmaktadır. Gerçekten de başarılı bir güvenceli esneklik stratejisinden bahsedilebilmesi için daha fazla bütçe tasarrufu ve daha düşük sosyal harcamaları savunan mevcut politika eğilimleriyle çelişen güçlü ve müdahaleci kamu aktörlerinin bulunması gerekmektedir (Fraser et al., 2011: 5).

### 4.3. İşgücü Piyasasında Kayıt Dışlık<sup>37</sup>

1980 sonrasında neoliberal politikalar gelişmiş ve gelişmekte olan ülkelerin tamamında esnekleşme çerçevesinde işgücü piyasası üzerinde etkili olmuştur. Bu süreç, gelişmekte olan ülkeler için kayıt dışı sektörün büyümesi ile işgücünü işveren karşısında korumasız ve savunmasız hale getiren güvencesiz çalışma koşullarının artması anlamına gelmiştir (Açıkalın, 2007: 45). Küreselleşme sürecinde gelişmekte olan ülkelerin kentsel işgücü piyasalarında gözlemlenen bir özellik, nispeten yüksek kazançlar ve kabul edilebilir istihdam koşulları ile nitelendirilen küçük ve iyi organize edilmiş bir kayıtlı sektör ile düşük ve değişken kazançlar ve daha olumsuz istihdam koşulları ile nitelendirilen büyük bir kayıt dışı sektörün bir arada bulunmasıdır (Günther & Launov, 2012: 88). Bu noktada istihdamın niteliği önem kazanmakta ve istihdamın niteliği ile yoksulluk arasındaki ilişki görünür olmaktadır. Gelişmekte olan ülkeler, hem işgücünün kayıt dışı olma eğiliminin yüksek olması, hem de yüksek düzeyde yoksulluk sorununun bulunması ile tanımlanır hale gelmiştir (Canelas, 2019: 1097). 1990’lardan itibaren, yoksulluğun azaltılmasına odaklanan politikalarla birlikte, kayıt dışı sektör, genellikle “*yoksulların ekonomisi*” (Millan-Smitmans, 2010: 9) olarak kabul edilmiş ve uluslararası ölçekte yeniden gündeme gelmiştir (Günther & Launov, 2012: 88). Ancak literatür incelendiğinde kayıt dışı istihdam ve yoksulluk arasında, henüz tam olarak anlaşılammış çok karmaşık bir ilişki olduğu görülmektedir. Bu nedenle kayıt dışı sektöre ilişkin literatürde, kayıt dışı istihdam ile ilgili

<sup>37</sup> Kayıt dışılık ise, düşük ücretler, geçici ve güvencesiz işler ve kötü çalışma koşulları niteliğiyle çalışanların yoksullaşmasına neden olabilmektedir. Diğer taraftan kayıtlı sektörde de kayıt dışı olma yönünde eğilimler söz konusu olabilmektedir. Bu noktada çalışanların yoksullaşması sürecinde önemli bir unsur olarak görülen kayıt dışı istihdamın incelenmesi gerekmektedir. ILO’ya göre, dünya genelinde istihdam edilen 3,3 milyar insanın büyük çoğunluğu (%60’ı yaklaşık 2 milyar kişi), ihtiyaçlarını karşılamak, ekonomik güvenlik ve fırsat eşitliğinden yoksundur. Ayrıca istihdamda olmanın her zaman düzgün bir yaşam için garanti sağlamadığı ve birçok işçinin kayıt dışı ekonomiye yöneldiği, dolayısıyla düşük ücretli ya çok az ya da hiç sosyal güvenliğe erişimin ve çalışma haklarının olmadığı işlerde çalıştıkları vurgulanmaktadır (ILO, 2019a: 1-2; ILO, 2020: 18-20, 34).

farklı görüşler bulunmaktadır (Canelas, 2015: 3; Canelas, 2019: 1098). Bu bağlamda; "ikili işgücü piyasası yaklaşımı"<sup>38</sup>, "neoliberal yaklaşım"<sup>39</sup> ve bu iki yaklaşımı birlikte ele alan "ikili kayıt dışı işgücü piyasası yaklaşımı"<sup>40</sup> olmak üzere üç sınıflandırma bulunmaktadır.

### 4.3.1. Kayıt Dışılık ve Çalışan Yoksulluğu İlişkisi

Çalışan yoksulluğu ve kayıt dışı istihdamla ilgili literatürde, çoğunlukla tek yönlü bir ilişki ele alınmakta ve bu çalışmalar birbirini tamamlayıcı nitelikte olmaktadır (Canelas,

<sup>38</sup> Kayıt dışı istihdam ile yoksulluk arasındaki ilişkiyi inceleyen ilk görüş olan ikili işgücü piyasası yaklaşımı işgücü piyasasının; yüksek kazançlı ve istikrarlı çalışma koşullarına sahip resmi bir "birincil" piyasa ve birincil piyasaya erişim olanakları olmayan herkesin kendilerini içinde buldukları kayıt dışı "ikincil" bir piyasaya bölündüğü fikrine dayanmaktadır (Canelas, 2015: 3; Harati, 2013: 624). Lewis (1954) ile başlayan ikili işgücü piyasası teorileri, kayıt dışı sektörün, işçilerin, ücretlerin piyasa fiyatlarının üzerinde belirlendiği kayıtlı sektörden çıkarıldıktan sonra, işsizlikten kaçınmak için girdikleri dezavantajlı sektör olduğunu ileri sürmüştür (Günther & Launov, 2012: 88). Bu görüşe göre, kayıt dışı istihdam gönülsüz bir şekilde gerçekleşmekte, çok az sermaye yatırımı gerektirmekte ve işçilere yalnızca geçimlik ücret sağlamaktadır. Kayıtlı sektörde daha fazla kazanabilecek olan kayıt dışı çalışanlar için ortaya çıkan bir sorun ise kayıtlı sektörde iş fırsatlarının olmaması nedeniyle, kayıt dışı olarak çalışmanın bir zorunluluk oluşturmaktadır. Bu anlamda kayıt dışı istihdam, işsizlikten kurtulmak için son çare olarak tanımlanmaktadır (Harati, 2013: 623-625). Kingdon ve Knight (2007: 24)'e göre de yoksullar, kayıt dışı sektörde istihdama girmekte ve istihdam gönülsüz bir şekilde gerçekleşmektedir. Dolayısıyla kayıt dışılık ve yoksulluk arasında açıkça bir ilişki bulunmaktadır (Canelas, 2015: 3; Canelas, 2019: 1098). Bu kapsamda, kayıt dışı sektörde çalışan işçilerin kayıtlı sektörde çalışan aynı nitelikteki benzer işçilerden daha az kazandıkları ifade edilmiştir (Günther & Launov, 2012: 88-89).

<sup>39</sup> İkinci olarak alternatif ya da neoliberal olarak nitelendirilen yaklaşım, kayıt dışı istihdamı, kayıt dışı istihdamı gelir veya fayda maksimizasyonuna dayalı gönüllü bir seçim olarak görmektedir. Kayıt dışı istihdam, işgücü piyasasının düzenlenmesinden kaynaklanan işgücü maliyetlerinden kaçınmaya çalışan girişimcilere, maliyetleri en minimum seviyeye indirmesi olanağı sağlayan bir stratejiyi temsil etmektedir. Buna göre kayıt dışı sektör, ekonomik birimler tarafından asgari ücret ve vergiler gibi kamu politikalarına bir tepki olarak görülmektedir (Canelas, 2019: 1098; Bulut, 2023: 197). Heckman ve Sedlacek (1985), Magnac (1991), Gindling (1991), Pratas ve Quintin (2006) tarafından yapılan çalışmalar, kayıt dışı sektörde faaliyet göstermenin, finansal avantajlarla gerçekleştirilen gönüllü bir seçim olduğunu ifade eden bu yaklaşımı destekleyen niteliktedirler. Bu kapsamda, kayıt dışılık ile yoksulluk arasındaki bağlantı açık değildir (Canelas, 2015: 3). Neoliberal yaklaşıma göre; iki farklı sektör ve ücret yapısına sahip bir işgücü piyasası, bireyler bu iki sektör arasında serbestçe hareket ettikleri sürece bölümlere ayrılmış bir piyasa olarak kabul edilmeyecektir. Bu ise kayıt dışı sektörde bireylerin gönüllü istihdamına işaret etmektedir. Dolayısıyla kayıt dışı sektörde gönüllü istihdam, bireylerin kazançlarından ziyade faydalarını maksimize edebileceği kayıt dışı sektörün arzu edilen ücret dışı özelliklerinden kaynaklanabilir. Ayrıca işçiler, kayıt dışı sektörde bireysel olarak karşılaştırmalı bir üstünlüğe sahip de olabilirler (Günther & Launov, 2012: 89).

<sup>40</sup> Bu görüş, ikili işgücü piyasası yaklaşımı ve rekabetçi (neoliberal) işgücü piyasası yaklaşımının görüşlerinin bir kombinasyonu olarak görülmekte ve bu görüşe göre kayıt dışı sektörün daha karmaşık bir yapısı bulunmaktadır. Kayıt dışı sektörü heterojen olarak görmek ve en az iki farklı alt sektörden oluştuğunu ifade etmektedir. Bu kapsamda doğrudan geçim hedefleri olan kayıt dışı faaliyetlerle birlikte, azalan emek maliyetleri ve sermaye birikim hedefleri ile dinamik faaliyetlerden oluşan iki farklı kademe bulunmaktadır (Canelas, 2015: 3; Canelas, 2019: 1098). Üst kademe, kayıt dışı sektörün belirli özellikleri dikkate alındığında, bireylerin kayıtlı sektöre göre daha fazla kazanmayı beklemesi nedeniyle gönüllü olarak girdikleri rekabetçi bir bölümü temsil ederken, alt kademe kayıtlı işgücü piyasasının dışında kalmış bireylerin katılımından oluşmaktadır (Günther & Launov, 2012: 89). Bu anlamda kayıt dışı sektörün bir kesimi, önemli ölçüde daha yüksek ortalama kazanç, eğitim ve deneyime bağlı yüksek getiri açısından diğer kesiminden üstündür. Dolayısıyla, kayıt dışı sektör, hem kayıt dışılığın işsizlikten kaçınmak için son çare olarak görüldüğü kişileri hem de kayıt dışı sektörde karşılaştırmalı üstünlüğe sahip bireyleri içermektedir. Kayıt dışılık, yoksulluk açısından incelendiğinde ise kayıt dışılık yoksulluğun hem nedeni hem de sonucudur.



2019: 1097-1098). Gasparini ve Tornarolli (2009: 78), 1989-2005 döneminde Latin Amerika bölgesindeki kayıt dışılık eğilimlerini incelemişlerdir. Buna göre, bütün ülkelerde kayıt dışılık eğilimi yüksek olmaya devam etmiştir. Bu çalışmada; kayıt dışı olmanın gönüllü serbest meslek sahipliği düşüncesi ile tutarlı olduğu, vasıfsız gençlerin işgücü piyasasına ücretli olarak girdiği; bilgi, sermaye ve ilişkileri biriktirdikten sonra kendi kayıt dışı işlerini kurduğu, ancak kayıt dışı olmanın daha düşük ücret anlamına geldiği tespit edilmiştir. Ayrıca kayıt dışı ve kayıtlı çalışanlar arasındaki yoksul insan sayısı oranında ortalama olarak dört kat fark bulunmaktadır (Canelas, 2015: 3; Canelas, 2019: 1098).

Loayza vd. (2009: 7-8), çalışan yoksulluğu ile kayıt dışılık arasında yakın bir ilişki olduğunu ifade etmiştir. Bu bağlamda, kayıt dışı istihdamın yaygınlığı, yoksulluk üzerindeki belirleyicilerdendir. Kayıt dışılığın, büyüme üzerinde önemli bir olumsuz etkiye ve Latin Amerika ile Karayip ülkelerinde yoksulluk oranları üzerinde pozitif bir etkiye sahip olduğu görülmüştür.

Maurizio (2012: 19), Peru, Şili, Brezilya ve Arjantin'de kayıt dışılık, gelir dağılımı ve yoksulluk arasındaki ilişkiyi incelemiştir. Buna göre kayıt dışılık ile yoksulluk arasında pozitif bir ilişki bulunmaktadır. Kayıt dışı istihdamın, düşük gelir seviyesinin kaynağı olduğu ifade edilmiştir. Ancak, kayıt dışılığın ortadan kaldırılmasının yoksulluğu ortadan kaldırmadığını da tespit etmiştir. Bu ise yoksulluk sorununun karmaşık yapısını, birbiriyile etkileşim içerisinde birçok faktörün bulunduğunu ve kayıt dışı istihdamın bu faktörlerden sadece birisi olduğunu göstermektedir. Ayrıca kayıtlı istihdam için bile yetersiz gelirle sonuçlanan düşük eğitim seviyeleri ve yüksek işsizlik oranları ile gelir dağılımının çok adaletsiz bir şekilde gerçekleşmesi yoksullukla ilişkilendirilmiştir.

Webster vd. (2016: 472), Çin şehirleri olan Beijing, Shanghai ve Guangzhou'da kayıt dışılık, mülkiyet hakları ve yoksulluk arasındaki ilişkiyi ele almışlardır. Yazarlara göre iş sözleşmesi türleri ve yoksulluk arasında güçlü bir ilişki bulunmaktadır. Buna göre; kısa süreli ve geçici iş sözleşmesi türleri görece daha düşük gelir anlamına gelmektedir. Kısa süreli iş sözleşmeleri, bir işe yönelik kişisel yatırımı engellemekte, ekonomik ve finansal faydalara erişimi de kısıtlamaktadır.

Canelas (2015: 4) ise Ekvador'da yoksulluk ile kayıt dışı istihdam arasındaki ilişkiyi incelemiştir. Kayıt dışılık ve yoksulluk iki yönde birbirini etkilemektedir. Buna göre; kayıt dışı istihdam bir taraftan düşük kazançlar yoluyla hanehalkının yoksulluk durumunu etkilemektedir. Diğer taraftan ise hane reislerinin işsiz kalmayı göze alamamaları sonucunda kayıt dışı istihdamı kabul etmelerinin temel sebebi de hane yoksulluğu olabilir. Canelas (2019: 1097)'a göre yoksulluk ile kayıt dışı istihdam arasında ilişki bulunmaktadır. Bu bağlamda yoksul olmanın kayıt dışı istihdamda bulunma olasılığını etkilediği gibi kayıt dışı istihdamda bulunmanın da yoksulluğun belirleyicisi olduğu düşünülebilir.

Millan-Smitmans (2010: 4,9-10)'a göre de istihdam ilişkilerindeki kayıt dışılık, yoksulların karakteristik özelliklerindedir. Bu kişilerin istihdamları istikrarsız ve değişkendir, dolayısıyla işsiz kalma eğilimleri de yüksektir. Ancak işsiz kalmaları

durumunda işsizlik yardımlarına erişim konusunda da sorunlar yaşamaktadırlar. Diğer taraftan kayıt dışı sektördeki işçiler, kayıtlı çalışanlardan daha düşük ücretlere sahiptir ve ayrıca yasal olarak belirlenmiş asgari ücretin altında gelir de elde edebilirler. Dolayısıyla kayıt dışı istihdamın, birçok durumda yoksul olma olasılığını artırdığı, insanları ekonomik şoklara ve sağlık sorunlarına karşı daha savunmasız hale getirdiği ve genel olarak yaşam koşullarını iyileştirmek ve yoksulluktan kurtulabilmek için önemli bir engel oluşturduğu da tespit edilmiştir.

#### 4.4. Standart Dışı İstihdam Türlerinin Yaygınlaşması

Son yıllarda yeni teknolojilerin gelişmesi ve uluslararası rekabetin artmasına bağlı olarak üretim sürecinde değişiklikler de yaşanmıştır. Bu değişikliklerin ise endüstri ilişkilerine getirdiği en önemli yenilikler esnekleşme ve kuralsızlaşmadır. Esnek çalışma şekilleri, her şeyden önce geleneksel işçi-işveren ilişkisini çalışma yeri, süresi ve şartları bakımından kayda değer ölçüde değiştirmiştir (Aykaç, 1996: 118-119). Kuralsızlaştırma ise çalışanlar açısından güvencesizlik ve sosyal korumaya erişim eksikliği ile sonuçlanmakta ve geleneksel çalışma biçimlerinin yerine standart dışı çalışma türleri geçmektedir. Son yıllarda Avrupa'da, özellikle de hizmet sektöründe SDİ artış göstermektedir. Bu gelişmeler de işlerin kalitesi üzerindeki baskıyı artırarak, düşük düzeyde güvence, kötü çalışma koşulları ve/veya sınırlı sosyal güvenlik hakları ile sonuçlanmaktadır (Kuene, 2015: 378).

Öncelikle standart istihdam biçimlerinin nitelikleri ele alınarak SDİ'nin özelliklerini incelemek gerekmektedir. Buna göre standart istihdam ilişkisi üç temel ve bir destekleyici ayaktan oluşmaktadır. Bunlar; ikili istihdam ilişkisi, standartlaştırılmış çalışma zamanı, sürekli istihdam ve örgütlenme özgürlüğü ve toplu pazarlık hakkı olarak açıklanmaktadır. Örgütlenme özgürlüğü ve toplu pazarlık hakkı, standart istihdam ilişkisinin destekleyici, diğerleri ise temel ayağını oluşturmaktadır (Vosvo, 2010: 52-62)<sup>41</sup>. Bu geleneksel standart istihdam ilişkilerinin dışında ortaya çıkan SDİ türlerinin, dolaylı olarak bu temel işlevleri yerine getiremeyeceği varsayılmaktadır. Bu kapsamda sayılan kriterler temelinde ise SDİ biçimlerinin farklı türleri ortaya çıkabilmektedir (Keller & Seifert, 2005: 306). ILO (2016: 7) yayınladığı bir raporda, SDİ ilişkisinin resmi bir tanımının olmadığını ifade etmiştir. Bununla birlikte SDİ'nin; daha çok tam zamanlı, belirsiz süreli ve ikili bir istihdam anlayışı çerçevesinde ele alınan standart istihdam düzenlemeleri dışında kalan çalışma biçimlerini kapsadığını vurgulamaktadır. Bu anlamda hayat boyu süren tam zamanlı istihdam ve sürekli istihdam gibi geleneksel istihdam türlerinin işgücü piyasası içerisindeki yeri gittikçe sınırlı

<sup>41</sup> Tarihsel olarak standart istihdam istikrarlı, sosyal olarak korunan, tam zamanlı ve eve ekme getiren erkek istihdam modeli çerçevesinde bir aileyi desteklemek amacıyla yeterli gelir sağlayan Fordist istihdam sistemine dayanmaktadır (Horemans, 2014: 173-174; Horemans, 2017: 1). Ayrıca standart istihdam ilişkisinin temel çalışma koşulları (günlük ve haftalık azami çalışma süreleri, dinlenme süreleri, ücret, sosyal transferler vb.) ile ilgili konular toplu sözleşme veya iş ve/veya sosyal güvenlik kanunları ile asgari düzeyde düzenlenmiştir. İşin tam zamanlı doğası, istikrarı ve sürekli tam zamanlı çalışma ile bağlantılı sosyal standartlar, bu tanımdaki anahtar unsurlar olarak kabul edilmektedir. Bu kapsamda tam zamanlı istihdam, aileyi geçindirecek bir ücreti ve yeterli düzeyde sosyal korumayı garanti ederken, istikrarlı bir iş, işveren ve çalışan arasındaki ilişkileri uzun vadeli bir zemine oturtmaktadır (Bosch, 2006: 43).

bir hale gelmektedir (Bazillier et al., 2014: 3). SDİ'nin olması, mutlaka istihdamın güvencesiz olacağı anlamına gelmemektedir. Ancak güvencesiz işlerin çoğu genellikle standart olmayan işlerden oluşmaktadır. SDİ'nin güvencesiz doğası ise bu istihdamın artmasını Avrupa işgücü piyasasında önemli bir endişe kaynağı haline getirmektedir (Kuene, 2015: 378).

Geniş kapsamlı olarak SDİ; kayıt dışı istihdam, eğreti istihdam, esnek istihdam, savunmasız istihdam gibi kavramları da kapsamaktadır. Buna göre neoliberal politikalarla birlikte kayıt dışı istihdam, eğreti istihdam, esnek istihdam, savunmasız istihdam gibi türlerde çalışanların sayısında artış olmuştur. Bu açıdan ele alındığında, bir dizi kavramın da incelenmesi gerekmele birlikte, bu çalışmanın sınırı kapsamında esnek istihdam ele alınmaktadır<sup>42</sup>. Diğer taraftan dijitalleşmenin, işveren ile işçi arasındaki istihdam ilişkisini değiştirerek SDİ'nin yaygınlaşmasına sebep olması ise, nispeten daha yeni bir olgu olarak dikkat çekmektedir (Aykaç & Murat, 2023: 65).

Esnekleştirme kapsamında, belli bir SDİ biçimlerinin desteklenmesi, zaman içerisinde diğer SDİ ve çalışma biçimlerini de besleyebilecektir (KEİG, 2014: 12-13). SDİ ile bağlantılı olan esnek istihdam, istihdam veya ücret seviyesini kolaylıkla artırıp azaltabilme, hareketliliği artırabilme ve becerilerin daha esnek kullanılabilmesi yeteneğini ifade etmekte ve geleneksel olmayan -standart dışı nitelikte- iş sözleşmelerini gündeme getirmektedir (Arnold & Bongiovi, 2013: 294). Esnek istihdamda ücretler genellikle düşük ve sosyal güvence ise ya çok az bulunmakta ya da hiç bulunmamaktadır (Yücel & İzdeş, 2017: 3-4). Horemans (2017: 1), çalışmada farklı SDİ türlerinin olduğunu ifade etmekle birlikte, çalışan yoksulluğu perspektifinden işgücü piyasasına katılımlarının eksik olması nedeniyle kısmi süreli çalışma ve geçici çalışmanın ilgi çekici olduğunu vurgulamıştır<sup>43</sup>.

Avrupa'da ekonomik kriz boyunca, SDİ türleri yaygınlaşmış ve türlerinde de bir çeşitlilik yaşanmıştır. Standart dışı olarak çalışanları işgücü piyasasına entegre ederek, onlara standart istihdam ilişkisinde bulunanlarla aynı koşulların sağlanması yoluyla güvencesizliğe düşmemeleri için özel önlemler sağlanmıştır. Ancak ekonomik büyüme ve iyi ekonomik şartların hâkim olduğu dönemlerde dahi, SDİ sıklıkla güvencesizlikler

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<sup>42</sup> Ancak esnek istihdam ve SDİ arasındaki ilişkiye değinmek yararlı olabilir. Buna göre; SDİ biçimlerindeki artış, esnekleştirme uygulamalarının yaygınlaşmasına paralel olarak görülmekle birlikte, esnek çalışma ve eğretiliğin farklı olarak değerlendirilmesi gerekmektedir. Esneklik ve esnekleştirme uygulamaları, büyük ölçüde yasal ve sendikal korumanın bulunduğu durumlarda, istihdam türleri ve çalışanlar arasında hızla eğrileşmeye yol açmakla birlikte, esnek çalışma türlerinin tamamının eğreti olduğunu ya da eğrileşme yönünde bir eğilimi aynı ölçüde içerdiklerini söylemek doğru bir ifade olmayacaktır. Hak kayıplarını önlemeye yönelik ihtiyaç duyulan düzenlemeler yapıldığı durumlarda, içsel esneklik (çalışma zamanı esnekliği) uygulamalarının dışsal esneklik türlerine (belirli süreli çalışma, özel istihdam bürosu tarafından gerçekleştirilen bütün istihdam biçimleri) göre daha olumlu koşullara sahip bir esneklik uygulaması olduğu belirtilmektedir (Keller & Seifert, 2005: 310).

<sup>43</sup> Kısmi süreli veya geçici olarak çalışanların gelir açısından görece olumsuz durumda olmalarının sebebinin yavaş ekonomik büyüme, yüksek işsizlik oranları ve uluslararası rekabet tarafından ortaya çıkan baskılar ile ilgili olduğu ifade edilmektedir. Bu bağlamda SDİ türleri, genel istihdam oranlarını eski haline getirmek veya en azından sürdürülebilir kılmak için tartışılmalı olarak gündeme gelmiştir.

ilişkilendirilmektedir. Yapılan reformlar ve getirilen yeni tür sözleşmeler gözlemlendiğinde, bu tür iş sözleşmeleri işgücü piyasasının katmanlı bir hale getirilmesine katkıda bulunmuştur. Bu anlamda belirli süreli sözleşmeler yapma ve yenileme olanaklarının geliştirilmesinin, uzun vadeli istihdam için bir basamak olması fırsatı bulunmamaktadır. Dolayısıyla esnekleşmenin, ekonomik şartların dayattığı koşullara uyum sağlama ihtiyacı olarak algılandığı durumlarda, öncelikle standart dışı olarak çalışanlar istihdam ilişkileri ve statülerinde ortaya çıkan değişikliklere bağlı olarak olumsuz etkilenmekte ve bu durum işçileri korumasız ve güvencesiz hale getirmektedir (Lang et al., 2013: 5, 25-26).

Avrupa'da SDİ'nin daha fazla yaygınlaşması ile ABD'de görülen çalışan yoksulluğu tehlikesinin yaygınlaşması korkusu da canlanmaktadır. Dünya genelinde işgücü piyasalarında ortaya çıkan önemli sonuçlardan birisi, çalışan yoksulluğun artma yönünde bir eğilimin olmasıdır. Bunun sebebi, işin kalitesine bakılmaksızın işgücüne katılımın artırılmasıdır. Bu durum ise asgari ücretli ve daha az korumalı işlerin oluşturulması ile sonuçlanabilmektedir. Dolayısıyla bu da bir taraftan kolaylıkla işgücüne katılımın arttığı, diğer taraftan ise yoksulluğun etkilenmeden kaldığı bir duruma yol açabilmektedir. Diğer bir deyişle, işsiz yoksullar çalışan yoksul kategorisine geçmektedir (Airio, 2008: 11, 34). Bu bağlamda hem kısmi süreli çalışanlar hem de geçici olarak istihdam edilenler daha yüksek yoksulluk riskiyle ilişkili olarak gösterildiğinden (Horemans, 2014: 172), Avrupa genelinde bu endişelerin anlamsız olmadığı ifade edilebilir.

## 5. Bulgular ve Tartışma

Günümüzde mevcut istihdam koşulları ile çalışanların yoksullaşmasının engellenememesi, çalışma ile yoksulluk arasındaki ilişkiyi gündeme getirmekte, bu noktada istihdamın niceliksel boyutundan ziyade niteliksel özellikleri önem kazanmaktadır<sup>44</sup>. Çalışma ile yoksulluk arasındaki ilişki; i. işsizlik oranlarında artış, ii. emek piyasalarında esnekleşme, iii. emek piyasalarında kayıt dışılığın artması, iv. standart dışı çalışmanın yaygınlaşması şeklinde dört başlık altında incelenmeye çalışılmıştır. İstihdamdaki durum açısından, esnekleşme ve emek piyasalarının istikrarsızlaştırılması altında yeni çalışma türleri ve iş sözleşmelerinin ortaya çıktığı bilinmektedir. ILO (2019)'ya göre küresel ölçekte çalışanların yaklaşık %60'ı herhangi bir iş sözleşmesine sahip değildir. Ayrıca küresel istihdamın yaklaşık yarısını (%50) oluşturan ücret veya maaşlı çalışanların %45'i tam zamanlı ve sürekli nitelikte istihdam edilmekte, ancak bu oranda da bir azalış olmaktadır. Dolayısıyla diğer tarafta esnekleşme kapsamında kısmi süreli veya geçici olarak istihdam edilme durumu önemli bir gündem haline gelmektedir.

Kısmi süreli çalışma istatistiksel olarak incelendiğinde, AB ortalamasında (2005'te %15,3) oransal olarak bir artış bulunmakla birlikte 2022 yılında %17,6 olarak

<sup>44</sup> İstihdamın niteliğindeki değişimin çalışanların yoksullaşması üzerindeki olumsuz etkisi büyük ölçüde, özellikle neoliberal politikalar kapsamında hızla yaygınlaşan kısmi süreli, geçici ve kendi hesabına çalışma gibi istihdam biçimleri ve bunun sonucunda da çalışma ücreti, süresi ve statüsünün, çalışanlar aleyhine değişmesi şeklinde kendini göstermektedir (Gündoğan, 2007: 32).

gerçekleşmiştir. 1983-2022 döneminde incelenen ülkelerin neredeyse tamamında kısmi süreli çalışma oranının -oran yüksek olmakla birlikte İsveç, İzlanda ve Norveç'te azalış-dönem başından itibaren artış-azalış eğilimleri göstererek yükseldiği gözlemlenmektedir<sup>45</sup>. Kısmi süreli çalışanlar içerisinde gönülsüz olanların oranı incelendiğinde ise AB ortalamasında 2004 (%22,7)'ten 2022 (%20,8)'ye gelindiğinde artış-azalış eğilimleri ile -oranı hala yüksek olarak değerlendirilebilir- bir düşüş söz konusudur. 1983-2022 döneminde kısmi süreli gönülsüz çalışanların oranı ülkeler arasında farklılık göstermektedir<sup>46</sup>. Dönem sonu itibarıyla düşüş yaşanan Fransa (%25,9), Finlandiya (%25,9), İsveç (%21,9) ve Belçika (%18,5)'da gönülsüz yarı zamanlı çalışma oranının yüksek olduğu dikkat çekmektedir (Tablo 1)<sup>47</sup>.

**Tablo: 1**  
**Seçilen Ülkelerde Kısmi Süreli Çalışan Oranı, (%), (Toplam İstihdam)**

		1983	1995	2004	2007	2010	2013	2016	2019	2020	2021	2022
AB 28 / 27	<b>Toplam</b>	:	:	<b>15,3</b>	<b>16,4</b>	<b>17,4</b>	<b>18,6</b>	<b>18,6</b>	<b>18,3</b>	<b>18,2</b>	<b>17,7</b>	<b>17,6</b>
	Gönülsüz	:	:	22,7	25,0	28,2	31,2	30,2	25,8	24,5	23,3	20,8
Belçika	<b>Toplam</b>	<b>7,9</b>	<b>13,6</b>	<b>21,5</b>	<b>21,9</b>	<b>23,7</b>	<b>24,3</b>	<b>24,7</b>	<b>24,9</b>	<b>24,4</b>	<b>24,1</b>	<b>23,8</b>
	Gönülsüz	26,8	29,1	17,7	14,8	11,4	9,5	8,8	5,8	4,7	21,4	18,5
Danimarka	<b>Toplam</b>	<b>23,6</b>	<b>21,4</b>	<b>21,9</b>	<b>23,0</b>	<b>24,8</b>	<b>24,0</b>	<b>25,0</b>	<b>24,2</b>	<b>23,4</b>	<b>23,9</b>	<b>24,2</b>
	Gönülsüz	11,6	17,2	15,3	13,4	15,6	17,9	13,5	10,9	11,7	9,3	6,3
Almanya	<b>Toplam</b>	<b>12,2</b>	<b>16,0</b>	<b>21,9</b>	<b>25,4</b>	<b>25,6</b>	<b>26,7</b>	<b>26,7</b>	<b>27,2</b>	<b>27,8</b>	<b>27,8</b>	<b>28,0</b>
	Gönülsüz	:	10,1	17,8	22,6	21,7	15,6	12,0	9,2	7,4	7,2	6,1
İrlanda	<b>Toplam</b>	<b>6,5</b>	<b>12,0</b>	<b>16,6</b>	<b>17,9</b>	<b>22,4</b>	<b>23,7</b>	<b>21,9</b>	<b>19,7</b>	<b>18,2</b>	<b>19,8</b>	<b>20,1</b>
	Gönülsüz	28,1	34,1	:	11,0	31,9	42,3	30,8	16,2	13,9	12,6	9,8
Yunanistan	<b>Toplam</b>	<b>5,7</b>	<b>4,4</b>	<b>4,5</b>	<b>5,4</b>	<b>6,3</b>	<b>8,4</b>	<b>9,8</b>	<b>9,1</b>	<b>8,6</b>	<b>8,2</b>	<b>8,0</b>
	Gönülsüz	29,3	41,6	53,3	45,1	54,7	68,2	72,0	66,4	65,4	55,7	49,1
İspanya	<b>Toplam</b>	:	<b>7,2</b>	<b>8,8</b>	<b>11,4</b>	<b>12,9</b>	<b>15,7</b>	<b>15,1</b>	<b>14,5</b>	<b>13,9</b>	<b>13,7</b>	<b>13,3</b>
	Gönülsüz	:	22,3	20,6	33,3	50,1	63,3	61,9	54,4	52,2	53,4	50,8
Fransa	<b>Toplam</b>	<b>9,4</b>	<b>15,5</b>	<b>16,9</b>	<b>17,2</b>	<b>17,6</b>	<b>18,1</b>	<b>18,3</b>	<b>17,5</b>	<b>17,0</b>	<b>17,3</b>	<b>16,5</b>
	Gönülsüz	:	39,9	29,3	31,5	34,8	39,4	44,0	37,9	38,2	28,3	25,9
İtalya	<b>Toplam</b>	<b>4,2</b>	<b>6,4</b>	<b>12,4</b>	<b>13,4</b>	<b>14,8</b>	<b>17,6</b>	<b>18,5</b>	<b>18,7</b>	<b>18,2</b>	<b>18,2</b>	<b>17,9</b>
	Gönülsüz	31,7	37,6	36,5	39,3	50,2	62,8	64,3	65,8	66,2	62,8	57,9
Lüksemburg	<b>Toplam</b>	<b>6,6</b>	<b>7,9</b>	<b>16,3</b>	<b>17,8</b>	<b>17,5</b>	<b>18,7</b>	<b>19,2</b>	<b>17,0</b>	<b>18,1</b>	<b>18,1</b>	<b>18,3</b>
	Gönülsüz	:	8,9	6,6	5,2	7,9	10,6	11,6	12,9	11,6	9,3	10,3
Hollanda	<b>Toplam</b>	<b>21,0</b>	<b>37,0</b>	<b>45,2</b>	<b>45,7</b>	<b>48,1</b>	<b>49,8</b>	<b>49,7</b>	<b>50,2</b>	<b>50,8</b>	<b>42,7</b>	<b>42,6</b>
	Gönülsüz	:	7,4	3,9	5,1	5,6	9,8	9,9	5,4	6,0	3,7	2,7
Avusturya	<b>Toplam</b>	:	<b>13,3</b>	<b>19,9</b>	<b>22,0</b>	<b>24,4</b>	<b>26,0</b>	<b>27,8</b>	<b>27,2</b>	<b>27,2</b>	<b>28,7</b>	<b>29,7</b>
	Gönülsüz	:	7,6	9,2	12,3	11,6	11,8	13,0	9,0	9,3	9,2	7,9
Portekiz	<b>Toplam</b>	:	<b>6,3</b>	<b>8,2</b>	<b>8,9</b>	<b>8,5</b>	<b>11,1</b>	<b>9,5</b>	<b>8,1</b>	<b>7,5</b>	<b>6,9</b>	<b>6,8</b>
	Gönülsüz	:	28,5	29,7	38,6	42,1	48,8	48,7	43,7	44,4	41,1	40,3
Finlandiya	<b>Toplam</b>	:	<b>11,4</b>	<b>12,8</b>	<b>13,4</b>	<b>13,9</b>	<b>14,0</b>	<b>14,9</b>	<b>15,5</b>	<b>14,8</b>	<b>16,9</b>	<b>17,0</b>
	Gönülsüz	:	45,9	30,0	25,2	27,9	26,1	34,2	30,9	32,1	31,6	25,9
İsveç	<b>Toplam</b>	:	<b>25,4</b>	<b>23,1</b>	<b>24,2</b>	<b>25,8</b>	<b>24,7</b>	<b>23,9</b>	<b>22,5</b>	<b>22,3</b>	<b>20,4</b>	<b>20,3</b>
	Gönülsüz	:	29,0	23,3	25,8	28,1	29,7	28,3	22,9	23,0	25,1	21,9
İzlanda	<b>Toplam</b>	:	<b>30,2</b>	<b>19,2</b>	<b>21,1</b>	<b>22,4</b>	<b>20,8</b>	<b>24,0</b>	<b>21,5</b>	<b>22,8</b>	<b>21,9</b>	<b>22,0</b>
	Gönülsüz	:	17,2	:	5,5	21,7	17,6	13,0	15,8	18,9	15,4	11,4

<sup>45</sup> Kısmi süreli çalışma oranı; Hollanda (%42,6), İsviçre (%37,6), Avusturya (%29,7), Almanya (%28), Birleşik Krallık (%24,4), Danimarka (%24,2), Belçika (%23,8), İzlanda (%22), İsveç (%20,3) ve İrlanda (%20,1)'da hem AB ortalamasının üzerindedir hem de İsveç ve İzlanda dışında ülkelerin tamamında önemli ölçüde artmıştır.

<sup>46</sup> Bir taraftan artış-azalış eğilimleri olurken dönem sonu itibarıyla oranın azaldığı (Belçika, Danimarka, Almanya, İrlanda, Fransa, Hollanda, Finlandiya, İsveç, İzlanda ve Norveç) veya yükseldiği (Yunanistan, İspanya, İtalya, Lüksemburg, Avusturya, Portekiz, İsviçre, Birleşik Krallık ve Türkiye) tespit edilmiştir.

<sup>47</sup> Ayrıca 2022 yılında gönülsüz kısmi süreli çalışanların oranı, sırasıyla İtalya, İspanya, Yunanistan, Portekiz, Finlandiya ve İsveç'te AB ortalamasının üzerinde görünmektedir.

Norveç	<b>Toplam</b>	:	<b>27,3</b>	<b>29,1</b>	<b>27,5</b>	<b>27,6</b>	<b>27,0</b>	<b>26,0</b>	<b>25,8</b>	<b>25,2</b>	<b>24,8</b>	<b>24,4</b>
	Gönülsüz	:	15,6	14,3	17,3	17,8	18,8	:	19,7	20,5	15,3	13,3
İsviçre	<b>Toplam</b>	:	<b>32,0</b>	<b>32,5</b>	<b>34,2</b>	<b>35,1</b>	<b>36,9</b>	<b>38,0</b>	<b>38,2</b>	<b>37,8</b>	<b>37,6</b>	
	Gönülsüz	:	:	6,3	6,2	7,2	7,7	8,6	8,5	7,9	8,0	6,8
Birleşik Krallık	<b>Toplam</b>	<b>18,2</b>	<b>23,2</b>	<b>25,1</b>	<b>24,1</b>	<b>25,7</b>	<b>25,6</b>	<b>25,2</b>	<b>24,4</b>	:	:	:
	Gönülsüz	9,6	14,0	7,8	10,6	:	20,3	16,0	13,2	:	:	:
Türkiye	<b>Toplam</b>	:	:	:	<b>7,9</b>	<b>11,1</b>	<b>11,9</b>	<b>9,9</b>	<b>9,9</b>	<b>11,8</b>	:	:
	Gönülsüz	:	:	:	7,6	8,6	7,0	11,2	14,1	15,3	:	:

Kaynak: Eurostat, *Part-time Employment, Involuntary Part-time Employment*, 31.10.2023.

Geçici iş sözleşmesi ile çalışanlar, AB’de 2004-2022 döneminde azalış-artış eğilimleri ile oransal olarak küçük oranda (-%0,2) olmakla birlikte azalmıştır. Gönülsüz olarak geçici iş sözleşmesi ile çalışanlar ise 2004-2022 döneminde %7,1’den %4,3’e gerilemiştir. Söz konusu azalış, hem geçici iş sözleşmesi ile çalışanların karşılaşılabileceği olumsuz koşullar hem de gönülsüzlük nedeniyle önemli olarak değerlendirilebilir. Bununla birlikte, bu orandaki azalışın olumlu bir gelişme olarak değerlendirilmesi, azalış gösterenlerin sürekli iş sözleşmesi ile çalışmaya veya zaman zaman çalışmaya ya da gönüllü olarak kısmi süreli çalışmaya geçiş yapması durumunda anlam taşıyacaktır. Geçici iş sözleşmesi ile faaliyet gösterenler arasında ise sürekli bir iş bulamayan gönülsüz çalışanların oranı 2004’te %49,7’den 2022’de %30,4’e gerilemiştir. Söz konusu azalışın önemli olduğunu ifade etmekle birlikte, oranın azalışa rağmen yüksek olduğunu vurgulamak gerekmektedir. Diğer bir ifadeyle geçici iş sözleşmesi çerçevesinde faaliyet gösteren üç kişiden biri gönülsüz olarak çalışmakta ve sürekli bir iş bulamamaktadır (Tablo 2)<sup>48</sup>.

Gönülsüz olarak geçici iş sözleşmesi ile çalışanlar incelendiğinde, 2004-2022 döneminde neredeyse incelenen ülkelerin -Belçika, İtalya, Lüksemburg, Hollanda, Portekiz ve İsviçre- tamamında artış-azalış eğilimleri ile dönem sonunda oran düşmüştür. Fransa, İtalya, Finlandiya ve Türkiye’de gönülsüz olarak geçici çalışanların oranının AB ortalamasının üzerinde olduğu görülmektedir. İspanya (%12,8), İtalya (%8,6), Portekiz (%9,1) ve Türkiye (%8,5)’de gönülsüz olarak geçici iş sözleşmesiyle çalışanların oranı görece daha yüksektir. Geçici iş sözleşmesi ile çalışanlar arasında sürekli bir iş bulamayan gönülsüz istihdam edilenlerin oranı ise 1983-2022 döneminde hem AB ortalamasında hem de incelenen ülkelerin tamamında artış-azalış eğilimleri göstererek dönem sonunda azalmıştır. Türkiye (%78,9), İspanya (%60,1), Portekiz (%54,7), İtalya (%50,6) ve Yunanistan (%30,7)’da geçici iş sözleşmesi ile çalışanların sürekli iş bulamaması nedeniyle gönülsüz olarak çalışması AB ortalamasının üzerinde iken, AB ortalamasından düşük olmakla birlikte oran Belçika (%28,7), Fransa (%27,7), Norveç (%30), Birleşik Krallık (%28,3) ve Finlandiya (%21)’da dikkat çekici görünmektedir (Tablo 2).

<sup>48</sup> Geçici iş sözleşmesi ile çalışanların oranı, 1983-2022 döneminde artış-azalış eğilimleri ile Danimarka (-%1,2), Yunanistan (-%4,9), İspanya (-%13,8), Finlandiya (-%0,1), Norveç (-%2,8), Birleşik Krallık (-%1) ve Türkiye (-%1) dışında diğer ülkelerin tamamında artmıştır. 2022 yılında Hollanda (%27,4), İspanya (%21,2), İtalya (%16,9), Portekiz (%16,6), Finlandiya (%16,3), Fransa (%16,1) ve İsveç (%14,8)’te AB ortalaması üzerinde geçici iş sözleşmesi ile çalışma söz konusudur.

**Tablo: 2**  
**Seçilen Ülkelerde Geçici İş Sözleşmesi ile Çalışanların Oranı (%) (Çalışanlar)**

		1983	1995	2004	2007	2010	2013	2016	2019	2020	2021	2022
AB	Toplam (Çalışanlar)	:	:	14,3	15,8	15,1	14,8	15,6	15,1	13,4	14,1	14,1
	Gönülsüz	:	:	<b>7,1</b>	<b>8,4</b>	<b>8,3</b>	<b>8,2</b>	<b>8,8</b>	<b>7,9</b>	<b>6,8</b>	<b>5,0</b>	<b>4,3</b>
	Gönülsüz (Geçici)	:	:	49,7	53,1	55,2	55,1	56,2	52,1	51,1	35,3	30,4
Belçika	Toplam (Çalışanlar)	5,4	5,3	8,7	8,6	8,1	8,1	9,1	9,9	9,3	9,6	9,4
	Gönülsüz	<b>1,7</b>	<b>2,2</b>	<b>7,4</b>	<b>5,4</b>	<b>6,0</b>	<b>6,3</b>	<b>7,1</b>	<b>7,0</b>	<b>6,4</b>	<b>2,9</b>	<b>2,7</b>
	Gönülsüz (Geçici)	31,8	41,9	84,8	62,9	74,5	78,0	77,5	70,3	68,6	29,8	28,7
Danimarka	Toplam (Çalışanlar)	:	12,1	9,8	9,0	8,2	8,5	12,9	10,8	10,9	10,9	10,9
	Gönülsüz	<b>3,8</b>	<b>5,3</b>	<b>5,4</b>	<b>3,3</b>	<b>3,9</b>	<b>4,2</b>	<b>4,5</b>	<b>3,8</b>	<b>3,7</b>	<b>1,8</b>	<b>1,4</b>
	Gönülsüz (Geçici)	33,2	43,9	55,1	36,7	47,2	50,1	35,2	34,8	34,1	16,8	12,4
Almanya	Toplam (Çalışanlar)	:	10,3	12,4	14,5	14,4	13,4	13,2	12,0	10,8	11,5	12,5
	Gönülsüz	:	<b>1,4</b>	<b>1,6</b>	<b>2,8</b>	<b>2,4</b>	<b>1,9</b>	<b>1,9</b>	<b>1,5</b>	<b>0,7</b>	<b>0,8</b>	<b>0,7</b>
	Gönülsüz (Geçici)	:	11,4	12,8	19,5	16,6	14,0	14,5	12,3	6,5	6,7	5,6
İrlanda	Toplam (Çalışanlar)	6,1	10,2	3,4	9,2	10,2	10,7	8,9	9,6	8,9	10,1	8,7
	Gönülsüz	<b>3,3</b>	<b>6,5</b>	<b>3,3</b>	<b>1,3</b>	<b>2,8</b>	<b>5,3</b>	<b>4,3</b>	<b>2,4</b>	<b>2,3</b>	<b>1,7</b>	<b>1,6</b>
	Gönülsüz (Geçici)	54,8	63,5	22,5	14,1	28,0	49,6	48,3	24,8	25,6	17,2	18,9
Yunanistan	Toplam (Çalışanlar)	16,2	10,2	12,5	11,0	12,6	10,2	11,2	12,6	10,1	12,1	11,3
	Gönülsüz	<b>12,7</b>	<b>8,0</b>	<b>9,0</b>	<b>7,9</b>	<b>9,2</b>	<b>7,5</b>	<b>8,0</b>	<b>9,3</b>	<b>7,4</b>	<b>5,6</b>	<b>3,5</b>
	Gönülsüz (Geçici)	78,4	78,3	71,9	71,7	73,2	73,5	70,9	73,7	72,6	46,5	30,7
İspanya	Toplam (Çalışanlar)	:	35,0	32,2	30,4	24,5	23,4	26,3	26,4	23,8	24,9	21,2
	Gönülsüz	:	<b>30,2</b>	<b>22,2</b>	<b>20,6</b>	<b>20,3</b>	<b>19,8</b>	<b>23,0</b>	<b>21,2</b>	<b>19,5</b>	<b>16,1</b>	<b>12,8</b>
	Gönülsüz (Geçici)	:	86,2	69,0	67,9	82,7	84,6	87,2	80,1	81,8	64,5	60,1
Fransa	Toplam (Çalışanlar)	3,3	12,2	12,8	15,5	15,4	15,4	16,6	17,1	15,2	15,6	16,1
	Gönülsüz	:	<b>7,4</b>	<b>8,0</b>	<b>8,3</b>	<b>8,6</b>	<b>9,3</b>	<b>8,3</b>	<b>7,4</b>	<b>5,9</b>	<b>4,5</b>	
	Gönülsüz (Geçici)	:	58,3	51,7	53,6	55,8	55,9	48,4	48,7	37,7	27,7	
İtalya	Toplam (Çalışanlar)	6,6	7,2	11,9	13,2	12,7	13,2	14,0	17,1	15,2	16,6	16,9
	Gönülsüz	<b>4,3</b>	<b>3,7</b>	<b>6,7</b>	<b>8,5</b>	<b>8,6</b>	<b>9,6</b>	<b>10,2</b>	<b>13,7</b>	<b>12,1</b>	<b>8,4</b>	<b>8,6</b>
	Gönülsüz (Geçici)	65,5	51,2	56,6	64,8	67,7	73,1	72,6	79,8	79,6	50,9	50,6
Lüksemburg	Toplam (Çalışanlar)	3,2	:	4,8	6,8	7,0	7,2	8,5	9,6	7,8	9,2	7,3
	Gönülsüz	<b>0,6</b>	<b>0,7</b>	<b>1,8</b>	<b>2,5</b>	<b>2,5</b>	<b>3,4</b>	<b>4,1</b>	<b>0,2</b>	<b>4,9</b>	<b>0,9</b>	<b>1,0</b>
	Gönülsüz (Geçici)	18,5	21,3	36,8	36,5	36,0	47,6	47,8	2,2	63,2	10,2	13,7
Hollanda	Toplam (Çalışanlar)	5,7	10,8	14,3	16,8	17,2	20,0	20,6	20,5	18,1	27,1	27,4
	Gönülsüz	<b>3,7</b>	<b>5,3</b>	<b>3,8</b>	<b>4,8</b>	<b>4,2</b>	<b>6,0</b>	<b>7,2</b>	<b>5,6</b>	<b>4,6</b>	<b>4,3</b>	<b>3,7</b>
	Gönülsüz (Geçici)	64,1	48,7	26,7	28,6	24,2	29,9	34,9	27,1	25,3	15,8	13,7
Avusturya	Toplam (Çalışanlar)	:	6,0	8,7	8,8	9,4	9,2	9,0	8,7	8,2	8,8	8,7
	Gönülsüz	:	<b>0,8</b>	<b>1,0</b>	<b>1,3</b>	<b>0,8</b>	<b>0,8</b>	<b>0,8</b>	<b>0,8</b>	<b>0,6</b>	<b>0,3</b>	<b>0,3</b>
	Gönülsüz (Geçici)	:	13,9	:	14,6	8,7	8,2	9,1	9,1	7,7	3,7	3,3
Portekiz	Toplam (Çalışanlar)	:	10,0	19,7	22,3	22,8	21,4	22,3	20,8	17,8	16,6	16,6
	Gönülsüz	:	<b>8,3</b>	<b>13,7</b>	<b>18,2</b>	<b>19,2</b>	<b>18,4</b>	<b>18,8</b>	<b>17,1</b>	<b>14,6</b>	<b>9,2</b>	<b>9,1</b>
	Gönülsüz (Geçici)	70,7	83,4	69,2	81,7	84,1	86,1	84,6	82,0	82,2	55,5	54,7
Finlandiya	Toplam (Çalışanlar)	:	16,4	17,1	16,5	15,2	15,3	15,7	15,2	14,6	16,5	16,3
	Gönülsüz	:	<b>9,4</b>	<b>10,9</b>	<b>10,6</b>	<b>9,8</b>	<b>10,2</b>	<b>11,2</b>	<b>10,2</b>	<b>9,6</b>	<b>4,1</b>	<b>3,4</b>
	Gönülsüz (Geçici)	:	57,1	64,0	64,2	64,5	66,5	71,2	66,8	65,7	25,0	21,0
İsveç	Toplam (Çalışanlar)	:	12,9	15,5	17,2	16,0	16,3	16,1	15,7	14,8	14,4	14,8
	Gönülsüz	:	<b>10,5</b>	<b>3,5</b>	<b>9,7</b>	<b>9,3</b>	<b>9,4</b>	<b>8,7</b>	<b>7,8</b>	<b>8,0</b>	<b>2,7</b>	<b>2,9</b>
	Gönülsüz (Geçici)	:	81,4	22,5	56,4	58,2	57,5	53,9	49,6	54,1	18,9	19,9
İzlanda	Toplam (Çalışanlar)	:	6,2	5,3	12,3	12,4	14,2	11,9	7,9	8,4	:	13,0
	Gönülsüz	:	<b>1,2</b>	<b>2,9</b>	<b>0,6</b>	<b>1,6</b>	<b>1,3</b>	<b>0,7</b>	<b>0,6</b>	:	:	:
	Gönülsüz (Geçici)	:	20,0	55,1	4,7	12,7	8,8	5,6	7,6	:	:	:
Norveç	Toplam (Çalışanlar)	:	11,1	10,2	10,0	8,9	8,9	9,4	8,6	8,4	9,4	8,3
	Gönülsüz	:	<b>3,8</b>	<b>1,1</b>	<b>4,6</b>	<b>3,5</b>	<b>3,9</b>	<b>4,0</b>	<b>4,0</b>	<b>4,0</b>	<b>2,1</b>	<b>2,5</b>
	Gönülsüz (Geçici)	:	34,7	10,4	46,1	39,7	43,9	42,4	45,9	47,4	22,8	30,0
İsviçre	Toplam (Çalışanlar)	:	:	12,1	12,9	13,0	12,9	13,3	12,7	12,7	13,1	13,2
	Gönülsüz	:	:	:	:	<b>1,3</b>	<b>1,1</b>	<b>1,5</b>	<b>1,5</b>	<b>1,5</b>	<b>1,8</b>	<b>1,6</b>
	Gönülsüz (Geçici)	:	:	:	10,3	8,4	11,3	11,9	11,5	13,6	11,8	
Birleşik Krallık	Toplam (Çalışanlar)	5,4	6,8	5,6	5,6	5,0	5,3	5,4	4,4	:	:	:
	Gönülsüz	<b>2,0</b>	<b>3,1</b>	<b>1,6</b>	<b>1,6</b>	<b>2,0</b>	<b>2,1</b>	<b>1,8</b>	<b>1,2</b>	:	:	:
	Gönülsüz (Geçici)	37,7	45,1	27,8	28,8	39,7	39,5	33,7	28,3	:	:	:
Türkiye	Toplam (Çalışanlar)	:	:	:	11,8	11,4	11,9	13,2	11,5	10,8	:	:
	Gönülsüz	:	:	:	<b>10,2</b>	<b>9,9</b>	<b>10,2</b>	<b>10,6</b>	<b>9,2</b>	<b>8,5</b>	:	:
	Gönülsüz (Geçici)	:	:	:	86,6	86,9	85,9	80,6	79,5	78,9	:	:

Kaynak: Eurostat, *Temporary Employment, Involuntary Temporary Employment*, 31.10.2023.

Bu veriler, tam zamanlı çalışmanın yerini, kısmi süreli çalışmanın; sürekli iş sözleşmesi ile çalışmanın yerini de geçici iş sözleşmesiyle çalışmanın almaya devam ettiğini göstermektedir. Bu noktada neoliberal ekonomi politikalarının uygulanmasıyla ortaya çıkan yapısal işsizliğe de değinmek gerekmektedir. Nitekim SDİ biçimlerinin yaygınlaşmasının ve bu kapsamda kısmi süreli ve geçici iş sözleşmesi ile çalışanların arttığı dönemde, işsizlik oranlarında düşme yönünde bir eğilimin olduğu görülmektedir. Dolayısıyla işsizlik oranında yaşanan azalmaların bir nedeni olarak SDİ biçimlerinin yaygınlaştırılması gösterilebilir. Standing (2011) de kısmi süreli işlerde yaşanan artış ile işsizlik ve eksik istihdamın boyutunun gizlenmiş olduğunu ifade etmektedir. Avrupa işgücü piyasaları da son yıllarda belirgin bir şekilde düşük ücretlerin veya sınırlı çalışma sürelerinin ya da geçici süreli çalışma veya kötü çalışma koşullarının hâkim olduğu olumsuz/düşük nitelikli işlerin görece genişlemesiyle istihdamın artan bir şekilde segmentasyonu ve geçicileşmesi ile karakterize edilmektedir (Fraser et al., 2015: 3).

SDİ edilenler, tam olarak iş potansiyellerini gerçekleştiremedikleri için yoksulluk riskine maruz kalma olasılıkları daha yüksektir. Kısmi süreli ve geçici işler genellikle çekirdek işgücüne yönelik olmadığı için bu işleri işgal eden kişilerin pazarlık gücü daha zayıftır ve eğitim alma olasılıkları daha düşüktür. İşsizliğe ise tekrarlayan bir şekilde maruz kalma olasılıkları daha yüksektir. Dolayısıyla da kısmi süreli ve geçici olarak çalışanlar daha düşük bir beşerî sermayeye sahiptirler. Bu durum da gelecekteki istihdam fırsatlarını ve kazanç potansiyellerini sınırlandırmaktadır (Lohmann & Marx, 2018: 150-152).

AB'de tam zamanlı çalışanlar arasındaki yoksulluk oranı 2007'de %7,2 ve 2022'de %7,1<sup>49</sup>; kısmi süreli çalışanların yoksulluk oranı ise 2005'te %11,1 ve 2022'de %13,5 olarak gerçekleşmiştir. Yıllık olarak artış-azalış eğilimleri olmakla birlikte, mevcut durumda kısmi süreli çalışanlarda yoksulluk riski ve oransal artış görece daha yüksek görünmektedir<sup>50</sup>. Oran, Fransa, Birleşik Krallık, İtalya, Lüksemburg, Portekiz, İspanya, Türkiye ve Yunanistan'da AB ortalamasının üzerinde gerçekleşmektedir. Oranın en yüksek olduğu ülkeler ise Yunanistan, İspanya, İtalya, Portekiz, Türkiye ve Fransa'dır. Dolayısıyla, kısmi süreli çalışanların yoksulluk oranlarının da Güney Avrupa refah rejimleri ile ilişkilendirilen ülkelerde görece daha ciddi bir sorun olduğu görülmektedir (Tablo 3).

Bununla birlikte, kısmi süreli çalışmanın artmasının, çalışanların yoksulluğu açısından, ortalama tam süreli çalışanlara göre daha yüksek yoksulluk riskiyle karşılaştıkları görülmektedir. Genel olarak kısmi süreli çalışanlar ve özellikle de gönülsüz kısmi süreli çalışanlar için düşük ücret, istikrarsız işler, tek gelir sahibi olma ve bağımlı hanehalkı üyeleri

<sup>49</sup> Tam zamanlı çalışanların yoksulluk oranı Avusturya, İspanya, İtalya, Lüksemburg, Portekiz, Türkiye ve Yunanistan'da AB ortalaması üzerinden gerçekleşmektedir. Bu anlamda tam zamanlı işlerde çalışanların yoksulluk riskinin Güney Avrupa refah rejimini ile nitelendirilen ülkelerde görece daha yaygın olduğu görülmektedir.

<sup>50</sup> Kısmi süreli çalışanların yoksulluk oranı ise dönem içerisinde artış-azalış eğilimleri ile İspanya, Fransa, İtalya, Lüksemburg, İsveç, Norveç ve Birleşik Krallık'ta (oransal olarak görece az veya çok) artarken, diğer ülkelerde azalmıştır. Fransa, İtalya, Lüksemburg ve Birleşik Krallık'ta ise hem kısmi süreli hem de tam süreli çalışanların yoksulluk oranları yükselmiştir.



gibi farklı risk faktörlerinin bir arada bulunduğu ülkelerde daha yüksek yoksulluk riski bulunmaktadır. Dolayısıyla, hem hanehalkının içinde bulunduğu durum, kısmi süreli çalışanlar ve koşulları ile ülkeler arasında farklılıklar olabileceğini kabul etmek gerekmektedir (Lohmann & Marx, 2018: 150; Horemans & Marx, 2013; Horemans et al., 2016)<sup>51</sup>.

**Tablo: 3**  
**Seçilmiş Ülkelerde Çalışma Süresine Göre Çalışan Yoksulluğu (%)**

		2003	2004	2007	2010	2013	2016	2019	2020	2021	2022
AB 28 / 27	Tam	:	:	7,2	7,1	7,2	7,8	7,5	7,3	7,6	7,1
	Kısmi*	:	11,1	12,1	12,5	14,7	15,8	15,1	13,8	14,2	13,5
Belçika	Tam	6,2	3,4	3,5	3,9	3,5	3,7	4,1	3,2	2,8	2,7
	Kısmi	7,0	5,5	5,5	5,8	5,9	6,5	5,5	6,2	5,9	5,5
Danimarka	Tam	3,9	4,3	3,7	5,1	4,2	3,2	4,2	4,3	3,6	2,8
	Kısmi	:	6,0	5,1	10,0	7,9	14,1	10,2	7,4	7,4	9,4
Almanya	Tam	:	3,5	6,1	5,4	6,3	6,5	5,7	6,5	6,7	5,3
	Kısmi	:	6,6	10,1	11,2	13,4	15,2	12,8	11,0	11,7	9,6
İrlanda	Tam	6,0	5,1	3,8	5,1	3,1	2,9	2,6	4,2	3,2	3,7
	Kısmi	19,4	12,5	11,3	6,5	8,7	10,2	9,2	11,1	9,2	12,8
Yunanistan	Tam	12,5	11,8	12,9	11,7	10,7	12,2	9,1	9,0	10,5	9,9
	Kısmi	26,1	22,5	27,2	29,4	27,0	30,3	20,9	21,0	21,0	18,4
İspanya	Tam	:	9,9	9,7	9,2	8,9	10,7	10,7	9,7	10,9	9,7
	Kısmi	:	16,6	14,6	19,3	18,7	24,3	22,1	19,0	21,4	21,2
Fransa	Tam	:	4,4	5,3	5,2	5,9	6,5	5,5	5,3	5,5	5,4
	Kısmi	:	9,3	10,9	11,2	13,1	13,5	15,5	17,2	13,9	15,8
İtalya	Tam	:	8,4	8,5	8,6	9,3	10,0	10,3	9,6	10,1	9,7
	Kısmi	:	13,5	14,6	14,5	19,2	19,9	18,6	16,3	20,0	19,9
Lüksemburg	Tam	6,8	7,9	8,7	10,0	10,1	9,6	10,0	10,5	11,8	11,0
	Kısmi	8,9	29,5	10,2	12,4	14,0	15,9	18,9	16,8	21,2	16,8
Hollanda	Tam	:	5,8	4,3	5,1	3,4	4,8	3,8	3,9	3,8	3,7
	Kısmi	:	4,6	4,3	4,5	4,5	5,0	5,7	5,9	5,8	5,4
Avusturya	Tam	7,5	6,1	5,3	6,4	6,8	6,9	6,3	5,4	6,5	7,3
	Kısmi	15,4	7,8	8,1	9,0	9,5	9,4	10,1	10,0	8,3	10,0
Portekiz	Tam	:	10,5	7,7	8,1	8,8	9,5	9,9	8,4	10,5	9,6
	Kısmi	:	31,0	27,8	32,7	28,0	30,2	24,0	25,8	26,0	24,0
Finlandiya	Tam	:	3,4	3,4	3,0	2,7	2,7	1,9	2,3	2,3	2,0
	Kısmi	:	12,4	14,8	6,7	10,6	6,4	10,6	9,9	5,2	6,2
İsveç	Tam	:	5,1	5,8	6,1	5,7	5,3	6,0	5,2	4,2	5,9
	Kısmi	:	7,5	7,4	10,6	12,0	10,3	13,2	14,0	13,5	12,6
İzlanda	Tam	:	6,0	6,0	4,3	4,1	4,8	:	:	:	:
	Kısmi	:	8,0	6,4	6,7	9,7	8,2	:	:	:	:
Norveç	Tam	3,8	3,3	4,4	3,7	4,6	4,3	5,0	4,7	3,3	4,7
	Kısmi	20,3	6,2	6,0	8,5	7,9	10,6	11,6	7,4	10,7	8,9
İsviçre	Tam	:	:	6,7	6,4	6,6	5,4	6,5	6,5	5,7	:
	Kısmi	:	:	9,6	10,5	9,8	11,6	9,7	10,1	9,3	:
Birleşik Krallık	Tam	:	:	5,8	5,3	6,2	6,0	:	:	:	:
	Kısmi	:	:	12,0	11,4	13,6	14,1	17,2	:	:	:
Türkiye	Tam	:	:	16,3	16,7	14,2	13,2	12,8	12,4	12,1	:
	Kısmi	:	:	30,6	28,6	20,9	15,3	16,6	14,9	18,2	:

Kaynak: EUROSTAT, EU-Statistics on Income and Living Conditions (EU-SILC) Instrument, (21.10.2023).

\* Haftalık 30 saatin altındaki çalışmalar.

<sup>51</sup> Bununla birlikte, kısmi süreli çalışanların yoksulluk riskiyle ilgili olarak çalışmalar hane başına çalışanlarının varlığının, kısmi süreli çalışanların yoksulluk riskini önemli ölçüde azalttığını göstermektedir. İstihdam esnekliği yoksulluk riskini artırmakta gibi görünmekle birlikte, esnek istihdamda bulunan birçok kişinin yoksulluktan uzak yaşaması dikkat çekmektedir. Bunun sebebi, belirli nedenlerle işgücü piyasasının bu kişilere daha az risk yüklemesi veya risklerin bu kişilerin hanehalkı veya kurumsal yapıdaki diğer faktörler tarafından hafifletilmesidir (Lehweb-Litzmann, 2012: 79).

Diğer taraftan kısmi süreli ve geçici olarak çalışanların işgücü piyasasındaki koşulları aynı olmayabilir. Geçici işler, ücretler ve istihdam istikrarı açısından daha sorunlu görünmektedir. Bu nedenle de yoksulluk risklerinin istihdamını niteliği ile daha güçlü bir şekilde ilişkilili olması ve kısmi süreli çalışanlara kıyasla daha şiddetli olması beklenmektedir (Lohmann & Marx, 2018: 152). Amuedo-Doranste ve Serrano-Padial (2010: 2-3)'a göre, geçici iş sözleşmesiyle çalışanlar artan bir şekilde yoksulluk riski ile ilişkilidir. Ayrıca geçici iş ilişkisi daha istikrarlı bir istihdama geçiş için bir basamak görevi görmediğinde yoksullukla daha güçlü bir şekilde ilişkilendirilmektedir. Bununla birlikte, geçici bir işten sürekli bir işe geçişler de yoksulluk riskini mutlaka azaltmamaktadır<sup>52</sup> (Horemans, 2017: 150).

AB'de sürekli iş sözleşmesiyle çalışanların yoksulluk oranı 2008'de %5,1 ve 2022'de %5,2<sup>53</sup>; geçici iş sözleşmesi ile çalışanların yoksulluk oranı 2005'te %10,8 ve 2022'de %12,2 olarak gerçekleşmiştir. Geçici iş sözleşmesi ile çalışanların yoksulluk riski ise Almanya, Danimarka, Fransa, İrlanda, İspanya, İsveç, İtalya, Lüksemburg, Norveç, Portekiz, İrlanda ve Türkiye'de AB ortalamasının üzerindedir<sup>54</sup>. Her iki sözleşme türünde yoksulluğun -yıllar itibarıyla artış-azalış eğilimleri göstererek- arttığı gözlemlenmekte birlikte, geçici iş sözleşmesi ile çalışanların yoksulluğa maruz kalma riski daha yüksek görünmektedir (Tablo 4).

**Tablo: 4**  
**Seçilmiş Ülkelerde Çalışma Türüne Göre Çalışan Yoksulluğu (%)**

		2003	2004	2007	2010	2013	2016	2019	2020	2021	2022
AB 28 / 27	Sürekli	:	:	:	5,2	5,5	5,8	5,9	5,4	5,3	5,2
	Geçici	:	:	:	13,3	14,9	16,2	16,2	14,9	13,0	12,2
Belçika	Sürekli	3,8	1,8	2,7	2,4	2,7	2,5	2,9	2,5	2,2	2,1
	Geçici	9,3	6,4	9,0	12,2	10,0	13,9	12,1	10,2	8,1	8,4
Danimarka	Sürekli	2,6	3,0	2,3	4,8	3,2	3,4	3,3	2,7	2,4	2,0
	Geçici	:	:	:	:	16,6	15,1	13,9	12,7	10,2	13,3
Almanya	Sürekli	:	:	6,2	5,7	6,6	7,0	6,3	6,6	6,2	4,7
	Geçici	:	:	12,7	16,2	17,0	20,5	15,8	18,8	14,7	12,2
İrlanda	Sürekli	3,9	4,3	3,1	1,5	2,6	3,0	3,5	4,9	3,1	3,3
	Geçici	15,1	10,1	7,1	4,2	6,9	11,1	4,6	9,3	10,9	14,8
Yunanistan	Sürekli	3,9	3,7	4,9	5,1	5,8	5,3	4,0	3,9	5,3	4,8
	Geçici	15,0	13,0	18,9	13,4	13,8	15,2	11,7	11,3	8,3	7,9

<sup>52</sup> Belirli süreli sözleşme ile çalışanların, sürekli istihdama kıyasla, düşük ücretler ve işten ayrılma oranlarının yüksek olması nedenleriyle geçici işlerin çalışan yoksulluğuna maruz kalma riskini artırabileceği ortaya koyulmaktadır. Bununla birlikte belirli süreli işler, deneyimsiz ve vasıfsız işçilere görece daha iyi olabilecek bir işe geçiş için bir basamak olursa veya bireyin ikinci bir hane geliri kazanmasına yardımcı olursa yoksulluk olasılığının azaltılabileceği iddia edilmektedir (Amuedo-Dorantes & Serrano-Padial, 2009: 7).

<sup>53</sup> Sürekli iş sözleşmesi ile çalışanların yoksulluk oranı Avusturya, Birleşik Krallık, İspanya, İsviçre, İtalya, Lüksemburg, Portekiz ve Türkiye'de AB ortalamasının üzerinde görünmektedir. Sürekli iş sözleşmesi ile çalışanların yoksulluk oranı, dönem içerisinde artış-azalış eğilimleri göstermekle birlikte dönem sonunda Yunanistan, İspanya, Fransa, İtalya, Lüksemburg, Avusturya, Portekiz, İsveç, İrlanda, Norveç ve Birleşik Krallık'ta (görece daha az veya daha çok) yükselmiştir.

<sup>54</sup> Geçici iş sözleşmesi çalışanların yoksulluk oranı, dönem içerisinde artış-azalış eğilimleri göstermekle birlikte dönem sonunda İspanya, Fransa, İtalya, Lüksemburg, Hollanda, Avusturya, Portekiz, Norveç, Birleşik Krallık ve Türkiye'de artmıştır. İspanya, Fransa, İtalya, Lüksemburg, Avusturya, Portekiz, İsveç, Norveç ve Birleşik Krallık'ta hem sürekli hem de geçici iş sözleşmesi ile çalışanların yoksulluk riski daha yükselmiştir.

İspanya	Süreklili	:	5,1	4,8	5,5	5,4	6,2	7,4	6,3	7,4	7,7
	Geçici	:	13,0	12,2	15,2	17,5	20,9	22,0	18,4	21,6	18,2
Fransa	Süreklili	:	3,5	3,8	4,3	5,0	4,9	4,9	4,6	3,5	4,4
	Geçici	:	8,5	11,2	11,7	14,9	12,7	13,9	16,1	12,1	14,2
İtalya	Süreklili	:	5,7	6,2	6,7	7,2	7,5	8,2	7,7	8,1	8,5
	Geçici	:	15,2	18,2	19,4	20,4	20,5	22,5	15,4	21,5	16,2
Lüksemburg	Süreklili	6,5	7,8	8,6	8,9	8,9	9,0	10,3	10,4	12,0	11,1
	Geçici	8,7	16,3	14,8	19,8	23,1	22,7	27,6	25,7	23,8	15,1
Hollanda	Süreklili	:	2,9	2,7	3,3	3,7	3,3	4,1	2,9	2,4	
	Geçici	:	4,7	5,4	6,8	7,9	10,7	9,5	6,0	8,2	
Avusturya	Süreklili	5,5	6,2	5,2	6,2	6,8	6,6	5,8	5,5	5,3	7,2
	Geçici	9,0	8,4	8,2	14,5	13,5	14,1	15,5	15,1	14,0	11,0
Portekiz	Süreklili	:	6,7	5,2	5,1	5,5	6,6	7,2	6,1	7,9	7,1
	Geçici	:	12,9	10,0	7,4	11,7	13,5	12,4	10,3	12,6	19,4
Finlandiya	Süreklili	:	1,7	2,1	2,2	1,7	1,0	1,5	2,1	1,4	1,1
	Geçici	:	8,8	8,5	6,1	6,5	2,3	3,6	4,1	1,0	0,3
İsveç	Süreklili	:	2,9	4,1	5,1	4,5	3,9	4,1	4,2	3,4	4,2
	Geçici	:	12,0	16,3	19,8	18,9	17,7	20,1	23,4	18,3	16,9
İzlanda	Süreklili	:	3,8	4,4	4,5	3,3	4,5	:	:	:	:
	Geçici	:	12,9	8,2	10,6	10,7	9,7	:	:	:	:
Norveç	Süreklili	2,5	2,2	4,3	3,6	3,3	3,7	6,1	4,5	3,6	4,2
	Geçici	9,2	9,1	13,9	11,8	18,3	17,5	22,1	16,9	12,9	20,7
İsviçre	Süreklili	:	6,1	6,7	6,1	6,0	6,2	7,2	7,2	5,9	:
	Geçici	:	15,9	9,5	11,8	11,5	11,1	11,5	11,7	:	
Birleşik Krallık	Süreklili	:	5,0	5,4	5,9	6,0	:	:	:	:	
	Geçici	:	9,0	6,5	8,0	12,0	:	:	:	:	
Türkiye	Süreklili	:	9,5	6,9	8,6	9,4	9,1	8,3	7,5	:	
	Geçici	:	25,2	25,2	26,9	27,6	22,5	22,9	26,9	:	

Kaynak: Eurostat, *EU-Statistics on Income and Living Conditions (EU-SILC) Instrument*, 21.10.2023.

Düşük ücretler de standart dışı çalışanlar için yoksulluk riskinin artmasına neden olmaktadır (Lohmann & Marx, 2018: 152). Düşük ücretli çalışma incelendiğinde, oranın 2006-2018 döneminde %15,73'ten %15,22'ye gerilediği görülmektedir. AB ortalamasında hem belirli süreli hem de süresi belirsiz iş sözleşmesi ile çalışanlarda düşük ücret oranı dönem içerisinde artış-azalış eğilimleri sonucunda azalmış olmakla birlikte, söz konusu azalmanın düşük olduğu ifade edilebilir. 2018 yılında süresi belirsiz iş sözleşmesiyle çalışanların düşük ücret oranı %12,77 iken, belirli süreli iş sözleşmesi ile çalışanlarda düşük ücretli olma durumu (%28,06) belirli süreli oranla iki kattan daha fazladır (Eurostat, 6.11.2023)<sup>55</sup>.

Belirli süreli çalışanların düşük ücretli olma durumu ele alındığında, Hollanda (%37,12), Almanya (%35,05), Lüksemburg (%34,93), İrlanda (%30,72)'da düşük ücretli çalışma %30 üzerinde; Belçika (%28,7), Avusturya (%26,33), Birleşik Krallık (%25,16), Yunanistan (%25,46), Fransa (%23,98), İtalya (%20,43), İspanya (%20)'da oranı %20 üzerinde ve İsviçre (%18,78), Norveç (%18,38), Danimarka (%16,59), Finlandiya (%13,03) ve İsveç (%10,63)'te %10 üzerinde gerçekleşmiştir. Süresi belirsiz iş sözleşmesi ile düşük ücretli çalışanlar ise Yunanistan (%18,7), Almanya (%17,83), İrlanda (%17,23), Birleşik Krallık (%16,26), Avusturya (%14,01) ve İspanya (%12,7)'da AB ortalaması üzerindedir (Eurostat, 6.11.2023). Bu kapsamda belirsiz süreli iş sözleşmesiyle çalışanların düşük ücret

<sup>55</sup> Düşük ücretli çalışma oranı ülkeler özelinde incelendiğinde, artış-azalış eğilimleri yaşanırken dönem sonunda (İrlanda, İtalya, Lüksemburg, Portekiz, İzlanda, İsviçre ve Birleşik Krallık dışında) ülkelerin tamamında artmıştır. Almanya (%20,68), İrlanda (%19,65), Yunanistan (%19,65), Hollanda (%18,24), Birleşik Krallık (%16,98)'ta oran AB ortalamasının üzerinde olmakla birlikte, Avusturya (%14,75), İspanya (%14,33) ve İzlanda (%11,16)'da %10 üzerinde düşük ücretli çalışma gerçekleşmektedir.

ile ilişkisi birçok ülkede daha kuvvetli görünmekte ve düşük kazançlı çalışanlar çok daha yüksek bir çalışan yoksulluğu riski altında bulunmaktadır (Goerne, 2011: 25-6).

AB çalışan yoksulluğu göstergelerine göre istihdam yoksulluktan kurtulmak için bir çıkış yolu değildir. Standart bir istihdam ilişkisinden sapma kişileri artan bir şekilde yoksulluk riskine maruz bırakmaktadır. Kısmi süreli çalışanlar, tam zamanlı istihdamla ilişkili olanlardan daha olumsuz durumda iken, geçici iş sözleşmesi ile çalışanlara göre görece daha iyi durumdadırlar. Diğer bir ifadeyle, sürekli iş sözleşmesi veya tam süreli çalışanların yoksullaşma riskine göre kısmi süreli veya geçici iş sözleşmesi ile çalışmanın, çalışanları görece daha çok yoksulluk riskine maruz bıraktığını ifade etmek yanlış olmayacaktır. Ayrıca standart ve standart olmayan çalışanlar arasındaki yoksulluk riski oranı farkı son yıllarda giderek artmıştır ve bunun başlıca nedeni standart dışı çalışanların yoksulluk riskindeki artıştır. Son olarak standart dışı çalışanların yoksulluk oranı, standart çalışanlara göre daha fazla farklılık göstermekte ve bu da standart dışı işlerin niteliğinin ülkeler arasında farklılık gösterdiğini ortaya koymaktadır (Lohmann & Marx, 2018: 153). Bununla birlikte, çalışan yoksulluğunda belirleyici olabilecek hanehalkının diğer özelliklerinin de mümkün olabileceğini kabul etmek gerekmektedir (Parlak & Ak, 2022: 130-133). Bu etkiye rağmen, neoliberal politikaların uygulanması sonucunda, esnekleşmeyle ortaya çıkan, kısmi süreli çalışma ve geçici çalışmanın, mevcut koşullar altında AB üyesi çoğu ülkede çalışan yoksulluğunu artırdığı anlaşılmaktadır. Bu süreçte, bir taraftan işsizliğe bağlı yoksulluk gözlemlenirken, diğer taraftan ise kuralsızlaştırmaya bağlı olarak da çalışanların yoksullaşması hızlanmıştır (Öcal & Kaya, 2019: 579).

## 6. Genel Değerlendirme ve Sonuç

Çalışan yoksulluğu noktasında, küreselleşme, sanayileşme ve teknolojik gelişmeler, uluslararası rekabet, artan sermaye hareketleri, yoğunlaşan küresel rekabet, finansal hareketlerin serbestleştirilmesi, doğrudan yabancı yatırımların hızlanması gibi makroekonomik şoklar ile ulusal kurumsal yapılar arasındaki ilişkiye odaklanılmıştır. Bu kapsamda, özellikle sanayileşmiş öncü ekonomilerde düşük vasıflı işgücüne yönelik talepte yaşanan düşüş ile yoksulluk arasında bir ilişki olduğu gözlemlenmiştir. Uluslararası sermaye hareketliliklerinin artması ve emek yoğun üretimin diğer gelişen ülkelere kaydırılması, diğer bir ifadeyle sanayiden arınma, gelişmiş ekonomilerde düşük vasıflı işgücüne olan talebin azalmasına neden olmuştur. Ancak diğer taraftan hizmetler sektörünün genişlemesi ve yeni teknolojilerin kullanılması hem yüksek vasıf hem de düşük vasıf gerektiren sektörlerin oluşmasına sebep olarak ikili bir yapı oluşturmuştur. Söz konusu gelişmeler, düşük vasıflı işgücünün ücretleri üzerinde aşağı yönlü ve ücret eşitsizliği üzerinde yukarı yönlü bir baskı oluşturmuş ve çalışanların yoksullaşması sürecinde etkili olmuştur. Diğer taraftan hem gelişmiş ekonomilerde hem de gelişmemiş ekonomilerde, deregülasyon, esnekleştirme, sendikasılaştırma vb. dönüşümler işgücü piyasasının yapısını etkileyerek, işçilerin ve sendikaların pazarlık gücünün azalması ve güvencesiz ve düşük ücretli kötü iş olgusunun ortaya çıkmasına neden olarak düşük ücretli ve düşük vasıflı işleri -gelişmiş ekonomilerde hizmet sektöründe- artırmıştır. Düşük ücretli çalışma ise tek başına bir neden olarak

yoksullukla doğrudan ilişkilendirilmese de diğer işgücü piyasası sorunları ile önemli ölçüde yoksulluk riskini artırmaktadır.

Nitekim günümüzde küreselleşme sürecinde ortaya çıkan ve karşılıklı etkileşim içinde olan birçok faktöre bağlı olarak üretim ve emek piyasalarında esnekleşme yönünde temel bir eksen değişikliği söz konusu olmuştur. Ancak yüksek işsizliğin, işgücü piyasasının katı olmasından kaynaklandığını ya da işgücü piyasasının esnek hale getirilmesinin işsizliği azaltmaya katkısının olduğuna yönelik kesin sonuçlar bulunmadığı, belirli durumlarda ise istihdam ve işsizlik üzerinde olumsuz sonuçlar çıkarabildiği ortaya konulmuştur (O'Higgins & Moscariello, 2017: 3, 17-18; Ferreiro & Gomez, 2018: 3-4, 26; Arestis et al., 2020: 295). Buna rağmen, sadece işgücü piyasasında esnekleşme uygulamasına bağlanamamakla birlikte, işsizlik oranlarında bir azalış söz konusu olmuştur. Ancak, işgücü piyasasını daha az ya da çok esnek hale getiren reformların işsizlik oranları üzerinden önemli bir etkisinin olmadığı, buna karşılık esneklik çabalarının geçici istihdamı artırma çerçevesinde etkili olduğu tespit edilmiştir. Bununla birlikte, SDİ imkanlarında ortaya çıkan artış ve çeşitliliğin, bölünmüş bir işgücü piyasasına yol açabileceği görülmüştür.

Yeni iş olanakların oluşturulması ve istihdamı artırma girişimleri olmuştur. Ancak istihdam oluşturulurken, istihdamın niteliğinin ikinci planda kaldığı görülmüştür. Ayrıca işsizlik, ücretler üzerinde bir baskı oluşturarak, çalışanların yoksullaşması sürecini etkilemektedir. "Yedek İşçi Ordusu" olarak nitelendirilen (Marx, 1975) bu işsiz kesimin varlığı ve belirli dönemlerde yaygınlaşması, yüksek işsizlik dönemlerinde kısmi süreli ve geçici çalışmanın yaygın hale gelmesi üzerinden ücretleri etkilemektedir.

Bu çalışmada, SDİ'nin çalışanların gelirleri ve yaşam standartları üzerinde olumsuz etkileri olduğunu ve çalışanların yoksullaşma riskini artırdığını tespit etmek için işgücü piyasasının kuralsızlaştırılması ve esnekleştirilmesi, kayıt dışılık, güvencesizlik ve düşük ücret gibi noktalardan hareket edilmiştir. İşgücü piyasasının esnekleşmesi ile SDİ'nin ve güvencesizliğin artması ilişkilendirilmiştir. İşgücü piyasalarında esnekleşme düzenlemelerinin yaygınlaşmasının bir sonucu olarak ücretlerin baskı altına alınması ve istihdam güvencesinin tehdit altına girmesinin bir sonucu olarak eşitsizlik ve yoksulluğun arttığı genel olarak kabul edilmektedir. Esnekliğin yaygınlaştırılmasının, istihdam imkanlarını sınırlamakta, bireylerin gelişim olanaklarını zayıflatmak ve düşük ücretler yoluyla çalışanların yoksullaşması riskini artırmakta olduğu ifade edilebilir. Ancak düşük ücret oranı ile yoksulluk arasında mutlak bir ilişkinin olmadığı, hanehalkı bağlamında elde edilen kazançlar ve diğer sosyal transferin düzeyine bağlı olarak yoksulluk riskinin artıp azalabileceği ileri sürülmüştür. Buna rağmen düşük ücret oranının, diğer işgücü piyasası sorunları ile birleşerek çalışanların yoksullaşmasını hızlandırabileceği de ifade edilebilir.

Esneklik uygulamaları ile asgari ücretli ve daha az korumalı işlerin oluşturulması, bir taraftan işgücüne katılma oranını artırırken, diğer taraftan hem kısmi süreli ve hem de geçici iş sözleşmeleri ile çalışanlar için görece yüksek yoksulluk riski ile ilişkilendirilmektedir. Çalışma ile yoksulluk arasındaki ilişki ise bu noktada istihdamın niteliği ile bağlı olarak görünür olmaktadır. Söz konusu ilişkinin sebepleri ortaya konulduğunda ise soruna

müdahale edebilmek daha uygulanabilir görünmektedir. Bu anlamda işgücü piyasasında esneklik uygulamalarının, kapsamlı refah politikaları ve güvence sağlayan, koruyucu ve güçlendirici işgücü piyasası politikaları ile desteklenmesi durumunda istihdam ve yoksulluk arasındaki ilişki üzerinde azalma yönünde olumlu etkileri olabilecektir.

SDİ türü olan esnek istihdam ile çalışan yoksulluğu arasındaki ilişki özelinde, kısmi süreli çalışma ve geçici iş sözleşmesiyle çalışmanın, işgücü piyasasına katılım konusunda eksiklikler olması nedeniyle gelir açısından görece olumsuzluklar ile sonuçlanabildiği ifade edilebilir. Ancak bu durumda, kişilerin refahları üzerinde etkili olabilecek refah özellikleri ve hanehalkı bağlamının sabit olarak kabul edildiğini ifade etmek gerekmektedir.

Çalışma süreleri ve iş sözleşmesi türüne göre çalışma ile yoksulluk arasındaki ilişki ele alındığında; sürekli iş sözleşmesi veya tam süreli çalışanların yoksullaşma riskine göre kısmi süreli veya geçici iş sözleşmesi ile çalışmanın, çalışanları görece daha çok yoksulluk riskine maruz bıraktığını ifade etmek yanlış olmayacaktır. Diğer taraftan güvenceli esneklik konusunda başarılı bir örnek olarak nitelendirilen ve diğer AB üyesi ülkelerde de uygulanan Danimarka modeli çerçevesinde, örneğin Danimarka, Almanya ve Hollanda'da hem kısmi süreli hem de geçici iş sözleşmesi ile çalışanların görece daha yüksek bir yoksulluk riski altında olduğu ifade edilebilir. Politika yapıcılarının, işgücü piyasasındaki bu değişikliklere karşı dengeli ve çalışanların haklarını koruyan politikalar geliştirmeleri gerekmektedir. Güvenceli esneklik kavramı, işgücü piyasasında daha dengeli bir yaklaşımın temelini oluşturabilir, ancak uygulanabilirliği ve etkisi iyi bir şekilde düşünülmeli, istihdam esnekliği sağlarken, ücret ve sosyal koruma güvenliğinden ödün verilmemelidir. Bununla birlikte, işlerin, insana yaraşır nitelikte olacak şekilde düzenlenmesi durumunda sonuçları da farklı olabilir.

Çalışan yoksulluğu sorununun yaygınlaşması ve gelişmiş veya gelişmekte olan ülkeler ile ulusal ve uluslararası kuruluşların tamamında araştırma ve politikaların gündemine yerleşmesi net bir şekilde istihdam oluşturulmasının yeterli olmadığını göstermektedir. Bununla birlikte, yeni iş alanları ve istihdam olanakları oluşturulurken, bu olanakların sosyal korumadan uzak, güvencesiz, istikrarsız ve haklara erişimi engelleyen olumsuz çalışma koşulları ve düşük ücretli olarak gerçekleşmesi söz konusu olabilmektedir. Bu gelişmeler ise ekonomik ve sosyal kalkınmanın temelini sarsacak ve çalışanların hak ihlallerine maruz kalmasına neden olacaktır. Diğer bir ifadeyle, insana yaraşır nitelikte olmayan işler, istihdam sağlaması söz konusu olabilirken, aynı işler çalışanların yoksullaşması sürecini hızlandırabilmektedir. Dolayısıyla, çalışan yoksulluğu sorununun ortadan kaldırılabilmesi için mevcut yoksulluk ve istihdam politikaları yeterli görünmemektedir.

Ekonomik kalkınma ile sosyal kalkınmayı da hedefleyen kapsamlı, koruyucu ve güçlendirici ve hakların gerçekleştirilmesini merkeze alan farklı politikaların oluşturulması ve uygulanması gerekmektedir. Çalışan yoksulluğu sorunu, istihdamın niteliği çerçevesinde sahip olduğu özelliklerle ilişkili bir şekilde gündeme gelmekte ve yaygınlaşmakta olduğu için, çözüm olarak istihdamın niteliğine odaklanan "insana yaraşır işler" gündeme

gelmektedir. Literatürde “İnsana Yaraşır İş” ve “İnsana Yaraşır İş Ülke Programı” olarak nitelendirilen kavram ve programlar ile insanlara sunulan -mevcut çalışma koşullarını düzenleyen- ya da gelecekte sunulacak işlerde çalışma koşullarının iyileştirilmesi amaçlanmaktadır. Böylelikle insana yaraşır iş yaklaşımı, ücretler ve çalışma yaşamındaki sosyal hakların iyileştirilmesine hizmet edebilecektir. Bu durum ise ekonomik ve sosyal gelişmenin birlikte gerçekleştirilebileceği bir dünya anlamına gelmektedir. Ancak günümüzde uygulanan neoliberal politikalar ele alındığında, bu politikalar ile işlerin insana yaraşır nitelikte düzenlenmesi arasında bir çelişki olabileceği ifade edilebilir. Bu çelişkinin nedeni olarak ise, bu yaklaşımın, işçilere sağlanan ekonomik ve sosyal hakları bir rekabet ve maliyet unsuru olarak görmesi gösterilebilir. Dolayısıyla, sermayenin kâr ve birikim sürecini önceleyen ve refah ve sosyal hakların gerçekleştirilmesini bir yük olarak kabul eden mevcut neoliberal hegemonya altında “insana yaraşır işlerin” oluşturulması ve teşvik edilmesi bir oksimoron oluşturmaktadır. Bu anlamda da hem ekonomik ve sosyal hem de siyasi olarak makro düzeyde yaklaşım ve politikaların, “insana yaraşır işleri” destekleyecek ve güçlendirecek şekilde dönüştürülmesi gerektiği ifade edilebilir.

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## Yeşil Çevre Politikaları ve Yeşil Vergilerin Karbon Emisyonu Üzerindeki Etkisi: Panel Eşik Regresyon Analizi

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### Impact of Green Environmental Policies and Green Taxes on Carbon Emissions: Panel Threshold Regression Analysis

#### Abstract

This study analyses the possible non-linear effects of green (environmental) policy stringency and green fiscal (market-based) policy stringency on carbon emissions, and suggestions are given to reduce carbon emissions. In panel threshold regression findings, while no threshold effect for green (environmental) policy stringency is observed in the relationship between GDPs per capita and carbon emissions, when urban population, service sector and environmental technologies patents are used as regime-dependent variables, a threshold effect is observed for green (environmental) policy stringency. In this context, in the high green (environmental) policy stringency regime, the increase in urban population and environmental technologies patents reduce carbon emissions, while the rise in the share of the service sector increases carbon emissions. However, when green fiscal (market-based) policies that use taxes to combat environmental pollution are used as the threshold, no threshold effect is observed for the variables urban population, environmental technologies patents, service sector and GDP per capita.

**Keywords** : Green Environmental Policies, Green Taxes, Carbon Emission.

**JEL Classification Codes** : H2, Q52, Q53.

#### Öz

Bu çalışmada, yeşil (çevre) politika sıklığı ve yeşil mali (piyasa tabanlı) politika sıklığının karbon emisyonu üzerinde doğrusal olmayan olası etkileri analiz edilerek karbon emisyonunun azaltılmasıyla ilgili öneriler verilmektedir. Panel eşik regresyon bulgularında, kişi başına düşen GSYH ile karbon emisyonu arasındaki ilişkide yeşil (çevre) politika sıklığı için eşik etkisi gözlemlenmemekteyken; kentsel nüfus, hizmet sektörü ve çevre teknolojileri patentleri rejime bağlı değişken olarak kullanıldığında yeşil (çevre) politika sıklığı için eşik etkisi gözlemlenmektedir. Bu kapsamda, yüksek yeşil (çevre) politika sıklığı rejiminde; kentsel nüfustaki artış ile çevre teknolojileri patentlerindeki artış karbon emisyonunu azaltmaktadır, hizmet sektörünün payındaki artış ise karbon emisyonunu artırmaktadır. Bununla birlikte, çevre kirliliği ile mücadele için vergileri kullanan yeşil mali (piyasa tabanlı) politikaların eşik olarak kullanıldığı durumda, kentsel nüfus, çevre teknolojileri patentleri, hizmet sektörü ve kişi başına düşen GSYH değişkenleri için eşik etkisi gözlemlenmemektedir.

**Anahtar Sözcükler** : Yeşil Çevre Politikaları, Yeşil Vergiler, Karbon Emisyonu.



## 1. Giriş

Günümüz dünyasında çevresel sürdürülebilirlik ve iklim değişikliği, en önemli küresel konulardan biri haline gelmiştir. İnsan faaliyetleri, özellikle sera gazı emisyonları, doğal kaynakların aşırı kullanımı ve çevresel tahribat, gezegenimizin çevre dengesi ve gelecekteki refahı üzerinde büyük bir tehdit oluşturmaktadır. İklim değişikliği, endüstriyel faaliyetlerin ve fosil yakıtların kullanımının bir sonucu olarak atmosferdeki karbon dioksit ve diğer sera gazlarının artmasıyla doğrudan ilişkilidir. Bu nedenle, karbon emisyonlarını azaltma çabaları, iklim değişikliğinin etkilerini hafifletmek ve geleceğe yaşanabilir bir dünya bırakmak için önemlidir. Karbon emisyonlarının azaltılması, günümüzde küresel ısınma ve iklim değişikliği gibi büyük çevresel sorunlarla başa çıkmak için hayati öneme sahiptir. Bu bağlamda, yeşil çevre politikaları ve yeşil mali politikalar, karbon emisyonlarını azaltma çabalarının öncelikli bir parçasıdır ve çevresel sürdürülebilirliği desteklemek için tasarlandığı söylenebilir.

Yeşil çevre politikaları, genellikle doğal kaynakların korunması, enerji verimliliğinin artırılması, yenilenebilir enerji kaynaklarının teşviki ve sera gazı emisyonlarının azaltılması gibi hedefleri içeren geniş kapsamlı bir yaklaşımı temsil etmektedir. Bu politikalar, endüstriyel tesislerin ve işletmelerin çevresel etkilerini azaltmalarını teşvik ederken, aynı zamanda toplumun genelinde çevre bilincini artırmayı ve sürdürülebilir tüketim ve üretim alışkanlıklarını teşvik etmeyi amaçlamaktadır. Yeşil mali politikalar ise, çevresel zararların maliyetini içselleştirmeyi ve çevresel olarak zararlı faaliyetlerden elde edilen geliri kullanmayı hedeflemektedir. Karbon vergisi gibi doğrudan vergilendirme yöntemleri, karbon emisyonlarını azaltmayı teşvik ederek endüstriyel faaliyetlerin çevresel etkilerini finansal olarak yansıtmaktadır. Ayrıca, enerji tüketimini azaltan ve yenilenebilir enerji kullanımını teşvik eden vergi teşvikleri gibi dolaylı vergilendirme stratejileri de yeşil mali politikaların bir parçası olarak kabul edilebilir.

Çevresel sürdürülebilirlik ve iklim değişikliğiyle mücadele konuları, dünya genelinde çeşitli yeşil politikaların karbon emisyonları üzerindeki etkilerini inceleyen önemli çalışmalara konu olmuştur. Bu çalışmalar, yeşil politikaların çevresel sürdürülebilirlik ve ekonomik büyüme üzerinde olumlu etkilerini vurgularken, farklı bölgelerde ve değişik uygulama yöntemleriyle elde edilen sonuçların çeşitliliğini ortaya koymaktadır. Çevre kirliliği ve çevre kalitesiyle ilgili olarak yapılan teorik ve ampirik araştırmalar, literatürde önemli bir yer tutmaktadır. Bu araştırmalarda, çevre kirliliğiyle ilişkilendirilen birçok faktör incelenmiştir. Farklı araştırmalarda, bazı değişkenlerin karbon emisyonunu azaltıcı, bazılarının artırıcı etkileri olduğu ve bazılarının ise anlamsız ilişki gösterdiği gözlemlenmiştir (Du et al., 2019; Quynh, 2022); Shahbaz et al., 2018; Hsu et al., 2021; Chien et al., 2021; Tao et al., 2021; Dagar et al., 2022; Lin & Li, 2011). Görüldüğü üzere, önceki çalışmalarda, yeşil mali politikaların ve yeşil politikaların rejim değişikliğine yol açabilecek potansiyel rolü genellikle ihmal edilmiştir. Bu çalışma, sadece yeşil mali politikaların ve yeşil politikaların karbon emisyonları üzerindeki etkilerini incelemekle kalmayacak, aynı zamanda önceki araştırmalardan farklı bir yaklaşım benimseyerek yeşil mali politikaların ve

yeşil politikaların rejim değişikliği potansiyelini de değerlendirecek ve bu bağlamda her iki değişken için ayrı ayrı belirli bir eşik değer belirleyecektir.

Bununla birlikte, yeşil politikaların uygulanmasının, karbon emisyonlarını azaltma, temiz enerjiyi teşvik etme, enerji verimliliğini artırma ve doğal kaynakların sürdürülebilir yönetimini teşvik etme konularında nasıl etkili olduğunu ve yeşil mali politikaların bu hedeflere ulaşmadaki rolünü vurgulamaktadır. Bununla birlikte, bu çalışma, yeşil politikaların ve yeşil mali politikaların çevresel sürdürülebilirlikle ekonomik büyüme arasındaki dengeyi nasıl sağladığını ve küresel düzeyde iklim değişikliği ile mücadelede ne tür etkiler yaratabileceğini değerlendirmektedir. Bu çalışmanın temel amaçlarından biri, yeşil politikalar ve yeşil mali politikaların yalnızca çevresel korumayı değil, aynı zamanda ekonomik kalkınma ve toplumsal refahı teşvik etme potansiyelini anlamaktır. Bu kapsamda, yeşil mali politikaların karbon emisyonu üzerindeki etkisi, çevresel sürdürülebilirlik hedeflerine ulaşma yolunda kritik bir rol oynayabilir. Bu çalışma, bu konudaki tartışmayı zenginleştirmek ve yeşil (mali) politikaların çevre ile ekonomi arasındaki dengenin nasıl sağlanabileceğini anlamak için bir katkı sunmayı amaçlamaktadır. Bununla birlikte, bu çalışma, sadece yeşil politikalara değil, aynı zamanda yeşil mali politikalara odaklanarak öne çıkmaktadır. Önemli bir katkı da, Hansen'in (1999) panel eşik regresyon yönteminin kullanılmasıyla sağlanmaktadır. Söz konusu yöntem, doğrusal olmayan ilişkilerin incelenmesine ve iki değişken arasındaki ilişkiyi etkileyebilecek üçüncü değişkenlerin gözlemlenmesine olanak tanımaktadır. Bu bağlamda, çalışma, karbon emisyonu üzerindeki etkilerini belirlemek için kentsel nüfus, hizmet sektörü, çevre teknolojileri patentleri ve kişi başına düşen GSYH gibi faktörleri ele alarak yeşil politikalar ve yeşil mali politikalar için ayrı ayrı eşik değer belirlememize olanak sağlamaktadır.

Yeşil politikalar ve yeşil mali politikaların; kentsel nüfus, hizmet sektörü, kişi başına düşen GSYH ve çevre teknolojileri patentleri üzerinde beklenmedik etkilere neden olabileceği düşünülmektedir. Bu nedenle, söz konusu değişkenlerin etkilerini belirlemek, yeşil politikalar ve yeşil mali politikaların rolünü anlamak açısından son derece önemlidir. Bu çerçevede, yeşil politikalar ve yeşil mali politikalar için ayrı ayrı eşik değer belirlenecektir. Etkilerin belirsiz olduğu bir ortamda, her iki durumda da hem yeşil politikalar hem de yeşil mali politikaların seviyesine bağlı olarak ilgili değişkenlerin (kentsel nüfus, hizmet sektörü, kişi başına düşen GSYH ve çevre teknolojileri patentlerinin) karbon emisyonu üzerindeki etkisinin farklılaşması beklenmektedir.

Bu çalışma, 2005-2019 dönemine ait 16 Avrupa ülkesinin (Almanya, Avusturya, Belçika, Çekya, İspanya, İsviçre, İtalya, Fransa, Lüksemburg, Macaristan, Polonya, Portekiz, Slovakya, Slovenya, Yunanistan, Türkiye) verilerinden yararlanmaktadır. Seçilen ülkeler, Avrupa'da farklı ekonomik yapıları ve endüstriyel sektörleri temsil etmektedir. Örneğin, Almanya ve Fransa gibi büyük ekonomilere sahip ülkeler endüstriyel faaliyetlerde öne çıkarken, Türkiye ve Polonya gibi ülkeler tarım ve hizmet sektörlerinde önemli rol oynamaktadır. Ayrıca, bu ülkeler, Avrupa kıtasının farklı bölgelerini temsil etmektedir. Batı Avrupa'dan Doğu Avrupa'ya, Akdeniz'den Orta Avrupa'ya kadar çeşitli coğrafi bölgeleri kapsamaktadır. Bu nedenle, bu ülkelerin seçilmesi, Avrupa'da geniş bir coğrafi kapsam ve

çeşitli ekonomik, sosyal ve çevresel koşulların temsil edilmesini sağlamaktadır. Bu çeşitlilik, karbon emisyonları üzerinde farklı etkilerin incelenmesine olanak tanıdığı için söz konusu ülkeler analiz için tercih edilmiştir. Çalışma, dört bölümden oluşmaktadır. Birinci bölüm, karbon emisyonları ve bu emisyonların belirleyicileriyle ilgili mevcut literatürü özetlemektedir. İkinci bölüm, veri ve metodolojiyi sunarken, sonraki iki bölüm ise elde edilen ampirik sonuçları değerlendirip, politika önerileri sunmaktadır.

## 2. Literatür

Çevresel sürdürülebilirlik ve iklim değişimi ile mücadele konularındaki önemli çalışmalar, farklı coğrafyalardaki yeşil politikaların karbon emisyonları üzerindeki etkilerini incelemiştir. Bu çalışmalar, yeşil politikaların çevresel sürdürülebilirlik ve ekonomik büyüme üzerinde olumlu etkileri olduğunu vurgularken, farklı bölgelerde ve farklı yöntemlerle elde edilen farklı sonuçları içermektedir. Bu bağlamda, çevre kirliliği ve çevre kalitesi konularında, hem teorik hem de ampirik araştırmalar yapılmıştır. Literatürde, söz konusu çalışmalarda çevre kirliliği ile ilişkili olan çok sayıda faktör incelenmiştir. Bu faktörlerden biri ekonomik kalkınmadır. Çevre kirliliğiyle iktisadi kalkınma ilişkisini inceleyen çalışmaların çoğu, “Çevresel Kuznets Eğrisi” olarak bilinen bir teoriye dayanmaktadır. Teoriye göre, ekonomik kalkınmanın başlangıç aşamalarında çevre kirliliği artmaktadır. Bu dönemde insanlar temel ihtiyaçlara odaklanırken, çevresel faktörlere daha az önem verirler ve çevre koruma önlemleri genellikle yetersizdir. Ancak gelir seviyeleri arttıkça, insanlar çevreye daha fazla değer vermeye başlar ve çevre koruma önlemleri güçlenir (Dasgupta et al., 2002: 147).

Çevresel Kuznets Eğrisi bağlamında, çevreye yönelik zararın belirleyicilerini araştıran çalışmalar bulunmaktadır. Bu çalışmalardan biri, Aslanidis ve Iranzo (2009) tarafından gerçekleştirilmiştir. Bu çalışma, 1971-1997 dönemi için OECD üyesi olmayan ülkelerdeki ekonomik büyüme ile çevresel bozulma arasındaki doğrusal olmayan ilişkiyi panel yumuşak geçiş regresyon yöntemiyle test etmiş ve bu iki değişken arasında doğrusal olmayan etkilerin mevcut olduğunu doğrulamıştır. Aynı şekilde, Chen ve Huang (2014) tarafından gerçekleştirilen bir çalışma, otuz altı ülke grubunda ekonomik büyüme ile CO2 emisyonları arasında doğrusal olmayan ilişkinin varlığını tespit etmiştir. Deacon ve Norman (2004), yaptıkları çalışmada, düşük gelirli ülkelerde başlangıçta çevre kirliliği artmakta ancak gelir düzeyindeki artışla birlikte çevre kirliliği azalmakta olduğunu savunmaktadır. Ansari (2022) tarafından yapılan araştırmada, Güneydoğu Asya Birliği ülkelerinin 1991-2016 dönemine ait verileri kullanılarak panel veri analizi yapılmış ve Çevresel Kuznets Eğrisi (ÇKE) teorisinin geçerliliği test edilmiştir. Elde edilen sonuçlar, Çevresel Kuznets Eğrisi (ÇKE) teorisinin bu bölgede geçerli olduğunu göstermiştir. Alam (2014) ise, Nijerya'nın 1972-2010 dönemi için kişi başına gelir ve karbon emisyonu ilişkisini araştırdığı çalışmada, Çevresel Kuznets Eğrisi'nin geçersiz olduğunu tespit etmiştir. Öte yandan, Du vd. (2019), 1996-2012 dönemi için 71 ülkeyi kapsayan bir çalışma gerçekleştirmiştir. Bu çalışmada, yeşil inovasyonun CO2 emisyonları üzerindeki etkisinde gelir düzeyinin rolü incelenmiş ve ilginç sonuçlar elde edilmiştir. Bulgulara göre, yeşil inovasyonun etkisi eşik değere bağlıdır. Gelir düzeyi eşik değerinin altında bulunan ülkelerde yeşil inovasyonun CO2

emisyonları üzerinde anlamlı bir etkisi gözlenmezken, gelir düzeyi eşik değerin üstünde bulunan ülkelerde yeşil inovasyonun CO2 emisyonlarını anlamlı bir şekilde azalttığı görülmüştür. Ek olarak, rejim değişikliği çok yüksek bir gelir düzeyinde gerçekleşmektedir. Khan vd. (2021) tarafından gerçekleştirilen çalışma, 2000-2014 dönemi için 69 ülkeyi inceleyerek doğrudan yabancı yatırım, iktisadi büyüme ve teknolojik inovasyonun yenilenebilir enerjiye negatif etkiye bulunduğu sonucuna ulaşmıştır. Diğer yandan, Hassan vd. (2022), Çin’in 1985-2018 dönemi için yaptıkları çalışmada, nükleer enerji ve teknolojik inovasyonun çevre kirliliğini azalttığını, kamu taşımacılık hizmetleri ve kişi başına düşen gelirin ise çevresel maliyetleri artırdığını gözlemlemiştir.

Literatürde, farklı değişkenler ile karbon emisyonları veya ekolojik ayak izi ilişkisini inceleyen çalışmalar da bulunmaktadır. Örneğin, Quynh (2022), 1990-2019 dönemini N-11 ülkeleri için incelediği çalışmada, karbon emisyonunu; Ar-Ge harcamaları ve enerji tüketiminin negatif, doğrudan yabancı yatırımların pozitif etkilediğini tespit etmiştir. Zhang ve Cheng (2009), Çin’in 1960-2007 dönemini incelediği çalışmada enerji tüketimi, iktisadi büyüme ve gayrisafi yurt içi hâsıla değişkenleri ile karbon emisyonu arasında tek yönlü nedenselliğin olduğunu savunmaktadır. Shahbaz vd. (2018), 1992-2016 dönemini N-11 ve BRICS ülkeleri için ele aldığı çalışmada, N-11 ülkelerinde yabancı sermaye ile iktisadi büyümenin temiz enerji tüketimini pozitif etkilediğini; BRICS ülkelerinde ise iktisadi büyüme, finansal gelişme ve yabancı sermaye değişkenlerinin karbon emisyonu üzerinde artırıcı etkiye bulunduğunu savunmaktadır. Pao ve Tsai (2011), Brezilya’nın 1980-2007 dönemini incelediği çalışmada enerji tüketimi, gelir ve emisyon değişkenleri arasındaki ilişkide çift taraflı nedenselliğin olduğunu tespit etmiştir. Dagar vd. (2022), 1990-2014 dönemini düşük gelirli ülkeler için incelediği çalışmada, doğrudan yabancı yatırımlarla ekolojik ayak izi arasında pozitif yönlü bir ilişki olduğunu savunmaktadır. Chaudhry vd. (2022), 1995-2019 dönemini BRICS ülkeleri için ele aldığı çalışmada, doğrudan yabancı yatırımlarla kirlilik arasında pozitif bir ilişkinin olduğunu, diğer bir ifadeyle, doğrudan yabancı yatırımların kirlilik düzeyini artırdığını savunmaktadır.

Yeşil mali politikaların karbon emisyonları üzerindeki etkilerine yönelik çeşitli çalışmalar, bu konuyu farklı açılardan ele almıştır. Agostini vd. (1992), Avrupa ve OECD ülkelerinde 1989-1994 dönemine ilişkin vergilerin karbon emisyonları üzerindeki etkilerini araştırmıştır. Araştırmanın bulguları, çevresel vergilerin karbon emisyonunu azalttığını göstermiştir. Benzer şekilde, Mideksa (2021), karbon vergisiyle karbon emisyonu arasındaki ilişkiyi Finlandiya’nın 1995-2005 dönemi için analiz etmiştir. Bulgular, karbon vergisinin karbon emisyonunu azalttığını göstermiştir. Wang vd. (2023), 1990-2020 dönemi için 21 OECD ülkesini ele aldığı çalışmada, yeşil finans, çevre vergileri ve karbon emisyonları ilişkisini kapsamlı bir şekilde incelemiştir. Bulgular, yeşil finans, çevre vergileriyle karbon emisyonları arasında çift taraflı nedensellik ilişkisinin olduğunu göstermiştir. Bununla birlikte, karbon emisyonları ve çevre vergileri ilişkisini inceleyen çalışmalar, (Hsu et al., 2021; Chien et al., 2021; Tao et al., 2021), çevresel vergi düzeyinin artması neticesinde karbon emisyonlarının azaldığını tespit etmiştir. Morley (2012), 25 AB üyesi ülkenin 1995-2006 dönemini incelediği çalışmada, yeşil vergilerin sera gazını azalttığını tespit etmiştir. Diğer bir çalışmada, Lin ve Li (2011), karbon vergisi ve kişi başına düşen karbon emisyonu

arasındaki ilişkiyi Norveç, Hollanda, İsveç, Finlandiya ve Danimarka'nın 1981-2008 dönemi için incelemiştir. Elde edilen bulgularda, Hollanda, İsveç ve Danimarka'da değişkenler arasında anlamlı bir ilişki olmadığı; karbon vergisinin kişi başına düşen karbon emisyonunu Norveç'te pozitif, Finlandiya'da ise negatif etkilediği tespit edilmiştir. Bununla birlikte, çevreyle ilgili düzenlemelerin karbon emisyonlarına etkilerini inceleyen ve çevre düzenlemesi göstergesi olarak çevre politikası sıklık endeksini kullanan Ahmed (2020), uzun dönemde yüksek çevresel politika sıklığının karbon emisyonunu azalttığını tespit etmiştir. Benzer şekilde, Hashmi ve Alam (2019), çevreyle ilgili düzenlemelerin karbon emisyonlarına etkilerini 29 OECD ülkesinin verilerini kullanarak incelemiştir. Bulgularda, çevre vergisindeki artışların karbon emisyonlarını azalttığını tespit etmiştir.

Görüldüğü gibi, mevcut literatürde, yeşil politikaların karbon emisyonu üzerindeki etkilerini inceleyen çalışmaların yanı sıra, yeşil mali politikaların karbon emisyonu ile ilişkisini analiz eden araştırmalar da bulunmaktadır. Ancak, gerek yeşil mali politikaların gerekse yeşil politikaların rejim değişikliğine neden olabilecek potansiyel rolü, önceki çalışmalarda genellikle göz ardı edilmiştir. Bu çalışma, hem yeşil mali politikaların hem de yeşil politikaların karbon emisyonu üzerindeki etkilerini incelediği gibi, önceki araştırmalardan farklı bir yaklaşım benimseyerek yeşil mali politikaların ve yeşil politikaların potansiyel rejim değişikliği rolünü de göz önünde bulunduracak ve bu bağlamda her iki değişken için ayrı ayrı eşik değer belirleyecektir.

### **3. Yeşil Çevre Politikaları, Yeşil Vergiler ve Karbon Emisyonu: Ampirik Analiz**

#### **3.1. Veri ve Yöntem**

Bu çalışmada, yeşil politikalar ve yeşil mali politikaların karbon emisyonu üzerindeki etkilerini değerlendirmek amacıyla 16 ülkenin (Almanya, Avusturya, Belçika, Çekya, İspanya, İsviçre, İtalya, Fransa, Lüksemburg, Macaristan, Polonya, Portekiz, Slovakya, Slovenya, Yunanistan, Türkiye) yıllık verilerini içeren bir panel eşik regresyon analizi kullanılmıştır. Seçilen ülkeler, Avrupa'da farklı ekonomik yapılar ve endüstriyel sektörlerin çeşitliliğini yansıtmaktadır. Örneğin, Almanya ve Fransa gibi büyük ekonomilere sahip ülkeler endüstriyel faaliyetlerde öne çıkarken, Türkiye ve Polonya gibi ülkeler tarım ve hizmet sektörlerinde önemli bir rol oynamaktadır. Ayrıca, bu ülkeler Avrupa kıtasının farklı bölgelerini temsil etmektedir; Batı Avrupa'dan Doğu Avrupa'ya, Akdeniz'den Orta Avrupa'ya kadar geniş bir coğrafi kapsamı içermektedir. Bu nedenle, bu ülkelerin seçilmesi, Avrupa'da çeşitli ekonomik, sosyal ve çevresel koşulların temsil edilmesine imkân tanımaktadır. Bu çeşitlilik, karbon emisyonları üzerinde farklı etkilerin incelenmesine olanak tanıdığı için söz konusu ülkeler analiz için tercih edilmiştir. Çalışma, 2005-2019 yılları arasındaki dönemi kapsamaktadır. Toplam gözlem sayısı 224'tür. Ayrıca, karbon emisyonunu etkileyebileceği düşünülen değişkenler olan hizmet sektörü, kişi başına düşen GSYH, kentsel nüfus ve çevre teknolojileri patentleri kontrol değişkenleri olarak modele eklenmiştir.

Modelde kullanılan değişkenlerin verileri, Dünya Bankası ve OECD veri kaynaklarından temin edilmiştir. Her bir bağımsız değişkenin karbon emisyonu üzerindeki etkisini değerlendirmek ve yeşil politikalar ile yeşil mali politikaların rolünü ölçmek amacıyla bağımlı değişken olarak karbon emisyonu verisi kullanılmıştır. Karbon emisyonu verisi, “CO<sub>2</sub> emisyonları (kişi başına düşen metrik ton)” şeklinde tanımlanarak Dünya Bankası’ndan alınmıştır. Hizmetler sektörü verisi, “GSYH içinde hizmetler sektöründeki katma değer (%)” şeklinde tanımlanarak Dünya Bankası’ndan alınmıştır. Kişi başına GSYH verisi, “Kişi başına düşen GSYH büyümesi (yıllık %)” şeklinde tanımlanarak Dünya Bankası’ndan alınmıştır. Çevre teknolojileri patentleri verisi, “Çevre teknolojileriyle ilgili patentler” olarak tanımlanmış ve OECD veri tabanından alınmıştır. Kentsel nüfusla ilgili veriler, “Kentsel nüfus (toplam nüfusun yüzdesi)” olarak tanımlanmış ve Dünya Bankası veri tabanından alınmıştır. Yeşil politikalarla ilgili veriler, “Çevre politikası sıklık endeksi” olarak tanımlanmış ve OECD veri tabanından alınmıştır. Son olarak, yeşil mali politikalarla ilgili veriler, “Piyasa temelli politikalar” olarak sınıflandırılan (Çevre politikası sıklık endeksi içinde ayrı bir kategori) ve “MESİ” olarak adlandırılan verilerdir ve bu veriler OECD veri tabanından alınmıştır. Değişkenlerin ayrıntıları Tablo 1’de sunulmaktadır.

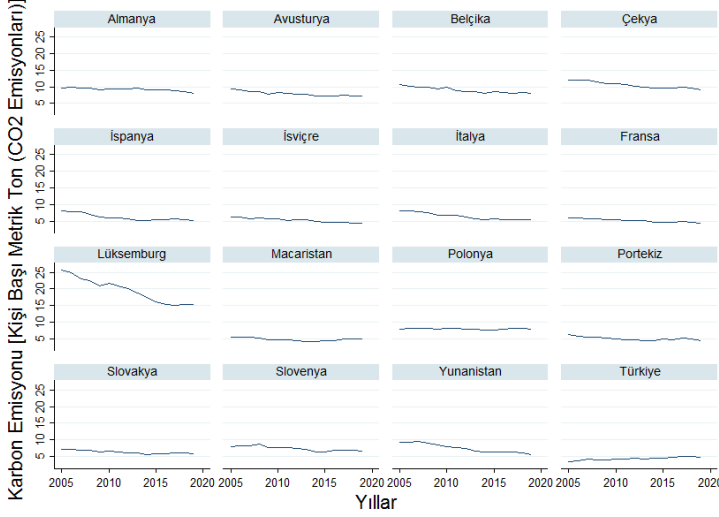
**Tablo: 1**  
**Değişkenler**

Değişken(ler)	Tanım(lar)	Kaynak
Yeşil Politikalar (ESI)	Çevre politikası sıklık endeksi	OECD
Yeşil Mali Politikalar (MESİ)	Piyasa temelli politikalar	OECD
Patent (PAT)	Çevre teknolojileri patentleri (% toplam)	OECD
Kentsel Nüfus (URB)	Kentsel nüfus (toplam nüfusun yüzdesi)	Dünya Bankası
Kişi başına GSYH (KBGDP)	Kişi başına düşen GSYH büyümesi (% yıllık)	Dünya Bankası
Hizmetler sektörü (SERV)	Hizmetler, katma değer (% GSYH)	Dünya Bankası
Karbon emisyonu (CARB)	CO <sub>2</sub> emisyonları (kişi başına düşen metrik ton)	Dünya Bankası

*Kaynak: Yazar tarafından oluşturulmuştur.*

Bu çalışmada, karbon emisyonu [kişi başı metrik ton (CO<sub>2</sub> emisyonları)] bağımlı değişken olarak kullanılmıştır. Bir ürünün üretim, taşıma, kullanım ve atılma süreçlerinin her adımında oluşan CO<sub>2</sub> emisyonlarını ölçen göstergeye (Wiedmann & Minx, 2008: 4) karbon emisyonu denilmektedir. Şekil 1’de, örneklemedeki ülkelerin karbon emisyonuna [kişi başı metrik ton (CO<sub>2</sub> emisyonları)] ilişkin 2005-2019 yıllarındaki seyri gösterilmektedir. Söz konusu ülkelerin karbon emisyonu oluşumunda önemli bir rolü bulunmaktadır. Özellikle Lüksemburg’un oluşturmuş olduğu karbon emisyonunun görece daha fazla olduğu görülmektedir. Öte yandan, karbon emisyonunun görece daha az olduğu ülke ise Türkiye’dir.

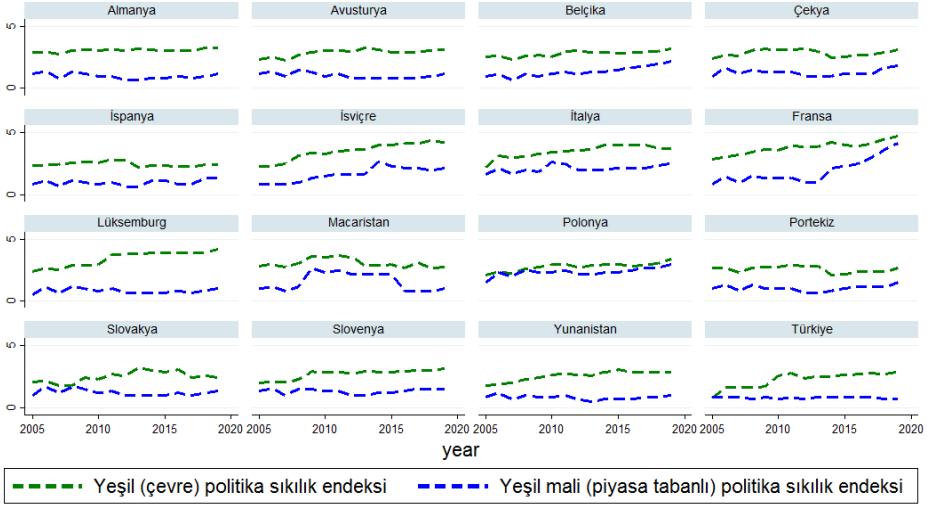
**Şekil: 1**  
**Karbon Emisyonu [Kişi Başı Metrik Ton (CO<sub>2</sub> Emisyonları)]**  
**2005-2019 Yıllık Veriler**



Kaynak: OECD, 2023a veri tabanından alınarak yazar tarafından oluşturulmuştur.

Bu çalışmada, Botta ve Kozluk (2014) tarafından geliştirilen çevre politikası sıklığı endeksi, yeşil politikaların etkisini değerlendirmek için kullanılmaktadır. Sıklık, çevre politikalarının kirletici veya çevresel zarara neden olan eylemleri engellemek için uyguladığı fiyatlandırma düzeyini ifade etmektedir (Botta & Kozluk, 2014: 14). Çevre politikası sıklığı, hem piyasa odaklı hem de piyasa dışı araçları kapsamaktadır. Piyasa yönlü araçlar, çevre kirliliği ile mücadele için vergiler, örneğin karbon vergisi, dizel vergisi, azot oksit vergisi ve kükürt oksit vergisi gibi ekonomik araçlar kullanırken; piyasa dışı araçlar, çevresel düzenlemeler ve teknoloji teşvik politikaları gibi isteğe bağlı yaklaşımları içermektedir (OECD, 2023). Şekil 2, yeşil politika ve yeşil mali politika sıklık endeksine ilişkin, 2005-2019 yıllarına ait verileri göstermektedir.

**Şekil: 2**  
**Yeşil (Mali) Politika Sıklık Endeksi, 2005-2019 Yıllık Veriler**



Kaynak: OECD, 2023a veri tabanından alınarak yazar tarafından oluşturulmuştur.

Çalışmada, yöntem olarak panel veri analizi kullanılmaktadır. Panel veri analizi, araştırmacılara daha büyük bir gözlem örneğiyle çalışma olanağı sunarak parametre tahminlerinin daha güvenilir hale gelmesine yardımcı olan bir yöntemdir. Buna ek olarak, değişkenler arasındaki doğrusallığı azaltmak suretiyle görece güvenilir sonuçlara ulaşılmasına katkı sağlar ve karmaşık davranış sergileyen modeller üzerinde çalışma olanağı sunar (Gujarati, 2004: 638; Baltagi, 2001: 6). Ayrıca, Hansen (1999) tarafından geliştirilen panel eşik yöntemi, bu çalışmada, karbon emisyonu ile ilişkilendirilen faktörleri incelemek için kullanılmaktadır. Bu yöntem, doğrusal olmayan ilişkilerin araştırılmasına ve değişkenlerin gözlemlenmesine katkı sağlamaktadır. Dolayısıyla, bu çalışma, seçilen faktörlerin karbon emisyonu üzerindeki etkisini değerlendirerek yeşil politikalar ve yeşil mali politikaların etkisini gözlemlenmemizi ve bu politikalar için bir eşik değeri belirlememizi sağlamaktadır. Bu, ülkelerin mevcut durumlarını değerlendirmelerine ve uygun politikaları geliştirmelerine yardımcı olmaktadır.

Karbon emisyonunun belirleyicilerini tespit etmek için analizin ilk aşamasında sabit etkiler modeli kullanılmıştır. İnceleme süresi olarak 2005-2019 yılları arası yıllık dönem seçilmiştir. En geniş veri setini sunabilme potansiyeli nedeniyle, dengeli panel veri analizi için, bu belirli zaman aralığı seçilmiştir. Bu bağlamda, temel model aşağıdaki gibi tanımlanmıştır:

$$Y_{it} = \phi_i + \alpha \check{A}_{it} + e_{it}, e_{it} \approx iid(0, \sigma^2) \quad (1)$$



(1) numaralı denklemde  $Y_{it}$  olarak gösterilen değişken karbon emisyonunu;  $\check{A}_{it}$  olarak gösterilen değişkenler, karbon emisyonunu etkileyebileceği düşünülen kentsel nüfus, çevre teknolojileri patentleri, ekonomideki hizmetler sektörünün yüzdesi ve kişi başına düşen GSYH'yi temsil etmektedir.

Yeşil politikalar ve yeşil mali politikaların eşik değerlerini saptamak için Hansen'ın (1999) panel eşik regresyon yöntemi kullanılmaktadır. Panel eşik regresyon yöntemi, doğrusal olmayan ilişkilerin incelenmesinin yanı sıra iki değişkenin ilişkisini etkileyebilecek üçüncü değişkenlerin gözlemlenmesine olanak tanımaktadır. Bu çalışma, kentsel nüfus, çevre teknolojileri patentleri, kişi başına düşen GSYH ve ekonomideki hizmet sektörü değişkenlerinin karbon emisyonu üzerindeki etkisini değerlendirirken, yeşil mali politikaların ve yeşil politikaların rolünü ayrı ayrı göz önünde bulundurarak örneklemin içsel olarak alt gruplara ayrılmasına imkân tanımaktadır. Bu kapsamda, model (tek eşikli) şu şekilde yazılabilir:

$$y_{it} = \phi_i + \alpha \check{A}_{it} + \mathbf{B} Z_{it} + e_{it}, e_{it} \sim iid(0, \sigma^2)$$

$$y_{it} = \begin{cases} \phi_i + \alpha \check{A}_{it} + \mathbf{B}_1 Z_{it} + e_{it}, TV_{it} \leq \tau \\ \phi_i + \alpha \check{A}_{it} + \mathbf{B}_2 Z_{it} + e_{it}, TV_{it} > \tau \end{cases}$$

$$\alpha = (\alpha_1, \alpha_2, \alpha_3, \alpha_4)' \check{A}_{it} \quad (2)$$

Model içerisinde  $y_{it}$ ; bağımlı değişkeni temsil ederken  $Z_{it}$ ; bağımsız değişkeni,  $TV_{it}$  ise zaman içerisinde sabit olmayan eşik değişkeni simgelemektedir.  $\tau$ ; eşik değeri,  $\check{A}_{it}$ ; kontrol değişkenlerinin vektörü,  $\phi_i$  ise farklı yeşil (mali) politikalar düzeyine sahip ülkelerin heterojenliğini gösteren sabit etkileri simgelemektedir. Ayrıca,  $e_{it}$ , bağımsız ve homojen olarak dağılan hata terimidir. Gözlemler,  $TV_{it}$  değişkeninin  $\tau$  değerine göre belirlenen iki ayrı rejime ait olacak şekilde kategorize edilir. Model içindeki  $(\mathbf{B}_1, \mathbf{B}_2)$  katsayıları, iki ayrı rejimin eğim parametrelerini temsil etmektedir. Diğer bir ifadeyle,  $(\mathbf{B}_1, \mathbf{B}_2)$ , eşik değere göre ayrıışan karbon emisyonu etkilerini göstermektedir.

Denklem (2) tekrar düzenlenmiştir:

$$y_{it} = \phi_i + \alpha \check{A}_{it} + \mathbf{B}_1 Z_{it} I(TV_{it} \leq \tau) + \mathbf{B}_2 Z_{it} I(TV_{it} > \tau) + e_{it} \quad (3)$$

Denklem (3)'de,  $I(\cdot)$  sembolü bir gösterge işlevini simgelemektedir. İlgili denklem aşağıdaki şekilde yeniden gösterilebilir:

$$y_{it} = \phi_i + \alpha' \check{A}_{it} + \mathbf{B}' Z_{it}(\tau) + e_{it}, \mathbf{B} = (\mathbf{B}_1, \mathbf{B}_2)'$$

$$y_{it} = \phi_i + [\alpha', \mathbf{B}'] \begin{bmatrix} \check{A}_{it} \\ Z_{it}(\tau) \end{bmatrix} + e_{it}$$

$$y_{it} = \phi_i + \theta' m_{it}(\tau) + e_{it}$$

$$Z_{it}(\gamma) = \begin{bmatrix} Z_{it} I(TV_{it} \leq \tau) \\ Z_{it} I(TV_{it} > \tau) \end{bmatrix} \quad (4)$$

(4) numaralı denklemin içerisinde  $\theta = [\alpha', \beta']$  ve  $m_{it} = (\hat{A}_{it}', Z_{it}(\gamma)')$  olarak gösterilmiştir. İlgili denklem, gözlemleri eşik değeri ( $\gamma$ ) ile ilişkilendirerek iki ayrı rejime bölmekte, eğim parametreleri ( $\beta_1, \beta_2$ ) bu rejimlerde değişkenlik göstermektedir.

Denklem (4)'den faydalanarak, denklemin zaman içindeki ortalama değeri hesaplandığında denklem (5) elde edilir:

$$\bar{y}_i = \phi_i + \theta' \bar{m}_i(\gamma) + \bar{e}_i \quad (5)$$

burada,

$$\bar{y}_i = T^{-1} \sum_{t=1}^T y_{it}, m = T^{-1} \sum_{t=1}^T \bar{m}_{it}, \bar{e}_i = T^{-1} \sum_{t=1}^T e_{it}$$

olarak gösterilmiştir. Denklem (4) ve (5) arasındaki fark alınmaya devam edildiğinde ise denklem (6) ortaya çıkmaktadır:

$$y_{it}^* = \theta' m_{it}^*(\gamma) + e_{it}^* \quad (6)$$

Denklem (6);  $y_{it}^* = y_{it} - \bar{y}_i, m_{it}^*(\gamma) = m_{it}(\gamma) - \bar{m}_i(\gamma)$  ve  $e_{it}^* = e_{it} - \bar{e}_i$  olarak gösterilmiştir.

$y_i^*, m_i^*(\gamma)$  ve  $e_i^*$  değişkenleri aşağıdaki şekilde ifade edilirse;

$$y_i^* = \begin{bmatrix} y_{i2}^* \\ \cdot \\ \cdot \\ y_{it}^* \end{bmatrix}, m_i^*(\gamma) = \begin{bmatrix} m_{i2}^*(\gamma) \\ \cdot \\ \cdot \\ m_{it}^*(\gamma) \end{bmatrix}, e_i^* = \begin{bmatrix} e_{i2}^* \\ \cdot \\ \cdot \\ e_{it}^* \end{bmatrix}.$$

her bir yatay kesit birimi için  $Y^*, M^*(\gamma), \varepsilon^*$  şu şekilde ifade edilirse:

$$Y^* = \begin{bmatrix} y_1^* \\ \cdot \\ \cdot \\ y_n^* \end{bmatrix}, M^*(\gamma) = \begin{bmatrix} m_1^*(\gamma) \\ \cdot \\ \cdot \\ m_n^*(\gamma) \end{bmatrix}, \varepsilon^* = \begin{bmatrix} e_1^* \\ \cdot \\ \cdot \\ e_n^* \end{bmatrix}$$

denklem (6) şu şekilde ifade edilebilir:

$$Y_{it}^* = \theta' M_{it}^*(\gamma) + \varepsilon_{it}^* \quad (7)$$

Temel tahmin modeli (eşik etkisi için) denklem (7)' dir. EKK kullanılarak herhangi bir  $\gamma$  için eğim katsayıları bulunabilir:

$$\hat{\theta}(\gamma) = (M^*(\gamma)' M^*(\gamma))^{-1} M^*(\gamma)' Y^* \quad (8)$$

Kalıntı vektör aşağıdaki gibi gösterilebilir:

$$\hat{\varepsilon}^*(\gamma) = Y^* - M^*(\gamma)\hat{\rho}(\gamma) \quad (9)$$

Toplam hata kareleri aşağıda gösterilmiştir:

$$SSE_1(\gamma) = \varepsilon^*(\gamma)\varepsilon^{*\prime}(\gamma) = Y^{*\prime}(I - M^*(\gamma)'(M^*(\gamma)'M^*(\gamma))^{-1}M^*(\gamma)'Y^* \quad (10)$$

Eşik değer ( $\gamma$ ) tahmininin en küçük kareler yöntemiyle yapılmasını Hansen (1999) ve Chan (1993) tavsiye etmektedir. Bu şekilde, yoğunlaştırılmış en küçük kareler tahminleri minimize edilir ve eşik değerinin ( $\gamma$ ) tahmini aşağıdaki gibi hesaplanır:

$$\hat{\gamma} = \underset{\gamma}{\operatorname{argmin}} SSE_1(\gamma) \quad (11)$$

Sonraki adımda, kalıntı varyansının tahmincisi, kalıntı vektör  $\hat{\varepsilon}^* = \varepsilon^*(\hat{\gamma})$  ve eğim katsayısı tahmini;  $\hat{\theta} = \hat{\theta}(\hat{\gamma})$  denklem (12)'de gösterilmektedir:

$$\hat{\sigma}^2 = \frac{1}{n(T-1)}\hat{\varepsilon}^{*\prime}\hat{\varepsilon}^* = \frac{1}{n(T-1)}SSE_1(\hat{\gamma}) \quad (12)$$

n, bu bağlamda örneklem içindeki ülke sayısını temsil ederken, T zaman boyutunu göstermektedir.

### 3.2. Ampirik Bulgular

Panel veri modellerinde ortaya çıkan hataların bazılarının kaynağı yatay kesit bağımlılığı olabilmektedir. Yatay kesit bağımlılığı, farklı birimler veya gözlemler arasındaki ilişkiyi bir zaman serisi boyunca ifade etmektedir. Bu bağımlılık, belirli bir zaman noktasındaki farklı birimlerin değerleri arasındaki korelasyonu ifade etmektedir. Bu nedenle, analize geçilmeden önce kesitler arasındaki bağımlılığın varlığı test edilmelidir. Yatay kesit bağımlılığını test etmek amacıyla, uygulamalı ekonometride, Pesaran, Ullah ve Yamagata (2008) Yanlılığı Düzeltilmiş LM testi; Pesaran'a (2004) ait Kesitsel Bağımlılık (CD) testi; Breush-Pagan (1980) Lagrange Çarpanı (LM) testi olmak üzere farklı testler bulunmaktadır. Çalışmanın veri seti 15 yıl ve 16 birimden [T<N] oluştuğu için, çalışmada, Pesaran'a (2004) ait Kesitsel Bağımlılık (CD) testi kullanılmaktadır. Bu kapsamda elde edilen bulgularda, yatay kesit bağımsızlığını belirten sıfır hipotezi %1 düzeyinde reddedilmiştir. Başka bir ifadeyle, paneldeki birimlerde yatay kesit bağımlılığı mevcuttur. Sonuçlar, Tablo 2'de özetlenmektedir.

**Tablo: 2**  
**Yatay Kesit Bağımlılık Test Sonuçları**

Değişkenler	İstatistik	p-değeri
CARB	25,628	(0,000)***
ESI	20,695	(0,000)***
PAT	11,679	(0,000)***
SERV	17,364	(0,000)***
URB	16,235	(0,000)***
KBGDP	27,517	(0,000)***
MESI	12,19	(0,000)***

Not: \*\*\*, istatistiksel olarak %1 anlamlılık düzeyini ifade etmektedir.

Yatay kesit bağımlılığı, ikinci nesil birim kök testinin uygulanmasını gerektiren bir durumdur. Dolayısıyla, değişkenlerin durağanlığının araştırılması için ikinci nesil birim kök testi tercih edilmektedir. Bu kapsamda çalışmada, tüm değişkenlerin durağanlığı, Pesaran’ın (2007) CIPS (ikinci nesil birim kök) testiyle incelenmektedir. Analiz bulguları; CARB, ESI, PAT, URB ve KBGDP değişkenlerinin düzey değerlerinde durağan olduğunu göstermektedir. Öte yandan “SERV” ve “MESI” değişken(ler)i ise birinci dereceden durağandır. Bundan dolayı “SERV” ve “MESI” değişken(ler)inin birinci farkı alınarak ileriki analizlerde kullanılmak üzere “dSERV” ve “dMESI” adı ile analize eklenmiştir. Durağanlık testine dair detaylı bilgiler Tablo 3’te sunulmaktadır.

**Tablo: 3**  
**CIPS Birim Kök Test Sonuçları**

Değişkenler	CIPS İstatistiği	Kritik Tablo Değeri		
		%1	%5	%10
CARB	-2,655***	-2,45	-2,22	-2,11
ESI	-2,484***	-2,45	-2,22	-2,11
PAT	-2,896***	-2,45	-2,22	-2,11
SERV	-2,036	-2,45	-2,22	-2,11
dSERV	-3,402***	-2,45	-2,22	-2,11
URB	-2,383**	-2,45	-2,22	-2,11
KBGDP	-2,598***	-2,45	-2,22	-2,11
MESI	-1,969	-2,45	-2,22	-2,11
dMESI	-4,005***	-2,45	-2,22	-2,11

Not: İstatistiksel olarak anlamlılık düzeyleri sırasıyla \*\*\*, \*\*, \* olarak belirtilmektedir, yani %1, %5 ve %10. STATA programında CIPS birim kök testi analizi yapılmış ve maksimum gecikme uzunluğu 2 olarak alınmıştır. Ek olarak, ilgili değişken(ler)le ilişkin birinci fark “d” ile gösterilmektedir.

Sonraki aşamada tahminciler arasında seçim yapmak gerekmektedir. F, Breusch-Pagan Lagrange Çarpanı (LM), Score ve Hausman testleri, tahminciler arasında seçim yapmak amacıyla yapılmaktadır. Söz konusu testler arasında F, Breusch-Pagan Lagrange Çarpanı (LM), Score testleri klasik modelin uygunluğunu test etmektedir. Bu kapsamda öncelikle klasik modelin geçerliliğinin veya birim/zaman etkisinin varlığının testi için F, Breusch-Pagan (LM), Score testleri yapılmaktadır. Yapılan tüm testlerde birim etkinin olduğu zaman etkisinin ise olmadığı görülmektedir. Başka bir ifadeyle, tüm testlerde zaman etkisinin olmadığı ve birim etkinin varlığı tespit edilerek klasik modelin uygun olmadığı görülmektedir. Bulgular Tablo 4’te özetlenmektedir.

**Tablo: 4**  
**F, Breusch-Pagan (LM) ve Score Test Bulguları**

	F Testi	Breusch-Pagan LM Testi	Score Testi
Birim etkininin sınanması <sub>p-değeri</sub>	0,0000	0,0000	0,0000
Zaman etkisinin sınanması <sub>p-değeri</sub>	0,3511	1,0000	1,0000

Birim etkinin varlığı tespit edildikten sonra kurulan model için sabit etkilerin mi rassal etkilerin mi uygun olduğunu belirlemek gerekmektedir. Bu amaçla Hausman (Spesifikasyon) testi, tahminciler arasında tercih yapmak amacıyla uygulanmaktadır. Hausman testinin hipotezlerinden  $H_0$  hipotezi, “bağımsız değişkenlerle hata terimleri ilişkisizdir”;  $H_1$  hipotezi ise, “bağımsız değişkenlerle hata terimleri ilişkilidir” şeklinde kurulmaktadır. Elde edilen bulgularda analizin olasılık değeri anlamlı çıktığından dolayı  $H_0$

hipotezi reddedilerek sabit etkiler modelinin analiz için uygun olduğu söylenebilir. Hausman testine ilişkin bilgiler Tablo 5’te gösterilmektedir.

**Tablo: 5**  
**Tek Yönlü Panel Veri Modeli İçin Hausman (Spesifikasyon) Testinin Sonuçları**

Hausman Testi		
Bağımlı Değişken: CARB		
Bağımsız Değişkenler	Sabit Etkiler Modeli	Tesadüfi Etkiler Modeli
ESI	(-1,188617)	(-1,337806)
PAT	(0,0819917)	(0,0966096)
dSERV	(0,2242593)	(0,2297386)
URB	(-0,247559)	(-0,1185855)
KBGDP	(0,0659486)	(0,0556236)
chi2: 17,33		
P-değeri: 0,0039		
Seçilen Model: Sabit Etkiler Modeli		

Not: Parantez içindeki değerler katsayı değerlerini ifade etmektedir. Hausman testi, STATA komutu olan “hausman fe re, sigmamore” kullanılarak elde edilmiştir.

Sonraki aşamada yapılan tahminin değişen varyans ve oto korelasyon gibi sorunları içerip içermediği test edilmelidir. Bu kapsamda “Durbin-Watson ve Baltagi-Wu LBI Testi” otokorelasyon için; “Değiştirilmiş Wald Testi” değişen varyans için uygulanmaktadır. Ayrıca, Tablo 2’de görüldüğü üzere, daha önce yatay kesit bağımlılık testi yapılmasına rağmen tüm testlerin sonuçlarının bir arada görülebilmesi amacıyla yatay kesit bağımlılığı için “Pesaran (2004) CD Testi” burada tekrar yapılmaktadır. Değiştirilmiş Wald testine göre, sabit varyansı ifade eden  $H_0$  hipotezi %1 düzeyinde reddedilerek değişen varyans sorununun olduğu görülmektedir. Bunun yanı sıra, Baltagi-Wu ve Durbin-Watson testlerinin bulguları ikiden küçük olduğundan dolayı sabit etkiler modeli için otokorelasyonun olduğu söylenebilir. Son olarak, Pesaran (2004) CD testi sonucuna göre, yatay kesit bağımsızlığını belirten  $H_0$  hipotezi reddedilmektedir. Başka bir ifadeyle, paneldeki birimlerde yatay kesit bağımlılığı mevcuttur. Bulgular Tablo 6’da gösterilmektedir.

**Tablo: 6**  
**Sabit Etkiler Modeli İçin Varsayım Test Bulguları**

Değiştirilmiş Wald Testi	Durbin-Watson ve Baltagi-Wu Testleri	Pesaran CD Testi
chi2 (16) = 763,83	Durbin-Watson = 0,34262039	Pesaran CD = 3,351
Prob>chi2 = 0,0000	Baltagi-Wu LBI = 0,59727106	Pr = 0,0008

Tablo 6’ya göre, modelde oto-korelasyon, değişen varyans ve yatay kesit bağımlılığı vardır. Bu kapsamda, oto-korelasyon, değişen varyans ve yatay kesit bağımlılığı varlığında bile güvenilir sonuçlar sağladığı için Driscoll-Kraay standart hatalarla sabit etkiler tahmincisi tercih edilmektedir. Araştırma sonuçlarında, çevre teknolojileri patentleri, hizmet sektörünün ekonomideki payı ve kişi başına düşen GSYH değişkenlerinin karbon emisyonu ile pozitif ilişkili; çevre politikası sıklığı ve kentsel nüfus değişkenlerinin ise karbon emisyonu ile negatif ilişkili olduğunu görülmektedir. Sonuçlar Tablo 7’de özetlenmektedir.

**Tablo: 7**  
**Driscoll-Kraay Standart Hatalar ile Sabit Etkiler Tahmincisinin Analiz Bulguları**

<b>Bağımlı Değişken: CARB</b>			
<b>Bağımsız Değişkenler</b>	<b>Katsayı</b>	<b>Driscoll-Kraay Standart Hata</b>	<b>p-değeri</b>
<b>ESI</b>	-1,188617	0,1339064	(0,000)***
<b>PAT</b>	0,0819917	0,0220707	(0,002)***
<b>dSERV</b>	0,2242593	0,0937754	(0,030)**
<b>URB</b>	-0,247559	0,0412667	(0,000)***
<b>KBGDP</b>	0,0659486	0,0337318	(0,069)*
<b>Gözlem Sayısı</b>	224	<b>F-stat.</b>	115,50
<b>R<sup>2</sup></b>	0,4137	<b>F Olasılık Değeri</b>	(0,0000)***

*Not: İstatistiksel olarak anlamlılık düzeyleri sırasıyla \*\*\* \*\* \* olarak belirtilmektedir, yani %1, %5 ve %10. Ek olarak, ilgili değişken(ler)e ilişkin birinci fark "d" ile gösterilmektedir.*

Elde edilen sonuçlara göre, çevre dostu teknolojilere yönelik patentlerdeki artışın karbon emisyonunu pozitif etkilediği gözlemlenmektedir. Bu, çevre teknolojilerine ilişkin patentlerdeki her yüzde birlik artışın, karbon emisyonunu yaklaşık olarak %0,08 oranında artırma eğiliminde olduğunu belirtmektedir. Bu sonuçlar, Khan vd. (2021) araştırmasının sonuçlarıyla uyumludur. Çevre teknolojilerine ait patentlerdeki artışın karbon emisyonunu yükseltme eğiliminin nedenleri arasında, bazı ülkelerin düşük karbonlu teknolojilere yeterince yatırım yapmamış olmaları veya teknolojik yeniliklerin henüz gelişme aşamasında olmaları gibi faktörler yer alabilir (Khan et al., 2021: 487). Ayrıca, hizmet sektöründeki payın ekonomideki artışı, beklentilere uygun bir şekilde karbon emisyonunun artmasına neden olmaktadır. Başka bir ifadeyle, hizmet sektöründeki değişimin her yüzde beşlik artışı, karbon emisyonunu yaklaşık olarak %0,22 oranında artırma eğilimindedir. Bu kapsamda, hizmetler sektöründeki büyüme genellikle fiziksel ürün üretimiyle doğrudan ilişkilendirilmese de, bu sektördeki artan faaliyetlerin enerji tüketimi, ulaşım ve teknoloji kullanımı gibi faktörler aracılığıyla karbon emisyonunu artırdığı düşünülebilir.

Benzer şekilde, kişi başına düşen GSYH'nin artması da karbon emisyonunu artırmaktadır. Bu sonuç, "Çevresel Kuznets Eğrisi" hipotezini destekler niteliktedir. Çevresel Kuznets Eğrisi, çevresel kirlilikle iktisadi kalkınma ilişkisini şekillendiren bir teori olarak kabul edilmektedir. Bu teoriye göre, ekonomik kalkınmanın ilk aşamalarında kirlilik seviyeleri artmaktadır. İnsanlar bu dönemde temel ihtiyaçlarını karşılamaya odaklanırken çevresel kaynaklara daha az önem verirler ve çevresel düzenlemeler genellikle yetersizdir. Ancak gelir düzeyleri arttıkça, insanlar çevresel faktörlere daha fazla değer vermeye başlarlar ve çevre koruma önlemleri güçlenir (Dasgupta et al., 2002: 147). Bu kapsamda, örnekleme oluşturan ülkelerin gelir düzeylerinin Çevresel Kuznets Eğrisi 'nin gelir düzeyinin altında olduğunu söylemek mümkündür. Modelde kullanılan bir diğer değişken ise yeşil politika sıklık endeksidir. Bulgulara göre, yeşil politikaların sıklık endeksi arttıkça karbon emisyonu azalmaktadır. Başka bir ifadeyle, yeşil politikaların sıklık endeksindeki her yüzde birlik artışın, karbon emisyonunu yaklaşık olarak %1,18 oranında azalttığı gözlemlenmektedir.

Son olarak, bulgularda kentsel nüfus ile karbon emisyonu arasında negatif bir ilişki olduğu görülmektedir. Kentsel nüfusta meydana gelen her yüzde birlik artışın karbon emisyonunu yaklaşık olarak %0,24 oranında azalttığı gözlemlenmektedir. Kentsel nüfusun

artması, karbon emisyonunu azaltabilir çünkü şehirleşme genellikle daha etkili ulaşım sistemleri, enerji verimliliği, altyapı ve kaynak kullanımı gibi sürdürülebilir uygulamaları teşvik edebilir. Yoğun nüfuslu bölgeler, toplu taşıma sistemlerini tercih etme eğilimindedir, bu da bireysel araç kullanımını azaltır ve dolayısıyla karbon emisyonunu düşürür. Ayrıca, şehirlerde enerji verimliliğini artırmak için daha fazla fırsat bulunur ve yeşil altyapı projeleri, çevre dostu enerji kaynaklarına geçiş ve atık yönetimi gibi çeşitli çevresel iyileştirmeler yapılabilir. Bu nedenle, kentsel nüfus artışı genellikle karbon emisyonlarını azaltmaya yönelik olumlu bir etkiye sahip olabilir.

Sonraki aşamada, yeşil (çevre) politikalarının ve yeşil (mali) politikalarının karbon emisyonu üzerindeki etkilerini belirlemek için, karbon emisyonunu etkileyebileceği düşünülen faktörler için ayrı ayrı eşik modeller kullanılmıştır. Diğer bir deyişle, kentsel nüfus, çevre teknolojileri patentleri, kişi başına GSYH ve hizmetler sektörü değişkenleri dört farklı modelde rejime bağlı değişken olarak göz önünde bulundurulmuştur. Tüm modellerde yeşil (çevre) politikaları ve yeşil (mali) politikalar, eşik değişkeni olarak kullanılmıştır. Analiz bulgularını, Tablo 8 ve Tablo 9 özetlemektedir. Bu kapsamda tek eşikli model aşağıdaki biçimde kurulmuştur:

$$y_{it} = \alpha_i + \alpha \check{A}_{it} + B_1 Z_{it} I(TV_{it} \leq \tau) + B_2 Z_{it} I(TV_{it} > \tau) + e_{it} \quad (13)$$

Tablo 8'e, çevre teknolojileri patentlerinin karbon emisyonu üzerindeki etkisinde yeşil (çevre) politikaları sıklık endeksinin eşik etkisi gözlenmiştir. Buna göre, düşük yeşil politika sıklığı rejiminde, çevre teknolojileri patentlerindeki her yüzde beşlik artış, karbon emisyonunu %0,062 artırırken, yüksek yeşil politika sıklığı rejiminde çevre teknolojileri patentlerindeki her yüzde birlik artış karbon emisyonunu %0,093 azaltmaktadır. Benzer şekilde, hizmetler sektörü değişkeni için de rejime bağlı eşik etkisi gözlemlenmiştir. Bu bağlamda, düşük yeşil (çevre) politika sıklığı rejiminde, hizmetler sektöründeki değişimin ekonomideki payında gerçekleşen her yüzde birlik artış, karbon emisyonunu %0,275 artırırken, yüksek yeşil politika sıklığı rejiminde bu artış %3,246 olarak gözlenmektedir. Ayrıca, kentsel nüfus değişkeni için de rejime bağlı eşik etkisi gözlemlenmiştir. Buna göre, düşük yeşil politika sıklığı rejiminde, kentsel nüfustaki her yüzde birlik artış, karbon emisyonunu %0,284 azaltırken, yüksek yeşil politika sıklığı rejiminde kentsel nüfustaki her yüzde birlik artış karbon emisyonunu %0,309 azaltmaktadır. Öte yandan, kişi başı GSYH değişkeni için rejime bağlı eşik etkisi gözlemlenmemiştir. Bulgular, Tablo 8'de özetlenmektedir.

**Tablo: 8**  
**Çevre Politikası Sıklığına İlişkin Eşik Regresyon Bulguları**

Bağımlı Değişken: CARB	Rejime Bağımlı Değişken (rx)			
	PAT	dSERV	URB	KBGDP
PAT		0,053 (0,026) (0,047)**	0,052 (0,024) (0,030)**	0,046 (0,027) (0,090)*
dSERV	0,274 (0,075) (0,000)***		0,266 (0,072) (0,000)***	0,345 (0,081) (0,000)***
URB	-0,299 (0,051) (0,000)***	-0,366 (0,054) (0,000)***		-0,469 (0,057) (0,000)***
KBGDP	0,116 (0,024) (0,000)***	0,119 (0,026) (0,000)***	0,111 (0,023) (0,000)***	
rx (ESI ≤ $\gamma$ )	0,062 (0,025) (0,014)**	0,275 (0,081) (0,001)***	-0,284 (0,049) (0,000)***	-0,448 (0,152) (0,004)***
rx (ESI > $\gamma$ )	-0,093 (0,032) (0,005)***	3,246 (0,691) (0,000)***	-0,309 (0,049) (0,000)***	0,134 (0,026) (0,000)***
$\gamma$	<b>3,80</b>	<b>3,91</b>	<b>3,80</b>	<b>1,61</b>
<b>Güven Aralığı</b>	3,750 - 3,888	3,847 - 3,944	3,736 - 3,888	-
<b>F-stat.</b>	52,21	18,74	75,99	15,01
<b>p-değeri</b>	<b>(0,013)**</b>	<b>(0,030)**</b>	<b>(0,003)***</b>	<b>(0,300)</b>
<b>Gözlem Sayısı</b>	224	224	224	224
<b>F-stat.</b>	30,63	21,54	37,09	20,52
<b>F-prob.</b>	(0,000)***	(0,000)***	(0,000)***	(0,000)***
<b>R-square</b>	0,43	0,34	0,47	0,3358

Not: Bootstrap yönteminin tekrar sayısı 300'e eşittir. Parantez içindeki değerler sırasıyla standart hataları ve p-değerlerini; %10, %5 ve %1 seviyesinde istatistikî anlamlılığı sırasıyla \*, \*\*, \*\*\* göstermektedir. Ek olarak, ilgili değişken(ler)le ilişkin birinci fark "d" ile gösterilmektedir.

Son aşamada, yeşil politika sıklık endeksinin bir alt başlığını oluşturan ve çevre kirliliği ile mücadele için karbon vergisi, dizel vergisi, azot oksit vergisi ve kükürt oksit vergisi gibi vergilerin kullanılmasını ifade eden yeşil mali politikalar sıklık endeksi eşik değişken olarak kullanılmıştır. Tablo 9'da, kentsel nüfus, çevre teknolojileri patentleri, hizmetler sektörü ve kişi başı GSYH, bu dört değişkenin karbon emisyonu ile ilişkisinde yeşil mali politika sıklık endeksinin eşik etkisi analiz edilmiştir. Bu kapsamda, düşük yeşil mali politika sıklığı rejiminde, çevre teknolojileri patentlerindeki her yüzde birlik artış, karbon emisyonunu %0,055 artırırken, yüksek yeşil mali politika sıklığı rejiminde çevre teknolojileri patentlerindeki her yüzde birlik artış karbon emisyonunu %0,102 artırmaktadır. Bununla birlikte, düşük yeşil mali politika sıklığı rejiminde, hizmetler sektöründeki değişimin ekonomideki payında gerçekleşen her yüzde beşlik artış, karbon emisyonunu %0,205 artırırken, yüksek yeşil mali politika sıklığı rejiminde her yüzde birlik artış karbon emisyonunu %0,772 artırmaktadır.



**Tablo: 9**  
**Yeşil Mali (Piyasa Tabanlı) Politika Sıklık Endeksine İlişkin Eşik Regresyon Bulguları**

Bağımlı Değişken: CARB	Rejime Bağımlı Değişken (rx)			
	PAT	dSERV	URB	KBGDP
PAT		0,057 (0,027) (0,036)**	0,066 (0,027) (0,015)**	0,064 (0,027) (0,019)**
dSERV	0,278 (0,083) (0,001)***		0,265 (0,083) (0,002)***	0,311 (0,082) (0,000)***
URB	-0,368 (0,055) (0,000)***	-0,368 (0,055) (0,000)***		-0,395 (0,054) (0,000)***
KBGDP	0,107 (0,027) (0,000)***	0,109 (0,027) (0,000)***	0,107 (0,027) (0,000)***	
rx (dMESİ ≤ x)	0,055 (0,027) (0,044)***	0,205 (0,090) (0,025)**	-0,364 (0,054) (0,000)***	0,102 (0,027) (0,000)***
rx (dMESİ > x)	0,102 (0,030) (0,001)***	0,772 (0,165) (0,000)***	-0,355 (0,055) (0,000)***	0,306 (0,064) (0,000)***
$\gamma$	<b>0,16</b>	<b>0,33</b>	<b>0,16</b>	<b>0,50</b>
Güven Aralığı	0,166 - 0,333	0,000 - 0,333	0,166 - 0,333	0,333 - 0,500
F-stat.	10,00	10,04	14,43	10,07
p-değeri	<b>(0,306)</b>	<b>(0,116)</b>	<b>(0,130)</b>	<b>(0,183)</b>
Gözlem Sayısı	224	224	224	224
F-stat.	19,16	19,17	20,37	19,18
F-prob.	(0,000)***	(0,000)***	(0,000)***	(0,000)***
R-square	0,32	0,32	0,33	0,32

Not: Bootstrap yönteminin tekrar sayısı 300'e eşittir. Parantez içindeki değerler sırasıyla standart hataları ve p-değerlerini; %10, %5 ve %1 seviyesinde istatistiksel anlamlılığı sırasıyla \*, \*\*, \*\*\* göstermektedir. Ek olarak, ilgili değişken(ler)e ilişkin birinci fark "d" ile gösterilmektedir.

Diğer bir değişken olan kentsel nüfus değişkeni için de rejime bağlı eşik etkisi analiz edilmiştir. Buna göre, düşük yeşil mali politika sıklığı rejiminde, kentsel nüfustaki her yüzde birlik artış, karbon emisyonunu %0,364 azaltırken, yüksek yeşil mali politika sıklığı rejiminde kentsel nüfustaki her yüzde birlik artış karbon emisyonunu %0,355 azaltmaktadır. Son olarak, kişi başı GSYH değişkeni için rejime bağlı eşik etkisi analiz edilmiştir. Bu kapsamda düşük yeşil mali politika sıklığı rejiminde, kişi başı GSYH değişkeninde her yüzde birlik artış, karbon emisyonunu %0,102 artırırken, yüksek yeşil mali politika sıklığı rejiminde her yüzde birlik artış karbon emisyonunu %0,306 artırmaktadır. Ancak kentsel nüfus, çevre teknolojileri patentleri, hizmetler sektörü ve kişi başı GSYH değişkenleri için rejime bağlı eşik etkisinin istatistiksel olarak anlamlı olabilmesi için eşik etkisi testinin p-değeri 0,05'den küçük olmalıdır. Tablo 9'a göre, kentsel nüfus, çevre teknolojileri patentleri, hizmetler sektörü ve kişi başı GSYH değişkenleri için rejime bağlı eşik etkisinin p-değerleri sırasıyla 0,130; 0,306; 0,116; 0,183 düzeyindedir. Görüldüğü üzere tüm değişkenlerin rejime bağlı eşik etkisinin p-değerleri 0,05'den büyük olduğu için söz konusu değişkenler için rejime bağlı eşik etkisi gözlemlenmemiştir. Bu dört farklı modelin sonuçları Tablo 9'da özetlenmektedir.

#### 4. Sonuç

Günümüzde dünyanın karşı karşıya olduğu en büyük küresel meseleler arasında çevresel sürdürülebilirlik ve iklim değişikliği yer almaktadır. İnsan etkinlikleri, özellikle sera gazı emisyonları, doğal kaynakların aşırı tüketimi ve çevresel zararlar, gezegenimizin dengesini ve gelecekteki refahı ciddi şekilde tehdit etmektedir. Bununla birlikte, iklim değişikliği, endüstriyel faaliyetlerin ve fosil yakıtların kullanımının artmasıyla atmosferdeki karbon dioksit ve diğer sera gazlarının yoğunluğunun artmasıyla yakından ilişkilidir. Bu sebeple, karbon emisyonlarını azaltma çabaları, iklim değişikliğinin etkilerini hafifletmek ve geleceğe yaşanabilir bir dünya bırakmak için önemlidir. Bu bağlamda, yeşil çevre politikaları ve yeşil mali politikalar, karbon emisyonlarını azaltma çabalarının temel bir parçası olarak öne çıktığı ve çevresel sürdürülebilirlik için önem arz ettiği için bu çalışma, yeşil çevre politikaları ve yeşil mali politikaların karbon emisyonu üzerindeki etkisini incelemek amacıyla gerçekleştirilmiştir.

Çalışmanın analiz sonuçları, çevre teknolojilerine ait patentlerdeki artışın karbon emisyonunu artırdığını göstermektedir. Çevre teknolojilerine ait patentlerdeki artışın karbon emisyonunu yükseltme eğiliminin nedenleri arasında, bazı ülkelerin düşük karbonlu teknolojilere yeterince yatırım yapmamış olmaları veya teknolojik yeniliklerin henüz gelişme aşamasında olmaları gibi faktörler yer alabilir (Khan et al., 2021: 487). Ayrıca, hizmet sektöründeki payın ekonomideki artışının karbon emisyonunu artırdığına dair bulgular, bu sektördeki faaliyetlerin enerji tüketimi, ulaşım ve teknoloji kullanımı gibi faktörler aracılığıyla çevresel etkileri tetikleyebileceğini göstermektedir. Bu noktada, hizmet sektöründeki büyümenin çevresel sürdürülebilirlik hedefleriyle uyumlu politikalara ihtiyaç duyulduğu söylenebilir. Çalışmanın diğer bir önemli bulgusu, kişi başına düşen GSYH artışının karbon emisyonunu artırdığıdır. Bu durum, iktisadi büyümeyle çevresel etkilerin karmaşık ilişkisini yansıtan “Çevresel Kuznets Eğrisi ‘ne’” uyumlu bir bulgu olarak değerlendirilebilir. Ancak, bu artışın çevresel sürdürülebilirliği olumsuz etkilemesini engellemek için çevresel politika önlemleri alınmalıdır. Son olarak, bulgular kentsel nüfus ile karbon emisyonu arasında negatif bir ilişki olduğunu göstermektedir. Bu durumun temel nedenleri arasında, şehirleşmenin sürdürülebilir uygulamaları teşvik etmesi, toplu taşıma sistemlerinin yaygınlaşmasıyla bireysel araç kullanımının azalması, enerji verimliliğinin artması ve çevresel iyileştirmelerin yapılabilmesi gibi faktörlerin olduğu söylenebilir.

Yeşil çevre politika sıklık endeksinin karbon emisyonu üzerindeki etkisi incelendiğinde, yeşil çevre politikaları sıkılaştıkça (özellikle çevre teknolojilerine yönelik patentlerin ve kentsel nüfusun rejime bağlı değişken olduğu durumlarda) karbon emisyonunun azaldığı gözlemlenmiştir. Bu, çevre dostu politika ve düzenlemelerin çevresel etkileri azaltma potansiyeline işaret etmektedir. Bu bağlamda, yeşil çevre politikalarının daha da güçlendirilmesi ve yaygınlaştırılması, çevresel sürdürülebilirliği desteklemek adına önemli bir adım olabilir. Ayrıca, kentsel nüfus, çevre teknolojilerine yönelik patentler ile hizmet sektöründeki payın ekonomideki artışındaki etkilerin yeşil mali politika sıklık endeksine göre farklılaştığı görülmektedir. Bu durum, yeşil mali politikaların etkinliğinin sektörel ve teknolojik dinamiklere bağlı olarak değişebileceğini göstermektedir. Bu

sonuçlara dayalı olarak, çevresel sürdürülebilirlik hedeflerine ulaşma yolunda alınabilecek ek politika önerileri aşağıdaki şekilde özetlenebilir:

- **Yeşil Teknolojiye Yatırımların Teşviki:** Çevre dostu teknolojilere yönelik patentlerdeki artışın olumlu etkisi dikkate alındığında, devletin ve özel sektörün bu alana yapacağı yatırımlar teşvik edilmelidir. Bu, çevresel sürdürülebilirliği artırabilir ve yeşil teknolojilere geçiş sürecini hızlandırabilir.
- **Hizmet Sektöründe Çevresel Duyarlılık:** Hizmet sektöründeki büyümenin karbon emisyonunu artırdığı göz önüne alındığında, bu sektörde faaliyet gösteren işletmelerin çevresel etkilerini azaltmak için daha sürdürülebilir iş uygulamalarına geçiş yapmalarını destekleyici politikalar geliştirilmelidir.
- **Çevresel Kuznets Eğrisi İle Uyumlu Ekonomik Politikalar:** Kişi başına düşen GSYH artışının karbon emisyonunu artırdığı bulgusu, çevresel politikaların ekonomik büyümeyi destekleyen ancak aynı zamanda çevresel etkileri azaltan stratejilere odaklanmasını gerektirmektedir.
- **Sürdürülebilir Ulaşım Teşvikleri:** Toplu taşıma sistemleri genişletilmeli ve iyileştirilmelidir. Daha fazla toplu taşıma seçeneği sunularak bireysel araç kullanımı azaltılmalıdır. Ayrıca, bisiklet yolları ve yaya dostu alanlar gibi karbonsuz ulaşım alternatifleri teşvik edilmelidir.
- **Enerji Verimliliği Yönetmelikleri:** Konut ve ticari binalarda enerji verimliliği standartları artırılmalı ve yenilenebilir enerji kaynaklarının kullanımı teşvik edilmelidir. Binaların yenilenmesi ve enerji verimli cihazların kullanımı teşvik edilmelidir.
- **Karbon Vergisi veya Ticaret Sistemi:** Kentsel alanlarda karbon emisyonlarına dayalı olarak vergilendirme sistemleri oluşturulabilir. Karbon emisyonlarını azaltan şirketler ve kurumlar ödüllendirilirken, yüksek karbon emisyonu üretenler cezalandırılabilir.
- **Yeşil Çevre Politika ve Düzenlemelerin Güçlendirilmesi:** Çalışmanın sonuçlarına dayanarak, yeşil çevre politika sıklık endeksinin karbon emisyonunu azalttığı gözlemlenmiştir. Bu nedenle, çevre dostu politika ve düzenlemelerin güçlendirilmesi, çevresel sürdürülebilirliğin sağlanmasına katkı sağlayabilir.
- **Sektörel ve Teknolojik Dinamiklere Göre Esnek Politikalar:** Kentsel nüfus, çevre teknolojilerine yönelik patentler ile hizmet sektöründeki payın ekonomideki artışındaki etkilerin yeşil mali politika sıklık endeksinde göre farklılaşması, politika yapıcıların sektörel ve teknolojik dinamiklere göre esnek politikalar geliştirmelerini gerektirmektedir.

Sonuç olarak, çevresel sürdürülebilirlik ile ekonomik büyüme arasındaki dengeyi sağlama potansiyeline sahip olan yeşil çevre politikaları ve yeşil mali politikaların etkilerinin farklılaştığı görülmektedir. Bu politikaların etkili bir şekilde uygulanması, küresel düzeyde iklim değişikliği ile mücadelede önemli bir rol oynayabilir. Bu çalışma, bu konudaki tartışmayı zenginleştirmeyi ve politika yapıcılarına yol göstermeyi amaçlamaktadır. Bu

önerilerin hayata geçirilmesi, çevresel sürdürülebilirliği destekleyerek ekonomik büyümeyi sürdürülebilir hale getirebilir.

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## Merkezi ve Doğu Avrupa Ülkeleri Borsalarında Sürü Davranışları: Hırvatistan, Polonya ve Romanya Örnekleri

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### Herding in the Central and Eastern Countries Stock Markets: The Case of Croatia, Poland and Romania

#### Abstract

Herding behaviour in the stock markets of Croatia, Poland and Romania from the Central and Eastern European Countries (CEEC) region was investigated using the three well-known models. The study was based on daily closing price data for the period (2013:1-2023:12). According to the findings, in the first method, herding behaviour was observed in upward market conditions in the stock markets of all three countries; in the second method, herd behaviour was not proved in any of the markets. In the third method, emotional herding behaviour was detected in extreme downward market conditions in the Romanian stock market.

**Keywords** : Herding, Stock Market, CEEC, Croatia, Polonia, Romania.

**JEL Classification Codes** : C13, C31, G14.

#### Öz

Merkezi ve Doğu Avrupa Ülkeleri (MDAÜ) bölgesinden Hırvatistan, Polonya ve Romanya borsalarında sürü davranışlarının varlığı, üç farklı iyi bilinen model yardımı ile araştırılmıştır. Çalışma (2013:1-2023:12) döneminde günlük kapanış fiyatları verilerine dayanmaktadır. Bulgulara göre, birinci yöntemde üç ülke borsasında da yukarı yönlü piyasa koşullarında sürü davranışı gözlenirken, ikinci yöntemde borsalarının hiçbirinde sürü davranışı kanıtlanamamıştır. Üçüncü yöntemde Romanya borsasında aşağı yönlü ekstrem piyasa koşullarında duygusal sürü davranışı tespit edilmiştir.

**Anahtar Sözcükler** : Sürü Davranışı, Borsa, MDAÜ, Hırvatistan, Polonya, Romanya.



## 1. Giriş

Merkezi ve Doğu Avrupa Ülkeleri (MDAÜ), sosyalist sistemden çıktıktan sonra Avrupa Birliği üyeliği için ekonomilerini yeniden yapılandırmaya, piyasalarını fonksiyonel serbest pazar şartlarına çevirmeye çaba göstermişlerdir. Bazı ülkeler (Macaristan, Polonya gibi) uyum için yapısal reformlara erken başlamışlar, diğer bazıları ise, (Romanya ve Bulgaristan gibi) geç kalmışlardır. (Gelos & Sahay, 2000: 71)<sup>1</sup>. Bilindiği gibi 1993 Kopenhag Zirvesi, MDA ülkeleri de dahil tüm aday ülkelere, ön koşul olarak, fonksiyonel piyasa ekonomisine geçmeyi ve rekabet ebilmek üzere tüm yapısal değişiklikleri yapmayı önermiştir. Ancak, uzun süren bir sosyalist düzenin getirdiği alışkanlıklar dikkate alındığında, otoritelerin tüm gayretlerine ve Avrupa Birliği'nin (AB) teknik ve finansal desteklerine rağmen rekabetçi bir piyasa sisteminin ne ölçüde kurulduğu merak konusu olmuştur. Uzunca süren post-sosyalist dönem içinde başta borsalar (Stock Markets) olmak üzere serbest piyasanın istediği yapısal reformların ne kadar başarılı olduğu, AB nin pazar kurallarına ne kadar yaklaşılabildiği ve üyelikten sonra devam etmiş olan dönem içinde piyasa etkinliğinin ne ölçüde işletildiği gibi hususlar sorgulanmıştır. Lorgova ve Ong (2008: 103), bu ülkelerin kendi sermaye piyasalarını kurmak için 1990'ların başlarından itibaren fiyatlama göstergelerini oturtmak, modern yasa ve kurallarını uygulamak ve etkin piyasayı öngören, tam rekabet kurallarını işleme sokmak üzere özel çaba gösterdiklerini belirtmektedir. Ivanov ve Peleah (2010: 1-39), bu eski sosyalist ülkelerde piyasa düzenine uyarlama süreçlerinin zaman alıcı, sancılı ve pahalı olduğunu incinmektedir.

Bu çalışmada piyasa etkinliği için yukarıda ifade edilen tüm bu soruların yanıtlanmasının mümkün olmadığı açıktır. Bunun yerine kısmi bir yanıt da olsa, bölge borsalarında alım/satım yapan yatırımcıların davranış biçimleri incelenmiş ve özellikle borsada beklenen rekabetin var olup olmadığı ve getiri-risk dengesinin çalışıp çalışmadığı sınıanmıştır. Bunun için bölgede AB üyeliğini 2004'te kazanan Polonya, 2007'de üyeliğe kabul edilen Romanya ve birliğe 2013 yılında üye olan Hırvatistan borsaları 2013:1-2023:12 zaman diliminde analiz edilmiştir.

Bilindiği üzere piyasa getiri-risk dengesi konusunda geçerli olan en önemli ve yaygın hipotez, "Sermaye Varlıklarını Fiyatlandırma Modeli (Capital Asset Pricing Model, CAPM)"dir. Bu hipotezi geçersiz kılan anormal davranışlardan biri hisse senetleri alım/satımında, bazı piyasa şartlarında ortaya konulan sürü davranışları (herding behavior) dır. Sürü davranışı tanımlarına girmeden önce belirtmek gerekir ki, bu davranış biçimi sermaye varlıklarının yanlış veya yanlış biçimde fiyatlandırılmasına, piyasa etkinliğinin yok olmasına yol açmaktadır.

Merkezi ve Doğu Avrupa Ülkeleri borsalarında, sözkonusu ülke otoritelerinin serbest piyasa şartlarını oturtmak üzere gösterdikleri iyi niyetli yoğun çabalara ve bu yönde AB nin finansal ve teknik desteklerine rağmen, sürü davranış biçimlerinin de geçerli olduğu hipotezi

<sup>1</sup> On adet eski sosyalist ülkeden Macaristan, Polonya, Çekya, Estonya, Litvanya, Letonya ve Slovenya AB'ne Mayıs 2004'te; Romanya ve Bulgaristan Ocak 2007 ve Hırvatistan Temmuz 2013'te üye olmuşlardır.

getirilmekte ve istatistiksel açıdan sınanmaktadır. Polonya'nın serbest pazar koşullarına açılması, Birliğe kabul edilmişinden çok önce başlamış, sosyalist rejime rağmen, ülke pazar mekanizması etkilerine sık sık maruz kalmıştır. İlk Avrupa Sözleşmesi Polonya ile Aralık 1991 tarihinde ve Romanya ile ise, bundan 4 yıl sonra, Şubat 1995 tarihinde imzalanmıştır<sup>2</sup>. Piyasa mekanizmasına farklı zamanlarda açılmışlardır, yani Polonya Romanya'dan daha erken zamanda hazırlıklara başlamış ve AB'ne üye olmuştur. Hırvatistan ise diğer ülkelerden çok sonra 9 Aralık 2011'de AB Katılım Antlaşması'nı imzalamıştır. Hırvatistan'ın AB'ye katılımı 1 Temmuz 2013 tarihinde gerçekleşmiştir. Hırvatistan'ın da AB'ye üye olmasıyla borsalarda farklı davranışlara yol açabileceği savını öne çıkarmış ve buradan sürü davranışı olup olmadığı konusunda ampirik destek aranmıştır.

Sürü davranışı konusunda teori ve ampirik çalışmalar ortak bir noktada birleşmemekle beraber Sürü davranışı, yatırımcıların birbirlerinden bağımsız biçimde karar verip kendi kararları doğrultusunda yatırım yapmaları yerine, borsada bir grup yatırımcının belirli hisse senetlerine aynı zamanda yatırım yapmak suretiyle beraberce hareket etmeleri şeklinde tanımlanmaktadır (Lakonishok et al., 1991: 23-43; Bikhchandani & Sharma, 2001: 279-310). Diğer bazı araştırmacılar, kişisel veya kurumsal olarak bazı yatırımcıların diğer yatırımcıları takip ve taklit etmelerini sürü davranışı olarak tanımlamaktadırlar. Bazı kaynaklar, bu davranış biçimini, eğer taklit edilen veya takip edilen yatırımcılar, diğerlerinden daha çok piyasa bilgilerine sahip veya piyasayı çok iyi takip eden yatırımcılar ise, bunları takip veya taklit eden yatırımcıların rasyonel biçimde davrandığını ileri sürmektedir (Oehler et al., 2000: 1-31; Puckett et al., 2007: 659). Bir dönem Londra darphanesinde müdürlük yapan bilim insanı Sir Isaac Newton: "sürü davranışları için gök cisimlerinin hareketlerini hesaplayabiliyorum ama insanların finansal piyasalarda ki çılgınlıklarını hesaplayamıyorum" demiştir (Carswell, 1993: 108; Keskin, 2024a: 83). Ancak, piyasa etkinliğine yol açan rasyonel davranışlar ile piyasa etkinliğini bozan bilinçli sürü davranışlarını ayırabilen ortak bir teori veya modelin henüz ortaya konulmadığını ifade etmek mümkündür (Hwang & Salmon, 2007: 1-77).

Çalışmanın örneklemini oluşturan, AB'ye 2004 yılında üyeliğe kabul edilen Polonya, 2007'de üyeliğe kabul edilen Romanya ve en son 2013'de üyeliğe kabul alan Hırvatistan ülke örnekleri değerlendirilmiştir. AB'ye üye olmak isteyen MDAÜ'den 12 ülke AB üyeliği için başvurmuşlar ve gerekli koşulları yerine getirerek müzakerelere başlamışlardır. 12 ülkeden Romanya ve Bulgaristan'ın üyelikleri 2007 yılına bırakılmıştır. 2004 döneminde AB üyeliğine kabul edilen Polonya ve bir sonraki dönem olan 2007'de üyeliğe kabul edilen Romanya'nın, diğer AB'ye üye olarak kabul edilen MDAÜ arasında finansal, sermaye piyasaları ve ekonomk yapıları açısından öne çıkmaları, bu çalışmada değerlendirilmelerine neden olmuştur. Hırvatistan ise son ülke olarak 2013'de AB üyesi olması nedeniyle çalışmada değerlendirilmiştir.

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<sup>2</sup> AB liderleri 13.12.1997'de Polonya ve Romanya'nın da içinde olduğu 10 ülke ile müzakerelere başlama kararı aldılar. Polonya'nın katılım antlaşması 23.09.2003 tarihinde, Romanya'nın katılım antlaşması 21.06.2005 tarihinde imzalanmıştır.

Çalışmanın sonraki bölümünü oluşturan II. kısımda literatür çalışması yer alırken III. kısımda ele alınan modelleri (hipotezleri) ve kullanılan verileri, IV. kısımda çalışmanın bulguları ve son kısımda ise çalışmanın sonuçları özetlenmektedir.

## 2. Literatür

Merkezi ve Doğu Avrupa ülkeleri piyasaları için literatürde yapılmış olan araştırmalar, sürü davranışı dışında genellikle piyasaların entegrasyonu, piyasalar arası bulaşıcılık (Contagion) ve pazar etkinliği (market efficiency) konularında yoğunlaşmıştır (Komaromi, 2006: 1-6; Bogdan et al., 2009: 402-415; Plesoianu et al., 2012: 111-118; Pelea et al., 2013: 104-128). Sürü davranışı konusunda yapılmış çalışmalardan biri olan Lipschitz ve Lane (2002: 5-6), Merkezi ve Doğu Avrupa pazarlarına gelen yoğun sermaye akışlarının ekonomileri duygusal piyasa davranışlarına (Market sentiment) ittiğini ifade etmektedir. Caparrelli vd. (2004: 222-230) İtalyan Borsasında 1988-2001 yılları arasında Christie ve Huang ile CCK yöntemlerini kullanarak sürü davranışı varlığını belirlemişlerdir. Kizys ve Pierdzioch (2011: 153-172), durum-uzay modeline dayanarak bölge ekonomilerinde AB üyelik beklentileri altında piyasa beklentilerinin bozulduğunu, belirsizlik ortamına girildiğini, ve sonunda yatırımcıların bir kararsızlık ortamına sokulduğunu ileri sürmektedir.

AB bölgesine ilişkin sürü davranışı ile yapılmış nadir çalışmalardan bazıları ise şöyledir; Mobarek vd. (2014: 107-127) çalışmasında 2001-2012 dönemleri arasında Almanya, Fransa, Portekiz, İtalya, İrlanda, Yunanistan, İspanya, İsveç, Norveç, Danimarka ve Finlandiya borsalarının günlük verilerini kullanarak sürü davranışı araştırmışlardır. Önemli ölçüde ülkelere özel sürü davranışı sonuçlarına ulaşamazken krizler ve piyasa koşullarında önemli miktarda sürü davranışları tespit etmişlerdir. Angela vd. (2015: 354-361), MDAÜ borsalarında 2003 ve 2013 yıllarını içine alan özellikle kriz dönemlerinde sürü davranışını incelemişler ve yatırımcıların sürü davranışlarını belirlemişlerdir. Fang vd. (2021: 1-9) çalışmalarında Christie ve Huang modeli kullanarak, Doğu Avrupa ülkelerini örnek alan çalışmalarında, COVID-19 salgını döneminde tüm borsalarda sürü davranışlarının arttığını belirlemişlerdir. Ferreruela ve Mallor (2021: 1-19) araştırmada, İspanya ve Portekiz borsalarında 2008 Küresel Finansal Krizi ile Covid-19 salgınının dönemlerde sürü davranışı aramışlardır. Günlük veri setini, Chang, Cheng ve Khorana (CCK) yöntemi ile test etmişlerdir. 2008 kriz dönemi öncesinde her iki ülkede sürü davranışını belirlemişlerdir. Kriz dönemi sonrasında ise yoğunluğu azalarak sürü davranışının tekrar görüldüğünü belirlemişlerdir. Covid-19 periyodunda ise İspanya borsasında sürü davranışı görülmezken, pandemi sonrasında tekrar sürü davranışına ilişkin güçlü kanıtlar tespit edilmiştir. Aynı periyotlarda Portekiz borsalarında pandemic dönemi sürü davranışı ortaya çıkarken, pandemi sonrasında ise sürü davranışı kanıtına rastlanmamıştır.

AB Borsaları dışında sürü davranışı varlığının tespit edilmesine yönelik yapılan bazı çalışmaların literatür özeti Tablo 1'de verilmektedir.

**Tablo: 1**  
**AB Borsaları Dışında Sürü Davranışı Varlığına İlişkin Çalışmalar**

Yazar(lar)	Konu ve Çalışma	Dönem	Model	Temel Bulgular
Scharfstein, D.S. ve Stein, J.S. (1990)	Sürü davranışı incelemesi	1987-1990	"Öğrenme" modeli.	Portföy yöneticilerinin birbirlerinin kararlarından etkilenecek birbirlerini taklit ettiklerinin sonucuna ulaşmışlardır.
Christie, W.G. ve Huang, R.D. (1995)	Sürü davranışının fiyatlar üzerindeki etkisi	1962-1988	Getirilerin yatay kesit standart sapmasını (CSSD). Christie & Huang (CH) modelini buldular.	CSSD'nin yükselişe geçen piyasalarda düşen piyasalara oranla sürü hareketlerinin daha çok arttığını göstermiştir.
Chang, Cheng ve Khorana (2000)	Hisse senedi piyasalarında sürü davranışının incelenmesi	1963-1995	Doğrusal olmayan regresyon modeli (CSAD). CH modelini geliştirerek CCK moldi oluşturduklar.	Borsa hareketinin aşırı olduğu dönemlerde ABD ve Hong Kong piyasalarında sürü davranışı buldular.
Hwang ve Salmon (2004).	Piyasalarda sürü davranışı ve stres	1993-2002	Yeni bir yöntem Hwang ve Salmon (HS) kullanmışlardır.	Yükselen (boğa) ve düşen (ayı) piyasasında sürü davranışını tespit etmişlerdir.
Tan, Chiang, Mason ve Nelling (2008).	Çin borsalarında sürü davranışı	1994-2003	CH	Shanghai ve Shenzhen'in borsalarında sürü davranışı belirlenmişlerdir.
Thomas C. Chiang ve Dazhi Zheng (2010)	Küresel borsalarda sürü davranışının analizi	1988-2009	CCK	ABD hariç gelişmiş ilke ekonomileri ve Asya borsalarında sürü davranışının varlığını kanıtlanmıştır. Ancak Latin Amerika borsalarında kriz dönemi dışında sürü davranışının varlığına ilişkin kanıt bulunamamıştır.
Angela, Maria ve Miruna (2015).	Küresel Finansal Kriz kapsamında Orta ve Doğu Avrupa borsalarındaki sürü davranışının ampirik bir araştırması	2003-2013	CCK	Küresel finansal kriz döneminde Hırvatistan, Macaristan, Letonya, Litvanya ve Slovenya borsalarında sürü davranışı varlığı belirlenmiştir.
Filip vd. (2015).	Orta ve Doğu Avrupa hisse senedi piyasalarındaki yatırımcıların sürü davranışı	2008-2020	Chang vd. (2000)	Polonya hariç Çek Cumhuriyeti, Macaristan, Romanya ve Bulgaristan borsalarında sürü davranışı vardır.
Yousaf, Ali ve Shah (2018)	Pakistan borsasında Ramazan döneminde sürü davranışı	2004-2014	CH ve CCK	Düşen veya yükselen borsalarda ve volatilitenin düşük veya yüksek olduğu dönemlerde sürü davranışı varlığına dair kanıt olmadığı ancak Ramazan Bayramı döneminde sürü davranışını belirlemişlerdir.
Júnior, Palazzi, Klotzle ve Pinto (2020).	Emtia piyasalarında sürü davranışını analizi	2018-2020	CCK	ABD'de S&P ve GSC endeksi onbeş emtia piyasasında sürü davranışı varlığı kanıtlanmıştır
Kanojia, Singh, ve Goswami (2022)	Hindistan borsasında sürünün getirileri üzerindeki etkisi	2009-2018	CCK	Sürü davranışı kanıtı bulunamamıştır.
Jiang, Wen, Zhang ve Cui (2022)	Asya hisse senedi piyasalarında COVID-19 döneminde yatırımcıların sürü davranışı	2020-2021	CH, CCK, HS ve MS	Volatilesi yüksek pay senetlerinde yoğun sürü davranışı varlığı tespit edilmiştir. Bununla birlikte 2020 yılı piyasaların düşüş döneminde sürü davranışı oranlarında yükselme olduğu sonucuna ulaşılmıştır.
Li, Chen, Liu, Yu ve Yu (2023)	Borsadaki irrasyonel sürü davranışlarını belirlemede sosyal medya rolünü	2020-2023	HS, CCK, Ren ve Wu	Çin'de sürü davranışı gözlenirken, sosyal medyanın, yatırımcıların akılcı olmayan sürü davranışı üzerinde önemli bir etkiye sahip olduğu belirlenmiştir.
Süsay & Tanrıöven (2023)	BİST'DE para politikasının sürü davranışına etkisi	2003-2021	ARDL	Para politikasının sürü davranışına etkisi vardır.
Keskin (2024b)	Borsada işlem gören futbol takımlarının galibiyet yada malûbiyeti sonrası taraftar sürü davranışı	2013-2024	Lojistik Regresyon	AFC Ajax takımın maç kazanmasının hisse senedi fiyatının yükselmesi ile anlamlı ilişkisi vardır.
Hancı ve Atay (2024)	Sanal para piyasasında sürü davranışı	2019-2022	Chang vd. (2000) Hwang ve Salmon (2004) yöntemi	Coin ve tokenlarda sürü davranışı vardır.
Keskin (2024c)	Finansal varlık bağımlılıkları ve sürü davranışı örnekleri	1634-2023	Ampirik araştırma	Psikolojik, sosyolojik, kültürel değişkenden etkilenecek yatırım kararları kolaylıkla irrasyonel hale gelebilmektedir.

Bu çalışmada ise sosyalist pazar dönemi sonrasında AB üyesi olan Merkezi ve Doğu Avrupa Ülkeleri (MDAÜ) bölgesinden Hırvatistan, Polonya ve Romanya borsalarında sürü davranışları üç farklı model yardımı ile araştırılmıştır.

### 3. Veri ve Yöntem

Sürü davranışı konusunda ikinci guruba giren araştırmacılar "piyasa ölçeğinde" (Market-wide) piyasaya dönük sürü davranışı tanımını getirmişler ve ampirik çalışmalarını, temelde aynı olan, ancak varsayımlarına göre değişen hipotezlere dayanarak yürütmüşlerdir. Bu guruptaki çalışmalar arasında Christie ve Huang (1995: 31-37), ampirik uygulamalar için hisse senetlerinin getirilerinin yatay kesit standart sapmalarını (Cross-sectional Standard Deviations-CSSD) temel gösterge olarak almışlardır. Hipoteze göre ekstrem piyasa koşulları altında, yani stres halinde yatırımcıların davranışları piyasadaki beklenen getiriye doğru kayarak, beraberce (sürü) hareket ederler ve bu beraber hareketten dolayı hisse senetlerinin (veya portföylerinin) getirileri birbirlerine yaklaşır, yani getirilerin standart sapmaları küçülür. Bu hipotezi sınamak için önerdikleri model aşağıdaki gibidir:

$$CSSD_t = \alpha + \beta_1^L D_t^L + \beta_2^U D_t^U + \varepsilon_t \quad (1)$$

Bu bağlamda;

**CSSD<sub>t</sub>**, t tarihinde (ayında), tüm hisse senetleri getirileri arasındaki yatay kesit standart sapma,

**D<sub>t</sub><sup>L</sup>**, piyasa getirileri küçükten büyüğe sıralandığı zaman, en altta kalan % 1 lik veya % 5 lik getirileri gösteren dami (kukla) değişkeni (**D<sub>t</sub><sup>L</sup>**=1 değilse **D<sub>t</sub><sup>L</sup>**=0),

**D<sub>t</sub><sup>U</sup>** ise en üstte kalan % 1 veya % 5 getirileri gösteren dami değişkenidir (**D<sub>t</sub><sup>U</sup>**=1, değilse **D<sub>t</sub><sup>U</sup>**=0).

Hata teriminin ise  $\varepsilon_t$  ortalaması sıfır ve varyansı sabit olan normal bir dağılım gösterdiği varsayılmaktadır. Sürü davranışını kanıtlayan koşul ise, daimi değişkenlerin katsayılarının  $\beta_1^L < 0$  ve  $\beta_2^U < 0$  olması, her ikisinin (-) işareti taşıması ve aynı zamanda istatistiksel açıdan anlamlı çıkmasıdır.

İkinci model, Chang et al. (2000) hipotezine dayanmaktadır. Bu araştırmacılar, CSSD yerine getirilerin mutlak değerler arasındaki yatay kesit standart sapmalarını (CSAD) esas almışlardır. Bunun için piyasa (borsa) getirilerini kazananları  $CSAD_t^{UP}$  ve kaybedenleri  $CSAD_t^{Down}$  olarak iki grupta toplamışlar ve herbiri için aşağıdaki gibi birer çoklu regresyon uygulamışlardır:

$$CSAD_t^{UP} = \alpha + \gamma_1^{UP} |r_{mt}^{UP}| + \gamma_2^{UP} (r_{mt}^{UP})^2 + \varepsilon_t$$
$$CSAD_t^{Down} = \alpha + \gamma_1^{Down} |r_{mt}^{Down}| + \gamma_2^{Down} (r_{mt}^{Down})^2 + e_t \quad (2)$$

Burada  $CSAD_t^{UP}$ , kazanan dönemler için getirilerin mutlak değerlerin yatay kesit standart sapmalarını (Cross-sectional Absolute Deviations-CSAD),  $CSAD_t^{Down}$  kaybeden dönemler için getirilerin mutlak değerlerinin yatay kesit standart sapmalarını,  $|r_{mt}^{UP}|$  kazananların getirilerini, ikinci terim getirilerin karesini göstermektedir.

İkinci eşitlikte ise  $|r_{mt}^{Down}|$  kaybeden dönemlerin getirilerinin mutlak değerlerini ve ikinci terim ise getirilerin karesini göstermektedir. Hata terimlerinin ise, yine ortalaması sıfır ve varyansı sabit olan normal dağılımlar gösterdikleri varsayılmaktadır. Chang vd. (2000: 1651-1679) hipotezi sürü davranışının göstergesi olarak linear getiri değişkeni ile ilgili katsayının  $\gamma_1 > 0$  ve anlamlı olması, kuadratik getiri değişkeni ile ilgili katsayının  $\gamma_2 < 0$  ve anlamlı çıkması gerektiğini ileri sürmüşlerdir. Çünkü bu durumda CAPM hipotezinin doğrusallık (linearity) varsayımı geçersiz olacak ve aynı zamanda getirilerin yatay kesit standart sapmaları, hem yukarıdan (kazananlar için), hem aşağıdan (kaybedenler için) küçülecektir ve böylece yatırımcıların beraberce hareket ederek, piyasa getiri ortalamasına yaklaştıkları ortaya çıkmış olacaktır.

Sürü davranışı ile ilgili üçüncü model Hwang ve Salmon (2004: 585-616) tarafından önerilen ve piyasa getirilerine değil hisse senetleri betalarının yatay kesit dağılımlarını temel gösterge olarak alan hipotezdir. Hwang ve Salmon (2004: 585-616), yeni bir kavram getirerek, borsada sürü davranışlarının gözlemlenemediğini, ancak ekonometrik olarak ortaya çıkarılabileceğini ileri sürmüşler ve bu davranış biçimine "Duygusal Sürü Davranışı (Sentimental Herding)" adını vermişlerdir. Bu çalışmada, Polonya, Romanya ve Hırvatistan borsaları için Hwang ve Salmon (2004: 585-616) hipotezi de sınanmıştır. Bu modelin varsayım ve bağıntıları aşağıda verilmiştir;

Hwang ve Salmon (2004: 585-616), m piyasasında, i-hisse senedi için, t-periodu için tahmin edilen ampirik betanın ( $\beta_{imt}^b$ ), kısa zaman içinde yanlı (Biased) olduğunu kabul etmişlerdir. Böyle bir hisse senedinin, CAPM ye göre beklenen getirisi  $E_t(r_{it})$ , aşağıdaki gibi olacaktır;

$$E_t(r_{it}) = \beta_{imt} E_t(r_{mt}) \text{ ve böylece } \frac{E_t^b(r_{it})}{E_t(r_{mt})} = \beta_{imt}^b \quad (3)$$

Bu bağıntıda kısa dönemde, i-hisse senedi için, t-zamanı şartlı getiri beklentisi (conditional expectation),  $E_t^b(r_{it})$  ve ilgili beta  $\beta_{imt}^b$  nın ikisi de yanlıdır. Hwang ve Salmon hipotezine göre latent olan ve gözlemlenemeyen sürü davranış parametresi "h<sub>mt</sub>", gerçek beta  $\beta_{imt}$  ile piyasanın "1" olan değeri arasındaki farkının bir oranı (proportional) dır. Böylece yanlı olan beta  $\beta_{imt}^b$ , gerçek beta  $\beta_{imt}$  'dan, sürü davranış parametresi tahmininin çıkarılması ile elde edilir:

$$\beta_{imt}^b = \beta_{imt} - h_{mt}(\beta_{imt} - 1) \quad (4)$$

Eğer sürü davranışı yoksa  $h_{mt}=0$  olur. Böylece gözlemlenen beta gerçek betaya eşittir,  $\beta_{imt}^b = \beta_{imt}$ . Eğer  $h_{mt} = 1$  ise, bu sefer  $\beta_{imt}^b = 1$  olur, yani yanlış beta piyasa betası olan "1" e eşit olur. Yani tüm betalar piyasa betasına eşitlenir, ki bu da tam bir sürü davranışı (Perfect herding) anlamına gelir. Ancak eğer  $0 \leq h_{mt} \leq 1$  sonucu çıkarsa, bu borsada bir miktar sürü davranışı olduğunu gösterir. Sürü davranışının yoğunluğu,  $h_{mt} \rightarrow 1$  bağlıdır. Son olarak, eğer model belirli dönemler için  $h_{mt} < 0$  sonucunu veririrse, bu durum sözkonusu dönem için ters sürü davranışı (Adverse herding) anlamına gelir. Yukarıdaki (2) numaralı bağıntının yatay kesit standart sapması (CSBD) aşağıdaki gibidir;

$$SD_c (\beta_{imt}^b) = SD_c (\beta_{imt}) (1 - h_{mt}) \quad (5)$$

Burada alt simge (subscript) c yatay kesit anlamındadır. Kısa dönemde  $SD_c (\beta_{imt})$  değişmeyeceği veya anlamlı bir değişikliğe uğramayacağı düşünülürse,  $SD_c (\beta_{imt}^b)$  ortaya çıkan sapmaların nedeni sürü davranışına bağlanmaktadır. Yukarıdaki (3) numaralı bağıntının logaritması alınırsa, aşağıdaki bağıntı elde edilir:

$$\ln [SD_c (\beta_{imt}^b)] = \ln [SD_c (\beta_{imt})] + \ln (1 - h_{mt}) \quad (6)$$

Bu bağıntıdaki  $\ln [SD_c (\beta_{imt})]$  teriminin sabit kalacağı düşünülürse bu terim  $\mu_m$  sabit katsayı olur ve  $\ln (1 - h_{mt}) = H_{mt}$  olarak tanımlanırsa ve ayrıca  $H_{mt}$  nin bir dönem gecikmeli otoregressive bir AR(1) proses ile ürettiği düşünülürse system aşağıdaki gibi bir durum-uzay (State-space) modeline dönüşür.

$$\ln [Std_c (\beta_{imt}^b)] = \mu_m + H_{mt} + v_{mt} \text{ Sinyal bağıntısı (Signal equation)}$$

$$H_{mt} = \phi H_{mt-1} + \eta_{mt} \text{ Durum bağıntısı (State equation)} \quad (7)$$

Burada  $v_{mt}$  iid  $(0, \sigma^2_{mv})$  ve  $\eta_{mt}$  iid  $(0, \sigma^2_{m\eta})$  dir. Bu eşitlikler sistemi Kalman filtresi ile rahatça çözümlenir: Bu modelde iki parametre çok önemlidir:

Birincisi  $\eta_{mt}$ ; hata terimi ile ilgili olan varyans  $\sigma^2_{m\eta}$ ,

İkincisi ise AR(1) proses ile ilgili  $\phi$  persistan (ısrarcılık) parametrenin istatistiksel açıdan anlamlı olması gerekmektedir. Anlamlı bulunan varyans ( $\sigma^2_{m\eta}$ ), sürü davranış göstergesi olan  $H_{mt}$  sıfırdan farklı olduğunu gösterir, yani  $H_{mt} \neq 0$ . Bunun tamamlayıcısı olarak persistans parametresinin  $\phi$  mutlak değerinin "1" den daha küçük bir değer taşımasını gerektirir, yani  $|\phi| \leq 1$ . Bu durum, sürü davranış patikasının patlayan (explosive) biçimde değil, kontrollü olarak sürdüğünü garanti etmektedir. Ancak sürü davranışına daha güçlü bir kanıt sağlamak için (7) numaralı modelin sinyal bağıntısına borsanın getirileri ve bu getirilerin standart sapmalarını da ekleyerek yeniden bir çözüm elde etmek gerekmektedir. Bu işlem modeli tekrar sınamaya anlamındadır. Gerekçesi de şöyledir. Yukarıdaki (7) numaralı modelin çözümleri sürü davranışı olabileceğini işaret etmekle beraber, bu çözümden elde edilen  $H_{mt}$  sadece duygusal sürü davranışı etkisiyle değil, aynı zamanda ulusal borsa endeksindeki dinamiklerden de kaynaklanmış olabilir. Sinyal bağıntısına eklenen borsanın getirileri ve bu getirilerin standart sapmaları yeni çözümler ile anlamlı çıkarsa, ve aynı

zamanda yukarıda sözkonusu edilen iki anahtar parametre de (varyans  $\sigma_{m\eta}^2$  ve  $\varphi$  persistan parametresi) hala anlamlı bulunmuş ise, bu sürü davranış bulgusunun güçlü olduğunu gösteren önemli bir bulgu ve sınama demektir (Hwang ve Salmon 2004). Buna göre, sınama için kullanılan yeni model aşağıdaki gibi olacaktır;

$$\ln[Std_c(\beta_{imt}^b)] = \mu_m + H_{mt} + \theta_{c1} \ln \sigma_{mt} + \theta_{c2} r_{mt} + v_{mt}$$
$$H_{mt} = \varphi_m H_{mt-1} + \eta_{mt} \quad (8)$$

Burada iki hata teriminin beyaz-gürültü (white-noise),  $\ln \sigma_{mt}$  ulusal endeks getirilerinin standart sapmasını (Log) ve  $r_{mt}$  ise ulusal endeksin getirilerini göstermektedir. Son olarak betaların yatay kesit standart sapmaları aşağıdaki formülle bulunmaktadır:

$$Std(\beta)_t = \sqrt{\frac{\sum_{i=1}^n (\beta_{it} - \overline{\beta a}_t)^2}{n-1}}$$

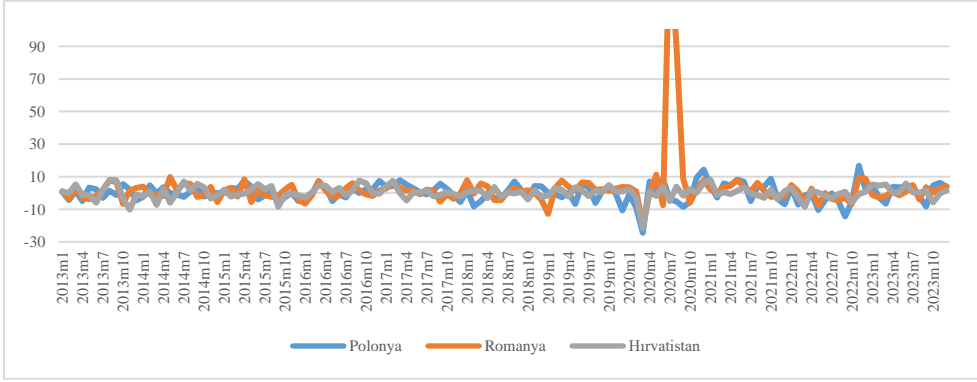
Burada  $\overline{\beta a}_t$  her dönem için tüm hisse senetleri betalarının ortalamasını göstermektedir.

Böylece özet olarak, bu çalışmamızın MDAÜ bölgesinin üç önemli ülkesi Polonya, Romanya ve Hırvatistan borsalarında, bugün en çok geçerli olan üç farklı hipoteze dayanarak sürü davranışı arayışları yapılmış ve sonuçlar takip eden bölümlerde verilmiştir.

Polonya WIG20, Romanya BET (L) ve Hırvatistan CROBEX borsalarında işlem gören hisse senetleri için Ocak-2013'ten Aralık 2023 yılları arasını kapsayan 3000 günlük kapanış fiyatları verileri kullanılmıştır. Veriler "www.investing.com" sitesinden elde edilmiştir. Bu verilerden log-getiri olarak hem günlük hem de aylık bazda gözlemler elde edilmiştir. Günlük verilerden hem aylık getiriler hem de beta katsayıları her ay ve her hisse senedi için hesaplanmıştır. Borsalardaki volatilité Şekil 1'de gösterilmiştir. Bir önceki ayın kapanışına göre aylık değişimi ifade eden Şekil 1' de ilk dikkati çeken husus, Romanya borsasının Polonya'ya göre daha fazla volatiliteye konu olmasıdır.



**Şekil: 1**  
**Borsa Endekslerindeki Volatilite**



Şekil 1’de diğer göze çarpan bir gözlem, endekslerin volatilitesiyle ilgilidir. 2019 ve 2020 yıllarında yaşanan pandemi ve 2023 yılı başında meydana gelen Rusya-Ukrayna savaşlarının neden olduğu volatilitte grafikte açık bir şekilde görülmektedir.

#### 4. Bulgular ve Tartışma

Polonya, Romanya ve Hırvatistan borsalarında sürü davranış arayışları için elde edilen bulgular sırasıyla: Christie ve Huang (1995) hipotezi için Tablo 2’de, Chang vd. (2000) hipotezi için Tablo 3’de ve Hwang ve Salmon (2004) hipotezi için Tablo 4’te verilmiştir.

Christie ve Huang (1995) hipotezinde sürü davranışının kanıtları olarak ileri sürülen  $\beta_1^L < 0$  ve  $\beta_2^U < 0$  koşullarının üç ülke için de sağlandığı tespit edilmiştir (Tablo 2).

Polonya ve Hırvatistan’da her iki katsayının aynı zamanda istatistiksel açıdan anlamlı olduğu tespit edilmiştir. Polonya ve Hırvatistan için katsayıların sıfırdan anlamlı düzeyde farklı olması ve negatif işarete sahip olması ekstrem piyasa şartları altında sürü davranış kanıtı olarak gösterilebilir (Tablo 2).

Romanya için en çok getiri sağlanan dönemde sıfırdan anlamlı farklı iken en az getiri sağlanan dönemde sıfırdan anlamlı farklı olmadığı tespit edilmiştir. Romanya için yalnızca en çok getiri sağlanan dönemdeki katsayının sıfırdan anlamlı düzeyde farklı olması ve negatif işarete sahip olması yalnızca yukarı yönlü ekstrem piyasa koşullarında sürü davranış kanıtı olarak gösterilebilir. Bununla birlikte en az getiri sağlanan dönemdeki katsayının sıfırdan anlamlı farklı olmaması aşağı yönlü ekstrem piyasa koşullarında sürü davranışına kanıt olmadığını göstermektedir (Tablo 2).

**Tablo 2**  
**Sürü Davranışının Christie ve Huang (1995) Hipotezi İle Sınanması**  
**Polonya, Romanya ve Hırvatistan Borsaları, 2013-2023**

	Polonya		Romanya		Hırvatistan	
	Katsayı	t-istatistiği	Katsayı	t-istatistiği	Katsayı	t-istatistiği
Sabit katsayı	0,525	8,344**	-0,007	-1,278n	0,438	6,511**
D <sup>L</sup> %5 enaz	-0,088	-2,628**	-0,039	-1,124n	-0,093	-4,871**
D <sup>U</sup> %5 ençok	-0,065	-2,089*	-0,052	-1,996*	-0,062	-3,152**
R-kare düzeltilmiş		0,011		0,004		0,011

\*\* $\alpha=0,01$  de anlamlı, \* $\alpha=0,05$  de anlamlı n=anlamsız

Chang vd. (2000) hipotezi ile ilgili bulgulara göre (Tablo 3), her iki ülke borsalarında sürü davranış biçimlerine rastlanmamıştır. Yukarıda ifade edildiği gibi sürü davranışının kanıtları olarak getiri değişkeninin katsayısının  $\gamma_1 > 0$  olması ve anlamlı çıkması ile getirilerin karesi (kuadratik) olan değişkenin katsayısının  $\gamma_2 < 0$  olması ve anlamlı çıkması koşulları ileri sürülmüştür. Tablo 3' de görüldüğü gibi;

Polonya borsasında kaybeden dönemde linear terim negatif, kareli terim pozitif ancak anlamlı değildir. Kazanan dönemde ise linear terim pozitif ancak anlamsız, kareli terim ise negatiftir. Polonya borsasında her iki dönemde de sürü davranışı kanıtı için sözkonusu koşullar gerçekleşmemiştir.

Romanya ve Hırvatistan borsalarında kaybeden ve kazanan dönemlerin her ikisinde de linear terim negatif, kareli terim pozitifdir. Diğer bir ifadeyle Romanya ve Hırvatistan borsalarının her ikisinde her iki dönemde de sürü davranışı kanıtı için sözkonusu koşullar gerçekleşmemiştir.

**Tablo 3**  
**Sürü Davranışının Chang vd. (2000) Hipotezi ile Sınanması**  
**Hırvatistan, Polonya ve Romanya Borsaları, 2013-2023**

	Polonya		Romanya		Hırvatistan	
	Katsayı	t-istatistiği	Katsayı	t-istatistiği	Katsayı	t-istatistiği
<b>Kaybeden Dönemler</b>						
Sabit katsayı	0,173	175,979**	-0,002	-17,230**	0,136	169,736**
R <sup>down</sup> Linear terim	-0,049	-2,392**	-0,201	-10,830**	-0,287	-14,140**
R <sup>down</sup> Kareli terim	-0,010	-0,549n	0,119	6,421**	0,199	9,829**
R-kare		0,003		0,021		0,034
<b>Kazanan Dönemler</b>						
Sabit katsayı	0,174	167,594**	-0,002	-13,895**	0,134	165,541**
R <sup>down</sup> Linear terim	0,024	0,625n	-1,252	-13,613**	-1,489	-14,037**
R <sup>down</sup> Kareli terim	-0,139	-3,623**	1,271	13,822**	1,499	14,085**
R-kare		0,005		0,031		0,033

Buna göre Chang vd. (2000) hipotezinin sınama sonuçlarında Polonya, Romanya ve Hırvatistan borsalarında sürü davranışlarına rastlandığına dair herhangi bir kanıttan söz etmek mümkün değildir.

Üçüncü sürü davranışı arayışı Hwang ve Salmon (2004) hipotezine dayanmaktadır. Bu hipotez, piyasa getirilerine değil, sermaye varlıklarının betalarının yatay kesit dağılımlarına oturmaktadır. Ampirik çözümler için betaların yatay kesit standart sapmalarının logaritmaları açıklanan değişken olarak kullanılmakta ve yukarıda (7) numaralı

bağıntılarla ifade edilen baz anlamındaki durum-uzay (State-space) modeli ile (8) numaralı bağıntılarla ifade edilen güçlülük (Robustness) için sınıranan durum-uzay modeli kullanılmaktadır. Çözümler ise Kalman filtresi ile gerçekleştirilmektedir. Polonya, Romanya ve Hırvatistan borsaları için Hwang ve Salmon (2004) hipotezine dayanılarak elde edilmiş bulgular Tablo 4'te özetlenmiştir :

Polonya için yalnızca bir parametrenin anlamlı olduğu, AR(1) prosesi ile ilgili olan persistensi katsayısı  $\phi_m$  tahmini ve durum (state) bağıntısı ile ilgili hata terimi varyansının  $\sigma_{m\eta}$ , anlamlı olmadığı tespit edilmiştir. Buna göre, baz model (7) sonuçları Polonya borsasında duygusal sürü davranışının gerçekleştiğine dair kanıt bulunamamıştır. Polonya borsası için tahmin edilen persistans parametre tahmini  $\phi = 0.026$  ve anlamlı olmadığından Polonya borsasındaki yatırımcılar persistan göstermemişlerdir. Polonya borsasındaki yatırımcılar piyasadaki dengesizlik durumundan uzun vadeli piyasa getiri-risk denge durumuna yavaş bir dönüş yapabilmekte, yani piyasa mekanizması kurallarına yavaş dönebilmektedirler. Polonya'nın borsa getiri volatilitesi (getirilerin standart sapması) ile ilgili katsayısı 0,20 dir ve  $\alpha = 0.05$  anlamlık düzeyinde testi geçmektedir. Yani Polonya borsasında ortaya çıkan getiri riski arttıkça, yatay kesit beta standart sapması da büyümektedir. Bu esneklik katsayısı Polonya'da borsa riski arttıkça  $\ln[Std_c(\beta_{imt}^b)]$  'nin de büyüdüğünü göstermektedir. Bu durum borsada sürü davranışını olmadığını göstermektedir.

Romanya için iki parametre dışındaki parametrelerin anlamlı olduğu, AR(1) prosesi ile ilgili olan persistensi katsayısı  $\phi_m$  tahmini ve durum (state) bağıntısı ile ilgili hata terimi varyansının  $\sigma_{m\eta}$ , anlamlı olduğu tespit edilmiştir. Buna göre, baz model (7) sonuçları Romanya borsasında duygusal sürü davranışının gerçekleştiğine dair kanıt sunmaktadır. Romanya borsası için tahmin edilen persistans parametre tahmini  $\phi = 0.418$  ve anlamlı olduğundan Romanya borsasındaki yatırımcılar persistan göstermektedir. Romanya borsasındaki yatırımcılar piyasadaki dengesizlik durumundan uzun vadeli piyasa getiri-risk denge durumuna hızlı bir dönüş yapabilmekte yani piyasa mekanizması kurallarına çabuk dönebilmektedirler. Romanya'nın borsa getiri volatilitesi (getirilerin standart sapması) ile ilgili katsayısı -17,10 dir ve  $\alpha = 0.05$  anlamlık düzeyinde testi geçmektedir. Yani Romanya borsasında ortaya çıkan getiri riski arttıkça, yatay kesit beta standart sapması küçülmektedir. Bu esneklik katsayısı Romanya'da borsa riski arttıkça  $\ln[Std_c(\beta_{imt}^b)]$  'nin küçüldüğünü göstermektedir. Bu durum borsada sürü davranışını kanıtı olarak gösterilebilir.

Hırvatistan için iki parametre dışındaki parametrelerin anlamlı olduğu, AR(1) prosesi ile ilgili olan persistensi katsayısı  $\phi_m$  tahmininin anlamlı olmadığı, buna karşın durum (state) bağıntısı ile ilgili hata terimi varyansının  $\sigma_{m\eta}$ , anlamlı olduğu tespit edilmiştir. Buna göre, baz model (7) sonuçları Hırvatistan borsasında duygusal sürü davranışının gerçekleştiğine dair kanıt sunamamıştır. Hırvatistan borsası için tahmin edilen persistans parametre tahmini  $\phi = 0.096$  ve anlamlı olmadığından Hırvatistan borsasındaki yatırımcılar persistan göstermemektedir. Hırvatistan borsasındaki yatırımcılar piyasadaki dengesizlik durumundan uzun vadeli piyasa getiri-risk denge durumuna dönememekte yani piyasa mekanizması kurallarına çabuk uyum sağlayamamaktadır. Hırvatistan'nın borsa getiri

volatilitesi (getirilerin standart sapması) ile ilgili katsayısı -0,46 dir ve  $\alpha = 0.05$  anlamlık düzeyinde testi geçememiştir. Yani Hırvatistan borsasında ortaya çıkan getiri riski arttıkça, yatay kesit beta standart sapması değişmemektedir. Bu esneklik katsayısı Hırvatistan'da borsa riski arttıkça  $\ln[Std_c(\beta_{imt}^b)]$  'nin değişmediğini, diğer bir ifadeyle Hırvatistan borsasında sürü davranışına kanıt bulunamadığını göstermektedir.

**Tablo: 4**  
**Sürü Davranışının Hwang ve Salmon (2004) Hipotezi İle Sınanması**  
**Hırvatistan, Polonya ve Romanya Borsaları, 2013-2023**

	Polonya		Romanya		Hırvatistan	
	Base Model	Full Model	Base Model	Full Model	Base Model	Full Model
$\mu$	29,339**	0,0007n	1,768n	0,0356n	2,988**	0,002n
$\phi_m$	0,942**	0,026n	0,998**	0,418**	0,955**	0,096n
$\sigma_{mv}$	2,009**	1,951**	0,713**	0,606**	0,326**	0,496**
$\sigma_{mn}$	2,424**	0,144n	0,011**	0,038**	0,002**	0,002**
Ln (gof return)	-	0,197*	-	-17,101**	-	-0,461n
Return	-	0,002	-	0,435**	-	0,096n
$\sigma_{mn}/SD(\ln\beta)$	-	2,415	-	0,038	-	0,723
Log-Likelihood	-492,584	-595,852	-98,181	-370,418	-301,723	-528,465
Schwartz criterion	7,727	9,316	1,660	5,848	4,792	8,280

Notlar: \*\* içeren katsayılar  $\alpha=0,01$ 'de anlamlıdır. Sinyal denkleminin kesişme noktası  $\mu$ 'dur.  $\phi_m$ , durum denkleminin tek gecikmeli sürü göstergesi  $H_t$ 'yi  $H_{t-1}$  ile ilişkilendiren otoregresif (bir derece) kalıcılık parametresidir,  $\sigma_{mv}$ , sinyal denkleminin hatasının standart sapmasıdır ve  $\sigma_{mn}$ , durum denkleminin hatasının standart sapması. Schwarz IC model seçimi içindir: daha düşük değerler pazar uyumunun daha iyi olduğunu gösterir.

Tablo 5'de Christie ve Huang (1995), Chang et al.(2000) ve Hwang ve Salmon (2004) hipotezlerinin karşılaştırmalı özet değerlendirmeleri görülebilmektedir.

**Tablo: 5**  
**Christie ve Huang (1995), Chang et al. (2000) ve Hwang ve Salmon (2004)**  
**Hipotezlerinin Hırvatistan, Polonya ve Romanya Borsalarında Sürü Davranışı**  
**Özetleri (2013-2023)**

	Polonya	Romanya	Hırvatistan
Christie ve Huang (1995)	1	1	1
Chang, Cheng ve Khorana (2000)	0	0	0
Hwang ve Salmon (2004)	0	01	01

Notlar: 1: var, 0: yok, 01: duygusal sürü davranışı var.

Tablo 5'e göre Christie ve Huang (1995) hipotezinde 2013:01-2023:12 dönemlerinde Polonya, Romanya ve Hırvatistan borsalarında sürü davranışı kanıtlarına ulaşılırken Chang vd. (2000) göre bu üç borsada sürü davranışı gözlenememiştir. Hwang ve Salmon (2004) hipotezinde ise Polonya borsasında sürü davranışı gözlenemezken Romanya ve Hırvatistan borsalarında duygusal sürü davranışı izlerine rastlanmıştır. Tablo 5'de yer alan hipotez sonuçlarındaki farklılıkların üç ülke borsalarında işlem yapan yatırımcıların sistematik ve sistematik olmayan riskler karşısında takındıkları tutumların etkilerinden kaynaklandığı değerlendirilmektedir.

## 5. Sonuç

Sürü davranışları, borsalarda etkin olmayan piyasalara yol açması ve sermaye varlıkları fiyatlandırmalarının yanlış belirlenmesine yol açabilmesi bakımından araştırmalara değer bir sorundur. Bu durumda CAPM geçersiz kalır.

Bu çalışmada, günümüzde Avrupa Birliği üyeleri olan eski üç sosyalist ülkeden MDAÜ'de ilk grupta üye olan Polonya, ikinci grupta üye olan Romanya ve en son üye olan Hırvatistan borsaları değerlendirilmiştir. Bu çalışmada Christie ve Huang (1995), Change vd. (2000) ve Hwang ve Salmon (2004) yöntemlerinden yararlanılarak Hırvatistan, Polonya ve Romanya borsalarında sürü davranışının izleri incelenmiştir.

Christie ve Huang (1995) yönteminde Polonya ve Hırvatistan borsalarında sürü davranışı kanıtlarının olduğu, yukarı veya aşağı yönlü ekstrem piyasa koşullarında yatırımcıların sürü davranışı sergiledikleri sonuçları elde edilmiştir. Christie ve Huang (1995) yönteminde Romanya için en çok getiri sağlanan (yukarı yönlü) ekstrem piyasa koşullarında sürü davranışına kanıt olmakla birlikte, aşağı yönlü ekstrem piyasa koşullarında sürü davranışından söz edilememektedir.

Change vd. (2000) yönteminde Hırvatistan, Polonya ve Romanya borsalarının hiçbirinde sürü davranışı kanıtlarına rastlanamamıştır. Dolayısıyla bu yönetime göre analize dahil edilen üç ülkenin yatırımcılarının sürü davranışı sergilediğinden söz edilememektedir.

Hwang ve Salmon (2004) yönteminde Polonya ve Hırvatistan borsalarında sürü davranışına ilişkin yeterli kanıt olmadığı, Romanya borsasında ise getiri riski arttıkça, diğer bir ifadeyle aşağı yönlü ekstrem piyasa koşullarında duygusal sürü davranışından söz edilebileceği sonuçları elde edilmiştir.

Bulgulara göre hipotezler arasında farklı sonuçlara ulaşmanın nedeni, her üç borsada da yatırımcıların piyasadaki risklere bakış açılarından kaynaklanmış olmasıdır. Sermaye varlıkları alan/satan oyuncular piyasadaki toplam riske değil, yalnızca pazar riskine önem vermiş olabilirler. Bilindiği gibi sermaye varlıkları fiyatlama modeli (CAPM), piyasa versiyonu olarak  $R_{it} = \alpha_t + \beta_{it} R_{mt} + e_{it}$  şeklindedir. Bu modelin varyans olarak ifadesi  $\sigma_{it}^2 = \beta_{it}^2 \sigma_{mt}^2 + \sigma_{it}^2$  dir. Burada eşitliğin solundaki varyans sermaye varlığının (hisse senedi veya portfolyo olabilir) toplam riskidir. Toplam risk eşitliğin sağında yer alan iki komponentten oluşmaktadır. Birincisi  $\beta_{it}^2 \sigma_{mt}^2$  pazar riski olarak bilinen sistematik riski, ikincisi ise sermaye malını piyasaya süren kurumların riski, yani sistematik olmayan (idiosyncratic) risktir. Yatırımcılar, kendilerine aracılık eden kurumların ve yabancı yatırımcıların çok iyi bildikleri gibi kurumlar riskinin önemsiz olduğunu ve özellikle portföy yatırımlarında bu sistematik olmayan riskin asimptotik olarak sıfıra yaklaşacağını bilinçli veya başkalarına uymak suretiyle hisleriyle biliyor olabilirler. Kısacası Hwang ve Salmon'ın hipotezinin, Romanya yatırımcılarının davranış biçimlerine daha uygun, yani karar verirken yalnızca pazar riskinin göstergesi olan betaları dikkate aldıklarını gösteren, bir hipotez olduğu söylenebilir. Ayrıca, Polonya yatırımcılarının piyasa koşullarına, Romanya yatırımcılarına

göre daha çabuk adapte olduklarını ve şartlar düzeldiği, yani piyasa kolayca okunur hale geldiği zaman, Polonya yatırımcılarının daha hızlı biçimde sürü davranışlarından vazgeçip, piyasa denge çizgisine döndüklerini ve Hırvatistan yatırımcısının borsa riski azaldıkça, piyasa denge düzlemine Romanya ve Polonya yatırımcısından daha hızlı dönebildiklerini göstermiştir.

Literatürde bu tür yapılmış bir çalışmanın olmaması nedeni ile çalışmanın sonucunun diğer çalışmalarla karşılaştırılması yapılamamış olmakla birlikte, Keskin (2024c) ile benzer, Angela vd. (2015) çalışmalarının bir yönü ile benzer sonuçlara ulaşılırken, Filip vd. (2015), Süsay ve Tanrıöven (2023) çalışmaları bulguları ile aksi sonuçlara ulaşılmıştır.

Çalışmanın sınırlıkları, Hırvatistan, Polonya ve Romanya borsalarında sürü davranışının 2013-2023 yıllarını içine alan dönemde açıklanmaya çalışılmasıdır. Ayrıca bu çalışmanın kısıtları arasında, yatırımcıların irrasyonel yatırım kararları almalarına neden olabilecek kültürel alışkanlıklar, sosyolojik yapılar ve diğer unsurların çalışmada değerlendirilmemiş olmasıdır. Çalışmanın bulguları değerlendirildiğinde; MDAÜ de yer alan tüm ülkelerin borsaları çalışmaya konu edilmemiştir. Borsalara kote olan MDAÜ’de yer alan şirketlerinin sayısının artırılması sürü davranışlarının varlığının sınanmasında önemli olabilir. Elbette bu durum sadece MDAÜ özelinde değil, diğer AB üyesi ülkelerin borsaları ve hatta Euronext borsası içinde geçerli olabilecek genel bir öneridir. Gelecekte yapılacak çalışmalar arasında; MDAÜ bölgesinde yer alan farklı ülkeler ve yine Kuzey Avrupa ülkelerinde bulunan sermayesi büyük borsalardaki sürü davranışlarının karşılaştırılması olarak ele alınması düşünülebilir. Bu çalışmaların literatüre katkı sağlayacağı değerlendirilmektedir.

Riskler söz konusu olduğunda, yatırım kararları karmaşık karar mekanizmalarını içerebilmektedir. Bu durum, yatırımcıların riske katlanma duyarlılıklarını mantıklı yatırım kararlarıyla eşleştirmede zorlanmalarına neden olabilmektedir. Yatırımcıların, kısmen duygulardan kaynaklı yatırımlar yapmaktan kaçınmaları için portföy yönetim danışmanlıklarından faydalanmaları mümkündür. Ancak bu ülkelerin gelir düzeyleri AB’ye daha önce üye olan ülkelere göre nispeten düşük olduğu için yatırımcılar bugüne kadar bu imkanlardan yeterince yararlanamamış olabilirler.

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## Türkiye’de Bölgesel Enflasyon Yakınsaması: Nahar-Inder Yakınsama Testinden Kanıtlar

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### Regional Inflation Convergence in Türkiye: Evidence from Nahar-Inder Convergence Test

#### Abstract

This study aims to test the existence of the convergence hypothesis for the inflation rates of 26 NUTS-2 regions based on the Nomenclature of Territorial Units for Statistics (NUTS) in Türkiye in the period 2004:1-2022:1 using the Nahar-Inder (2002) convergence test approach. This approach is defined as a polynomial-type convergence technique that can detect the presence of convergence even when the series studied are not stationary and allow the determination of units that show different behaviour patterns within the examined group. The study’s findings, in which this technique was used for the first time in the relevant literature, indicate a strong inflation convergence among regions in Türkiye during the review period and that the implemented monetary policy can be effectively used.

**Keywords** : Regional Inflation, Monetary Policy, Convergence.

**JEL Classification Codes** : E31, O47, E52.

#### Öz

Çalışmada, 2004:1-2022:1 döneminde Türkiye’de İstatistikî Bölge Birimleri Sınıflaması (İBBS) bazında 26 Düzey-2 bölgenin enflasyon oranları için yakınsama hipotezinin varlığının Nahar-Inder(2002) yakınsama testi yaklaşımı ile sınanması amaçlanmaktadır. Bu yaklaşım, incelenen serilerin durağan olmaması durumunda bile yakınsamanın varlığını tespit edebilen ve incelenen grup içerisinde farklı davranış biçimleri gösteren birimlerin belirlenmesine imkân sağlayan polinom tipi bir yakınsama tekniği olarak tanımlanmaktadır. İlgili literatürde söz konusu tekniğin ilk defa kullanıldığı çalışmada elde edilen bulgular, inceleme döneminde Türkiye’de bölgeler arasında güçlü bir enflasyon yakınsaması bulunduğunu ve uygulanan para politikasının etkin bir şekilde kullanılabileceğini göstermektedir.

**Anahtar Sözcükler** : Bölgesel Enflasyon, Para Politikası, Yakınsama.

## 1. Giriş

Günümüzde enflasyon, sosyal refah, üretkenlik ve yaşam standartları üzerindeki önemli etkileri nedeniyle makroekonominin üzerinde durduğu, hükümetler, politika yapıcılar ve merkez bankaları için temel endişe kaynağı olmaya devam eden karmaşık bir ekonomik sorun olarak kabul edilmektedir (Hussain & Malik, 2011; Chiang et al., 2021). Genellikle ulusal bir sorun olarak kabul edilen enflasyon, ülke içerisindeki bölgeler arasında farklılaşabilmekte ve ulusal düzeyde uygulanan para politikası, bölgesel düzeydeki enflasyon farklılıklarının giderilmesinde etkinsizlik (Weber & Beck, 2005), bölgesel ekonomik büyüme performanslarında farklılıklar (Yılmazkuday, 2013), göreceli fiyatların çarpıklaşması ve bireylerin harcamalarının verimsiz bir şekilde dağılması (Haan, 2010) vb. gibi negatif etkilere de yol açabilmektedir.

Literatürde ülke/bölge düzeyinde fiyatlarda/enflasyonda farklılaşma olgusu, Satın Alma Gücü Paritesi Hipotezi (Cassel, 1918) ve Balassa-Samuelson Hipotezi (Balassa, 1964; Samuelson, 1964) olmak üzere iki temel teorik yaklaşımla açıklanmaktadır (Nagayasu, 2017). Satın Alma Gücü Paritesi Hipotezi, aynı para birimi ile ifade edildiğinde, işlem maliyetleri, tarife/tarife dışı engeller vb. gibi engellerin bulunmaması durumunda, ticarete konu olan bir malın fiyatının dünyanın her yerinde aynı olacağını ileri sürmektedir. Bu çerçevede söz konusu engellerin bulunması durumu ise bölge düzeyinde fiyat/enflasyon farklılaşmasının nedeni olarak ifade edilmektedir. Bu kapsamda ampirik literatürde, işlem maliyetlerini temsilen kullanılan coğrafi mesafe değişkeninin ülke/bölgelerde enflasyon farklılaşmasına neden olduğunu gösteren çalışmalar bulunmaktadır (Engel & Rogers, 1996; Parsley & Wei, 1996; Nagayasu & Inakura, 2009). Fiyatlarda/enflasyonda farklılaşma olgusunun açıklandığı ikinci teorik yaklaşım olan, Balassa-Samuelson Hipotezi, bölgesel enflasyon oranlarında meydana gelen farklılaşmaların arkasındaki temel ekonomik sebebin verimlilik farklılıkları olduğunu ileri sürmektedir. Balassa-Samuelson Hipotezi, ekonomilerin ticarete konu olan ve ticarete konu olmayan sektörlerden oluştuğunu ve ticarete konu olan sektörlerdeki verimliliğin ekonomiler arasında farklılık gösterdiğini varsaymaktadır. Balassa-Samuelson Hipotezine göre, ülkenin ticarete konu olan sektörlerindeki daha yüksek verimlilik seviyesi, ticarete konu olmayan sektörlerdeki fiyatları yukarıya doğru iterek, daha verimli sektörün bulunduğu bölgenin zaman içerisinde reel döviz kuru değerlenmesi yaşamasına neden olmaktadır. Balassa-Samuelson etkisi olarak ifade edilen bu durum, literatürde ülke içerisinde enflasyon farklılaşmasına neden olan önemli bir teorik açıklama olarak kabul edilmektedir (Altissimo et al., 2006; Nagayasu & Liu, 2008; Vaona, 2010).

Yukarıda açıklanan iki teorik gerekçe, ülke/bölge düzeyinde fiyatlarda/enflasyonda farklılaşma olgusunu ortaya koymakta ve uygulanan para politikasının bu farklılaşmayı gidermedeki başarısı konusunda tartışmalı bir zeminin oluşmasına yol açmaktadır. Diğer taraftan, makro ekonomi yazınında son kırk yıldır önemli bir ampirik uygulama alanı olan ve Neo-Klasik büyüme modelinin temel çıkarımını oluşturan yakınsama hipotezinin günümüzde sadece, gelir, büyüme oranı ve toplam faktör verimliliği gibi makroekonomik değişkenleri konu almadığı aynı zamanda fiyat, ücret ve faiz oranı gibi mikroekonomik

değişkenleri de içeren çalışmalara odaklandığı bilinmektedir. Bu bağlamda özellikle, bölge/ülke düzeyinde fiyat/enflasyon oranı yakınsaması ve bu sürecin parasal ekonomi üzerindeki etkileri ile ilgili giderek artan bir ampirik literatürün oluştuğu görülmektedir. (Tunay & Silpagar, 2007; Tunay & Silpagar, 2008; Aginta, 2021). Söz konusu çalışmalar, aynı/farklı coğrafyalarda bulunan ülke/ülke grupları düzeyinden ülke içerisindeki bölgeler/şehirler düzeyine kadar geniş bir yelpaze içerisinde bulunmaktadır (Nagayasu, 2011; Purwono et al., 2020). Ülke/ülke grupları arasında enflasyon düzeylerinin yakınsaması ilişkisini araştıran ampirik çalışmaların artmasında, parasal birliği oluşturan tüm ülkeler/bölgeler için tek bir para politikası uygulanabilmesi ve benzer enflasyon seviyelerine sahip olmanın parasal birlik oluşturmak için temel bir faktör olarak kabul edilmesinin etkili olduğu ifade edilmektedir (ECB, 2013; Lopez & Papell, 2012). Bu kapsamda literatürde, ortak bir para politikası ve para birimi altında ülkeler arasında enflasyon oranlarının yakınsamasına ilişkin çok sayıda kanıt bulunmakla birlikte ülke içindeki bölgesel enflasyon oranlarının yakınsamasına ilişkin nispeten daha az kanıt bulunduğu ifade edilmektedir (Yılmazkuday, 2013). Bir ülke içerisindeki bölgeler/şehirler düzeyinde yapılan enflasyon yakınsaması analizlerinin arkasında ise birkaç önemli motivasyon unsuru bulunmaktadır. Bu unsurlar, bölge düzeyinde enflasyon yakınsama analizlerinin, ülkenin farklı bölgelerindeki fiyat dinamiklerinin daha derin bir şekilde anlaşılmasına imkan vermesi, ülke düzeyinde uygulanan para politikasının bölgesel enflasyon üzerindeki etkisinin tahmin edilebilmesi ve bölgeler arasındaki pazar entegrasyonunun derecesi ve mekânsal faktörlerin rolü gibi kritik konuların değerlendirilebilmesine olanak sağlaması biçiminde açıklanmaktadır (Aginta, 2021).

Türkiye üzerine yapılan çalışmalar iller (bölgeler)/ilçeler düzeyinde sosyo-ekonomik gelişmişlik farklılıkları bulunduğunu göstermektedir (Gezici & Hewings, 2007; Yıldırım et al., 2009; SEGE, 2017; SEGE, 2022). Bu kapsamda, Türkiye'de bölge düzeyinde enflasyon oranlarının söz konusu bu farklılaşmayı yansıtabileceği ifade edilmektedir. Türkiye'nin en önemli makroekonomik sorunlarından birisi olan enflasyonun, emsali olan gelişmekte olan ülkelere göre istikrarlı bir şekilde yüksek kalmaya devam ettiği görülmektedir. Türkiye'de 2001 yılında meydana gelen krizin ardından, ekonomide nispi fiyat yapısının ve kaynak dağılımının daha doğru ve daha etkin olmasını sağlamak ve piyasa mekanizmasını daha işlevsel hale getirmek amacıyla uygulanan reformların enflasyon oranının aşamalı olarak tek haneli düzeylere gerilemesine olanak sağladığı tespit edilebilmektedir. Bu kapsamda, söz konusu reform sürecinin öncesi dönemi kapsayan 1998-2001 yılları arasında ortalama %60,7 seviyesinde bulunan enflasyon, 2002-2007 yılları arasını kapsayan dönemde %13,8 seviyesine gerilemektedir. Bu dönemde örtülü enflasyon hedeflemesi uygulamasının 2007 yılından sonra açık hale getirildiği ve enflasyon oranlarının 2008-2009 ve 2010-2014 yılları arasını kapsayan dönemde sırasıyla ortalama %8,3 ve %8,1 seviyelerine kadar gerilediği görülmektedir. Bahsi geçen dönemleri takip eden 2015-2018 yılları arasını kapsayan dönemde ise ortalama enflasyon %10,7 ve 2022 yılına gelindiğinde ise enflasyon oranı %48,69 seviyesinde bulunmaktadır (Günçavdı, 2024). Bu kapsamda, Türkiye ekonomisi için enflasyonun hala önemli bir endişe kaynağı olmayı sürdürdüğü ifade edilebilmektedir (Çakır, 2022). Bu nedenle, Türkiye'de enflasyonda bölge düzeyinde gerçekleşen

farklılaşmaları ve söz konusu bu farklılaşmaların seyrini analiz etmek, uygulanan para politikalarının etkinliği konusunda öngörülerde bulunabilmek açısından oldukça önem arz etmektedir.

Bu çerçevede çalışmada, 2004:1-2022:1 döneminde Türkiye'de İstatistiki Bölge Birimleri Sınıflaması (İBBS) bazında 26 Düzey-2 bölgenin enflasyon oranları için yakınsama hipotezinin varlığının Nahar-Inder (2002) yakınsama testi yaklaşımı ile sınanması amaçlanmaktadır. Söz konusu yaklaşım, incelenen serilerin durağan olmaması durumunda bile serilerde meydana gelen farklılıkların yakınsama davranışı gösterebileceğini ortaya koyan ve grup içerisinde farklı davranış biçimleri gösteren birimlerin belirlenmesine olanak sağlayan polinom tipi bir yakınsama tekniği olarak tanımlanmaktadır (Ceylan, 2010; Mollavelioğlu & Ceylan, 2010). İncelediği dönem ve özellikle kullandığı ampirik yöntem boyutlarıyla ilgili literatüre katkı sağlayacağı değerlendirilen çalışmanın girişi izleyen ikinci bölümünde, yakınsama ve enflasyon yakınsaması kavramları teorik olarak açıklanmakta ve ampirik literatür özetlenmektedir. Çalışmanın üçüncü ve dördüncü bölümlerinde ise sırasıyla, çalışmanın veri seti-metodolojisi tanıtılmakta ve elde edilen ampirik bulgular sunulmaktadır. Çalışma, araştırma bulgularının tartışıldığı beşinci bölüm olan sonuç bölümüyle tamamlanmaktadır.

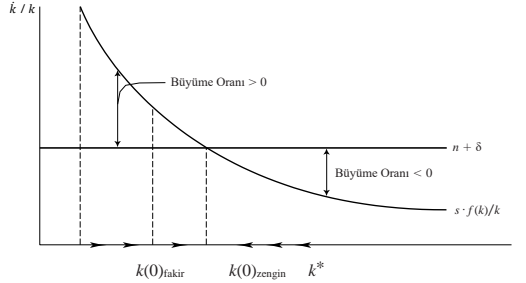
## 2. Yakınsama ve Enflasyon Yakınsaması: Teorik ve Ampirik Literatür

Kişi başına ekonomik büyüme ile çıktı düzeyi/kişi başı gelir arasındaki negatif ilişkiyi ifade eden yakınsama hipotezi, Neo-klasik Solow-Swan Modelinin dinamikleri üzerinden açıklanabilmektedir (Solow, 1956; Swan, 1965). Söz konusu Solow-Swan Modelinde kişi başı sermaye stokundaki büyüme hızı aşağıda 1 numaralı denklemde ifade edilmektedir.

$$\gamma_k \equiv \dot{k} / k = s \cdot f(k) / k - (n + \delta) \quad (1)$$

Denklemden,  $s \cdot f(k) / k$ , işçi başına sermayenin ortalama ürününün tasarruf edilen (yatırım için kullanılan) kısmını,  $n + \delta$  ise nüfus artış hızını ve yıpranma oranının toplamını göstermektedir. Söz konusu denklemle ifade edilen Solow-Swan Modelinde, işçi başına sermayenin ortalama ürününün tasarruf edilen (yatırım için kullanılan) kısmının yıpranma ve nüfus artış hadlerinin toplamına eşit olduğu durum ( $s \cdot f(k) / k = n + \delta$ ) işçi başına sermaye büyüme hızının sıfır olduğu durağan durumu belirten koşul olarak tanımlanmaktadır. Bu kapsamda,  $s \cdot f(k) / k > n + \delta$  ve  $s \cdot f(k) / k < n + \delta$  durumları ise sırasıyla işçi başına sermaye büyüme hızının pozitif ve negatif olduğu durumları göstermektedir. Söz konusu modelde, durağan durumda olmayan bir ekonominin, sermaye faktöründeki azalan getiri nedeniyle belirli bir hızda büyüyerek veya küçülerek durağan duruma yönelmesi, durağan duruma doğru yakınsama olarak tanımlanmaktadır (Ünsal, 2016). Solow-Swan Modeline ilişkin yukarıdaki açıklamalar, yatay eksenle işçi başına sermaye ( $k$ ) ve dikey eksenle işçi başına sermaye büyüme hızının ( $\dot{k} / k$ ) yer aldığı Şekil 1'de gösterilmektedir.

### Şekil: 1 Yakınsama Teorisi



Kaynak: Barro & Sala-i Martin, 2004.

Söz konusu şekilde görüleceği üzere, işçi başına sermaye oranındaki büyüme hızı, işçi başına sermayenin ortalama ürününün tasarruf edilen (yatırım için kullanılan) kısmı ( $s \cdot f(k)/k$ ) başka bir ifadeyle tasarruf eğrisi ile yıpranma ve nüfus artış hadlerinin toplamı ( $n + \delta$ ) diğer bir ifadeyle efektif yıpranma doğrusu arasındaki dikey mesafe ile gösterilmektedir. İşçi başına sermaye düzeyi durağan durumdakinden küçük olduğu durumda ( $k < k^*$ ), işçi başına sermaye büyüme hızı pozitifdir. Bu durumda işçi başına sermaye artmakta ve sermayenin ortalama ürünü azalmaktadır. Söz konusu bu süreç, sermayenin ortalama durağan durumun içerdiği düzeye düşene kadar devam etmektedir. Tersine, işçi başına sermaye düzeyi durağan durumdakinden büyük olduğu durumda ( $k > k^*$ ) ise işçi başına sermaye büyüme hızı negatiftir. Söz konusu durumda, işçi başına sermaye azalmakta ve sermayenin ortalama ürünü artmaktadır. Bu süreç, sermayenin ortalama durağan durumun içerdiği düzeye düşene kadar devam etmektedir. Solow-Swan Modeline göre, bir ekonomi kendi durağan durumundan ne kadar uzak bir noktada bulunursa, işçi başına sermaye büyüme hızı, işçi başına çıktı büyüme hızı ve ekonominin durağan duruma doğru yakınsama hızı o kadar yüksek olmaktadır. Bu kapsamda, daha fakir ülkelerin sermaye büyümesinin daha zengin ülkelerin sermaye büyümesinden daha yüksek olduğu ve böylece daha fakir ülkelerin daha zengin ülkeleri ortak durağan durumda yakalayacakları (koşulsuz yakınsama hipotezi) ifade edilmektedir (Barro & Sala-i Martin, 1992).

Barro ve Sala-i-Martin (1992) tarafından ifade edilen yakınsama hipotezi enflasyon için farklı biçimlerde tanımlanmaktadır. Kocenda ve Papell (1997) enflasyon yakınsamasını, her ilin/bölgenin enflasyon oranının ortalama ulusal enflasyonun denge çizgisine yakınsadığı bir durum olarak belirtmektedir. Busetti vd. (2007) ise enflasyon yakınsamasını, farklı ülkelerin enflasyon seviyelerinin denge seviyesi etrafında dalgalanması ve sonunda uzun vadeli istikrarlı seviyeye ulaşması anlamına geldiğini ifade etmektedir. Yakınsama sürecinde bir ülkenin enflasyon oranı ile denge düzeyi arasındaki fark giderek daralmaktadır.

Enflasyon yakınsamasını araştıran ampirik literatür, aynı/farklı coğrafyalarda bulunan ülke/ülke grupları düzeyinden ülke içerisindeki bölgeler/şehirler düzeyine kadar geniş bir yelpaze içerisinde bulunmaktadır. Söz konusu ampirik literatür

değerlendirildiğinde, ülke/ülke gruplarını kapsayan çalışmaların büyük bir bölümünün Avrupa Birliği (AB) ülkeleri üzerine yoğunlaştığı (Kocenda & Papell, 1997; Holmes, 2002; Kocenda et al., 2006; Buseti et al., 2007; Siklos, 2010; Lopez & Papell, 2012; Kisswani & Nusair, 2014; Anoruo & Murthy, 2014; Lee & Mercurelli, 2014; Arestis et al., 2014; Özmen & Baktemur, 2015; Cuestas et al., 2016; Temiz & Konat, 2019; Karademir, 2022) görülmektedir. Söz konusu çalışmaların yanında uygulamalı literatürde, OECD Ülkeleri (Hyvonen, 2004), BRICS Ülkeleri (Tıraşoğlu & Yurttagüler, 2018), MENA Ülkeleri (Bolat et al., 2017), N-11 Ülkeleri (Hepsağ, 2017) için de enflasyon yakınsamasını araştıran çalışmalar bulunmaktadır. İlgili literatürde küresel düzeyde enflasyon yakınsamasını araştıran çalışmaların ise sınırlı sayıda olduğu görülmektedir (Liu & Lee, 2021). İlgili literatürdeki ampirik çalışmaların bir bölümü ise bir ülkenin bölgeleri arasındaki enflasyon farklılıklarına odaklanmaktadır (Beck et al., 2006; Cechetti et al., 2002) Söz konusu çalışmalarda, enflasyon yakınsamasını test etmek için ağırlıklı olarak, enflasyon oranlarının durağan bir süreç izleyip izlemediğini ve bir dengeye yaklaşıp yaklaşmadığını test etmek amacıyla Panel Birim Kök Testlerinin kullanıldığı görülmektedir (Duran, 2016).

Türkiye'de enflasyon yakınsaması üzerine yapılan çalışmalar ise iki grupta sınıflandırılmaktadır. Söz konusu çalışmaların ilk grubunu Tüketici Fiyat Endeksi- TÜFE'yi oluşturan mal grupları bazında enflasyon yakınsamasının varlığının araştırıldığı çalışmalar oluşturmaktadır (Akdi & Şahin, 2007; Yılmazkuday, 2013; Yazgan & Yılmazkuday, 2014; Çakır & Gündüz, 2021; İncekara & Erönel, 2023). Türkiye'de enflasyon yakınsaması üzerine yapılan çalışmaların ikinci grubunda ise bölgesel düzeyde enflasyon yakınsamasının varlığının araştırıldığı görülmektedir. Çalışma kapsamında yer alan söz konusu çalışmalara yönelik ampirik literatür özeti Tablo 1'de sunulmaktadır. Türkiye'de bölgesel enflasyon yakınsamasını inceleyen çalışmalar değerlendirildiğinde, ağırlıklı olarak Panel Birim Kök Testlerinin kullanıldığı görülmektedir. Ülke içerisindeki bölgelerde enflasyon yakınsamasının varlığı, uzun dönemde bölgelerin homojen bir enflasyon sürecine sahip olduğunu ve dolayısıyla da ülkede uygulanan para politikalarının bölgeler üzerinde etkin bir şekilde kullanılabileceği şeklinde yorumlanmaktadır. Bu kapsamda Tablo 1'de gösterilen çalışmalar içerisinde Tunay ve Silpagar (2008), Gözgör (2013), Yeşilyurt (2014) ve Duran (2016) çalışmalarında güçlü bir enflasyon yakınsamasının varlığı tespit edilmektedir. Bölgesel enflasyon yakınsamasının varlığına ilişkin tersi sonuçların ise Belke ve Al (2019) çalışmasında elde edildiği görülmektedir. Söz konusu çalışmada, yakınsama sürecinin bölgelere göre farklılaştığı ve Türkiye'de bölge genelinde tüketici fiyatlarının heterojen bir yapıda olduğu bulgularına ulaşılmaktadır. Bu sonuçlar çerçevesinde bölgeler arasında enflasyon yakınsamasının bulunmaması veya başka bir ifadeyle bölgesel enflasyon seviyelerinin uzun dönem ortalamasına dönme eğiliminde olmaması sorunuyla mücadele etmek için, bölgesel düzeyde faiz-ücret politikalarının uygulanması, bölgesel ticari entegrasyonun artırılması ve maliye politikaları çerçevesinde bölge düzeyinde farklılaşan teşvik/destekleme politikalarının uygulanması gerektiği ifade edilmektedir (Belke & Al, 2019).

**Tablo 1**  
**Türkiye'de Bölgesel Enflasyon Yakınsaması: Ampirik Literatür Özeti**

Yazar/Yazarlar	İnceleme Dönemi	Kullanılan Ampirik Yöntem
Tunay ve Silpagar (2008)	1994:01-2004:01	Panel Birim Kök Testleri
Gözgör (2013)	2004-2011	
Yeşilyurt (2014)	2004:1- 2011:12	
Duran (2016)	2004-2015	
Belke ve Al (2019)	2004:01-2019:06	

Not: Yazarlar tarafından oluşturulmuştur.

Çalışmada, ilgili literatürdeki çalışmalardan farklı olarak Nahar-Inder (2002) yakınsama tekniği kullanılarak, Türkiye'de 2004:1-2022:1 döneminde Türkiye'de İBBS bazında 26 Düzey-2 bölgenin enflasyon oranları için yakınsama hipotezinin varlığının tespit edilmesi amaçlanmaktadır. Bu çerçevede çalışmanın sonraki bölümünde ilk olarak çalışmada kullanılan veri seti ve sonrasında da Nahar-Inder (2002) polinom tipi bir yakınsama tekniğinin metodolojisi tanıtılmaktadır.

### 3. Veri Seti ve Metodoloji: Nahar-Inder (2002) Yakınsama Tekniği

Çalışmada, 2004:1-2022:1 dönemi için aylık veriler kullanılarak Türkiye'de İstatistik Bölge Birimleri Sınıflaması (İBBS) bazında 26 Düzey-2 bölgenin enflasyon oranları için yakınsama hipotezinin varlığının Nahar-Inder (2002) yakınsama testi yaklaşımı ile sınanması amaçlanmaktadır. Çalışmada 2004 yılından önceki dönemlerin incelenememesinin arkasında Türkiye'de söz konusu dönemlerde kullanılan enflasyon tanımının değişmiş olması ve enflasyon verisinin 2004 yılından sonraki dönemlerde İBBS Düzey-2 bazında hesaplanmaya başlanması bulunmaktadır. Çalışmada kullanılan veri seti Türkiye Cumhuriyet Merkez Bankası Elektronik Veri Dağıtım Sistemi (EVDS) veri tabanından elde edilmektedir (TCMB, 2022). Söz konusu verilere ilişkin tanımlayıcı istatistikler çalışmanın sonunda bulunan EK 1'de sunulmaktadır<sup>1</sup>.

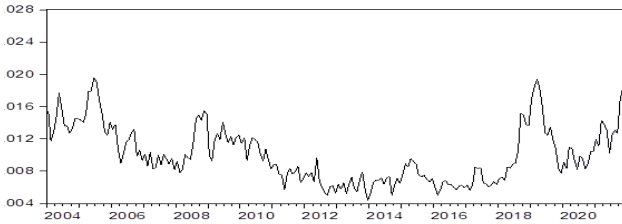
Türkiye'de inceleme döneminde İBBS bazında 26 Düzey-2 bölgenin enflasyon oranlarının ulusal enflasyon oranından farklılaşma derecesi enflasyon dağılımı (*Inflation Dispersion*) kavramı çerçevesinde incelenebilmektedir. Enflasyon dağılımı kavramı, bir bölgedeki farklı mal ve hizmetlerde gerçekleşen fiyat artış oranlarının çeşitliliğini ifade etmek amacıyla kullanılmaktadır. Söz konusu bu kavram, enflasyon oranlarının bölgeler arasında farklılaşabileceğini dolayısıyla enflasyon oranlarının bölgeler arasında homojen bir şekilde dağılmadığını ortaya koymaktadır. Enflasyon dağılımı kavramının, bölgeler arasındaki enflasyon oranı farklılıklarını ortaya koyması nedeniyle daha etkili para ve maliye politikaları geliştirilmesi hususunda politika yapımcılarına önemli katkılar sağlayabileceği ifade edilmektedir (Sara-Zaror, 2024). Genellikle istatistiksel yöntemler kullanılarak

<sup>1</sup> Veri setine ilişkin tanımlayıcı istatistiklerin yer aldığı EK 1 incelendiğinde verilerin, standart sapma değerinin ortalamadan düşük olması nedeniyle varyansın düşük olduğu, çarpıklık değerinin pozitif olması nedeniyle dağılımın sağa doğru çarpık olduğu ve basıklık değerinin normal dağılım basıklık değeri olan 3'ten büyük olması nedeniyle çok sivri ve dar bir tepeye sahip olduğu görülmektedir. Çalışmanın sonunda verilen EK 1'de sunulan tablolar, serilerin normal dağılım özelliği gösterip göstermediğini test eden Jarque-Bera istatistiği kapsamında değerlendirildiğinde ise serilerin normal dağılım özelliği göstermediği görülebilmektedir.



ölçülebilen enflasyon dağılımı, literatürde yaygın olarak standart sapma yöntemi kullanılarak hesaplanmaktadır<sup>2</sup>. Söz konusu yöntemde ülke/bölge büyüklüğünü dikkate alan veya almayan üzere sırasıyla ağırlıklandırılmış standart sapma ve ağırlıklandırılmamış standart sapma türleri bulunmaktadır. Söz konusu bu yöntem doğrultusunda, bölgesel düzeydeki enflasyon oranlarının ulusal enflasyon oranından farkına göre hesaplanan standart sapma değeri, fiyat artışlarının ülke içerisindeki bölgeler düzeyinde ne seviyede dağıldığının ortaya konulmasına imkan sağlamaktadır. Hesaplanan standart sapma değerinin artması, enflasyon oranlarının ortalamadan daha fazla sapma gösterdiğini ve dolayısıyla bölgeler arasında enflasyon oranlarının farklılaştığını/daha fazla değişkenlik gösterdiğini ifade ederken, standart sapmanın azalması enflasyon oranlarının ortalamaya daha yakın olduğunu dolayısıyla da enflasyon oranlarının bölgeler arasında homojen bir şekilde dağıldığını ortaya koymaktadır (ECB, 2003). Türkiye'de inceleme dönemi olan 2004:1-2022:1 döneminde İBBS bazında 26 Düzey-2 bölgenin enflasyon oranlarının ulusal enflasyon oranından ayrışmasını incelemek amacıyla (ağırlıklandırılmamış) standart sapma yöntemi kullanılarak hesaplanmış enflasyon dağılım değerlerinin zaman içerisindeki seyri Şekil 2'de sunulmaktadır.

**Şekil 2:**  
**Enflasyon Dağılım Değerlerinin Seyri (2004:1-2022:1)**



Kaynak: Yazarlar tarafından oluşturulmuştur.

Türkiye'de bölgesel enflasyon oranlarının ulusal enflasyon oranından farklılaşma seviyesinin seyrini incelemek amacıyla standart sapma yöntemi kullanılarak hesaplanmış enflasyon dağılım değerlerinin inceleme dönemi içerisindeki seyrini ortaya koyan Şekil 2 değerlendirildiğinde, 2004:1-2022:1 dönemi içerisinde sapmalar olmasına rağmen 2004 yılından 2011 yılına kadar geçen süreçte serinin azalış eğiliminde olduğu dolayısıyla enflasyon oranlarının bölgeler arasında nispeten homojen bir şekilde dağıldığı tespit edilmektedir. İnceleme dönemi içerisinde 2011 yılından 2018 yılına kadar geçen süreçte ise söz konusu serinin yatay bir seyir izlediği başka bir ifadeyle enflasyon oranları dağılımında homojen dağılım niteliğinin korunduğu görülmektedir. İnceleme döneminin son aşamasını ifade eden 2018 yılından 2022 yılına kadar geçen süreçte ise seride trendin artış yönünde

<sup>2</sup> Literatürde enflasyon dağılımının ölçülmesinde farklı yöntemler kullanılmaktadır. Bu kapsamda en basit yöntem, en yüksek ve en düşük enflasyon oranları arasındaki fark olarak tanımlanmaktadır. Bir diğer geleneksel ölçüt ise ülkeler/bölgeler arasındaki enflasyon oranlarının standart sapması olarak ifade edilmektedir. Enflasyon dağılımının diğer ölçütü ise en yüksek ve en düşük oranlara sahip üç ülke/bölge arasındaki fark veya değişim katsayısı yöntemi olarak belirtilmektedir (ECB, 2003).

olduğu dolayısıyla son yıllarda yaşanan döviz kuru şoklarından kaynaklı yüksek enflasyon sorununun bölgesel enflasyon oranlarında oldukça fazla düzeyde farklılaşma ortaya çıkmasına yol açtığı sonucuna ulaşılmaktadır.

Çalışmanın inceleme döneminde İBBS bazında 26 Düzey-2 bölgenin enflasyon oranlarının ulusal enflasyon oranından ayrışmasını incelemek amacıyla standart sapma yöntemi kullanılarak hesaplanmış enflasyon dağılım değerlerinin zaman içerisindeki seyri üzerinden yapılan yukarıdaki analiz yanında 26 Düzey-2 bölgenin enflasyon dinamikleri dikkate alındığında, konut, enerji ve ulaşım ödemelerinin Türkiye'nin batısında yer alan bölgelerde daha yüksek seviyelerde iken doğusunda bulunan bölgelerde daha düşük seviyelerde bulunduğu ve bu nedenle de söz konusu harcamalarda meydana gelen artışların bölge düzeyinde enflasyon oranlarında farklılaşmalara neden olabileceği değerlendirilmektedir. Bölgesel düzeyde enflasyon oranlarında farklılaşmalara neden olan diğer bir etken olarak değerlendirilen dış ticaret etkisi kapsamında ise büyük limanlara ve ticaret merkezlerine sahip bölgelerin döviz kuru değişimlerine daha duyarlı olacağı bu nedenle de özellikle Marmara Bölgesinde yer alan Düzey-2 bölgelerinde söz konusu niteliklere sahip bölgelerin enflasyon oranları üzerinde daha büyük etkisi olabileceği beklenmektedir. Bunun yanında turizm faaliyetlerinin yoğun olduğu Akdeniz ve Ege bölgelerinde yer alan Düzey-2 bölgelerde yaz aylarında ortaya çıkan talep artışlarının enflasyon oranları üzerinde olumsuz bir etki yaratabileceği düşünülmektedir. Söz konusu faktörlere ek olarak, Türkiye'de uygulanan bölgesel politikalar ve teşvikler kapsamında da bölgesel düzeyde ortaya çıkan enflasyon dinamiklerinin farklılaşabileceği düşünülmektedir. Genel olarak İBBS bazında 26 Düzey-2 bölgenin enflasyon dinamikleri incelendiğinde, bölgeler arasında bulunan yapısal farklılıkların (tüketim kalıpları, gelir seviyesi, dış ticaret etkisi, teşvikler vb. gibi) enflasyon oranları üzerinde bir etki yaratabileceği ancak söz konusu bu etkinin ülke düzeyinde uygulanan ekonomi politikaları kullanılarak azaltılabileceği, özellikle şokların azaldığı dönemlerde bölgesel enflasyon oranlarının nispeten homojen bir yapıda olacağı, şokların sıklaştığı dönemlerde ise bölgelerin sahip oldukları yapısal özelliklerinden kaynaklanan farklılıklar nedeniyle fiyat değişimlerinin farklılaşabileceği öngörülmektedir.

Çalışmada kullanılan ve Türkiye'de 2004:1-2022:1 döneminde İBBS bazında 26 Düzey-2 bölgenin enflasyon oranları verileri kapsamında yapılan buraya kadar yapılan analiz ve değerlendirmeler, bölgelerin sahip oldukları niteliklerden kaynaklanabileceği değerlendirilen faktörler nedeniyle, inceleme dönemi içerisinde bulunan farklı alt dönemlerde, bölgeler arasında enflasyon oranlarının farklılaşma düzeyinin azaldığı başka bir ifadeyle enflasyon oranlarının bölgeler arasında nispeten homojen bir şekilde dağıldığı, yatay bir seyir izlediği ve bölgeler arasında enflasyon oranlarının farklılaşma düzeyinin arttığı dönemler bulunduğunu göstermektedir.

Bu kapsamda çalışmada, Türkiye'de İstatistikî Bölge Birimleri Sınıflaması (İBBS) bazında 26 Düzey-2 bölgenin enflasyon oranları için yakınsama hipotezinin varlığının sınanması amaçlanmaktadır. Zaman serisi kapsamında yakınsama hipotezi Bernard ve Durlauf (1996) tarafından aşağıda 2 numaralı denklemde ifade edildiği şekilde

tanımlanmaktadır. Denklemde i ve j gibi iki ekonominin birbirlerine yakınsayabilmesi için, kişi başı çıktıkları gösteren  $y_{i,t}$  ve  $y_{j,t}$ 'nin karşılaması gereken koşul ifade edilmektedir. Denklemde yer alan  $\mathbb{I}_t$  ise tüm bilgi setini belirtmektedir. Söz konusu denklem, yakınsama hipotezinin geçerli olabilmesi için tahmin dönemi sonsuza giderken kişi başı gelir farklılıklarının zaman içerisinde sifıra doğru yaklaşması gerektiği şeklinde yorumlanmaktadır.

$$\lim_{k \rightarrow \infty} \mathbb{E} [y_{i,t+k} - y_{j,t+k} | \mathbb{I}_t] = 0 \quad (2)$$

Analize ikiden fazla ülke dahil edildiğinde ise yukarıda 1 numaralı denklem kullanılamamaktadır. Bu durumda yakınsama analizleri örneklem ortalamasından sapmalara dayandırılarak ifade edilen problem giderilmektedir. Belirli bir ülkenin örneklem ortalamasına yakınsama davranışı aşağıda 3 numaralı denklem ile gösterilmektedir.

$$\lim_{k \rightarrow \infty} \mathbb{E} [y_{i,t+k} - \bar{y}_t] = 0 \quad (3)$$

Analizin bu aşamasında, örnekleme bulunan tüm ülkeler için kişi başı gelir serilerinin logaritması alınmakta, ardından serilerin ortalaması hesaplanarak ortalamadan çıkarılmış kişi başı gelir serileri elde edilmekte ve elde edilen söz konusu serilere Genişletilmiş Dickey-Fuller Birim Kök Testi (ADF) uygulanmaktadır. Söz konusu adımlar sonucunda yakınsamanın varlığının tespiti için aşağıda 4 numaralı denklem test edilmektedir. Genişletilmiş Dickey-Fuller Birim Kök Testi (ADF) bulguları sonucunda seri durağan/durağan değil ise sırasıyla yakınsama hipotezinin geçerli olduğu kabul edilmekte veya yakınsama hipotezi reddedilmektedir.

$$\Delta y_t = \rho y_{t-1} + \sum_{i=1}^k \Delta y_{it} + \varepsilon_t \quad (4)$$

Yukarıda özetlenen Bernard ve Durlauf (1996) yakınsama yaklaşımından hareketle Nahar ve Inder (2002) tarafından yeni bir prosedür önerilmektedir. Söz konusu test prosedürünün iki temel üstünlüğü bulunmaktadır. İlk olarak, Nahar ve Inder (2002) yaklaşımı incelenen serilerin durağan olmaması durumunda bile çıktı farklılıklarının polinom-tipi yakınsama davranışı gösterebileceğini ortaya koymaktadır. İkinci olarak ise, Nahar ve Inder (2002) yakınsama tekniği incelenen grup içerisinde farklı davranış biçimleri gösteren birimlerin belirlenmesine imkan sağlamaktadır. Söz konusu bu üstünlük, ortalamadan çıkarılmış her bir serinin ortalama eğim katsayılarının t-testine tabi tutulmasından kaynaklanmaktadır. Ortalamadan çıkarılmış her bir serinin ortalama eğim katsayılarına ait t-istatistik değerlerinin farklı olması, incelenen örneklem içerisinde farklı davranış biçimlerine sahip ülkelerin belirlenmesini sağlamaktadır.

Nahar ve Inder (2002) yakınsama tekniğini açıklamak için öncelikle Bernard ve Durlauf (1996) testinde olduğu gibi bir grup ortalamasına yakınsamayı ifade ettiğini ve kişi başı gelir farklılıklarının zaman içerisinde azaldığını belirtmek gerekmektedir. Bu kapsamda bir sonraki adım kişi başı gelir farklarının karesini oluşturmaktır.

$$w_{i,t} = (y_{it} - \bar{y}_{it})^2 \quad (5)$$

Söz konusu bu durumda yakınsama ortaya çıkarsa  $w_{it}$  sifıra yaklaşmaktadır.

$$\lim_{k \rightarrow \infty} E_t [w_{i,t+k}] = 0 \quad (6)$$

Bu durum,  $w_{it}$  kişi başı gelir farklarının karesini temsil etmesinden ve dolayısıyla da her zaman pozitif olmasından kaynaklanmaktadır. Bu husus aynı zamanda aşağıdaki koşulun da geçerli olduğunu ifade etmektedir.

$$(\partial/\partial_t)w_{i,t} < 0 ; w_{i,t} \rightarrow 0 \text{ } k \rightarrow \infty \quad (7)$$

Bu durumda, Nahar ve Inder (2002) yakınsama tekniği, karesi ve ortalamadan farkı alınmış kişi başına gelirin (her ülke ve grup ortalaması arasındaki kişi başına çıktı açığı) bir zaman trendi  $t$ 'ye göre regresyonuna dayanmaktadır.

$$w_{it} = f(t) + u_{it} = \theta_0 + \theta_1 t + \theta_2 t^2 + \dots + \theta_{k-1} t^{k-1} + \theta_k t^k + u_{it} \quad (8)$$

Burada,  $w_{it} = (y_{it} - \bar{y}_{it})^2$  olarak ifade edilmekte ve yakınsama için,  $w_{it}$  her zaman sifıra yaklaşmakta ve zamana göre değişim oranı  $w_{it}$  negatif olmaktadır.

$$w_{it} > 0, (\partial/\partial_t)w_{it} < 0 \text{ ile tutarlıdır } w_{it} \rightarrow 0 \text{ olarak } t \rightarrow \infty \quad (9)$$

Bu durumda, yakınsamanın geçerli olması için tahmin edilen denklemin ortalama eğiminin negatif ve anlamlı olması gerekmektedir. Bu çerçevede kompakt formdaki ortalama eğim aşağıda gösterildiği şekilde yazılabilmektedir:

$$\frac{1}{T} \sum_{t=1}^T \frac{\partial}{\partial t} w_{it} = \theta_1 + \theta_2 r_2 + \dots + \theta_{k-1} r_{k-1} + \theta_k r_k = r' \theta \quad (10)$$

Burada,

$$r_k = \frac{k}{T} \sum_{t=1}^T t^{k-1} \text{ ve } \theta = [\theta_0 \theta_1 \dots \theta_{k-1} \theta_k]', r' = [0 \ 1 \ r_2 \ \dots \ r_{k-1} \ r_k]$$

Bu kapsamda, polinom tipi bir yakınsama analizi olan Nahar ve Inder (2002) tekniği kullanılarak yakınsamanın olup olmadığı sınanırken yakınsamanın bulunmadığına ilişkin boş hipotez aşağıda ifade edildiği şekilde tanımlanmaktadır.

$$H_0: r' \theta \geq 0$$

$$H_1: r' \theta < 0 \quad (11)$$

Bu aşamada,  $r$ -vektörü, eğim değerlerinden hesaplanmakta ve  $\theta$  parametreleri, gecikme uzunluğunun örneğin Akaike Bilgi Kriteri (AIC) tarafından belirlendiği Denklem (2)'den tahmin edilmektedir. Nahar ve Inder (2002) yakınsama prosedürünün son aşamasında ise, yakınsama aleyhinde yorumlanan sıfır hipotezinin reddedilmesiyle hipotezde belirtildiği gibi  $\theta$  üzerindeki kısıtlamalarla ilgili bir Wald testi yapılmaktadır.

Nahar ve Inder (2002) yakınsama analiz sonuçlarında, eğitim katsayılarının negatif ve t istatistik değerlerinin negatif ve anlamlı olduğu durum yakınsama hipotezinin geçerli olduğu başka bir ifadeyle ortalamaya doğru bir yakınsama davranışının bulunduğu şeklinde yorumlanmaktadır. Yakınsamanın olmadığı başka bir ifadeyle iraksamanın olduğu durum ise eğitim katsayıları pozitif ve t istatistik değerleri pozitif ve anlamlı olduğu durum olarak ifade edilmektedir. Son olarak eğitim katsayısı negatif fakat t istatistik değeri anlamlı olmayan durumda ise incelenen değişken yakınsama ya da iraksama davranışı göstermemektedir. Çalışmanın sonraki bölümünde söz konusu yakınsama tekniği kullanılarak elde edilen ampirik bulgular sunulmaktadır.

#### 4. Bulgular

Türkiye'de, 2004:1-2022:1 döneminde Türkiye'de İstatistiki Bölge Birimleri Sınıflaması (İBBS) bazında 26 Düzey-2 bölgenin enflasyon oranları için yakınsama hipotezinin varlığının sınanması için yapılan Nahar-Inder (2002) yakınsama test sonuçları Tablo 2'de sunulmakta ve Şekil 2'de görselleştirilmektedir<sup>3,4</sup>. Söz konusu tablo ve şekil birlikte incelendiğinde, Türkiye'de İstatistiki Bölge Birimleri Sınıflaması bazında, TR71 (Aksaray, Kırıkkale, Kırşehir, Niğde, Nevşehir), TR72 (Kayseri, Sivas, Yozgat) ve TR90 (Artvin, Giresun, Gümüşhane, Ordu, Rize, Trabzon) bölgelerinin ortalamadan iraksama davranışı gösterdikleri görülmektedir. Bu sonuca söz konusu bölgelerin eğitim katsayılarının pozitif ve t istatistik değerlerinin pozitif ve anlamlı olması nedeniyle ulaşılmaktadır. Eğitim katsayısı negatif fakat t istatistik değeri anlamlı olmayan TR61 (Antalya, Isparta, Burdur) bölgesinin ise ne yakınsama ne de iraksama davranışı gösterdiği söylenebilmektedir. Bu itibarla Nahar-Inder (2002) Yakınsama Test Sonuçları, inceleme döneminde TR61, TR71, TR72 ve TR90 bölgeleri haricindeki tüm bölgelerde/26 Düzey-2 bölgenin 22 tanesinde enflasyon yakınsamasının bulunduğu başka bir ifadeyle Düzey-2 bölgelerinin %84,6'sının enflasyon oranlarının ortalamaya doğru bir yakınsama davranışı gösterdikleri şeklinde yorumlanmaktadır. Söz konusu tüm bölgelerde ortalama eğitim katsayıları %1 düzeyinde anlamlılık göstermektedir.

Bu kapsamda Tablo 2 ve Şekil 2'de sunulan Nahar-Inder (2002) yakınsama test sonuçları, Türkiye'de bölgeler arasında güçlü bir enflasyon yakınsaması bulunduğu şeklinde değerlendirilmektedir. Söz konusu bu sonuçlar, bölgelerin homojen bir enflasyon sürecine sahip olduğunu ve dolayısıyla da Türkiye'de uygulanan para politikasının bölgeler üzerinde etkin bir şekilde kullanılabileceğini ortaya koymaktadır. Çalışmada ulaşılan söz konusu bu sonuçların, Türkiye için bölgesel enflasyon yakınsamasını araştıran Tunay ve Silpagar (2008), Gözgör (2013), Yeşilyurt (2014) ve Duran (2016) çalışmalarını ile uyumlu olduğu görülmektedir.

<sup>3</sup> Türkiye'de İstatistiki Bölge Birimleri Sınıflaması (İBBS) bazında 26 Düzey-2 bölgenin bünyesinde bulunan iller ve söz konusu bölgelerin kodlarını gösteren tablo çalışma sonunda bulunan EK 2'de sunulmaktadır.

<sup>4</sup> Şekil 2'de koyu renk ile gösterilen bölgeler, enflasyon oranının ortalamaya yakınsadığı bölgeleri ifade etmektedir.

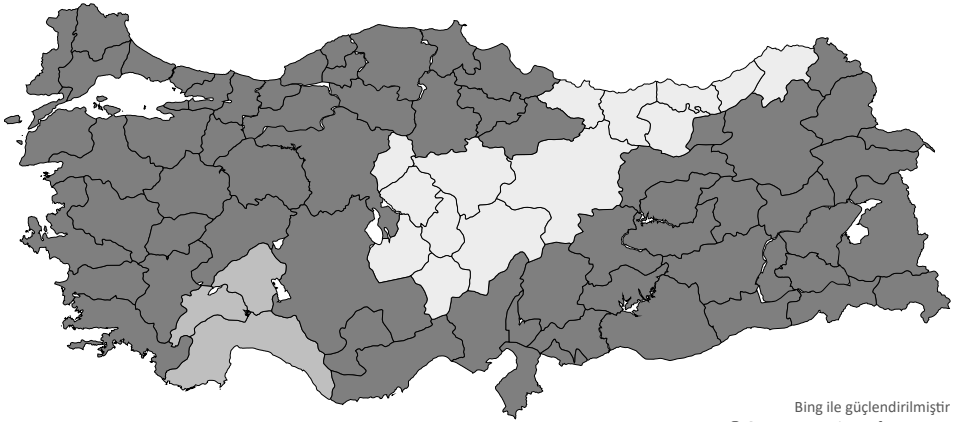
**Tablo: 2**  
**Nahar-Inder (2002) Yakınsama Test Sonuçları**

Bölgeler	Polinom Derecesi	Eğim Katsayısı	t-İstatistiği	Bölgeler	Polinom Derecesi	Eğim Katsayısı	t-İstatistiği
TR10	8	-0.0004966	-9.69***	TR71	6	0.0000155	7.68***
TR21	6	-0.0000037	-11.81***	TR72	6	0.0000008	2.73***
TR22	6	-0.0000056	-9.72***	TR81	6	-0.0000602	-24.91***
TR31	6	-0.0000033	-2.32***	TR82	8	-0.0000192	-10.39***
TR32	6	-0.0000022	-10.85***	TR83	7	-0.0000197	-10.84***
TR33	8	-0.0000063	-11.18***	TR90	6	0.0000037	4.21***
TR41	7	-0.0000127	-8.96***	TRA1	7	-0.0000030	-7.59***
TR42	5	-0.0000013	-7.84***	TRA2	7	-0.0000014	-3.13***
TR51	6	-0.0000065	-4.94***	TRB1	8	-0.0004103	-10.48***
TR52	7	-0.0000082	-10.35***	TRB2	6	-0.0000029	-6.23***
TR61	7	-0.0000004	-1.51	TRC1	6	-0.0000050	-4.99***
TR62	7	-0.0000062	-10.97***	TRC2	5	-0.0000016	-3.86***
TR63	8	-0.0001894	-9.89***	TRC3	6	-0.0000093	-10.98***

Not: 1. Tabloda \*\*%5, \*\*\*%1 anlamlılık düzeyini göstermektedir.

2. Tabloda ifade edilen polinom dereceleri Akaike Bilgi Kriterine göre belirlenmektedir.

**Şekil: 2**  
**Nahar-Inder (2002) Yakınsama Test Sonuçları**



Zaman serisi yaklaşımı kapsamında yapılan yakınsama analizlerinde eş bütünleşme tekniği ve ağırlıklı olarak da birim kök analizlerinin kullanıldığı görülmektedir. Eş bütünleşme tekniği kullanılarak, incelenen örneklem kapsamında ve ortalama ile her bir birim arasında uzun dönemli bir ilişkinin varlığı bağlamında yakınsama hipotezini sınanmaktadır. Bu doğrultuda, incelenen iki serinin eş bütünleşik olması, tahmin süreci sonucunda elde edilen artış serilerinin durağan olduğu ve Bernard ve Durlauf (1996) çalışmasında hareketle yakınsamanın bulunduğu şekilde yorumlanmaktadır. Ekonomik değişkenlere ait zaman serilerinin, politika değişiklikleri, doğal afetler ve savaşlar gibi şoklar nedeniyle yapısal kırılma gösterebilecekleri son zamanlarda sıklıkla üzerinde durulan bir konu olduğu görülmektedir (Hatemi-J, 2008). Dolayısıyla, eş bütünleşme analizlerinde de yapısal kırılmaları dikkate alan teknikler geliştirilmektedir. Söz konusu tekniklerden biri

olan Hatemi-J (2008) tekniği, makroekonomik zaman serilerinde iki yapısal kırılmaya izin veren yeni bir eş-bütünleşme tekniği olarak ifade edilmektedir. Literatürde yakınsama analizlerinde kullanılan diğer analiz tekniği olan birim kök testlerinde ise ortalamadan farkı alınmış serilerin durağan olup olmadığı hususu araştırılmaktadır.

Bu doğrultuda çalışmada Nahar-Inder(2002) yakınsama tekniğinin üstünlüğünü gösterebilmek ve karşılaştırma yapabilmek amacıyla inceleme döneminde bölgelerin enflasyon oranlarının yakınsama davranışı gösterip göstermedikleri Hatemi-J (2008) Yapısal Kırılmalı Eş Bütünleşme Testi ve Genişletilmiş Dickey-Fuller Birim Kök Testi (ADF) ile de araştırılmaktadır<sup>5</sup>. Hatemi-J (2008) yapısal kırılmalı eş bütünleşme testi sonuçları inceleme döneminde, TR21, TR31, TR32, TR33, TR41, TR42, TR61, TR62, TR63, TR72, TR82, TR83, TRA2, TRC1, TRC2 ve TRC3 bölgelerindeki enflasyon oranlarının ortalamaya doğru bir yakınsama davranışı içerisinde bulunduğu geri kalan bölgelerde enflasyon yakınsamasının bulunmadığını göstermektedir. Yakınsama davranışı gösteren TR21, TR31, TR33, TR41, TR83 bölgeleri yüzde10, TR32, TR63, TR82, TRA2, TRC2, TRC3 bölgeleri %5, TR42, TR61, TR62, TR72 ve TRC1 bölgeleri ise %1 anlamlılık düzeyinde yakınsama davranışı göstermektedir. Çalışma ekinde sunulan Hatemi-J (2008) Yakınsama Test Sonuçları (EK 5) incelendiğinde, yakınsama davranışı içerisinde bulunan bölgelerin, eğimde (Model 3) veya eğimde ve sabitte (rejim değişimi) (Model 4) kırılma durumlarında anlamlı olduğu görülmektedir. Yakınsama analizlerinde kullanılan diğer analiz tekniği olan birim kök testleri çerçevesinde kullanılan Genişletilmiş Dickey-Fuller birim kök testi (ADF) sonuçlarına bakıldığında (EK 5) ise inceleme döneminde, TR22, TR32, TR33, TR52, TR62, TR63, TR72, TR82, TRA2, TRC2 ve TRC23 bölgelerindeki enflasyon oranlarının bir yakınsama davranışı içerisinde bulunduğu ve geri kalan bölgelerde ise enflasyon yakınsamasının bulunmadığı görülmektedir. Söz konusu bu bölgelerden, TR22, TR72 ve TR82 yüzde10, TR33, TR52, TR62, TR63, TRA2 bölgeleri %5, TR32, TRC2, TRC3 bölgeleri ise %1 anlamlılık düzeyinde yakınsama davranışı göstermektedir.

Yakınsama hipotezinin sınanmasında kullanılan alternatif yaklaşımlar kullanılarak elde edilen ampirik bulgular doğrultusunda, Hatemi-J (2008) Yapısal Kırılmalı Eş Bütünleşme Testinde 26 Düzey-2 bölgesinden 16 bölgenin, ADF Birim Kök Testine göre ise 26 Düzey-2 bölgesinden 11 bölgenin yakınsama davranışı içerisinde bulunduğunu ortaya koymaktadır<sup>6</sup>. Bu sonuçlar başka bir şekilde ifade edilecek olursa, Hatemi-J (2008) Yapısal Kırılmalı Eş Bütünleşme Testi ve ADF Birim Kök Testi bulgularına göre inceleme döneminde Düzey-2 bölgelerinin sırasıyla %61,5'i ve %42,3'sünün yakınsama davranışı sergilediği görülmektedir. Yakınsama hipotezinin analiz edilmesinde kullanılan söz konusu alternatif yaklaşımlardan elde edilen ampirik bulgular birlikte değerlendirildiğinde,

<sup>5</sup> Genişletilmiş Dickey-Fuller birim kök testi (ADF) ve Hatemi-J (2008) Yapısal Kırılmalı Eş Bütünleşme Testlerinin metodolojileri çalışmanın sonunda bulunan sırasıyla EK 3 ve EK 4'te verilmekte ve söz konusu testler kullanılarak elde edilen bulgular ise EK 5 ve EK 6'da sırasıyla tablo ve şekil olarak sunulmaktadır.

<sup>6</sup> Nahar-Inder (2002) yakınsama testi, Hatemi-J (2008) Yapısal Kırılmalı Eş Bütünleşme Testi ve Genişletilmiş Dickey-Fuller birim kök testi (ADF) kullanılarak elde edilen bulgular çerçevesinde yakınsama davranışı gösteren bölgeler çalışma sonunda EK 7'de sunulmaktadır.

inceleme döneminde bölgesel enflasyon yakınsama sürecinin farklılaşma gösterdiği başka bir ifadeyle söz konusu test sonuçlarına göre Türkiye'de bölgeler arasında güçlü bir enflasyon yakınsamasının bulunmadığı ve dolayısıyla da ülkede uygulanan para politikalarının bölge düzeyinde etkin bir şekilde kullanılamayacağı değerlendirilmektedir. Hatemi-J (2008) yapısal kırılmalı eş bütünleşme testi ve Genişletilmiş Dickey-Fuller birim kök testi (ADF) kullanılarak elde edilen bu sonuçların, Türkiye için bölgesel enflasyon yakınsamasını araştıran Belke ve Al (2019) çalışması ile uyumlu olduğu şeklinde yorumlanmaktadır.

Bu kapsamda çalışmanın özgün katkısını ortaya koyan ve yakınsama hipotezinin sınanmasında kullanılan alternatif yöntemlerden farklı olarak, incelenen serilerin durağan olmaması durumunda bile yakınsama davranışı gösterebileceğini ortaya koyan ve incelenen grup içerisinde farklı davranış biçimleri gösteren birimlerin belirlenmesine olanak sağlayan polinom tipi bir yakınsama tekniği olan Nahar-Inder(2002) yakınsama tekniği kullanılarak elde edilen bulgular çerçevesinde, Türkiye'de bölgeler arasında güçlü bir enflasyon yakınsaması bulunduğu ve Türkiye'de uygulanan para politikalarının bölge bazında etkin bir şekilde kullanılabileceği değerlendirilmektedir.

## 5. Sonuç ve Değerlendirme

Ülke düzeyinde önemli ve karmaşık bir ekonomik sorun olarak kabul edilen enflasyon, ülke içerisinde bulunan bölgeler arasında farklılaşabilmektir. Bölgeler arasında ortaya çıkan enflasyon farklılaşması nedeniyle ulusal düzeyde uygulanan para politikası, bölgesel düzeydeki enflasyon farklılıklarının giderilmesinde etkinsizlik, bölgesel ekonomik büyüme performanslarında farklılıklar, görece fiyatların çarpıklaşması ve bireylerin harcamalarının verimsiz bir şekilde dağılması vb. gibi negatif etkilere yol açabilmektedir. Satın Alma Gücü Paritesi Hipotezi ve Balassa-Samuelson Hipotezi olmak üzere iki temel teorik yaklaşımla açıklanabilen söz konusu farklılıkların ampirik literatürdeki yansımalarının, temelini Neo-Klasik büyüme modelinin oluşturduğu yakınsama hipotezi kapsamında, ülke içerisinde bulunan bölgeler düzeyinde enflasyon yakınsama hipotezinin sınanmasına yönelik çalışmaların artması olduğu görülmektedir. Bu doğrultuda, ülke içerisindeki bölgelerde enflasyon yakınsamasının varlığı, uzun dönemde bölgelerin homojen bir enflasyon sürecine sahip olduğu ve dolayısıyla da ülkede uygulanan para politikalarının bölgeler üzerinde etkin bir şekilde kullanılabileceği şeklinde yorumlanmaktadır. Yakınsamanın bulunmadığı veya yakınsama sürecinin bölgelere göre farklılaştığı tersi durumda ise bölgesel düzeyde farklılaşan faiz-ücret politikaları ve maliye politikaları kapsamında bölge düzeyinde farklılaşan teşvik/destekleme politikalarının uygulanması ile bölgeler arasında ticari entegrasyonun artırılmasını teşvik eden politika tedbirlerinin alınması hususları gündeme gelebilmektedir.

Türkiye'nin en önemli makroekonomik sorunlarından birisi olan enflasyon, emsali olan gelişmekte olan ülkelere göre istikrarlı bir şekilde yüksek seviyede bulunmakta ve önemli bir endişe kaynağı olmayı sürdürmektedir. Bunun yanında, Türkiye bölgesel düzeyde sosyo-ekonomik gelişmişlik farklılıklarının bulunduğu bir ülke konumunda bulunmakta ve



bölge düzeyinde enflasyon oranlarının söz konusu bu farklılaşmayı yansıtabileceği ifade edilmektedir. Bu doğrultuda, Balassa-Samuelson Hipotezi veya piyasalardaki farklı entegrasyon seviyeleriyle açıklanabilen Türkiye'de enflasyonda bölge düzeyinde gerçekleşen farklılıkları ve söz konusu bu farklılıkların zaman içerisinde gerçekleşen seyrini analiz etmek, uygulanan para politikalarının etkinliği konusunda öngörülerde bulunabilmek açısından oldukça önem arz etmektedir. Bu doğrultuda çalışmada, 2004:1-2022:1 döneminde Türkiye'de İBBS bazında 26 Düzey-2 bölgenin enflasyon oranları için yakınsama hipotezinin varlığının çalışmanın özgün değerini ortaya koyan Nahar-Inder (2002) yakınsama tekniği kullanılarak sınanması amaçlanmaktadır.

Bu kapsamda çalışmada ilk aşamada, Türkiye'de bölgesel enflasyon oranlarının ülke düzeyindeki enflasyon oranından farklılaşma seviyesinin seyrini incelemek amacıyla standart sapma yöntemi kullanılarak enflasyon dağılım değerleri hesaplanmaktadır. Enflasyon dağılımı kavramı, bir bölgede gerçekleşen fiyat artış oranlarında meydana gelen farklılaşmaları ifade etmek amacıyla kullanılmaktadır. Söz konusu bu kavram, enflasyon oranlarının bölgeler arasında farklılaşabileceğini dolayısıyla enflasyon oranlarının bölgeler arasında homojen bir şekilde dağılmadığını ortaya koymaktadır. Enflasyon dağılım değerlerinin çalışmanın inceleme dönemindeki seyri değerlendirildiğinde, 2004 yılından 2011 yılına kadar geçen süreçte serinin azalış eğiliminde olduğu dolayısıyla enflasyon oranlarının bölgeler arasında nispeten homojen bir şekilde dağıldığı görülmektedir. İnceleme dönemi içerisinde 2011 yılından 2018 yılına kadar geçen süreçte bakıldığında söz konusu serinin yatay bir seyir izlediği başka bir ifadeyle enflasyon oranları dağılımında homojen dağılım niteliğinin korunduğu görülmektedir. İnceleme döneminin son aşamasını ifade eden 2018 yılından 2022 yılına kadar geçen süreçte ise seride trendin artış yönünde olduğu dolayısıyla son yıllarda yaşanan döviz kuru şoklarından kaynaklı yüksek enflasyon sorununun bölgesel enflasyon oranlarında oldukça fazla düzeyde farklılaşma ortaya çıkmasına yol açtığı bulgusuna ulaşılmaktadır.

Çalışmanın ikinci aşamasında ise, her ilin/bölgenin enflasyon oranının ortalama ulusal enflasyonun denge çizgisine yakınsadığı bir durum olarak tanımlanan enflasyon yakınsaması, Nahar-Inder (2002) yakınsama testi yaklaşımı ile test edilmektedir. İncelemeye konu olan serilerin durağan olmaması durumunda bile yakınsama davranışı gözlemlenebileceğini ifade eden ve incelenen grup içerisinde farklı davranış biçimleri gösteren birimlerin belirlenmesine imkan sağlayan Nahar-Inder (2002) yakınsama testi kullanılarak elde edilen ampirik bulgular, inceleme döneminde 26 Düzey-2 bölgenin 22 tanesinde başka bir ifadeyle Düzey-2 bölgelerinin %84,6'sında enflasyon oranlarının ortalamaya doğru bir yakınsama davranışı gösterdikleri şeklinde yorumlanmaktadır. Bu bulgu, inceleme döneminde Türkiye'de uygulanan para politikalarının bölgeler düzeyinde etkin bir şekilde kullanılabilmesini ifade etmektedir. Yakınsama hipotezinin varlığının sınanmasında, eş bütünleşme tekniği ve ağırlıklı olarak da birim kök analizlerinin kullanıldığı görülmektedir. Bu çerçevede çalışmada ayrıca, Nahar-Inder (2002) yakınsama tekniğinin üstünlüğünü gösterebilmek ve karşılaştırma yapabilmek amacıyla bölgelerin enflasyon oranlarının yakınsama davranışı gösterip göstermedikleri Hatemi-J (2008) Yapısal Kırılmalı Eş Bütünleşme Testi ve Genişletilmiş Dickey-Fuller birim kök testi (ADF)

kullanılarak da sınanmaktadır. Söz konusu ampirik yöntemler kullanılarak elde edilen bulgulara göre ise inceleme döneminde sırasıyla Düzey-2 bölgelerinin %61,5'inin (16 bölge) ve %42,3'sinin (11 bölge) yakınsama davranışı sergilediği görülmektedir.

Çalışmada Nahar-Inder (2002) yakınsama tekniği kullanılarak elde edilen bulgular çerçevesinde inceleme döneminde, Türkiye'de bölgeler arasında güçlü bir enflasyon yakınsaması bulunduğu ve uygulanan para politikasının bölgeler üzerinde etkin bir şekilde kullanılabileceği ifade edilebilmektedir. Bununla birlikte ilgili literatürde, bölgeler düzeyinde farklılaşan faiz-ücret politikaları ve maliye politikaları kapsamında bölge düzeyinde farklılaşan teşvik/destekleme politikalarının uygulanması ile bölgeler arasındaki ticari entegrasyonun artırılmasını teşvik eden politika tedbirlerinin uygulanmasının çalışmada ulaşılan bölgesel enflasyon yakınsaması bulgusunun seviyesini daha da artırma yönünde olumlu etkileri olabileceği değerlendirilmektedir. Çalışmadaki en önemli kısıtın, Türkiye'de enflasyon tanımının değişmiş olması ve İBBS Düzey-2 kapsamında enflasyon hesaplamalarının 2004 yılından sonra yapılmaya başlanması olarak ifade edilebilmektedir. Türkiye'de enflasyon yakınsaması kapsamında yapılacak ileriki çalışmalarda, Türkiye İstatistik Kurumu'nun (TÜİK) sınıflandırmasına göre Tüketici Fiyat Endeksi- TÜFE'yi oluşturan on iki ana harcama grubu bazında ve/veya farklı ülke veya bölge gruplarının/kulüplerinin hepsinin ortak bir dengeye yakınsamasından ziyade farklı durağan durumlara veya dengelere yakınsadığı bir durumu ifade eden ve yakınsama literatüründe "Kulüp Yakınsama" kavramı olarak tanımlanan yaklaşım kullanılarak bölgesel enflasyon yakınsama analizlerinin yapılmasının daha hassas sonuçlara ulaşılmasını sağlayarak ilgili literatüre katkı sağlayacağı değerlendirilmektedir.

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## EKLER:

### EK: 1

#### Türkiye'de İstatistikî Bölge Birimleri Sınıflaması (İBBS) Düzey-2 Bölgelerinde Enflasyon Verilere İlişkin Tanımlayıcı İstatistikler

	TR10	TR21	TR22	TR31	TR32	TR33	TR41	TR42	TR51	TR52	TR61	TR62	TR63
Ortalama	10.2644	10.3093	10.6703	10.5273	10.6922	10.4295	10.3355	10.5042	10.1995	10.4694	10.3410	10.6292	10.4149
Medyan	9.4495	9.3832	9.5695	9.9340	9.2820	8.8008	9.1731	9.0979	9.5626	9.1139	8.8385	9.2892	8.9315
Maksimum	43.8298	50.9355	50.2238	46.5523	52.7594	52.9750	49.1369	51.4807	49.1248	51.3413	52.7507	50.6124	50.5886
Minimum	3.1953	3.8679	3.9550	4.6381	3.8414	4.9725	3.8577	2.6810	4.1974	4.1430	4.3196	4.2538	4.8915
Std. Hata	4.4991	5.0296	4.8877	4.7428	5.5633	5.3947	4.9573	5.2455	4.5185	5.2828	5.5043	5.1194	5.4013
Çarpıklık	2.9635	3.6997	3.6036	3.2363	3.4452	3.7867	3.3747	3.4060	4.1725	3.5594	3.4991	3.4645	3.2786
Basıklık	19.0522	25.2592	24.8211	20.1795	21.0640	24.1685	22.1804	22.6755	31.5964	22.6520	21.7576	22.0805	19.3873
Jarque-Bera	2647.44 [0.0000]	4974.97 [0.0000]	4774.95 [0.0000]	3047.33 [0.0000]	3379.67 [0.0000]	4570.23 [0.0000]	3738.22 [0.0000]	3919.83 [0.0000]	8023.51 [0.0000]	3950.12 [0.0000]	3624.18 [0.0000]	3725.89 [0.0000]	2816.87 [0.0000]
<b>Toplam</b>	<b>2227.37</b>	<b>2237.13</b>	<b>2315.46</b>	<b>2284.43</b>	<b>2320.21</b>	<b>2263.20</b>	<b>2242.80</b>	<b>2279.41</b>	<b>2213.29</b>	<b>2271.86</b>	<b>2244.00</b>	<b>2306.54</b>	<b>2260.04</b>
<b>Gözlem</b>	<b>217</b>	<b>217</b>	<b>217</b>	<b>217</b>	<b>217</b>	<b>217</b>	<b>217</b>	<b>217</b>	<b>217</b>	<b>217</b>	<b>217</b>	<b>217</b>	<b>217</b>
	TR71	TR72	TR81	TR82	TR83	TR90	TRA1	TRA2	TRB1	TRB2	TRC1	TRC2	TRC3
Ortalama	10.5790	10.6552	10.4506	10.2870	10.6085	10.6102	10.5611	10.6403	10.4637	10.5222	10.6520	10.7756	9.9895
Medyan	9.0935	9.2788	8.9146	8.8605	9.1631	8.9064	9.2291	9.2382	8.9228	8.9270	9.3754	9.4495	8.6257
Maksimum	52.6143	52.5046	54.5363	55.5946	57.9223	55.8675	50.9514	54.3795	48.0979	50.2130	50.2995	51.9116	50.0465
Minimum	4.4602	3.7480	1.0862	2.8441	3.9247	4.4476	2.4680	4.2340	4.8432	5.3066	4.4760	4.0254	2.9664
Std. Hata	5.4505	5.3197	5.6855	5.6801	5.7478	5.8599	5.3595	5.6933	5.5412	5.3257	5.4463	5.6025	5.5614
Çarpıklık	3.4189	3.5167	3.3828	3.7594	3.5381	3.5404	3.2067	3.6733	3.0832	3.1865	3.0943	3.1512	3.0381
Basıklık	21.8143	2301940	22.4192	24.6707	22.3945	22.2974	20.4195	22.9642	16.7202	19.0413	18.1782	18.4775	17.4956
Jarque-Bera	3623.32 [0.0000]	4134.59 [0.0000]	3823.55 [0.0000]	4757.32 [0.0000]	3853.75 [0.0000]	3820.38 [0.0000]	3115.49 [0.0000]	4090.76 [0.0000]	2045.86 [0.0000]	2693.87 [0.0000]	2429.30 [0.0000]	2525.11 [0.0000]	2233.70 [0.0000]
<b>Toplam</b>	<b>2295.66</b>	<b>2312.17</b>	<b>2267.78</b>	<b>2232.28</b>	<b>2302.05</b>	<b>2302.42</b>	<b>2291.77</b>	<b>2308.95</b>	<b>2270.62</b>	<b>2283.33</b>	<b>2311.49</b>	<b>2338.30</b>	<b>2167.72</b>
<b>Gözlem</b>	<b>217</b>	<b>217</b>	<b>217</b>	<b>217</b>	<b>217</b>	<b>217</b>	<b>217</b>	<b>217</b>	<b>217</b>	<b>217</b>	<b>217</b>	<b>217</b>	<b>217</b>

### EK: 2

#### Türkiye'de İstatistikî Bölge Birimleri Sınıflaması (İBBS) Düzey-2 Bölge Kodları ve Bağlı İller

Bölge Kodu	Bağlı İller	Bölge Kodu	Bağlı İller
TR10	İstanbul	TR71	Aksaray, Kırıkkale, Kırşehir, Niğde, Nevşehir
TR21	Edirne, Kırklareli, Tekirdağ	TR72	Kayseri, Sivas, Yozgat
TR22	Balıkesir, Çanakkale	TR81	Bartın, Karabük, Zonguldak
TR31	İzmir	TR82	Çankırı, Kastamonu, Sinop
TR32	Aydın, Denizli, Muğla	TR83	Amasya, Çorum, Samsun, Tokat
TR33	Afyonkarahisar, Kütahya, Manisa, Uşak	TR90	Artvin, Giresun, Gümüşhane, Ordu, Rize, Trabzon
TR41	Bilecik, Bursa, Eskişehir	TRA1	Bayburt, Erzincan, Erzurum
TR42	Bolu, Düzce, Kocaeli, Sakarya, Yalova	TRA2	Ağrı, Ardahan, Iğdır, Kars
TR51	Ankara	TRB1	Bingöl, Elazığ, Malatya, Tunceli
TR52	Karaman, Konya	TRB2	Bitlis, Hakkari, Muş, Van
TR61	Antalya, Burdur, Isparta	TRC1	Adıyaman, Gaziantep, Kilis
TR62	Adana, Mersin	TRC2	Diyarbakır, Şanlıurfa
TR63	Hatay, Kahramanmaraş, Osmaniye	TRC3	Batman, Mardin, Şırnak, Siirt

### EK: 3 Genişletilmiş Dickey-Fuller (ADF) Birim Kök Testi

Genişletilmiş Dickey-Fuller Birim kök testi, Dickey-Fuller istatistiklerinin hata terimlerindeki serisel ilişimi dikkate alan uyarlamaları olarak tanımlanmaktadır. Bu kapsamda, P+1'inci dereceden bir kendisiyle bağımlı AR(P+1) süreci aşağıda 1 numaralı denklemle ifade edilmektedir.

$$Y_t = \mu + \sum_{i=1}^{P+1} \rho_i Y_{t-i} + \varepsilon_t \quad (1)$$

Söz konusu bu süreçten hareketle birim kök sınavı olarak kullanılan genişletilmiş Dickey-Fuller istatistikleri, ADF( $\rho$ ) ise 2 numaralı denklem yardımıyla gösterilmektedir (TDK, 2019).

$$\Delta Y_t = \mu + \gamma Y_{t-1} + \beta t + \sum_{j=1}^p \alpha_j \Delta Y_{t-j} + \varepsilon_t \quad (2)$$

### EK: 4 Hatemi-J (2008) Yapısal Kırılmalı Eş Bütünleşme Testi

Hatemi-J (2008) iki yapısal kırılmalı eş-bütünleşme tekniği<sup>7</sup> aşağıda 3 numaralı denklemde ifade edilen standart eş-bütünleşme regresyon denkleminde hareketle açıklanabilmektedir:

$$y_t = \alpha + \beta' x_t + u_t, t = 1, 2, \dots, n. \quad (3)$$

Söz konusu 3 numaralı denkleme iki adet kırılma kuklası eklenerek Hatemi-J (2008) testi oluşturulmaktadır. Söz konusu test aşağıda 4 numaralı denklemde gösterilmektedir.

$$y_t = \alpha_0 + \alpha_1 D_{1t} + \alpha_2 D_{2t} + \beta_0' x_t + \beta_1' D_{1t} x_t + \beta_2' D_{2t} x_t + u_t \quad (4)$$

Hatemi-J (2008) testinde kullanılan iki kukla değişken aşağıdaki şekilde tanımlanmaktadır.

$$D_{1t} = \begin{cases} 0 & \text{if } t \leq [n\tau_1] \\ 1 & \text{if } t > [n\tau_1] \end{cases} \quad D_{2t} = \begin{cases} 0 & \text{if } t \leq [n\tau_2] \\ 1 & \text{if } t > [n\tau_2] \end{cases}$$

Söz konusu kukla değişkenlerinde yer alan bilinmeyen parametreler  $\tau_1 \in (0,1)$  ve  $\tau_2 \in (0,1)$  rejim değişim noktalarının zamanını temsil etmektedir. Eş-bütünleşme ilişkisinin olmadığını temsil eden boş hipotez ADF tipi  $Z_\alpha$  ve  $Z_t$  test istatistikleri ile test edilmektedir. ADF testi, modelden elde edilen hata terimlerine ADF birim kök testi uygulanarak elde edilmektedir. Burada kullanılan  $Z_\alpha = n(\hat{\rho}^* - 1)$  biçiminde hesaplanmaktadır. Formülde yer alan  $\hat{\rho}^*$  parametresi, yanlılığı düzeltilmiş birinci dereceden

<sup>7</sup> Çalışmada ele alınan serilerin I(1) olduğu ADF Birim Kök Testi ile sınanmıştır.

oto korelasyon katsayısının tahmin edicisi olarak ifade edilmektedir. Hatemi-J (2008) söz konusu bu parametrenin 5 numaralı denklem ile hesaplanabileceğini belirtmektedir:

$$\hat{\rho}^* = \frac{\sum_{t=1}^{n-1} (\hat{u}_t \hat{u}_{t+1} - \sum_{j=1}^{\beta} w(\frac{j}{\beta}) \hat{\gamma}(j))}{\sum_{t=1}^{n-1} \hat{u}_t^2} \quad (5)$$

Söz konusu denklemde gösterilen ve oto korelasyon fonksiyonu olarak tanımlanan  $\gamma(j)$  ve  $Z_t$  istatistiği aşağıda sırasıyla 6 ve 7 numaralı denklemlerde gösterilen şekilde tanımlanmaktadır. Söz konusu istatistiklere ilişkin kritik değerler ise Hatemi-J (2008) tarafından hesaplanmaktadır.

$$\hat{\gamma}(j) = \frac{1}{n} \sum_{t=j+1}^T (\hat{u}_{t-j} - \hat{\rho} \hat{u}_{t-j-1})(\hat{u}_t - \hat{\rho} \hat{u}_{t-1}) \quad (6)$$

$$Z_t = \frac{(\hat{\rho}^* - 1)}{(\hat{\gamma}(0) + 2 \sum_{j=1}^{\beta} w(\frac{j}{\beta}) \hat{\gamma}(j)) / \sum_{t=1}^{n-1} \hat{u}_t^2} \quad (7)$$

Hatemi-J (2008) testinde değişkenler arasında eşbütünleşme ilişkisi yoktur temel hipotezi, değişkenler arasında iki yapısal kırılmayla birlikte eşbütünleşme ilişkisi vardır alternatif hipotezine karşı sınanmaktadır. Bu kapsamda üç farklı model tahmin edilebilmektedir. Söz konusu modeller, sabitte kırılma (Model 2), eğimde kırılma (Model 3) ve sabitte ve eğimde kırılma - rejim değişikliği- (Model 4) olarak ifade edilmekte ve ilgili istatistikler aşağıda gösterildiği şekilde tanımlanmakta ve hesaplanmaktadır.

$$ADF^* = \inf_{(\tau_1, \tau_2) \in T} ADF(\tau_1, \tau_2) \quad (8)$$

$$Z_t^* = \inf_{(\tau_1, \tau_2) \in T} Z_t(\tau_1, \tau_2) \quad (9)$$

$$Z_{\alpha}^* = \inf_{(\tau_1, \tau_2) \in T} Z_{\alpha}(\tau_1, \tau_2) \quad (10)$$

Söz konusu denklemlerde  $T = (0, 15n, 0, 85n)$  ve tüm  $\tau_1$  ve  $\tau_2$  değerleri için hesaplanan test istatistiklerinin en küçük olanları kullanılmaktadır ( $\tau_1 \in T_1 = (0, 15, 0, 70)$  ve  $\tau_2 \in T_2 = (0, 15, \tau_1, 0, 70)$ ) (Hatemi-J, 2008).



## EK: 5

### ADF Birim Kök ve Hatemi-J (2008) Yapısal Kırılmalı Eş Bütünleşme Sonuçları

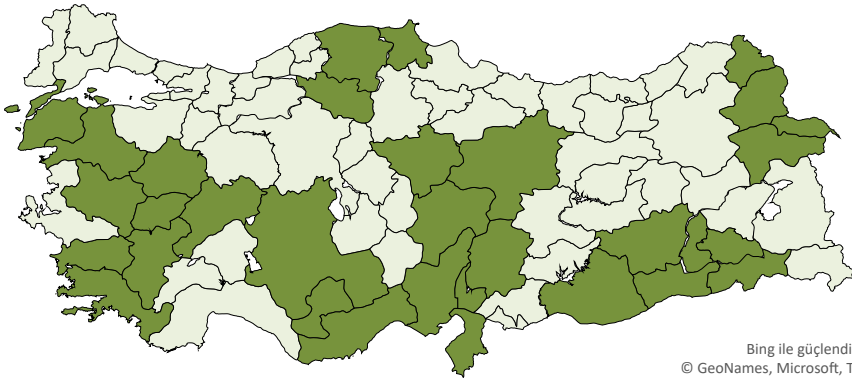
Bölgeler	ADF		HATEMI-J (2008)			
	Gecikme Uzunluğu	Test İstatistiği	Model	Birinci Yapısal Kırılma	İkinci Yapısal Kırılma	t-İstatistiği
TR10	12	-0.65	Model 4	2009-02	2009-06	-5.31
TR21	12	-2.66	Model 4	2006-09	2006-12	-6.72***
TR22	12	-3.63***	Model 3	2012-12	2016-05	-5.48
TR31	12	-1.47	Model 4	2008-12	2011-01	-6.78***
TR32	12	-2.73*	Model 4	2007-06	2011-06	-6.33**
TR33	12	-2.93**	Model 4	2014-08	2015-01	-7.43***
TR41	12	-2.52	Model 3	2007-03	2016-06	-6.98***
TR42	12	-2.42	Model 3	2008-12	2013-04	-5.76*
TR51	12	-1.87	Model 4	2006-11	2016-06	-4.86
TR52	12	-3.10**	Model 3	2009-10	2012-07	-5.51
TR61	12	-1.70	Model 4	2007-01	2012-05	-5.70*
TR62	12	-3.30**	Model 3	2006-09	2012-10	-5.83*
TR63	12	-3.31**	Model 4	2011-07	2016-02	-6.25**
TR71	12	-2.84	Model 4	2009-01	2011-06	-5.37
TR72	12	-3.68***	Model 4	2007-05	2008-01	-5.86*
TR81	12	-2.77	Model 4	2007-07	2008-02	-5.19
TR82	12	-3.58***	Model 4	2010-03	2014-07	-6.08**
TR83	12	-0.75	Model 4	2008-02	2009-07	-7.09***
TR90	12	-2.04	Model 4	2006-10	2011-04	-5.34
TRA1	12	-2.86	Model 4	2014-06	2015-07	-5.37
TRA2	12	-3.41**	Model 3	2007-06	2007-07	-6.22**
TRB1	12	-2.77	Model 3	2010-08	2012-01	-5.58
TRB2	12	-2.14	Model 3	2006-11	2014-03	-5.54
TRC1	12	-2.32	Model 3	2006-08	2010-05	-5.96*
TRC2	12	-2.71*	Model 4	2007-07	2015-08	-6.06**
TRC3	12	-2.78*	Model 4	2006-09	2006-12	-6.15**

Not: \*, \*\* ve \*\*\* sırasıyla %10, %5 ve %1 anlamlılık düzeyinde yakınsama davranışını göstermektedir.

## EK: 6

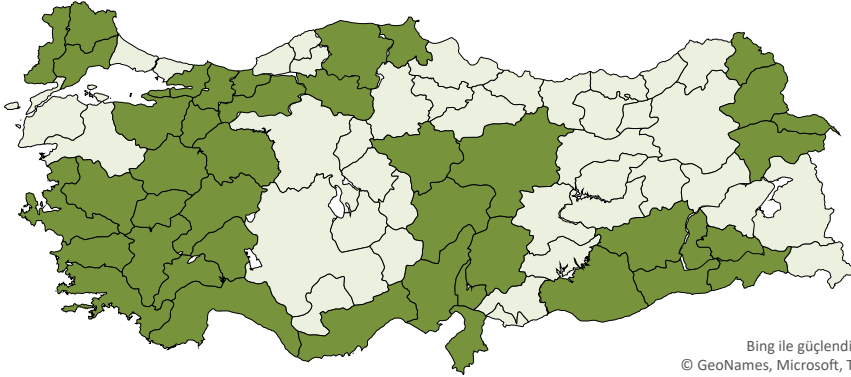
### Genişletilmiş Dickey-Fuller (ADF) Birim Kök Testi ve Hatemi-J (2008) Yapısal Kırılmalı Eş Bütünleşme Sonuçları

#### ADF Birim Kök Test Sonuçları



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## Hatemi-J (2008) Yapısal Kırılmalı Eş Bütünleşme Test Sonuçları



Genişletilmiş Dickey-Fuller birim kök testi (ADF) ve Hatemi-J (2008) Yapısal Kırılmalı Eş Bütünleşme Test sonuçlarının görselleştirildiği şekillerde, koyu renk gösterilen bölgeler enflasyon oranının yakınsama davranışı gösteren bölgeleri ifade etmektedir.

### EK: 7

## Nahar-Inder (2002) Yakınsama Testi, Hatemi-J (2008) Yapısal Kırılmalı Eş Bütünleşme Testi ve Genişletilmiş Dickey-Fuller (ADF) Birim Kök Testine Göre Yakınsama Davranışı Sergileyen Bölgeler

NAHAR-INDER (2002)		HATEMI-J (2008)		ADF
TR10	TR63	TR21	TR83	TR22
TR21	TR81	TR31	TRA2	TR32
TR22	TR82	TR32	TRC1	TR33
TR31	TR83	TR33	TRC2	TR52
TR32	TRA1	TR41	TRC3	TR62
TR33	TRA2	TR42		TR63
TR41	TRB1	TR61		TR72
TR42	TRB2	TR62		TR82
TR51	TRC1	TR63		TRA2
TR52	TRC2	TR72		TRC2
TR62	TRC3	TR82		TRC3
22 Bölge		16 Bölge		11 Bölge

Ceylan, R. & Ő. Yazgan & C. Karademir (2024), "Türkiye'de Bölgesel Enflasyon Yakınsaması: Nahar-Inder Yakınsama Testinden Kanıtlar", *Sosyoekonomi*, 32(62), 497-521.

## G7 ve E7 Ülkelerinde Vergi Politikası Dalgalanmalarının Ekonomik Büyüme Etkisi: Panel ARDL Analizi<sup>1</sup>

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### The Effect of Tax Policy Fluctuations on Economic Growth in G7 and E7 Countries: Panel ARDL Analysis<sup>2</sup>

#### Abstract

This study analysed the effect of tax policy and tax policy fluctuations on economic growth in G7 and E7 countries with the Panel ARDL method for the 2001-2020 period. According to the findings, tax policy and policy fluctuations positively affect economic growth in E7 countries. In G7 countries, while the effect of tax policy on economic growth is positive, the impact of tax policy fluctuations on economic growth is negative. It shows that G7 countries are more affected by policy fluctuations than E7 countries. In the model with the 2008 crisis, while the error correction term of E7 countries was not affected, the error correction term of G7 countries was negatively affected.

**Keywords** : Fiscal Policy, Tax Policy Fluctuations, G7 Countries, E7 Countries, Panel ARDL Analysis.

**JEL Classification Codes** : E62, E61, E12, C33.

#### Öz

Bu çalışmada, G7 ve E7 ülkelerinde vergi politikasının ve vergi politikası dalgalanmalarının ekonomik büyüme etkisi, 2001-2020 dönemi için, Panel ARDL yöntemiyle analiz edilmiştir. Elde edilen bulgulara göre, E7 ülkelerinde hem vergi politikasının hem de vergi politikası dalgalanmalarının ekonomik büyüme etkisi pozitifdir. G7 ülkelerinde ise, vergi politikasının ekonomik büyüme etkisi pozitif iken, vergi politikası dalgalanmalarının ekonomik büyüme etkisi negatiftir. Bu durum G7 ülkelerinin politika dalgalanmalarından, E7 ülkelerine kıyasla, daha fazla etkilendiğini göstermektedir. 2008 krizinin dikkate alındığı modelde, E7 ülkelerinin hata düzeltme terimi etkilenmemiş iken, G7 ülkelerinin hata düzeltme terimi negatif yönde etkilenmiştir.

**Anahtar Sözcükler** : Maliye Politikası, Vergi Politikası Dalgalanmaları, G7 Ülkeleri, E7 Ülkeleri, Panel ARDL Analizi.

<sup>1</sup> Bu çalışma, YÖK 100/2000 doktora bursu desteğiyle yazılmış olan "G7 ve E7 Ülkelerinde Maliye Politikası Dalgalanmalarının Ekonomik Büyüme Etkisi: Panel ARDL Analizi" başlıklı doktora tezinden hazırlanmış olup, Anadolu Üniversitesi Uluslararası Maliye Kongresinde özet bildiri olarak sunulmuştur ve özet olarak yayınlanmıştır.

<sup>2</sup> This study derived from a PhD dissertation entitled "The Effect of Fiscal Policy Fluctuations on Economic Growth in G7 and E7 Countries: Panel ARDL Analysis", supported by the Council of Higher Education (YÖK) 100/2000 Doctoral Scholarship and orally presented and published in the abstract book of the International Public Finance Congress of Anadolu University.

## 1. Giriş

Makroekonomik koşulların sürekli olarak değişime uğradığı küresel ekonomide, ortalama bir bireyin sahip olduğu yaşam standardının en büyük göstergelerinden biri ekonomik büyümedir. Temel olarak, bir ekonominin üretim hacmindeki dönemsel artışları ifade eden ekonomik büyüme gerek uygulanan politikaların gerekse yaşanan olağanüstü ekonomik gelişmelerin yönlendirdiği dinamik bir süreçtir.

Büyümenin söz konusu dinamik sürecini araştıran iktisatçılar, geçmişten günümüze, çok sayıda ampirik ya da teorik çalışma yapmış ve buna bağlı olarak kapsamlı bir büyüme literatürü oluşturmuştur. Önceleri para politikası ve ekonomik büyüme üzerine yoğunlaşmış olan büyüme literatürünün çalışma alanı, 1929 yılında yaşanan Büyük Buhran'dan itibaren daha da genişleyerek farklı bir boyut kazanmıştır. Bu tarihten itibaren, yaşanan krizlerin negatif etkilerini azaltmak ya da büyüme hedeflerine ulaşmak için maliye politikasına, farklı yönlerde olmakla birlikte, sıklıkla başvurulmuştur.

Bununla birlikte, bir politikanın beklenilmeyen bir zamanda yapılması, diğer bir ifadeyle istikrarlı yapılan politikalarından ayrı olarak öngörülmemen bir politikanın uygulanması, o politikaya "şok" olma niteliğini kazandırmaktadır. Politikanın uygulandığı konjonktürel dönem ve söz konusu politikanın uygulanma sıklığı, aslında bu politikanın "şok" olma niteliğini etkilemektedir. Bu durum; literatürde "maliye politikası şokları", "maliye politikası oynaklığı" ya da "maliye politikası dalgalanmaları" olarak adlandırılmaktadır (çalışmamızda dalgalanma terimi kullanılacaktır). Burada maliye politikası dalgalanmaları, politikanın kendisinden bağımsız olarak, ekonomik büyümeyi etkileyen farklı bir unsur olarak karşımıza çıkmaktadır.

Dolayısıyla, maliye politikası ile maliye politikası dalgalanmaları, aslında ekonomik büyüme üzerine etkisi olan birbirlerinden farklı iki değişkendir. Teorik olarak; kamu harcamaları, vergi politikası ya da kamu borçlanmasındaki dalgalanmalara getirilen kısıtlamaların, uzun vadeli ekonomik büyüme üzerinde hem olumlu hem de olumsuz etkileri olabilir. Bir yandan, hükümetler maliye politikasında ihtiyari değişiklikler yaparak makroekonomik dalgalanmaları yumuşatabilirler (bkz. Sachs & Sala-i-Martin, 1992; Von Hagen, 1992; Afonso & Furceri, 2008; Afonso & Jelles, 2012). Böylelikle, uzun vadeli büyüme pozitif yönde etkilenebilir. Öte yandan, maliye politikasındaki dalgalanmalar, tek başına makroekonomik sonuçlar ve ekonomik dalgalanmalar üzerinde negatif etkiye sahip olan mali krizlerle bağlantılı olabilir. Dolayısıyla, bu tür yıkıcı olayların ekonomik büyümeye olan etkisinin açıklığa kavuşturulması önemlidir (Afonso & Jelles, 2012).

Maliye politikası; kamu harcaması politikası, vergi politikası ve kamu borçlanması politikası olmak üzere üç ana unsurdan oluşmaktadır. Burada, kamu harcamalarının birincil finansman kaynağı olarak vergi ön plana çıkmaktadır. Barro (1990) tarafından oluşturulmuş olan ve çalışmamızda temel alınan içsel büyüme modelinde de kamu sermayesinin finansmanı için vergi geliri kullanılmaktadır. Bununla birlikte hem vergi politikası hem de vergi politikası dalgalanmaları gerek kriz dönemlerinde gerekse olağan dönemde ekonomik

bűyűme űzerinde űnemli bir faktűr olarak karřımıza çıkmaktadır. Kriz dűnemlerinde vergi gelirinde meydana gelen dalgalanmalar yűksek faizli borçlanma riskini beraberinde getirmektedir. Olađan dűnemde ise, vadesi gelen borçların űdenmesinde vergi gelirinin kullanılması, sűz konusu borçların kalıcı hale gelmesini engelleyecektir. Buna ek olarak olađan dűnemde vergi gelirinde meydana gelen artıřlar, kamu harcaması politikası iin bir konfor alanı yaratmaktadır.

Bununla birlikte G7 ve E7 űlkelerinin vergi politikası etkilerinin karřılařtırılması da son derece űnemlidir. űnkű bu iki űlke grubunun tűm űyeleri aynı zamanda G20 űyesidir. Diđer bir ifadeyle, herhangi bir E7 űlkesinin ekonomik olarak yűkseliři, sűz konusu űlkenin aslında bir G7 űlkesinin ekonomik aıdan yerini alma olasılıđını ortaya ıkarmaktadır. Dolayısıyla bu iki űlke grubu ekonomik anlamda birbirlerinin dođal rakibi olmakla birlikte, bu iki űlke grubunu oluřturan űlkeler birbirleriyle űnemli ekonomik iliřkilere de sahiptir (bkz. ABD ve Avrupa merkezli űnemli řirketlerin űretim faaliyetlerinin űnemli bir kısmını in'de ya da Hindistan'da sűrdűrmesi). Dolayısıyla, bu iki űlke grubunun vergi politikası performansı aısından karřılařtırılmasının ve etkilerinin analiz edilmesinin, alıřmaya ayrıca bir űzdeđer kattıđı dűřűnűlmektedir.

Bu kapsamda; vergi politikasında meydana gelen dalgalanmaların hem kriz dűneminde hem de olađan dűnemde űnemli bir faktűr olması, maliye politikası dalgalanmalarının ekonomik bűyűme űzerine etkisini arařtıran sınırlı sayıda alıřma olması (bkz. Ramey & Ramey, 1994; Campbell, 1994; Mountford & Uhlig, 2009; Afonso & Jelles, 2012), sűz konusu dalgalanmaların E7 űlkeleri űzerindeki etkisini arařtıran bir alıřmaya rastlanmamıř olması ve bu etkinin birbirlerine rakip olan iki űlke grubu űzeline karřılařtırılması alıřmanın temel motivasyonunu oluřturmaktadır. Politika yapıcıların karar verirken dalgalanma faktűrűnű de gűz űnűnde bulundurmalarının, verilen kararların dođruluđu aısından, űnemli olduđu dűřűnűlmektedir.

alıřmanın bundan sonraki kısmında sırasıyla; vergi politikası ve ekonomik bűyűme arasındaki iliřkiye deđinilecek, vergi politikası ve ekonomik bűyűmenin G7 ve E7 űlkelerindeki seyri incelenecek, literatűrde sűz konusu iliřkiyi konu alan alıřmalardan bahsedilecek ve son olarak ampirik bulgulara yer verilecektir.

## **2. Vergi Politikası ve Ekonomik Bűyűme İliřkisi**

Literatűrde vergi politikası ve ekonomik bűyűme arasındaki iliřkinin yűnű űzerinde bir fikir birliđi yoktur. Bazı alıřmalarda mal ve hizmetlerin vergilendirilmesiyle birlikte, vergilerin ekonomik etkinlik űzerinde olumsuz bir etkiye sahip olduđu űne sűrűlmektedir. Buna karřın diđer alıřmalar, verginin yarattıđı ekonomik pozitif dıřsalılıklar (eđitim, altyapı, sađlık vb.) ve verginin gelir dađılımının iyileřmesine olan etkisinin gűz ardı edildiđini sűylemektedir (Koch vd., 2005). Her űlke ekonomisinin kendine űzgű ekonomik bir yapıya sahip olması, farklı ampirik bulguların elde edilmesini beraberinde getirmektedir. Dolayısıyla, vergi politikası ve ekonomik bűyűme arasındaki iliřkiyi tanımlayan genel bir kuraldan bahsetmek olduka gűtűr.

Solow (1956) tarafından oluşturulan ve modern büyüme modellerin öncüsü sayılan Neoklasik büyüme modelinde, vergi politikalarının ekonomik büyüme üzerinde herhangi bir etkisi yoktur (Solow, 1956). Bu durumun temel nedeni, Neoklasik iktisatçıların, durağan durumda, ekonomik büyümeyi sadece teknolojik ilerlemenin ve nüfus artışının (her iki faktör de dışsaldır) etkilediğini ileri sürmesidir (bkz. Hall, 1968; Skinner, 1988; Rebelo, 1991; Kneller et al., 1999). Romer (1986) ve Lucas'ın (1988) öncülüğünü yaptığı içsel büyüme modellerinde ise ekonomik büyümeyi etkileyen faktörlere nüfus, teknoloji (içsel) ve devlet politikaları gibi faktörler eklenmiştir (Barro, 1996). Barro (1990) yapmış olduğu çalışmada, dışsallık temelli bir başka içsel büyüme modelini ortaya koymuştur. Kamu hizmetlerinin üretimde bir girdi olarak kabul edildiği bu modelde, kamu harcamaları ve ekonomik büyüme arasında bir ilişkinin var olduğu öne sürülmektedir. Kamu sermayesi ise tüketicilere konulan vergiler vasıtasıyla finanse edilmektedir. Dolayısıyla vergiler ve ekonomik büyüme arasında bir ilişkinin var olduğu Barro (1990) tarafından kabul edilmiştir (Barro, 1990). Bu bağlamda vergi politikası ile ekonomik büyüme arasındaki ilişkinin varlığı literatür tarafından kabul görmekte, ancak söz konusu ilişkinin büyüklüğü tartışılmaktadır (Engen & Skinner, 1996).

Vergi politikası ve ekonomik büyüme arasındaki ilişki üzerine yoğunlaşan bir başka görüş ise arz yönlü iktisatçılara aittir. Buna göre, firmaların istihdam olanaklarını daraltmasının temel nedeni yüksek oranlı kurumlar vergisidir. Firmalar, ödemekle yükümlü oldukları yüksek oranlı kurumlar vergisinden dolayı iş hacmini küçültme ya da ücretlerde indirime gitme gibi önlemler alacaklardır. Bu durum hem vergi gelirini hem de ekonomik büyümeyi negatif etkileyecektir (Strulik & Trimborn, 2012). Buna paralel olarak Evans (1983) hem kurumlar vergisinde hem de kişisel vergilerde indirim yapılmasının arz yönlü iktisat politikalarının temel özelliklerinden biri olduğunu savunmuştur. P.C. Roberts (1984) ise, arz yönlü iktisadi "maliye politikalarının görece fiyatlar üzerindeki etkilerini inceleyen bir okuldur" olarak tanımlamıştır. Dolayısıyla arz yönlü iktisat okulu hem maliye politikası ve ekonomik büyüme arasındaki ilişkiyi hem de vergi politikasının ekonomik büyüme üzerine olan etkisini kabul etmektedir.

Arz yönlü iktisatçıların en temel politika önerilerinden biri vergi indirimleridir (Krugman, 2001). Bir arz yönlü iktisatçı olan Arthur Laffer'e (2004) göre vergi oranlarının düşürülmesi vergi hasılatı üzerine -inanılanın aksine- pozitif etki etmektedir (Laffer, 2004). Eğer vergi oranları yeterince yüksek ise, mükellefler kayıt dışı ekonomiye yönelecek ya da vergiden kaçınmak için gelirlerini azaltacaklardır. Böyle bir durumda vergi oranında meydana gelecek indirim vergi gelirlerini artırabilir (Ulbrich, 2011). Tüm bu bilgiler ışığında vergi politikasında meydana gelecek bir değişim, hem vergi hasılatını hem de ekonomik büyümeyi etkileyecektir. Diğer bir ifadeyle, arz yönlü iktisatçıların vergiye bakış açıları da yapmış olduğumuz çalışmaya dayanak sağlamaktadır.

### **3. G7 ve E7 Ülkelerinde Güncel Durum**

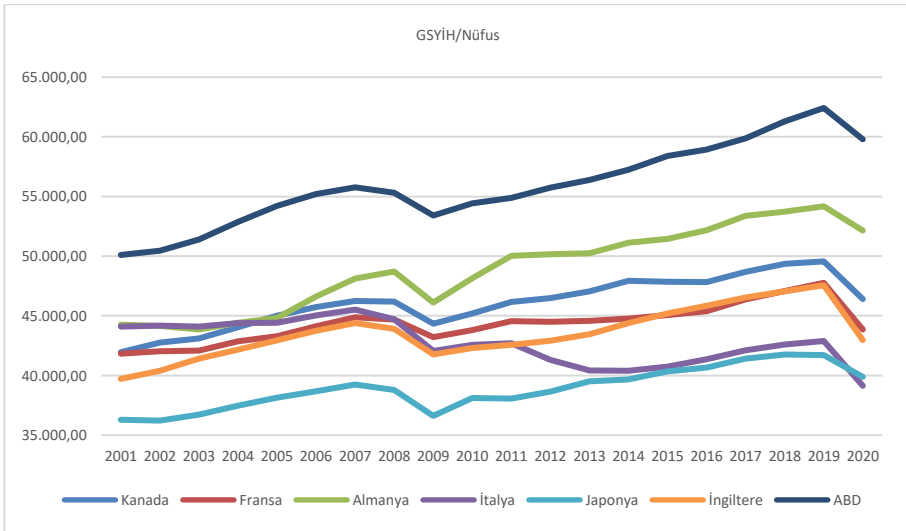
Çalışmadaki grafiklere bakıldığında, ilk olarak 2019 yılında hem GSYİH hem de vergi gelirinin -farklı yoğunluklarda olmakla birlikte- meydana gelen kırılmalar dikkat

çekmektedir. Çalışmanın yapılmış olduğu tarihte, pandemi krizi henüz bitmediği için söz konusu krizi temsil eden kukla değişkeni modele eklenememiştir. Ancak pandemi krizinin meydana getirdiği etki grafiklere yansımaktadır. Dolayısıyla, meydana gelen bu kırılmaların önceden yorumlanması uygun görülmüştür.

Bu kırılmaların temel nedenine IMF (2019) tarafından hazırlanmış olan raporda değinilmiştir. Rapora göre, yükselen ticari engeller ve buna bağlı belirsizlikler küresel ekonomi üzerinde baskı oluşturmaktadır. Özellikle gelişmiş ekonomiler ve Çin tarafından sürdürülmekte olan politikalar, ekonomideki döngüsel ve yapısal yavaşlamaları büyütülmektedir. Buna ek olarak; Brezilya, Hindistan, Meksika ve Rusya gibi gelişmekte olan büyük piyasa ekonomilerindeki ülkeye özgü zayıflıklar da söz konusu baskıyı artırmaktadır. Ekonomik ortamın belirsizleşmesi ile firmalar uzun vadeli harcamalarda temkinli davranmaya başlamış ve küresel makine ile teçhizat alımları yavaşlamıştır. Özetle, küresel ekonomideki gelişmelerin, vergi politikasında ve ekonomik büyümede yaşanan dalgalanmaların temel kaynağını oluşturduğu düşünülmektedir.

G7 ülkelerinde kişi başına düşen gayri safi yurt içi hasılanın (GSYİH) yıllara göre dağılımını Grafik 1’de gösterilmektedir.

**Grafik 1**  
**G7 Ülkelerinde Kişi Başına Düşen Gayri Safi Yurtiçi Hasıla**  
**(2017 Yılı Dolar Kuruna Sabitlenmiştir)**



Kaynak: International Monetary Fund (IMF) (2023), *The World Economic Outlook (WEO) April 2023 Edition*.

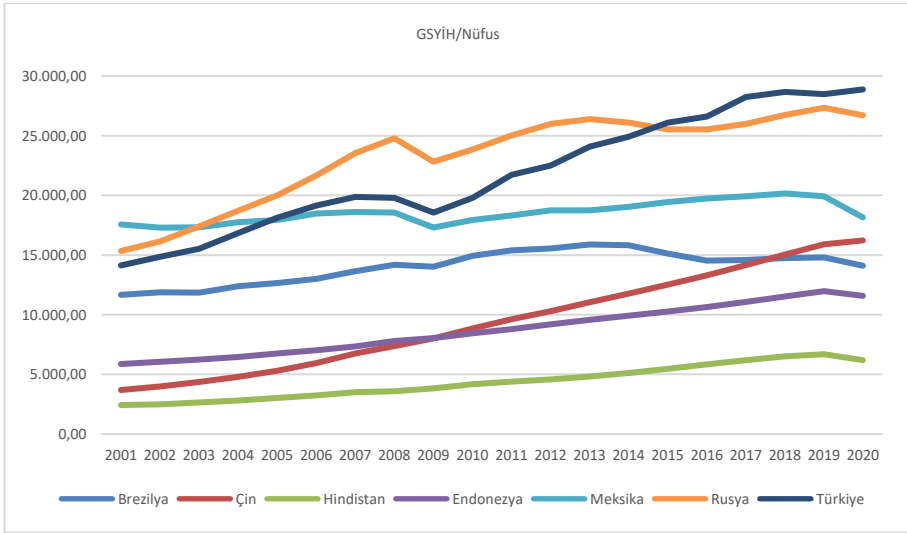
Buna göre, İtalya hariç diğer tüm G7 ülkelerinde yukarı yönlü trend vardır. Birim kök testlerinin sonuçları incelenirken söz konusu trend dikkate alınmalıdır. Bununla birlikte, tüm ülkeler farklı şiddetlerle olmakla birlikte 2008 yılında yaşanan ekonomik krizden



etkilenmiştir. İtalya'yı diğer ülkelerden ayıran temel faktörleri Balcerowicz vd. (2013) şu şekilde açıklamaktadır; "İtalya'nın 2013'ün sonlarına doğru borç krizine girmesinin temel faktörleriyle ilgili bir fikir birliği vardır. Bu faktörler; ekonominin dalgalı olması, rekabet gücünün düşük olması, sürekli artan bütçe açıkları ve uygulanan yüksek oranlı vergi politikalarıdır."

Grafik 2'de ise E7 ülkelerinde kişi başına düşen gayri safi yurtiçi hasılanın yıllara göre dağılımı verilmektedir.

**Grafik: 2**  
**E7 Ülkelerinde Kişi Başına Düşen Gayri Safi Yurtiçi Hasıla**  
**(2017 Yılı Dolar Kuruna Sabitlenmiştir)**



Kaynak: International Monetary Fund (IMF) (2023), *The World Economic Outlook (WEO) April 2023 Edition*.

Buna göre 2008 krizi yıllarına bakıldığında; Brezilya, Meksika, Rusya ve Türkiye'nin krizden etkilendiği görülmekte iken, Çin, Endonezya ve Hindistan'ın söz konusu krizden etkilenmediği görülmektedir. Avrupa piyasalarıyla iç içe olan Brezilya, Meksika, Rusya ve Türkiye'nin küresel krizden etkilenmesi beklenen bir durumdur. Buna karşın; Çin, Hindistan ve Endonezya'nın küresel krize verdikleri tepkiyi açıklamak gerekmektedir.

Çin ve Hindistan'ın 2008 küresel krizinden güçlenerek çıkacaklarını ve bu krizin galibi olduklarını öne süren birçok görüş vardır (bkz. Pei, 2009; Sally, 2009; Schwartz, 2009; Ghemawat, 2010; Fidrmuc & Korhonen, 2010). Bu durumun en temel nedenlerinden biri Çin ve Hindistan'ın düşük üretim maliyetleridir. Çin ve Hindistan'ın ekonomik modellerinin Avrupa'ya kıyasla farklı olması da bir diğer temel etkidir. Hindistan'ın yabancı sermayeye ve dış ticarete bağımlılığı oldukça düşük olan ekonomik yapısı, bu ülkenin krizden daha az

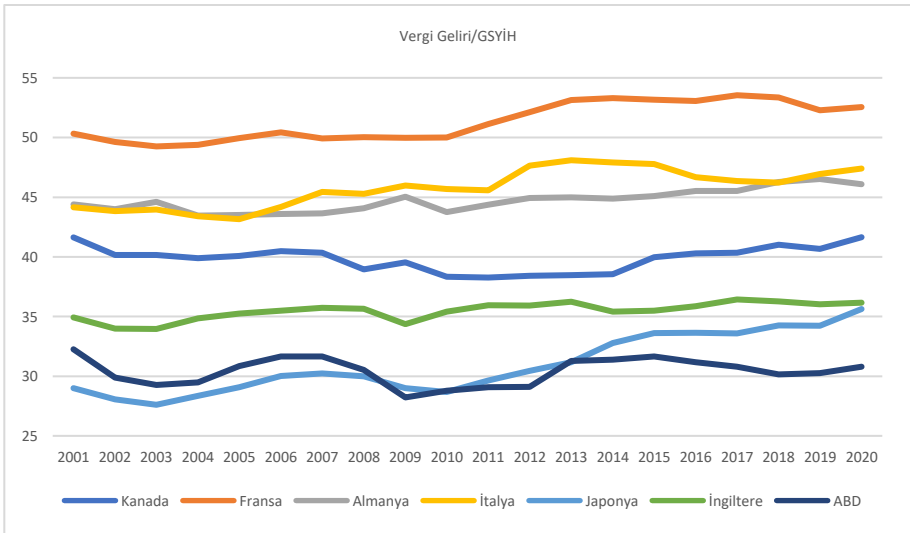
etkilenmesine neden olmuştur (Kshetri, 2011). Nitekim Hindistan hizmetlere daha fazla odaklansa da son zamanlarda Çin'in kalkınma yolunu takip etmektedir (bkz. Winter & Yusuf, 2007; Yusuf et al., 2007).

Bununla birlikte, Çin'in krizi takip eden süreçte yüksek hacimde yabancı yatırım alması, aslında bizi krizin Çin için bir fırsat olduğu sonucuna götürmektedir. Gelişmiş ülkelerden gelen yatırımlar ve ihracat genişlemesiyle desteklenen Çin ekonomisi, kriz sonrası dönemde önemli ölçüde yol kat ederek, sadece birkaç yıl içerisinde küresel ekonomi için önemli bir büyüme kaynağı haline gelmiştir. Çin'i ve Hindistan'ı Asya'daki diğer bazı küçük gelişmekte olan ekonomiler (bkz. Endonezya) de takip etmektedir (Fidrmuc & Korhonen, 2010).

Özetle, yükselen Asya devlerinin dünya ekonomisinin iş çevrimlerindeki özel konumu dikkat çekmektedir. Ülkeler arasındaki artan ticari bağlantılara rağmen hem Çin'in hem de Hindistan'ın dünya ekonomisinin geri kalanından oldukça farklı davranıyor olması, bu iki ülkeyi ve bu ülkeleri takip eden Endonezya gibi daha küçük Asya ülkelerini benzersiz hale getirmektedir.

Vergi gelirlerindeki bir artış, kamu harcamalarına kaynak oluşturması açısından önemlidir. Grafik 3'te vergi gelirinin GSYİH'ya oranının ülkelere göre grafikleri gösterilmektedir.

**Grafik: 3**  
**G7 Ülkelerinde Vergi Gelirinin Gayri Safi Yurtiçi Hasılaya Oranı**



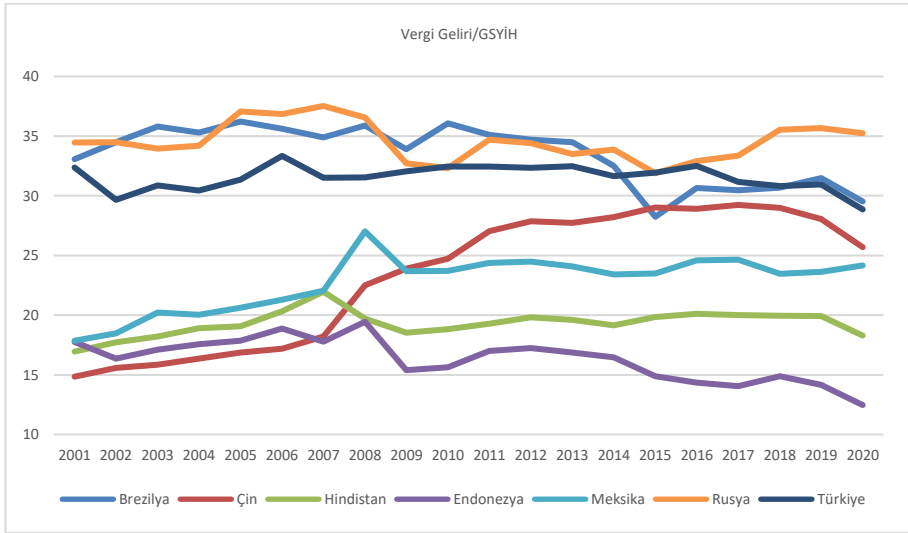
Kaynak: International Monetary Fund (IMF) (2023), *The World Economic Outlook (WEO) April 2023 Edition*.

Grafik 3. incelendiğinde, tüm G7 ülkelerinde vergi gelirinin GSYİH'ya oranının yatay seyrettiği görülmektedir. 2008 küresel krizinde, görece *-İtalya da dahil olmak üzere-* tüm ülkelerde genişletici maliye politikası uygulandığı söylenebilir. Ancak, kriz dönemlerinde vergi gelirlerinin tahsil edilmesindeki zorluklar da göz önünde bulundurulmalıdır. Daha önce de bahsedildiği üzere İtalya'nın borç krizine girdiği dönemde vergi oranları yükseltmiş olması (bkz. Balcerowicz et al., 2013), kriz sonrası dönemde vergi gelirleri açısından diğer ülkelerden ayrışmasına neden olmuştur.

Özellikle olağanüstü dönemlerde, vergi tahsil edilemediği için, kamu harcamaları ve kamu borçlanması daha önemli hale gelmektedir. Bu nedenle bu iki maliye politikası aracının yıllar bazında incelenmesinin faydalı olacağı düşünülmektedir. Bu kapsamda bu iki etkinin incelenmesi başka çalışmalara bırakılmıştır.

E7 ülkelerinde vergi gelirinin gayri safi yurtiçi hasılaya oranının yıllara göre dağılımı Grafik 4'te gösterilmektedir.

**Grafik: 4**  
**E7 Ülkelerinde Vergi Gelirinin Gayri Safi Yurtiçi Hasılaya Oranı**



Kaynak: International Monetary Fund (IMF) (2023), *The World Economic Outlook (WEO) April 2023 Edition*.

Buna göre Çin hariç diğer tüm ülkelerin 2008 küresel krizi ve sonrası vergi geliri azalmıştır. Bu azalışın iki temel nedeni olabilir. Birincisi, krizden dolayı vergi tahsilatının yapılamamasıdır. Diğer neden ise, krizden çıkmak amacıyla yapılan genişletici politikalaradır.

Çin'in kriz ve sonrasında istikrarlı bir şekilde büyüme devam etmesinin nedenleri arasında hayata geçirilen bir dizi ekonomik tedbir olduğu düşünülmektedir (Haan, 2010).

Bunlar; vergilerde indirim, ihracatı teşvik etmek için katma değer vergisi indirimlerinde deđişiklik (daha önce ekonomiyi yavaşlatmak için kullanılmaktaydı), kredilerin gevşetilmesi, takip eden süreçte kredilerde 2009 yılı ortasında yapılan ek indirimler, konut ve borsa piyasalarını istikrara kavuşturacak önlemler ve tüketim mallarının satın alınmasına yönelik sübvansiyonlardır. Son olarak, Çin'in ulusal para biriminin değeri de pek çok tartışmaya konu olmuştur. Her ne kadar para birimi önceki birkaç yılda değeri kazanmış olsa da mevcut değerinin hala nispeten düşük olduđu ve bu nedenle Çin'in ihracatını desteklediđi düşünölmektedir (bkz. Haan, 2010).

Alınmış olan bu tedbirler Çin'in Grafik 4'teki 2008-2010 yılları arasında olan dalgalanmasını açıklamaktadır. Bu yıllar haricinde Çin'in istikrarlı şekilde büyümüş olması ve daha önce bahsedildiđi üzere ekonomik krizden avantaj elde ederek çıkması, vergi gelirlerinin milli gelire oranının istikrarlı bir şekilde artmasını açıklamaktadır.

Tüm bu bilgiler ışığında G7 ve E7 ülkeleri için genel bir değerlendirme yapıldığında, G7 ülkelerinin konjonktürel dalgalanmalara karşı oldukça duyarlı olduđu göröölürken, E7 ülkelerinin söz konusu dalgalanmalardan nispeten daha az etkilendiđi göröölmektedir (bkz. Grafik 1 ve Grafik 2). Burada, özellikle 2008 krizi esnasında, G7 ülkeleriyle olan ekonomik ilişkilerinden dolayı E7 öölke grubu üyesi olan Türkiye, Brezilya, Meksika ve Rusya'nın ekonomik büyüme davranışları G7 ülkeleriyle benzerlik göstermektedir. Çin, Hindistan ve Endonezya ise 2008 krizinde pozitif yönlü ekonomik büyüme gerçekleşmiştir (bkz. Grafik 2).

Buna karşın, G7 ve E7 ülkelerinin pandemi krizine karşın verdiđi tepkiler birbirinden ayrılmaktadır. Pandemi krizinde G7 öölkelere kıyasla, E7 öölkelindeki kırılmaların daha az olduđu göröölmektedir (bkz. Grafik 1 ve Grafik 2). Bu durumun başlıca nedenlerinden biri iki öölke grubunun vermiş olduđu vergi politikası kararları arasındaki farktır. Pandemi krizi döneminde G7 öölkelinin vergi gelirleri artarken, E7 öölkelinin vergi gelirleri azalmıştır (bkz. Grafik 3 ve Grafik 4). Bu duruma E7 öölkelinin uyguladıđı büyüme odaklı genişletici politikaların neden olduđu söylenebilir. Literatürde vergi politikası ve ekonomik büyüme arasındaki bu ilişkiyi açıklayan çok sayıda ampirik çalışma yer almaktadır. Bu çalışmaların detaylı bir şekilde incelenmesi, söz konusu ilişkiye yol açan faktörlerin anlaşılması açısından oldukça önemlidir.

#### **4. Vergi Politikası ve Ekonomik Büyüme İlişisini Konu Alan Çalışmalar**

Vergi politikası ve ekonomik büyüme arasındaki ilişki, özellikle Büyük Buhran'dan itibaren, literatürde yoğun bir şekilde çalışılmıştır. Bu çalışmalar genellikle üç farklı görüş üzerine yoğunlaşmaktadır. Bu görüşler şu şekilde sıralanabilir:

- Vergi politikası ve ekonomik büyüme arasında ilişki yoktur (bkz. Harberger, 1964; Mendoza et al., 1997; Karras, 1999; Widmalm, 2001; Paksoy & Bakan, 2010; Arachi et al., 2015)

- Vergi politikası ve ekonomik büyüme arasında pozitif yönlü ilişki vardır (bkz. King & Rebelo, 1990; Goyer & Burns, 1997; Chairman, 1997; Bleaney et al., 2001; Branson & Lovell, 2001; Anastassiou & Dritsaki, 2005; Mamatzakis, 2005; Arnold et al., 2011; Acosta-Ormaechea & Yoo, 2012; Stoilova, 2017; Nguyen et al., 2020; Yavuzer & Peker, 2022)
- Vergi politikası ve ekonomik büyüme arasında negatif yönlü ilişki vardır (bkz. Marsden, 1983; Skinner, 1988; Koester & Kormendi, 1989; Barro, 1991; Plosser, 1992; Easterly & Rebelo, 1993; Roubini & Ferretti, 1994; Ferretti & Roubini, 1995; Cashin, 1994; Engen & Skinner, 1996; Leibfritz et al., 1997; Ohanian, 1997; Padovano & Galli, 2001; Fölster & Henrekson, 2001; Bassanini et al., 2001; Zeng & Du, 2003; Koch et al., 2005; Lee & Gordon, 2005; Arnold, 2008; Poulson & Kaplan, 2008; Johanson et al., 2008; Benos, 2009; Padda & Akram, 2009; Arin et al., 2011; Veronika & Lenka, 2012; Canavire-Bacarreza et al., 2013; Gemmill et al., 2014; Ahmad et al., 2016; Di Sanzo et al., 2017)

Görüldüğü üzere, literatürde vergi politikası ve ekonomik büyüme arasında ilişki olmadığını iddia eden çalışmalar azınlıkta iken, Neoklasik görüş doğrultusunda vergi politikasının ekonomik büyümeyi negatif yönde etkilediğini ileri süren çalışmalar literatürün büyük bir kısmını oluşturmaktadır.

Burada yer alan çalışmalar; kullanılan yöntem, veri setinin kapsadığı dönem ve üzerine çalışılmış olan ülkeler açısından farklılık göstermektedir. Ancak, çalışmaların kolay veri temin edilebilen gelişmiş ülkeler ya da bazı ülke grupları üzerine yoğunlaşmış olduğu görülmektedir. Bu durum, vergi politikası ve ekonomik büyüme arasında negatif ilişki olduğunu iddia eden çalışmaların yoğunlukta olmasının temel sebebi olabilir. Bu nedenle E7 ülkeleri üzerine yapılacak olan bir çalışmanın literatüre katkı sağlayacağı düşünülmektedir. Bu katkının daha kolay görülebilmesi için yapılmış olan çalışmalara daha detaylı şekilde değinilmesi önemlidir.

Vergi politikası ve ekonomik büyüme arasında bir ilişkinin olmadığını savunan Harberger (1964) ABD üzerine yaptığı çalışmada kısmi denge analizi kullanmıştır. Ulaşılan sonuca göre, uzun dönemde, vergi politikasının ekonomik büyüme üzerine etkisi oldukça sınırlıdır. Buna paralel olarak 18 OECD ülkesi üzerine yapılmış olan bir başka çalışmada ise vergi politikası ve ekonomik büyüme arasındaki ilişki anlamsız bulunmuştur (bkz. Mendoza et al., 1997). OECD ülkeleri üzerine yapılan ve Neoklasik iktisadi destekleyen bir başka çalışma ise Karras'a (1999) aittir. Bu çalışma da vergi oranlarının uzun dönemde ekonomik büyümeye etki etmediği sonucuna ulaşılmıştır. Benzer şekilde OECD ülkeleri üzerine yapılan bir başka çalışmada da ortalama vergi oranları ve ekonomik büyüme arasındaki ilişki anlamsız bulunmuştur (bkz. Widmalm, 2001). Vergi politikası ve ekonomik büyüme arasındaki ilişkiyi anlamsız bulan ve analizinde OECD ülke grubunu kullanan bir başka çalışma ise Arachi vd.'ne (2015) aittir.

Görüldüğü gibi çalışmaların çoğu veri teminin kolaylığı nedeniyle OECD ülke grubu temel alınarak yapılmıştır. Vergi politikası ve ekonomik büyüme arasında ilişkinin anlamsız

olduğunu öne süren çalışmalara kıyasla bu ilişkinin anlamlı ve pozitif olduğunu öne süren çalışmalar daha fazladır.

King ve Rebelo (1989) tarafından yapılan çalışma ABD'nin verileri kullanılarak yapılmıştır. Buna göre vergi oranları uzun dönem durağan denge seviyesini değiştirmektedir<sup>3</sup>. Vergi politikası ve ekonomik büyüme arasında pozitif yönlü ilişkinin olduğunu savunan ve OECD ülkelerinin verilerinin kullanıldığı üç farklı çalışma vardır<sup>4</sup>.

Gober ve Burns (1997) tarafından yapılmış olan çalışma 18 gelişmiş OECD ülkesini kapsamaktadır. Ulaşılmış olan sonuca göre, Norveç dışında diğer tüm ülkelerde gelir vergisi, kurumlar vergisi ve tüketim vergileri ekonomik büyümeyi pozitif yönde etkilemektedir. Bleaney vd. (2001) tarafından yapılmış olan ve 22 OECD ülkesini kapsayan çalışmaya göre, tüketim vergileri başta olmak üzere, kamu gelirlerinin ekonomik büyümeye pozitif yönde etkisi olduğu öne sürülmektedir. Arnold vd. (2011) tarafından yapılmış olan çalışmada, hem mevcut ekonomik krizden kurtulmayı hızlandıran hem de uzun vadeli büyümeye katkıda bulunan vergi politikasını tanımlanmaktadır. 21 OECD ülkesini kapsayan ve ortalama grup tahmincisi (MG) yönteminin kullanıldığı çalışmada, vergi tabanının kademeli olarak tüketime ve taşınmaz mallara (özellikle konut mülkiyetine) kaydırılmasıyla ekonomik büyümenin artırılacağına dair teorik inançları destekleyen ampirik sonuçlar sunulmaktadır.

Ülke grupları üzerine yapılan bir başka çalışma ise Stoilova (2017)'ya aittir. 28 AB ülkesi üzerine yapmış olduğu çalışmasında, üretim ve ithalat vergilerinin ekonomik büyüme üzerinde güçlü bir pozitif etkiye sahip olduğu, ancak katma değer vergisi uygulamasının AB-28 ekonomilerini olumsuz etkilediği, emlak vergilerinin ekonomik büyüme için nötr olduğu, kişisel gelir vergisi ve sosyal katkı paylarının olumlu etkileri olduğu sonucuna varılmıştır. Gelişmişlik düzeyleri farklı olan 69 ülkeyi analiz eden Acosta-Ormaechea ve Yoo (2012) ise, tüketim vergilerinin ekonomik büyümeyi pozitif yönde etkilediği sonucuna ulaşmıştır.

Ülke grupları üzerine olduğu gibi, sadece tek bir ülkeyi kapsayan çalışmalar da mevcuttur. Tek ülkeyi kapsayan çalışmalarda genel bir kanı oluşturabilmek için farklı bölgelerdeki ve farklı gelir seviyelerindeki ülkeleri kapsayan çalışmaların seçilmesinin önemli olduğu düşünülmektedir. Bu doğrultuda Anastassiou ve Dritsaki (2005) ile Mamatzakis (2005) tarafından yapılmış olan çalışmalar Yunanistan'ı araştırmaktadır. Anastassiou ve Dritsaki (2005) yapmış oldukları çalışmada, vergi politikasından ekonomik büyümeye doğru tek yönlü pozitif nedensellik olduğu bulgusuna ulaşmışlardır. Matmazakis (2005) ise, dolaylı vergilerin ağırlıklı olduğu karma bir vergi sisteminde, uzun dönemde, vergi politikasının ekonomik büyümeyi pozitif etkilediğini öne sürmektedir. Branson ve Lovell (2001) ise yapmış oldukları çalışmada, bir Okyanusya ülkesi olan Yeni Zelanda'da

<sup>3</sup> Harberger (1964) tarafından yapılmış olan çalışma ile kıyaslandığında, her iki çalışmanın farklı dönemleri kapsadığı görülmektedir.

<sup>4</sup> Bunlar; Gober ve Burns (1997), Bleaney vd. (2001) ve Arnold vd. (2011) tarafından yapılan çalışmalardır.

dolaylı vergilerin toplam vergilere olan payının artırılmasının ekonomik büyümeyi pozitif etkilediğini öne sürmektedir. Bir Asya ülkesi olan Vietnam'da kamu gelirleri ve ekonomik büyüme ilişkisini araştıran Nguyen vd. (2020) ise, gelir ve tüketim vergilerinin ekonomik büyümeyi pozitif yönde etkilediği sonucuna ulaşmıştır.

Yavuzer ve Peker (2022) tarafından yapılmış olan ve Türkiye'nin 2006:Q1-2020:Q1 dönemini kapsayan çalışmada ise dolaylı ve dolaysız vergilerin ekonomik büyüme üzerine etkisi incelenmektedir. Johansen eşbütünlük yönteminin kullanıldığı çalışmada elde edilen bulgulara göre, hem dolaylı hem de dolaysız vergilerin ekonomik büyüme üzerine olan etkisi pozitifdir. Dolaylı vergilerde meydana gelen %1'lik artış, ekonomik büyümeyi %0.88 artırırken; dolaysız vergilerde meydana gelen %1'lik artış, ekonomik büyümeyi %0.17 artırmaktadır.

Literatüre bakıldığında, Neoklasik görüşün desteklendiği çalışmaların sayısı oldukça fazladır. Bu çalışmalar karma ülke grupları<sup>5</sup>, OECD ülkeleri<sup>6</sup> ve tek ülke<sup>7</sup> üzerine yapılan ampirik analizleri içermektedir.

Marsden (1983) tarafından yapılan ve 20 farklı ülkeyi kapsayan çalışmada, vergi yükünün ekonomik büyümeyi negatif etkilediği sonucuna ulaşılmıştır. Ayrıca vergi yükünün; ekonomik büyümenin belirleyicileri olan yatırım, işgücü arzı, işgücü verimliliği ve ihracata olan etkisi de negatiftir. Benzer bir sonuca 31 Afrika ülkesi üzerine yaptığı araştırmada ulaşan Skinner (1988), kurumlar vergisi ile gelir vergisinin ekonomik büyüme üzerine olan etkisinin negatif olduğu sonucuna ulaşmıştır. Vergi oranları ve ekonomik büyüme arasındaki ilişkiyi 98 farklı ülkenin verilerini kullanarak araştıran Barro (1991) ise, uzun dönemde, vergi oranlarının ekonomik büyümeye etkisinin negatif olduğunu bulmuştur. Barro (1991) gibi büyük bir ülke grubunun verilerini kullanmayı tercih eden bir çalışma ise Engen ve Skinner (1996) tarafından yapılmıştır. Gelişmiş ve gelişmekte olan 107 ülke üzerinde yapılan çalışmada sonuçlar benzerdir. Önceki iki çalışmada olduğu gibi Lee ve Gordon (2005) da yapmış oldukları çalışmada 70 ülkelik büyük bir grupta kurumlar vergisinin ekonomik büyümeye olan etkisini analiz etmiştir. Ulaşılan sonuçlara göre; kurumlar vergisinde yapılacak %1 oranında bir artış, ekonomik büyümeyi %0.11 oranında azaltmaktadır.

Benos (2009) ile Veronika ve Lenka (2012) ise AB ülke grupları üzerinde yapmış oldukları çalışmalarda, vergi politikası ile ekonomik büyüme arasında negatif yönlü bir ilişki olduğu bulgusuna ulaşmışlardır. Literatürde az çalışılmış bir ülke grubu olan İskandinavya ülkeleri üzerine çalışan Arin vd. (2011), ABD ve İngiltere'yi dahil ettikleri analizlerinde

<sup>5</sup> Marsden (1983), Skinner (1988), Koester & Kormendi (1989), Barro (1991), Easterly & Rebelo (1993), Engen & Skinner (1996), Lee & Gordon (2005), Benos (2009), Arin et al. (2011), Veronika & Lenka (2012), Canavire-Bacarreza et al. (2013).

<sup>6</sup> Plosser (1992), Leibfritz et al. (1997), Padovano & Galli (2001), Fölster & Henrekson (2001), Bassanini et al. (2001), Arnold (2008), Gemmell et al. (2014), Di Sanzo et al. (2017).

<sup>7</sup> Ohanian (Pakistan; 1997), Koch et al. (Güney Afrika; 2005), Padda & Akram (Pakistan, Hindistan ve Sri Lanka; 2009), Ahmad et al. (Pakistan; 2016).

vergi oranlarında meydana gelen artışın ekonomik bűyüme olumsuz yönde etkilediđi sonucuna ulařmıřlardır. Nadir alıřılan bir diđer ũlke grubu olan Latin ABD ũlkelerini analiz eden Canavire-Bacarreza vd. (2013) vergi yűkű ile kiřisel gelir vergisinin ekonomik bűyüme űzerin olan etkisinin negatif yönde olduđu sonucuna ulařmıřlardır. Kurumlar vergisinin bűyüme űzerine etkisi ise ekonometrik olarak anlamsızdır.

Karma ũlke gruplarının analizi, ekonominin geneli iin fikir oluřturulabilmesi aısından önemlidir. Bununla birlikte, aynı ũlke grubu űzerinde yapılmıř olan alıřmalar ise, daha karřılařtırılabilir olduđundan dolayı, literatűre farklı bir yűnlűyle katkı sađlamaktadır. Dolayısıyla OECD ũlkeleri űzerine yapılan alıřmalar bir grup halinde ele alınmıřtır. Bu kapsamda Plosser (1992) tarafından yapılmıř olan alıřmada, ortalama vergi oranlarının ekonomik bűyüme űzerine etkisinin negatif olduđu sonucuna ulařılmıřtır. Ortalama vergi oranlarını kullanan bir bařka alıřma ise Leibfritz vd. (1997) tarafından yapılmıřtır. Buna gűre, gemiře dűnűk 35 yıla ait ortalama vergi politikası ekonomik bűyüme olumsuz etki etmektedir. Padovano ve Galli (2001) tarafından yapılmıř olan bir bařka alıřmada ise, vergi oranları ve ekonomik bűyüme arasındaki iliřki negatif yűnlűdűr. 23 geliřmiř OECD ũlkesi űzerinde alıřan Fűlster ve Henrekson (2001), bu yűnűyle diđer OECD alıřmalarından ayrılmaktadır. Buna gűre, geliřmiř ekonomilerde vergi yűkűnűn ekonomik bűyüme űzerindeki etkisi negatiftir.

Arnold (2008) yaptıđı alıřmasında ekonomik bűyüme ile iliřkisi en iyi olan verginin tařınmaz mallar űzerinden alınan vergiler olduđu ileri sűrműřtűr. Kurumlar vergisinin ise ekonomik bűyüme űzerine olan etkisi negatiftir. Benzer bir alıřma Di Sanzo vd. (2017) tarafından da yapılmıřtır. Bu alıřmada ise bűyüme dostu olan verginin servet űzerinden alınan vergiler olduđu sűylenmektedir. Gelir ve tűketim vergilerinin ise ekonomik bűyüme űzerine olan etkisi negatiftir. Gemmell vd. (2014) ise, vergilerin ekonomik bűyüme űzerine olan negatif yűnlű etkisinin faktűr verimliliđiyle iliřkili olduđunu ortaya koymuřtur.

## 5. Veri Seti, Model ve Yűntem

Gűrűldűđű űzere literatűrde vergi politikasının ekonomik bűyüme űzerine olan etkisini konu alan birok alıřma mevcuttur. Bu alıřmaların bűyűk bir kısmının ortak eksikliđi politikaların yarattıđı řok (oynaklık ya da dalgalanma) etkisini gűz ardı etmesidir. Sűz konusu alıřmalar incelendiđinde; "bir politikanın etkinliđini yalnızca o politikada meydana gelen oransal deđiřiklikler mi belirler?" ya da "bir politikanın uygulanma zamanı veya o politikanın istikrarı bir faktűr deđil midir?" gibi sorular akla gelmektedir. Bu ve benzeri sorular aslında tek bir soruyla űzetlenebilir: "Bir politikanın "řok" olma űzelliđi (bu durum politikanın dalgalı ya da istikrarlı olmasıyla ilgili), o politikanın performansını etkiler mi?" Aslında sűz konusu sorularda temel nokta dalgalanma deđiřkenidir.

Bu kapsamda, dalgalanma deđiřkenleri hem yukarıdaki sorulara cevap olması hem de alıřmayı űzgűn kılması aısından olduka önemlidir. Dolayısıyla, vurgulanan bu nokta, alıřmanın temel motivasyonunu oluřurmaktadır.



Tüm bu bilgiler ışığında, G7 ve E7 ülkelerinde vergi politikası ile vergi politikasında meydana gelen dalgalanmaların ekonomik büyüme olan etkisini ölçmek için kullanılan değişkenler aşağıdaki gibidir:

$$X_t = [\log GDP, \log GR, sdGR, \log Pop, D2008]$$

Değişkenlerin ayrıntılı açıklamaları Tablo 1’de verilmiştir.

**Tablo: 1**  
**Veri Seti Özeti**

Değişken	Kısa Yazılışı	Tanım	Kaynak
Ekonomik Büyüme	LogGDP	Kişi başına düşen reel gayri safi yurtiçi hasılanın (2017 yılı dolar kuruna sabitlenmiştir) logaritması	Uluslararası Para Fonu (IMF)
Vergi Politikası	LogGR	Kamu gelirlerinin GSYİH içerisindeki payının logaritması	
Vergi Politikası Dalganmaları	sdGR	Dalgalanma ölçümleri, 3 yıllık standart sapmalar (sd) olarak hesaplanmıştır.	
Toplam Nüfus	LogPop	Toplam nüfusun logaritması, yasal statü veya vatandaşlığa bakılmaksızın tüm sakinleri sayan fiili nüfus tanımına dayanmaktadır. Gösterilen değerler yıl ortası tahminleridir.	
2008 Krizi Kuklası	D2008	2008 yılı öncesi 0, 2008 yılı ve sonrası 1	Yazar tarafından oluşturulmuştur.

Vergi politikasının ve vergi politikası dalgalanmalarının ekonomik büyüme üzerindeki etkisini araştırmak için Barro (1990, 1991) modelinin teorik temelleri referans alınarak Afonso ve Jelles (2012) tarafından oluşturulmuş olan ekonometrik model temel alınmıştır. Söz konusu ilişkiyi analiz etmek için aşağıdaki model kurulmuştur:

$$\log GDP_t = \beta_1 \log GR_t + \beta_2 sdGR_t + \beta_3 \log Pop_t + e_t \quad (1)$$

Yapılmış olan ön testler sonucunda, Pesaran ve Smith (1995) tarafından geliştirilmiş olan Ortalama Grup Tahmincisi (MG) ve Pesaran, Shin ve Smith (1999) tarafından geliştirilmiş olan Havuzlanmış Ortalama Grup Tahmincisinin (PMG) kullanılmasına karar verilmiştir. Söz konusu tahminciler arasında Hausman testi (1978) vasıtasıyla tercih yapılacaktır.

## 6. Ön Testler Bulgular

Bir etkiyi analiz etmek için kurulan ekonometrik modelin amacı, bağımsız değişkenlerin bağımlı değişkeni açıklamasıdır. Ancak, bazı durumlarda bağımsız değişkenler aynı zamanda birbirlerini de açıklayabilmektedir. Bağımsız değişkenlerin birbiriyle ilişkili olması durumu, çoklu doğrusal bağlantı sorununu ortaya çıkarmaktadır. Bu sorun, Varyans Artış Faktörü (VIF) testiyle tespit edilebilmektedir. Oluşturmuş olan modelin, her iki ülke grubu için, VIF testi sonuçları aşağıda verilmektedir.

**Tablo: 2**  
**Çoklu Doğrusal Bağlantı Testi Sonuçları (G7 Ülkeleri)**

Değişken	VIF	1/VIF
LogGR	1.65	0.605037
sdGR	1.10	0.911158
LogPop	1.67	0.598499
Ortalama VIF Değeri	1.47	

**Tablo 3**  
**Çoklu Doğrusal Bağlantı Testi Sonuçları (E7 Őlkeleri)**

Deđişken	VIF	1/VIF
LogGR	1.27	0.787077
sdGR	1.00	0.996111
LogPop	1.27	0.788953
Ortalama VIF Deđeri	1.18	

G7 ve E7 Őlkelerine ait çoklu doğrusal bağlantı testi sonuçları sırasıyla Tablo 2’de ve Tablo 3’te verilmiştir. Buna göre, her iki Őlke grubu için oluşturulan modelde de çoklu doğrusal bağlantı sorununa rastlanmamıştır.

Yatay kesit bađımlılıđının varlıđı, panel birim kök testlerinin seçiminde oldukça önemli bir rol oynamaktadır. Birinci nesil panel birim kök testleri yatay kesit bađımlılıđı problemini içeren modellere uygulandıđı zaman sapmalı sonuçların elde edilme ihtimali ortaya çıkmaktadır. Çünkü bu testler yatay kesit bađımsızlıđı varsayımıyla oluşturulmuştur. Buna karşın, birimler arasında korelasyonu dikkate alarak oluşturulan ikinci nesil birim kök testleri, yatay kesit bađımlılıđının olduđu durumda da sapmasız sonuçlar vermektedir.

G7 ve E7 Őlkeleri için oluşturulmuş olan yatay kesit bađımlılıđı; Breusch Pagan (1980) LM testi, Pesaran (2004) CD testi ile Pesaran, Ullah ve Yamagata’nın (2008) NLM (LM Adj.) testi vasıtasıyla test edilecektir. Elde edilen bulgular Tablo 4 ve Tablo 5’te sunulmuştur:

**Tablo 4**  
**Yatay Kesit Bađımlılıđı Testi Sonuçları (G7 Őlkeleri)**

Test	İstatistik	Olasılık Deđeri
Lm	99.4	0.0000
Lm Adj.	23.76	0.0000
LM CD	9.451	0.0000

**Tablo 5**  
**Yatay Kesit Bađımlılıđı Testi Sonuçları (E7 Őlkeleri)**

Test	İstatistik	Olasılık Deđeri
Lm	28.75	0.1201
Lm Adj.	1.482	0.1383
LM CD	0.3484	0.7275

Tablo 5’te raporlanan sonuçlara göre, E7 Őlkeleri için yatay kesit bađımlılıđı olmadığı sonucuna ulaşılmıştır. Tablo 4’te raporlanan sonuçlara göre ise, yatay kesit bađımlılıđının var olduđu görülmektedir. Elde edilen bulgulara göre G7 Őlkeleri için ikinci nesil birim kök testleri uygulanacak iken, E7 Őlkeleri için ise birinci nesil birim kök testlerinin uygulanması gerekmektedir.

Bir modeldeki parametrelerin birimlere göre homojen olması ya da heterojen olması hem birim kök testleri hem de tahminci seçimi açısından oldukça önemli bir durumdur. Literatürde homojenliđi sınanan çeşitli testler mevcuttur. Bu çalışmada, oluşturulmuş olan

modellerin birimlere göre homojenliğini sınamak için, Pesaran ve Yamagata (2008) tarafından geliştirilen eğim homojenliği testi (Slope Homogeneity Test) uygulanacaktır.

**Tablo: 6**  
**Eğim Homojenliği Testi Sonuçları (G7 Ülkeleri)**

Delta İst. ( $\Delta$ )	Olasılık Değeri	Düz. Delta İst. ( $\Delta_{adj}$ )	Olasılık Değeri
4.121	0.0000	4.849	0.0000

Tablo 6'ya göre, G7 ülkelerinde kamu geliri politikası ve kamu geliri politikası dalgalanmalarının ekonomik büyüme etkisini araştırmak için oluşturulan modelde parametrelerin heterojen olduğu sonucuna ulaşılmıştır.

**Tablo: 7**  
**Eğim Homojenliği Testi Sonuçları (E7 Ülkeleri)**

Delta İst. ( $\Delta$ )	Olasılık Değeri	Düz. Delta İst. ( $\Delta_{adj}$ )	Olasılık Değeri
9.355	0.0000	11.008	0.0000

E7 ülkeleri için eğim homojenliği testleri Tablo 7'de verilmiştir. Buna göre parametrelerin heterojen olduğu sonucuna ulaşılmıştır.

Durağanlık kavramı, en temel ifadeyle, bir serinin değerinin -uzun dönemde beklenen değer etrafında dalgalanması olarak tanımlanabilir. Durağan olmayan değişkenler ile çalışıldığında, sahte regresyon problemi ortaya çıkabilmektedir. Bu nedenle bir serinin durağan olup olmadığının bilinmesi, yapılan analizin doğruluğu açısından önemlidir. Dolayısıyla, tıpkı zaman serilerinde olduğu gibi, panel verilerde de her bir birim için zaman sayısı; serinin birim kök testi açısından belirleyicidir.

E7 ülkelerinde vergi politikası ve vergi politikası dalgalanmalarının ekonomik büyüme etkisini araştırmak için kurulmuş olan modelde de yatay kesit bağımlılığına rastlanmamıştır ve parametrelerin eğim katsayılarının heterojen olduğu sonucuna ulaşılmıştır. Dolayısıyla, Im, Pesaran ve Shin (IPS, 2003) Testi, Fisher Genişletilmiş Dickey Fuller (Fisher ADF, 1999) testi ve Fisher Philips Perron (Fisher PP Testi, 2001) testi uygulanacaktır.

G7 için kurulan modelde yatay kesit bağımlılığına rastlandığı ve parametreler heterojen olduğu için Çok Değişkenli Genişletilmiş Dickey Fuller (MADF, 1998) Testi ve Yatay Kesit Genişletilmiş Im, Pesaran ve Shin (CIPS, 2007) Testi uygulanacaktır.

Tablo 8'e göre LogGDP, LogGR ve LogPop değişkenlerinin durağan olmadığı sonucuna ulaşılmıştır. sdGR değişkeni ise, MADF testi için %5'te ve diğer tüm testlerde %1'de durağandır.

E7 ülkeleri için birim kök testi sonuçları Tablo 9'da verilmiştir. LogGDP değişkeninin, tüm testlerin trend içeren sonuçlarına göre durağan olmadığı görülmektedir. LogGR değişkeni IPS testine göre %5'te, Fisher ADF testine göre %10'da, Fisher PP testine

göre ise %5'te durağandır. sdGR değişkeni ise, tüm testlerde %1 anlamlılık seviyesinde durağandır. Son olarak LogPop değişkeni, IPS testinin trend içeren sonuçlarına göre %10'da, Fisher ADF testinin trend içeren sonucuna göre %1'de, ve Fisher PP testlerinin trend içeren değerlerine göre %1 anlamlılık seviyesinde durağandır.

**Tablo: 8**  
**Panel Birim Kök Testleri Sonuçları (G7 Ülkeleri)**

Değişken	Madf	CADF t-bar	CADF Z[t-bar]	CIPS
log GDP	17.624	-1.254	1.224	-1.043
log GR	18.123	-1.357	0.958	-1.718
sd GR	91.697**	-3.448***	-4.413***	-2.681***
log Pop	2271.609**	-0.228	3.859	-0.711

**Panel Birim Kök Testleri Sonuçları (Model 1, G7 Ülkeleri, Trend)**

Değişken	CADF t-bar	CADF Z[t-bar]	CIPS
log GDP	-1.710	1.494	-1.291
log GR	-2.316	-0.094	-2.463
sd GR	-3.549***	-3.324***	-2.658
log Pop	-0.525	4.598	-0.428

Not: \*, \*\* ve \*\*\* sırasıyla, 0.10, 0.05 ve 0.01 önem seviyelerini ifade etmektedir. Birimler bazında gecikme uzunluğuna F testi vasıtasıyla karar verilmiştir. Tüm testlerde maksimum gecikme uzunluğu 1 olarak belirlenmiştir. MADF testinde trend seçeneği olmadığı için, söz konusu testin trend içeren sonuçları raporlanmamıştır.

**Tablo: 9**  
**Panel Birim Kök Testleri Sonuçları (E7 Ülkeleri)**

Değişken	IPS W-Stat	IPS W-stat Trend	Fisher ADF Chi-square	Fisher ADF Chi-square Trend
log GDP	-0.8477	1.2993	19.2575	10.0370
log GR	-2.0521**	-0.9419	23.2877*	15.5006
Sd GR	-3.6556***	-1.9144**	41.2258***	27.7276**
log Pop	-1.1185	-1.5702*	32.0148***	37.4701***

**Fisher PP Panel Birim Kök Testleri Sonuçları (Chi-square)**

Değişken	P	P Trend	Z	Z trend	L*	L* Trend	Pm	Pm Trend
log GDP	32.2***	5.35	-0.54*	2.32	-2.16**	2.45	3.45**	-1.63
log GR	24.61**	16.16	-1.84**	-0.46	-1.88**	-0.28	2.00**	0.40
sd GR	31.4***	15.30	-3.14***	-1.00	-3.08***	-0.91	3.30***	0.24
log Pop	194.8***	60.01*	-8.68***	-2.89***	-19.5***	-6.37***	34.1***	8.69***

Not: \*, \*\* ve \*\*\* sırasıyla, 0.10, 0.05 ve 0.01 önem seviyelerini ifade etmektedir. IPS panel birim kök testi için uygun gecikme Akaike bilgi kriterine göre otomatik olarak, Fisher ADF ve Fisher PP panel birim kök testlerinde ise uygun gecikme 1 olarak belirlenmiştir.

Her zaman serisi analizinde olduğu gibi, Panel ARDL analizi için de gecikmenin doğru belirlenmesi oldukça önemlidir. Çalışmada yıllık verilerin kullanılması ve zaman boyutunun görece az olması nedeniyle, maksimum gecikme uzunluğu (2, 2, 2) olarak belirlenmiştir. Nüfusun yıllık değişiminin kendi geçmişleriyle güçlü bir ilişkiye sahip olması, optimum gecikme uzunluğu belirlenirken çoklu doğrusallık sorununun (Collinear variables detected) yaşanmasına neden olmuştur. Bu nedenle nüfus değişkeninin (LogPop) optimum gecikme uzunluğu sıfır olarak belirlenmiş ve bu değişkene tablolarda yer verilmemiştir. Bununla birlikte, kriz kuklası da tablolarda yer almamaktadır. Bu başlık altında, oluşturulmuş olan modellerin E7 ve G7 ülkeleri için optimum gecikme uzunlukları tablolarda halinde raporlanacaktır.

Tablo 10'da G7 ülkeleri için birimlere göre optimum gecikme uzunlukları verilmiştir. Buna göre LogGDP değişkeni için beş ülkenin optimum gecikmesi 1 olduğundan dolayı,

yaygın gecikme sayısının optimum gecikme sayısı olarak belirlenmesinin daha doğru olacağı düşünülmektedir.

**Tablo: 10**  
**Optimum Gecikmenin Belirlenmesi (G7 Ülkeleri)**

Ülke	Değişken		
	log GDP	log GR	sd GR
Kanada	1	0	1
Fransa	2	2	0
Almanya	1	2	2
İtalya	1	0	0
Japonya	2	2	1
İngiltere	1	1	0
ABD	1	1	1
Yaygın Gecikme Sırası:	1, 2	2, 1=0	1=0, 2

Not: Yaygın gecikme sırası, birimlerin optimum gecikmelerinin en yaygın gecikmeden en nadir gecikmeye doğru sıralanışıdır. Eşit yaygın optimum gecikme sayısı "=" ile ifade edilmiştir. Her bir değişken için maksimum gecikme sayısı 2 olarak belirlenmiştir (ARDL (2, 2, 2)).

Ancak, LogGR ve sdGR değişkelerinin birimlere göre optimum gecikme sayıları incelendiğinde, yaygın gecikme sayıları birbirlerine oldukça yakındır. Söz konusu yakınlık, LogGR için anlamlı gecikme sağlanana kadar gecikme sayısının sırasıyla 2,1,0 olarak azaltılabileceği şeklinde yorumlanabilir. sdGR değişkeni için ise, uygun gecikme sayısının sırasıyla 1 ve 0 seçilmesinin mümkün olduğu düşünülmektedir.

**Tablo: 11**  
**Optimum Gecikmenin Belirlenmesi (E7 Ülkeleri)**

Ülke	Değişken		
	log GDP	log GR	sd GR
Brezilya	1	0	0
Çin	2	2	1
Hindistan	1	2	0
Endonezya	1	2	0
Meksika	2	2	1
Rusya	2	2	2
Türkiye	1	0	2
Yaygın Gecikme Sırası:	1, 2	2, 0	0, 2=1

Not: Yaygın gecikme sırası, birimlerin optimum gecikmelerinin en yaygın gecikmeden en nadir gecikmeye doğru sıralanışıdır. Eşit yaygın optimum gecikme sayısı "=" ile ifade edilmiştir. Her bir değişken için maksimum gecikme sayısı 2 olarak belirlenmiştir (ARDL (2, 2, 2)).

E7 ülkeleri için birimlere göre optimum gecikme sayıları Tablo 11’de verilmiştir. Buna göre, LogGDP değişkeni için sırasıyla 1 ve 2 gecikmenin seçilebileceği düşünülmektedir. Çünkü yaygın gecikme sayıları birbirlerine yakındır. LogGR değişkeninde ise yaygın gecikme sayısı 2’dir. Son olarak sdGR değişkeninde yaygın gecikme sayılarının birbirlerine yakın olması, anlamlı gecikme sağlanana kadar gecikme sayısının azaltılabileceğini göstermektedir.

MG ve PMG tahminçileri kısa dönem parametrelerini ve hata düzeltme terimini sunması bakımından, önemli bir avantaja sahiptir. Hata düzeltme teriminin çıktı olarak elde edilebiliyor olması, aslında uzun dönemde nedensellik ilişkisinin de analiz edilebildiği anlamına gelmektedir. Çünkü hata düzeltme teriminin istatistikî olarak anlamlı olması, analizde kullanılan değişkenlerin uzun dönemde birlikte hareket ettiklerinin ve bağımlı

değişken ile bağımsız değişkenler arasında nedensellik ilişkisinin var olduğunun kanıtı niteliğindedir.

MG ve PMG tahmincileri, ekonometrik olarak farklı mimariye sahip olduklarından dolayı her zaman benzer sonucu vermemektedir. Bu tarz durumlarda, hangi tahmincinin daha iyi sonucu vereceği Hausman testi (1978) vasıtasıyla belirlenmektedir. Bu nedenle, MG ve PMG tahmin sonuçlarının yanında, Hausman testinin sonuçları da raporlanmıştır. Modele kriz kuklası eklenerek söz konusu modeller Hausman testinin seçtiği tahminciyle tekrar tahmin edilmiştir. Buradaki temel amaç, 2008 ekonomik krizinin vergi politikası ve ekonomik büyüme üzerindeki etkisini daha belirgin bir biçimde analiz edebilmektir.

Bu kapsamda, G7 ve E7 ülkelerinde vergi politikası ile vergi politikasında meydana gelen dalgalanmaların ekonomik büyüme olan etkisini araştırmak amacıyla elde edilen bulgular, Hausman testi sonuçları dikkate alınarak, yorumlanacaktır.

G7 ülkelerinde vergi politikasının ve vergi politikasındaki dalgalanmaların ekonomik büyüme üzerine etkisinin analizinden elde edilen bulgular Tablo 12’de verilmektedir. Hausman testi sonuçlarına göre, PMG tahmincisi MG tahmincisine kıyasla daha doğru sonuçlar vermektedir. Dolayısıyla PMG tahmincisinden elde edilen bulgular yorumlanacaktır.

**Tablo: 12**  
**PMG, MG ve Hausman Testi Sonuçları (G7 Ülkeleri)**

Değişken	$\text{Log GDP}_t = \beta_1 \text{log GR}_t + \beta_2 \text{sdGR}_t + \beta_3 \text{log Pop}_t + e_t$					
	PMG		PMG (Kriz)		MG	
	Katsayı	Std. Hata	Katsayı	Std. Hata	Katsayı	Std. Hata
<i>Uzun Dönem</i>						
log GR	.6311***	.0427	.4703***	.0778	.4547	.5161
sd GR	-.0160***	.0051	-.0112*	.0076	-.0164	.0173
log Pop	.9482***	.0865	.2800	.2685	-.1579	.4488
D2008	-	-	.0121***	.0071	-	-
<i>Kısa Dönem</i>						
ECT	-.3390**	.1431	-.1594**	.0647	-.4054*	.2092
D(log GR)	-.2612	.2938	.0153	.1196	-.2115	.2885
D(sd GR)	.0061***	.0022	.0033*	.0019	.0065**	.0026
D(log Pop)	-.6458	1.5782	.2471	1.2521	-3.6588	3.2627
D(D2008)	-	-	-.0244***	.0026	-	-
D(log GDP(-1))	.1868	.1182	-.0696	.0792	.0522	.1602
Sabit Terim	-1.2962**	.5595	.2766**	.1082	.8184	1.7642
Hausman Testi p-değeri	0.2025 (PMG)					

Not: \*, \*\* ve \*\*\* sırasıyla, 0.10, 0.05 ve 0.01 anlamlılık seviyelerini ifade etmektedir. Gecikme yapısı ARDL (1, 0, 0, 0) olarak belirlenmiştir (sırasıyla değişkenler LogGDP, LogGR, sdGR, LogPop).

Elde edilen bulgulara göre, hata düzeltme terimi %5 anlamlılık seviyesinde istatistiksel olarak anlamlıdır. Kısa dönemde meydana gelen sapmalar, yaklaşık 3 yıllık bir süre içerisinde ortadan kalkmaktadır. Bu sonuç değişkenler arası nedensellik ilişkisinin olduğunu göstermektedir.

Uzun dönemden elde edilen bulgulara göre, tüm değişkenler %1 anlamlılık seviyesinde istatistiksel olarak anlamlıdır. Analiz sonuçlarına göre, vergi politikası ile

ekonomik büyüme arasında pozitif yönlü ilişki vardır. Buna göre, G7 ülkelerinin elde ettiği geliri efektif kaynaklara yönlendirebildiğini söylemek mümkündür.

Vergi politikasında meydana gelen dalgalanmaların ise ekonomik büyümeyi negatif yönlü etkilediği görülmektedir. Grafik 3'e yeniden bakıldığında (G7 ülkelerinin yıllara göre kamu gelirini gösteren grafik), kamu gelirlerinde meydana gelen dalgalanmaların -ekonomik krizler haricinde- genel olarak geliri artırıcı yönde olduğu görülmektedir. Bununla birlikte, E7 ülkelerine kıyasla daha istikrarlı ekonomik parametrelere sahip olan G7 ülkelerinde meydana gelecek dalgalanmaların, ekonomide bu şekilde karşılanması beklentiyle de uyumludur. Son olarak, ekonomik büyümeyi hem gerçekte hem de görünürde artırıcı nedenlerden biri olduğu düşünülen nüfusun, ekonomik büyüme üzerine pozitif etkisinin olması beklentiyle uyumludur.

Modele kriz kuklası eklendiği senaryoda, hata düzeltme terimi negatif ve anlamlıdır. Diğer bir ifadeyle, modeli oluşturan değişkenler uzun dönemde birlikte hareket etmektedir. Dolayısıyla modelin istatistiki olarak güvenilir olduğu görülmektedir. Modele kriz kuklasının dahil edilmediği durumda, kısa dönemde meydana gelen sapmalar yaklaşık olarak 3 yılda ortadan kalkmakta iken; kriz kuklasının dahil edildiği durumda kısa dönemde meydana gelen sapmalar yaklaşık 6,5 yılda ortadan kalkmaktadır. İki modelin uzun döneme yakınsama süreleri arasındaki ciddi bir fark olduğu görülmektedir. Dolayısıyla ekonomik kriz, modeli oluşturan değişkenler arasındaki ilişkiyi bozmaktadır.

Uzun dönemde nüfus değişkeninin istatistiki olarak anlamsız hale geldiği görülmektedir. Buna karşın, modelin ana değişkenleri olan vergi politikası ve vergi politikası dalgalanmaları değişkenleri sırasıyla %1 ve %10 anlamlılık düzeyinde istatistiki olarak anlamlıdır. Bu durum, krizin dikkate alındığı durumda maliye politikası enstrümanlarından biri olan vergi politikasının görece hala çalıştığını göstermektedir. Kriz kuklası olan D2008'in ise %1 anlamlılık seviyesinde istatistiki olarak anlamlı olduğu görülmektedir.

Kriz kuklalı modelden elde edilen bulgulara göre, vergi politikasının ve bu politikada meydana gelen dalgalanmaların büyüme üzerindeki etkisinin azaldığı görülmektedir. Bu durumun temel nedenlerinden biri, ekonomik kriz dönemlerinde vergi gelirlerinin tahsil edilmemesidir. Dolayısıyla LogGR ve sdGR değişkenlerinin etkisinin azalmış olması beklentiyle uyumludur.

2008 krizinin ekonomik büyüme üzerindeki pozitif etkisi ise, kriz dönemindeki parasal genişlemenin bir sonucu olarak görülmektedir. Burada Peacock ve Wiseman (1961) tarafından öne sürülen Sıçrama Teziyle bu durum açıklanabilir. Sıçrama Tezine göre, yaşanan olağanüstü durumlarda kamu harcamalarında sıçramalı bir artış meydana gelecektir. Olağanüstü şartlar ortadan kalktığında ise, vatandaşlar alıştıkları kamu harcamaları düzeyinin azalmasına elde edilen kamu gelirleri ile finanse edilemiyor olmasına rağmen razı olmayacaklardır. Dolayısıyla, kamu harcamalarının olağanüstü dönem öncesindeki seviyesine dönmemesi kalıcı bir büyüme etkisi yaratacaktır.

Tablo 13'te E7 ülkelerinde vergi politikasının ve vergi politikası dalganmalarının ekonomik büyüme üzerine olan etkisinin analizinden elde edilen bulgular verilmektedir.

**Tablo: 13**  
**PMG, MG ve Hausman Testi Sonuçları (Model 1, E7 Ülkeleri)**

Değişken	$\text{Log GDP}_t = \beta_1 \text{Log GR}_t + \beta_2 \text{sdGR}_t + \beta_3 \text{Log Pop}_t + e_t$					
	PMG		PMG (Kriz)		MG	
	Katsayı	Std. Hata	Katsayı	Std. Hata	Katsayı	Std. Hata
<i>Uzun Dönem</i>						
log GR	1.5885***	.0969	1.6143***	.0926	.7992***	.2602
sd GR	.0202***	.0034	.0224***	.0028	-.0130	.0097
log Pop	2.4385***	.1182	2.4309***	.1569	4.4123***	1.5052
D2008	-	-	-.0059	.0043	-	-
<i>Kısa Dönem</i>						
ECT	-.3344*	.1806	-.3159*	.1665	-.7456***	.2464
D(log GR)	-.3314	.2402	-.3261	.2039	-.2836	.2321
D(sd GR)	-.0036	.0024	-.0053**	.0027	-.0006	.0056
D(log Pop)	-1.9701	4.7585	-4.5474	5.7489	-12.7638	7.7063
D(D2008)	-	-	-.0176**	.0076	-	-
D(log GDP(-1))	.2256	.1867	.2800	.2351	.0050	.1894
D(sd GR(-1))	-.1471	.1132	-.1436*	.0815	-.0498	.1356
D(log Pop(-1))	-.0037	.0025	-.0048**	.0019	-.0032	.0029
Sabit Terim	-5.975*	3.2374	-5.666*	3.0115	-7.4721	9.2141
Hausman Testi p-değeri	0.3863 (PMG)					

Not: \*, \*\* ve \*\*\* sırasıyla, 0.10, 0.05 ve 0.01 anlamlılık seviyelerini ifade etmektedir. Gecikme yapısı ARDL (1, 1, 1, 0) olarak belirlenmiştir (sırasıyla değişkenler LogGDP, LogGR, sdGR, LogPop). (Anlamlı gecikme sağlanana kadar gecikme sayısı azaltılmıştır).

Ulaşılan sonuçlara göre, 0.3863 olan Hausman testi p-değeri, PMG tahmincisinin daha iyi sonuçlar verdiğini göstermektedir. Bu nedenle PMG tahmincisiinden elde edilen bulgular yorumlanacaktır.

Hata düzeltme terimi negatiftir ve %10 anlamlılık seviyesinde istatistiki olarak anlamlıdır. Diğer bir ifadeyle, bağımlı değişken ve bağımsız değişkenler uzun dönemde birlikte hareket etmektedir. Bu durum, oluşturulmuş olan modelin ekonometrik olarak güvenilir olduğunu göstermektedir. Kısa dönemde meydana gelen sapmalar yaklaşık 3 dönemde ortadan kalkmaktadır.

Uzun dönemde elde edilen bulgulara göre, LogGR, sdGR ve LogPop değişkenleri %1 anlamlılık seviyesinde istatistiksel olarak anlamlıdır. Vergi politikasının ekonomik büyüme üzerine olan etkisi pozitif yönlüdür. Bu durumun birçok faktörden kaynaklanabileceği söylenebilir. İlk olarak, E7 ülkelerinin düşük maliyetli iş gücü, jeopolitik avantaj, güvenlik, devlet teşviki ve yeterli fiziksel şartlara (avantajlar ülkeden ülkeye farklılık gösterebilir) sahip olması gibi kendilerine özgü özellikleri, söz konusu ülkeleri diğer ülkelere kıyasla daha cazip hale getirmektedir. Dolayısıyla, yurtdışından gelen yatırımların, vergi gelirlerini artırdığı gibi ekonomik büyümeyi de pozitif yönde etkilemesi olası bir durumdur. Böylece, vergi oranları artırılmadan da kamu gelirleri artabilecektir. Ancak bu durumun hava kirliliği, kimyasal atıkların artması ve işçi haklarının korunması gibi *-bu çalışmanın konusu olmayan-* yönetilmesi gereken bazı yönleri de vardır. Bir diğer faktör ise vergi gelirlerinin artırılmasıyla sağlanan kaynakların ülkenin ihtiyaç duyduğu alanlara efektif bir şekilde dağıtılmasıdır.



Tablo 13 incelendiğinde, vergi politikasında meydana gelen dalgalanmaların ekonomik büyüme üzerine olan etkisinin pozitif olduğu görülmektedir. E7 ülkelerini G7 ülkelerinden ayıran en temel özelliklerden biri, E7 ülkelerinin büyüme odaklı politikalara yoğunlaşmış olmasıdır. Bu nedenle, E7 ülkelerinin vergi politikasında yapacakları bir değişiklik, genellikle, daraltıcı bir politikadan ziyade genişletici bir politika niteliğindedir. Bu durum Grafik 4'te (E7 ülkelerinin yıllara göre vergi gelirini gösteren grafik) görülmektedir; Çin hariç tüm E7 ülkelerinde, vergi politikasında meydana gelen dalgalanmalar genellikle vergi gelirinin GSYİH'ye olan oranını azaltmaktadır. Son olarak nüfus ve ekonomik büyüme arasındaki pozitif ilişki beklentiyle uyumludur.

Modelin kriz kuklası eklenerek yeniden tahmin edildiği senaryoda, hata düzeltme teriminin negatif ve anlamlı olduğu görülmektedir. Diğer bir ifadeyle, model ekonometrik açıdan güvenilirdir. Kısa dönemde meydana gelen sapmalar yaklaşık olarak üç dönemde ortadan kalkmaktadır.

Uzun dönemde kriz kuklası hariç tüm değişkenler istatistiki olarak anlamlıdır. Modele 2008 ekonomik kriz kuklası eklendiğinde, G7 ülkelerindeki vergi politikasının tesiri azalmıştı (Tablo 12). Ancak E7 ülkelerinin analizinden elde edilen bulgulara göre, modele 2008 ekonomik krizini temsil eden kukla değişken eklendiğinde, vergi politikasının ve söz konusu politikada meydana gelen dalgalanmaların etkisinin arttığı görülmektedir. Bu durumun temel nedeni iki ülke grubu arasındaki yapısal farklılıklardır. Krizin vergi politikasına olan negatif yönlü etkisine kıyasla, dışarıdan gelen yatırımların hem kamu gelirlerini hem de ekonomik büyümeyi artırıcı etkisinin daha baskın olması; vergi politikasının ekonomik büyüme üzerine olan pozitif etkisinin artmasını açıklamaktadır.

Daha önce E7 ülkelerindeki vergi politikasında meydana gelen dalgalanmaların genellikle genişletici politika niteliğinde olduğuna değinilmişti. Tıpkı vergi politikasında olduğu gibi, söz konusu politikadaki dalgalanmaların ekonomik büyüme üzerindeki pozitif etkisinin artması da beklenen bir durumdur. Bununla birlikte, istikrar odaklı G7 ülkelerine kıyasla E7 ülkelerinin genel itibarıyla daha dalgalı bir ekonomiye sahip olması, E7 ülkelerinin meydana gelecek dalgalanmalara karşı nispeten daha olumlu tepki vermesine yol açmaktadır.

## 7. Sonuç ve Değerlendirme

Elde edilen bulgulara göre, ekonomik büyüme özelinde, E7 ülkelerini G7 ülkelerinden ayıran temel değişken dalgalanma değişkenidir. Bu sonuç, söz konusu iki ülke grubunun ekonomik büyüme performansları analiz edilirken dalgalanma faktörünün dikkate alınması gerektiğini göstermektedir. G7 ülkeleri vergi politikası dalgalanmalarından olumsuz etkilenirken, bu dalgalanmalar E7 ülkelerinde ekonomiyi pozitif yönde etkilemektedir. Vergi politikasının ekonomik büyüme üzerindeki etkisi ise her iki ülke için de pozitiftir. Bununla birlikte toplam nüfus değişkeninin ekonomik büyüme etkisi *-her iki ülke grubu için de-* beklentiyle uyumlu olarak pozitiftir.

İki ülke grubunun ekonomik yapıları arasındaki fark, ekonomik kriz değişkenli modelden elde edilen tahmin sonuçlarında da kendini göstermektedir. Buna göre, uzun dönemde, G7 ülkelerinde uygulanan politikaların etkisi azalmış iken, E7 ülkelerinde uygulanan politikalar ekonomik krizden etkilenmemiştir. E7 ülkeleri yüksek büyüme hedefleri ve sahip oldukları yapısal sorunlar nedeniyle sürekli olarak dalgalanan ve nispeten daha istikrarsız bir ekonomiye sahiptir. Dolayısıyla krizlere fazla duyarlı değildir. Bu durum kendini kısa dönem bulgularında da göstermektedir. G7 ülkelerinin 3 yıldan 6 yıla çıkan uzun döneme yakınsama süresi, E7 ülkelerinde 3 yıl olarak sabit kalmıştır.

### **-Değerlendirme**

Her iki ülke grubunda da *-özellikle kriz dönemlerinde-* kamu harcamalarının finansmanında vergilerin kullanılmasının etkin bir yol olduğu görülmektedir. Bununla birlikte, E7 ülkeleri vergi politikası dalgalanmalarından pozitif yönde etkilenmekte iken, G7 ülkeleri söz konusu dalgalanmalardan negatif yönde etkilenmektedir. Elde edilen bu bulgu, iki ülke arasındaki yapısal farklılıkları ortaya koymaktadır. Dolayısıyla, G7 ülkeleri politika kararı alırken vergi politikası dalgalanmalarının negatif etkisini göz önünde bulundurmalıdır. E7 ülkelerinin ise, bu dalgalanmalardan nispeten daha az etkilendiği görülmektedir.

Burada, Avrupa piyasalarıyla nispeten iç içe olan Brezilya, Meksika, Rusya ve Türkiye'nin küresel krizlerde G7 ülkelerine benzer tepkiler sergilediği görülmekte iken Çin, Hindistan ve Endonezya bu ülkelerden ayrılmaktadır (Grafik 2'de görülmektedir). Dolayısıyla, her bir E7 ülkesi farklı ekonomik yapıya sahip olduğu için, vergi politikası oluşturulurken, ülkelerin kendine özgü ekonomik yapıları dikkate alınmalıdır.

Sonuç olarak her iki ülke grubunun ekonomik yapılarında ciddi farklılıklar olduğu görülmüştür. Bu farklılıklar; G7 ülkelerini dalgalanmalara ve değişimlere karşı daha duyarlı hale getirirken, E7 ülkelerini söz konusu değişimlere karşı daha dirençli hale getirmektedir. Bu bağlamda, G7 ülkelerinin istikrar odaklı politikalara yoğunlaşması elde edilen bulgularla desteklenmektedir. E7 ülkelerinin ise, vergi politikası özelinde, daha büyük bir hareket alanına sahip olduğu tespit edilmiştir.

E7 ülkelerine ait vergi politikası verilerinin temin edilmesindeki zorluklar, çalışmanın daha detaylı yapılamamasının başlıca nedenlerinden biridir. Verilerin sadece yıllık olarak temin edilebilmesi ve bu verilerin kapsadığı dönemin sınırlı olmasından dolayı sadece 2008 krizi dikkate alınabilmektedir (Pandemi krizinin etkileri henüz tamamen geçmediği için kukla değişkeninin kullanılması ekonometrik açıdan uygun görülmemiştir).

Bununla birlikte; *-her iki ülke grubu için de-* kamu geliri bileşenlerine ait verilerin detaylı bir şekilde temin edilememesi de başka bir kısıt olarak karşımıza çıkmaktadır. İlerleyen süreçte söz konusu verilerin erişilebilir olması, çalışmanın geliştirilmesine ve detaylandırılmasına imkân sağlayacaktır. Pandemi ekonomik krizinin etkilerinin ortadan kalkmasıyla birlikte benzer bir çalışmanın pandemi krizi temel alınarak yapılması bir sonraki

hedefdir. Bir diğer hedef ise, analize kamu harcamaları ve kamu borçlanması değişkenleri dahil edilerek çalışmanın kapsamının genişletilmesidir.

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## Katılım Bankası Çalışanlarında Homoislamicus Davranışı: Türkiye Üzerine Bir İnceleme

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### Homoislamicus Behaviour in Participation Bank Employees: An Investigation on Türkiye

#### Abstract

This study aims to examine the homoislamicus working behaviour in participation banks. In modern economics, human beings are considered as homoeconomicus. Homoeconomicus is a selfish person who only looks after his interests. However, the existence of homoeconomicus in business life has negatively affected the continuity of business ethics. Individuals with high morality who show homo-Islamic behaviour are needed for an ethical working life. Based on Sabahattin Zaim's article "Attitudes and Behaviors of A Muslim in Economic Life", a "Homoislamicus Scale" was developed in this study. The scale comprises six dimensions (on loan, paid employment, consumption expenditures, income generation, team spirit, and halal income) and 40 questions. The research sample is 293 participation bank personnel working in different regions of Türkiye. The data obtained through the questionnaires were analysed in the SPSS26 statistical program. As a result of the study, it has been determined that there are some differences in homoislamicus behaviour in the regions, income levels, and titles of bank employees who participate. In addition, it was determined that the scores of homoislamicus behaviour were higher in the Central Anatolia, Black Sea, and Eastern Anatolia regions than in the other areas in Türkiye. It was concluded that the education level, marital status, and age variables did not affect Islamic human behaviour scores regarding economic activities.

**Keywords** : Sabahattin Zaim, Homoislamicus, Structural Equation Modelling, Business Ethics.

**JEL Classification Codes** : B15, M14, I39.

#### Öz

Bu çalışmanın amacı, katılım bankalarında çalışanların homoislamicus davranışının incelenmesidir. Modern iktisat biliminde insan, homoeconomicus olarak kabul edilmektedir. Homoeconomicus sadece kendi çıkarlarını kollayan bencil insandır. Oysa çalışma hayatında homoeconomicusların varlığı, iş ahlakının devamlılığını olumsuz bir şekilde etkilemiştir. Ahlaklı bir çalışma hayatı için homoislamicus davranış gösteren ahlaklı bireylere ihtiyaç vardır. Çalışmada, Sabahattin Zaim'in "Ekonomik Hayatta Müslüman İnsanın Tutum ve Davranışları" makalesinden yola çıkılarak "homoislamicus ölçeği" geliştirilmiştir. Ölçek, altı boyut (ikrazda bulunma, ücretli olarak çalışma, tüketim harcamalarında bulunma, gelir elde etme, ekip ruhuyla hareket etme ve helal kazanç) ve 40 sorudan oluşturulmuştur. Araştırmanın örneklemi Türkiye'nin farklı bölgelerinde çalışan, 293 katılım bankası personelidir. Anketlerle elde edilen veriler SPSS26 istatistik programında analiz edilmiştir. Çalışmanın sonucunda katılım bankası çalışanlarının, bulunduğu bölgelere, gelir düzeyine ve unvanlarına göre davranışlarında bazı farklılıklar olduğu tespit edilmiştir. Ayrıca, Türkiye'deki diğer bölgelere nazaran İç Anadolu, Karadeniz, Doğu Anadolu bölgesinde homoislamicus davranışın



puanlarının daha yüksek olduğu tespit edilmiştir. Eğitim seviyesi, medeni hal ve yaş değişkenlerinin ise ekonomik faaliyetlerde İslâmi insan davranışı puanlarını etkilemediği sonucuna ulaşılmıştır.

**Anahtar Sözcükler** : Sabahattin Zaim, Homoislamicus, Yapısal Eşitlik Modeli, İş Ahlakı.

## 1. Giriş

Homoislamicus kavramının önemi, sadece teorik bir perspektifte değil, aynı zamanda pratik uygulamalarda da somut bir biçimde gözlemlenebilir. Örneğin, İslam ekonomisinin temel prensiplerinden biri olan faizin yasaklanması ilkesine dayanan katılım bankacılığı sistemi, bu bağlamda dikkate değerdir. Bu bankacılık sisteminde, ekonomik faaliyetlerin etik ve adil bir şekilde yürütülmesini teşvik edilmekte ve bu yolla toplumun genel refahının artırılması amaçlanmaktadır. Diğer taraftan, İslam toplumlarında sosyal adaletin sağlanmasında merkezi bir rol oynayan zekât ve sadaka uygulamaları, ekonomik dengeyi koruma ve yoksulluğu azaltma hedefleri doğrultusunda Homoislamicus tarafından benimsenmektedir. Bu örnekler, Homoislamicus kavramının İslam dünyasında yalnızca teorik bir ideal olmadığını, bilakis günlük yaşamda ve ekonomik sistemlerde somut ve etkili sonuçlar doğuran bir yaşam tarzı olduğunu göstermektedir. Katılım bankalarını, finans piyasasında homoislamicus davranışı özelliklerinin gösterilebileceği yerler olarak tanımlamak mümkündür. Çalışmanın amacı, katılım bankalarında çalışanların homoislamicus davranışında, iş ahlakının etkisini ortaya koymaktır. Çalışmadan elde edilecek sonuçların, demografik değişkenlerine göre banka çalışanlarının iş ahlakı ve homo-economicus tutum ve davranışlarındaki durumu tespit edilmesi hedeflenmiştir.

Çalışmada iş ahlakı ve homoislamicus davranışı arasındaki ilişkiyi ölçmek için anket kullanılmıştır. Anketlerden elde edilen veriler faktör analizine tabi tutulmuştur. Homoislamicus davranışı ölçeği; Zaim'in “Ekonomik Hayatta Müslüman İnsanın Tutum ve Davranışları” makalesinden yola çıkılarak, Kuran ve Sünnet vasıtası ile araştırmacı tarafından oluşturulmuştur. Ölçek altı boyutta incelenmiştir. Bu boyutlar; İkrazda Bulunma, Ücretli Olarak Çalışma, Tüketim Harcamalarında Bulunma, Gelir Elde Etme, Ekip Ruhuyla Hareket Etme, Helal Kazanç şeklinde belirlenmiştir.

Bu çalışmanın takip eden bölümlerinde, öncelikle homoislamicus kavramının teorik temelleri ve literatürdeki yeri detaylandırılacaktır. Ardından, katılım bankası çalışanlarının homoislamicus davranışları üzerine yapılan araştırmanın metodolojisi, veri toplama süreci ve analiz yöntemleri açıklanacaktır. İş ahlakı ile Homoislamicus davranışları arasındaki ilişki incelenecektir. Faktör analizi sonucunda elde edilen iş ahlakı alt boyutlarının, homoislamicus davranış alt boyutları ile anlamlı bir ilişkiye sahip olup olmadığı, yapılan analizlerle değerlendirilecektir. Çalışmanın özgün yönü, homoislamicus davranışlarının iş ahlakı bağlamında katılım bankası çalışanları üzerindeki etkisini inceleyen ilk kapsamlı araştırmalardan biri olmasıdır. Bu çalışma, literatürdeki önemli bir boşluğu doldurarak, İslam ekonomisi ve iş ahlakı konularında yeni perspektifler sunmayı hedeflemektedir.

## 2. Literatr

Literatr taraması yapılırken homoislamicus davranıřını ele alan alıřmaların daha ok homoeconomicus kavramı ile homoislamicus'u karřılařtırma řeklinde olduėu grlmřtr. Yerli literatrde homoislamicus davranıřını en kapsamlı řekilde ele alan ilk alıřmalardan biri MSİAD tarafından yayımlanmıřtır. řencan tarafından derlenen MSİAD Arařtırma Raporu-9'da iř hayatında İřlm insanı olarak ifade edilen homoislamicus tm ynleriyle ele alınmıřtır. Konu iř hayatında homoislamicus psikolojisi ve homoislamicus ynelimli firma davranıřı olarak iki blmde incelenmiřtir (řencan, 1994). alıřmaya ilham kaynaėı olan ve homoislamicus davranıř leėi geliřtirmemize rehberlik eden Sabahattin Zaim'in "Ekonomik Hayatta Mslman İnsanın Tutum ve Davranıřları" isimli makalesi de bu rapor ierisinde yer almaktadır. Yenice (2020) homoeconomicus ve homoislamicus'u karřılařtırmıř, İřlm iktisadı dřnrlерinin insana ynelik yaklařımlarını drt kavram zerinden deėerlendirmiřtir. Bunlar; bilgi, rasyonelite, objektivite, fayda/kdrdir. alıřmada İřlm iktisadı bilginlerinin, insana ynelik dřncelerine yer verildikten sonra, bu kavramlar perspektifinden karřılařtırmalı bir deėerlendirme yapılmıřtır. Kartal (2016), homoeconomicus ve homoislamicus'u karřılařtırmıřtır. alıřmasında homoeconomicus'un "pragmatik" ve "hedonist" zelliklerine, homoislamicus'un ise "altruist" veya "diėerkm" yanlarına deėinmiřtir. Kılı ve Alan (2020) alıřmasında "Takva" filmini incelemiřtir. Filmdeki ana karakterin homoislamicus davranıřlar sergilemesi, ancak daha sonra homoeconomicus davranıřlar gstermeye bařlaması eleřtirilmiřtir. Film analizi tekniėi ile yapılan alıřmanın sonucunda gerekte homoislamicus birey tipolojisinin, homoeconomicus kadar ve hatta belki de ondan biraz daha fazla tpik olduėu ifade edilmiřtir.

Dilek ve arkadaşlarının alıřmasında (2017), homoeconomicus ile homoislamicus arasındaki farklar incelenmiřtir. Batı'da geliřen iktisat teorilerinin İřlm toplumları iin uygun olmadıėı, İřlm toplumları iin yeni iktisat teorilerinin kurulması iin İřlami insan modelinin ortaya konulması gerektiėi ifade edilmiřtir. Webb (2014) alıřmasında, "İřlami Yneliř" hareketi olarak kurulan, Ennahda isimli Tunuslu siyasi partinin ekonomi politikalarını incelemiřtir. alıřmada Ennahda'nın Tunus'un ekonomik zorluklarını hafifletmek iin nerdiėi aracın Homoislamicus olduėu, yani erdemli bir ekonomik aktre ihtiyacın bulunduėu ifade edilmiřtir. Webb, Homo-İřlamic davranıřların alıřma hayatında yolsuzlukları nleyeceėi ve alıřanların verimliliklerini artıracaaėı zerinde durmuřtur. Misfah Bayuni ve Srisusilawati (2022) alıřmasında, homoeconomicus ve homoislamicus bireylerin paraya olan bakıř aıllarını, karřılařtırmalı olarak ele alınmıřtır. Homoislamicus bireyin, parayı dnya ve ahiret arası denge saėlanması bir araç olarak grdėi, homoeconomicus bireyin ise ama olarak grdėi ifade etmiřlerdir. Ersin ve Yıldırım (2016) alıřmasında Erbakan'ın "manevi kalkınma" kavramına deėinilmiř, bu kavramın kapitalizmin kendi ıkarları peřinde kořan homoeconomicus kavramının tam ziddi olduėu ve sylemin Mslman dřnrlер tarafından homoislamicus olarak ifade edildiėi belirtilmiřtir. Rudnyckyj (2011) alıřmasında İřlam'ı, kapitalizmle uyumlu hale getirme abalarının bazı zelliklerini incelemiř ve İřlami finansın karřılařtıėı bařlıca engelin, byk lde; agresif kazan hırsı, verimlilik ve ekonomik rasyonellik kaygılarıyla ynetilen

geleneksel finansla rekabet etme gerçeği olduğu sonucuna varılmıştır. Furqani ve Echchabi (2021) çalışmasında, homoislamicus’un kim olduğunu incelemiştir. Kurân-ı Kerim öğretilerinden ve ilkelerinden yola çıkarak, İslami iktisadın teorileştirilmesinde homoislamicus’un temsili bir etken olacağı ifade edilmiştir. Siregar (2012) çalışmasında, İslâm iktisadı ilkelerine bağlı olan şer’î hükümlere dayanan ekonominin diğer ekonomik sistemlerden farklı olduğunu belirtmiştir. Kapitalist sistemde kâr ortaklığı olmaması, materyalist yaklaşımda olunması, ahlâki ve finansal krizleri barındırması ve dünyada sömürge özgürlüğünü ortaya çıkarması eleştirilmiştir. Sosyalist sistemlerin ise tüm üretim faktörlerinin ve gelir kaynaklarının devlet tarafından düzenlenmesini öngörüp fertlere ekonomik sistem içerisinde özgür iradeleri ile hareket etme imkânı tanınmadığı ifade edilmiştir. Bu ekonomik sistemlerin insan haklarına aykırı bulunduğu, homoislamicus davranışın içinde barındırdığı İslâm iktisadının sosyal refahı ve adaleti sağlama konusunda en uygun ekonomik sistem olduğu ifade edilmiştir. Farooq (2011), çalışmasında homoeconomicus ve homoislamicus birey davranışlarını incelemiştir. Homoeconomicus’un sadece kendi kişisel çıkarları doğrultusunda hareket ettiği, homoislamicus’un ise İslami değerlerle dolu ve o çerçevede idealize edilmiş, kendini toplumun (sosyal sorumluluk açısından) bir parçası olarak gören birey olduğu ifade edilmiştir. Azizy, Mahyudi ve Yusop (2019) çalışmasında homoeconomicus ve homoislamicus perspektiften ekonominin amaçları karşılaştırılmıştır. Refahın artırılması için en uygun ekonomik modelin İslâm ekonomisi olduğu öne sürülmüştür. Mursal ve arkadaşları (2022), homoeconomicus’u ahlâka aykırı olduğu, sadece kendini düşündüğü için eleştirmiştir. Homoislamicus’un ise tevhid, denge, özgür irade, sorumluluk ve adalet değerleri ile birlikte hareket ettiği ifade edilmiştir. Arifin’in (2009) çalışmasına göre, homoislamicus tevhid, hilafet, ibadet, ilim, helal, haram, adl (doğruluk) değerlerine bağlı olarak hareket eder. Zulme karşı adaleti savunur. Ancak homoeconomicus’ta insanı sömürücü eylemler bulunmaktadır. Mahyudi (2015), değerlerden bağımsız iktisat ciddi saldırılar altındayken, İslâm iktisadının parlak bir geleceğe sahip görüldüğünü ifade etmiştir. Çalışmasında, İslâm ekonomisinin bir kimlik krizi ile karşı karşıya olduğu belirtilmiş, İslami ekonomik insanı “gerçek insan” olarak tanımlanmıştır. İslâm ekonomisi kurumunun zayıf sosyal performans göstermesinin, homoislamicus’un yokluğundan kaynaklandığını ortaya koymuştur. Asutay (2007) çalışmasında, İslâm ekonomisi sistemi içinde sosyal adalet ve insan merkezli ekonomik büyüme ve kalkımda etkili olan unsurun homoislamicus bireyler olduğunu ifade etmiştir. Homoislamicus üzerine kurulu İslami bankacılık ve finans kurumlarının gerekliliği üzerinde durmuştur. İslami finans kurumlarının sosyal adaleti sağlamada önemli kurumlar olduğunu belirtmiştir.

### 3. İş Ahlâkı ve Homoislamicus

İnsanın iş yaşamındaki kalite düzeyini artıran ve insan ile firmaların icra ettiği şekliyle işe saygısını, diğer insanların da ihtiramını elde etmeyi sağlayan önemli faktörlerden biri iş ahlâkıdır. Farklı bir deyişle, emeğini kullanarak bunun mukabilinde ücretini elde eden ve aldığı bedelin fevkinde değerler sunan, görevine mana yükleyen ve işine de katkıda bulunmayı anlatan bir sözcük olduğundan dolayı, iş ahlâkı işveren yönüyle de toplumsal mesuliyetin en önemli yanlarından biri olarak kabul edilir.

İş ahlâkı; Murat'a (2008: 70) göre "mal/hizmet üretme/tüketme aşamasındaki doğrular ve yanlışlardır. Köseoğlu ve Bektaş'a (2008: 145-158) göre ise iş hayatındaki ahlâki çerçevedir. İş ahlâkı dini inanışlardan etkilenmektedir. Protestanlıkta çalışma, Tanrı'nın kulu sorumlu tuttuğu en mühim görevdir. Yaratıcı'nın şanını yüceltmek çalışmakla olur ve en büyük günah üşengeçliktir. Yahudi iş ahlâkı kaynağını kutsal kitabı Tevrat'tan alır. Çalışma ahlâkının hareket noktası aile ile toplum arasında ve önemli bir konumdadır. İslâm ahlâkına bakıldığında sosyallik ve bireysellik ile ekonomik konular bencillığe karşıdır. Buna karşın başkalarının çıkarı da düşünülmalıdır. İslâm'da iş hayatında, kişinin bir yandan ruhunu derinleştirmekle birlikte, dünyevi çalışmasıyla kazanç sağlamasına yönelik hareket etmesi de hedeflenmiştir. İslâm'da iş ahlâkını önce Kur'an ve sonra Sünnet belirler. Kazanç üzerine olan tutumlarda durum, üretim ve tüketimdir. Üretim üzerine ahlâk saf kalpli olup, işin gerektirdiği tesisatla donanmış olmak, Allah'ın yasaklarından kaçınmak, hak gözetmektir. Tüketim yönüyle ahlâk ise, toplumun zararlı eylemlerden, israftan ve lüks harcamalardan kaçınması, yani cömert olması anlamına gelmektedir.

Homoislamicus; Sabahattin Zaim'e göre Allah'ın ipine sıkıca bağlı insanı, yani kâmil insanı ifade etmektedir (Zaim, 2008: 61). Hossein'e göre, homoislamicus adaletli, hayırsever, sosyal sorumluluğunun bilincinde, kolay kazançtan ve israftan uzak duran, toplumun çıkarını isteyen bireydir. Homoislamicusların olduğu yerler ekonomik ve sosyal anlamda refah ve huzurun bulunduğu mekânlardır (Hosseini, 1992: 110-111). Maddi kalkınma için manevi kalkınmanın gerekliliğine Erbakan da değinmiştir. Ona göre maneviyatı olmayan kimseler kendi çıkarını düşündükleri, helal-haram demedikleri için toplumun kalkınmasını engellemektedir. Erbakan, kalkınmada ahlâk ve maneviyatın şart olduğunu ve manevi değerlerin artırılması için din adamlarından ziyade toplumdaki ahlâki ve dini değerlerin artırılması ve geliştirilmesinin önemini vurgulamıştır (Ersin & Yıldırım, 2016).

Homoeconomicus sadece kendi çıkarlarını (hazlarını) kollayan bencil insanı ifade eder. Oysa İslâm dinine göre insanlar ekonomik yaşamlarında homoeconomicus yani iktisadi adam şeklinde yaşamamalıdır. Bilakis "Allah'ın ipine sınıksız sarılıp ayrılmayan" tipinde bir İslâm insanı (homoislamicus) rol modeliyle hareket etmelidir. Bu İslâm kişisi, ekonomik faaliyetlerinde; fitratında var olan ve kendi ben merkezli olmasının özellikleri olan sadece kendini memnun etme ve menfaatlerine dayalı tüm hislerini tatmin edebilme yerine, Allah'ın onun eşref-i mahlûkat seviyesinde yaşaması için vaz ettiği esaslar ve ölçülerle hayatına şekil vermeye çalışan kişidir. Bunun için kişinin geliştirilmesi ve öncelikle Kuran ve Sünnet ilmine dayalı eğitimleri alması, akabinde de tutum ve sergilediği tüm eylemlerinde bu donatıyı uygulaması önemlidir. "Bu kitap ki; doğruluğunda şüphe yoktur. İnananlara kötülüklerden korunmak için yol göstericidir" (Bakara, 2/2) ayetinde bahse konu hakikat net biçimde izah edilmektedir. Müslüman için İslâm dini onun; dünyadaki tüm yaratılıştan gelen eğilimlerini, mana aleminde terakkisine zemin oluşturma ve hem maddi ve hem de manevi açıdan entegre ve destek sağlayan külli kaideler sunmuştur. Bu entegrasyonla tüm yaşamına şekil veren insan, kapitalist mantalitedeki kişi yerine Müslüman insan rol modeliyle yaşamını düzenler ve aynı zamanda sorumluluğunu taşır.

Öyle ki İslâmi ölçü bağlamında ekonomik eylemler, ağırlıklı ekonomik kurallarla ve belirli kanallara yönlendirilmiştir. Buna göre Müslüman kişiden, öncelikle İslami değerleri öğrenmesi ve bunu da adım adım kendi eylemlerine yansıtması yönünde azim göstermesi beklenmektedir.

Homoislamicus insan modeli iktisadi faaliyetlerini icra ederken üç türlü kazanç elde edebilir. Bunlar; ücret/maaş, kira ve kâr şeklinde olabilir. Gelir kazanmakla birlikte aşağıda sıralanan hususlara da riayet eder.

- Meşru olmayandan kaçır ve helal dairesine uyar, helal kazançla kifayet eder, meşru olmayan kazancın yasaklandığının şuurundadır (Nisa, 29-30).
- Gelirlerini, faizle değil, kesinlikle emek üzerinden ve risk unsuru bağlamında elde eder.
- Kolay ve riske girmeden kazanmayı hedefleyip, para üzerinden para kazanmanın meşru olmadığını bilincindedir (Faiz yasağını bilir).
- Toplumda elde edilecek kazanç ve gelirler açısından aynı imkânlarla sahip olunamayacağını kabul eder.
- Şansa dayalı ve zahmet içermeyen kumar vs. gelir yollarını tercih etmez ve bunların meşru olmamasına dikkat çeker (Maide, 5/90, 91).
- Faizin haram ve sadece ticaretin helal kılındığı (Bakara, 2/275), ancak kayıtdışı ve spekülâtif kazanç yollarının olduğunu ve kim bu konuda davranış sergilerse sadece haram yolu tercih ettiğini kavramıştır.
- Önceliklerini belirler, kendi gereksinimleri için tüketimini yapar.
- İhtiyacından fazlasını paylaşır.
- Altın, gümüş gibi kıymetli madenler alıp saklamaz (iddihar, kenz yapmaz).
- Diğer Müslümanlara borç ve karz verebilir.
- Yeni girişimlerle birikimlerini üretime kanalize edebilir.

#### 4. Homoislamicus Bireyin Özellikleri

Çalışmamızda bireylerin ekonomik davranışlarında ne kadar İslam'a uygun davrandığını ölçebilmek için homoislamicus davranış ölçeği geliştirilmiştir. Yapılan analizler ve konuya ilişkin tartışmalar sonrasında ölçekte bulunması gereken bileşenler ikrazda bulunma, ücretli olarak çalışma, tüketim harcamalarında bulunma, gelir elde etme, ekip ruhuyla hareket etme ve helal kazanç elde etme olarak tespit edilmiştir. Aşağıda bu bileşenlerin her biri hakkında daha detaylı bilgi verilmektedir.

##### 4.1. İkrâzda Bulunma

İkrâz kavramının bu çalışmada aldığı anlam, sosyal hayatta Müslüman bireyin tutum ve davranışlarına yansımalarıyla açıklanmaktadır. Bu yansımalar çeşitli şekillerde gözlemlenebilir. Müslüman birey, sosyal yardımlaşmanın malının bereketini artıracığına inanmakta ve kazancını helal yollarda harcamaya özen göstermektedir. Çalışkanlık ve faizle para kazanmanın haram olduğunu bilme bilinci, bireyin temel değerleri arasında yer

almaktadır. Dzenli olarak zekt vermek, bireyin dini sorumluluklarının bir parası olarak kabul edilmektedir.

Birey, parasını deęerlendirirken helal ve haram llerine dikkat etmekte ve borcu varken ncelięini bu borları en kısa srede demeye vermektedir. Ayrıca, faizin malı eksilteceęine inanmakta ve zektın fakirin zengininin malı zerindeki hakkı olduęunu kabul etmektedir. Faizli iřlemlerden kaınmak da Mslman bireyin finansal ahlk anlayıřının bir parasıdır. Bu tutum ve davranıřlar, ikraz kavramının sosyal hayattaki yansımalarını oluřturmaktadır. Bu davranıřlara bakıldıęında Mslman bireyin inancının gereęi olduęunu grmekteyiz. Homoislamicus davranıř linde ikrazda bulunma hususu kiřinin alıřkan olması, yardım edebilmesi, kazancını helal yollara harcaması ve faize dikkat etmesi ile llmektedir. Bunlarla beraber, ikraz boyutunda kiřinin borlarını zamanında demeye dikkat etmesi, zektın malı bereketlendireceęine inanması ve helal haram llerine riayet etmesi zerinde durulmuřtur.

#### 4.2. cretli Olarak alıřma

İřlm iktisadında emek kelimesi iř ve ibadeti birlikte ifade etmektedir. Kur'an-ı Kerim'de de pek ok yerde "iman edip salih amel iřleyenler" hayır ve gzelliklerle vlmektedir. İřverenlerin emeęin kaynaęı olan iřilerine karřı birinci ykmllę, onların cretlerini tam ve zamanında demeleridir. Bunu yapmayanlar "Tuttuęu iřiden tam iř aldıęı halde ona cretini demeyenin Allah teki hayatta hasmı olacaktır" (Buhari, İcare,10) hadisinde belirtildięi gibi uyarılmaktadır. İřverenin alıřanlarına karřı olan dięer ykmllę ise onun saęlık ve gvenlięinin korunmasına dair nlemler alınması olmaktadır. İnsana gcn ařan ve hayatını tehlikeye sokan bir iři yaptırmaya alıřmak kul hakkı ihlalidir.

Homoislamicus davranıř linde cretli olarak kiřinin alıřtıęı zaman dikkat etmesi gereken hususlar řyle belirtilmiřtir: Kiřinin aldıęı cretten dolayı řkretmesini bilmesi, eleřtirilere aık olması, arkadařlarıyla iř birlięi yapabilmesi, iř saęlıęı ve gvenlięi tedbirlerine uyabilmesi ve alıřırken kendisine verilen malzemeleri ekonomik biimde kullanılmasına dikkat etmesi. Ayrıca; kiři cretli olarak alıřırken iřini daha iyi yapabilmesi iin verimli alıřma yntemlerini arařtırması ve iřini kontrol ederek, dzenli bir řekilde yapması nemsenmektedir.

#### 4.3. Tketicim Harcamalarında Bulunma

Tketicisi, tketicim alanında ihtiyalarını karřılamak maksadıyla mal veya hizmet satın alan kimseyi ifade etmektedir. Homoislamicus davranıřına sahip bir tketicinin, tketicisi ahlkına sahip olması beklenir. Tketicisi ahlkısı, tketicisi konumunda olan kiřilerin ahlki sorumluluklarını ifade eder. Bu ahlka uygun davranıřlar, tketicilerin rnlerini vreyi kirlletmeyecek řekilde tketicimleri ve tketicilerin mal ve hizmet satın aldıkları iřletmelere karřı drst davranmalarıdır. Homoislamicus davranıř linde tketicim harcamalarında bulunma hususu zerinde řu noktalara dikkat edilmiřtir: Kiřinin mecbur kalmadıęa bor

altına girmemesi, kazancını ihtiyaç sahipleriyle bölüşmesi, gelirini tüketime göre ayarlayabilmesi, ihtiyaçtan fazla olan gelirini tasarruf edebilmesi ve harcama yaparken lüksten, aşırılıktan ve israftan kaçınması.

#### 4.4. Gelir Elde Etme

Sabahattin Zaim'e göre bir Müslümanın üç tür gelir elde etmesi söz konusudur. Bunlar; ücret, kâr ve kiradır. Bu durum, bir Müslüman tarafından faizin alınmaması gerektiğini ifade etmektedir. Bu üç gelirin elde edilmesinde dikkat edilmesi gereken bazı önemli noktalar olup, bunlar; helal ve harama dikkat edilmesi, kazancın emek, yahut risk unsurlarına dayandırılması, faiz yasağının bilinmesi, bireyler arasında kazanç ve gelirden mutlak bir eşitlik olamayacağı kabul edilmesi, kişinin kolay kazanç yollarını tercih etmemesi, spekülasyon ve karaborsacılık gibi batıl kazanç yollarına sapmaması ve ticaretin helal olduğunu bilmesi, israftan, cimrilikten, serveti yığmaktan ve iddihardan (biriktirmek) kaçınması ve servetini fakirlere yardım için kullanmasıdır. Homoislamicus ölçeğinde gelir elde etme hususu ele alınırken bazı noktalara dikkat çekilmiştir. Bunlardan birincisi; kişinin gelir elde etmek için çaba sarf etmesinden dolayı memnun olmasıdır. İkincisi; gelir elde etmek için kişinin işini en iyi şekilde yapmaya çalışmasıdır. Üçüncüsü; bireyin kolay kazanç yollarını tercih etmeyerek, kumar gibi zahmetsiz yollara saparak kazanç elde etmemesidir.

#### 4.5. Ekip Ruhuyla Hareket Etme

Kur'an'da Allah'ın ipine sınımsız sarılmak (Al-i İmran, 103), toplumsal yaşam alanında ekip ruhuyla hareket etmeyi işaret etmektedir. İslâm toplumunda dayanışmayı kolaylaştıran bazı unsurlar vardır. Bunlardan birincisi tevhid inancıdır. Tevhid inancı insanın kendisine, olaylara, malın edinilmesi, tüketilmesi ve ayrıca muhafaza edilmesinde Müslümana şahsiyet kazandırır. İslâm toplumunda; dayanışmayı kolaylaştıran ikinci unsur, insan kavramıdır. İnsana verilen en büyük onur, onun Allah'ın yeryüzündeki halifesi olmasıdır (Bakara, 2/30) Çünkü insan, varlıkta en güzel biçimde yaratılmıştır. Kişi bu şuurla hareket ettiği zaman, ekibin kendini sağlam bir inanç ve yaşam temelinde donatmış üyesi olma özelliğini kazanacaktır. İslâm toplumunda dayanışmayı kolaylaştıran üçüncü unsur kâinat kavramıdır. Her şey bir amaçla yaratılmıştır. Kâinatın da bu nedenle bir yaratılış gayesi vardır. Kâinat; ekip ruhuyla dayanışmaya benzer biçimde, eşyanın aykırılık arz etmediği bir düzen yani ahenkli bir sistem barındırmaktadır. Kâinat insan için yaratılmıştır. Dünya sürekli olarak sıkı sıkıya bağlanılacak bir yer değil, sadece bir araç ve imtihan vesilesidir. Dayanışmayı zorlaştıran unsurlar ise; faiz, rüşvet, hırsızlık, kumar, ahlâksızlık, gıybet, hased ve su-i zan gibi hususlardır. İslâm toplumunda dayanışma ve ekip ruhunu güçlendirmenin bazı vasıtaları vardır. Bunlar; karşılıklı yardımlaşma, hediyeleşme, karz-ı hasen ve tasadduk'tur.

Homoislamicus davranış ölçeğinde ekip ruhuyla hareket etme boyutu ölçülürken üç husus dikkate alınmıştır. Bunlardan birincisi; kişinin iş yaptığı bireylerin arasında kıskançlığın olmaması, ikincisi grup içerisinde adaletli iş dağılımının yapılması ve üçüncüsü hakların korunmasıdır.

#### 4.6. Helal Kazanç

İslam'da önemli olan haramdan kaçmaktır. İnsanın ihtiyaçları iktisat ile sıkı sıkıya bağlı olduğu gibi, ihtiyacın helal yollardan temin edilmesi önemli bir ibadettir. Helal kelimesi "dinen yapılması veya yenilip içilmesi yasaklanmayan, serbest bırakılan şey" demektir. Ayet ve hadislerde bir şeyin helal olduğunun ifade edilmesi yahut işlenmesinin günah olmadığına belirtilmesi o eylemin helal olduğunu göstermektedir. Diğer yandan bir şeyin yasaklandığına dair bir delilin olmaması da helallik durumunu ifade etmektedir. Dinin açık bir hükmüne, ilkesine veya yasağına bir aykırılık olmadıkça haramlıktan söz edilemez. Bu bağlamda helal kavramının caiz, meşru, mübah kavramları ile yakın ilişkisi bulunmaktadır.

İslam'da kazancın helal olmasına büyük önem atfedilmektedir. Haramlık şüphesi olmayan kazanç, el emeğinin ürünü olan kazançtır. Emek olmadan elde edilen kazanç, asgari seviyede tutulmaya çalışılmalıdır. Ribanın yasaklanışının da temel nedeninin bu olduğu düşünülmektedir. Emek, İslam'da en temel değer kaynağı ve üretim faktörü olarak kabul edilmektedir. Girişim de emek kavramı içerisinde yer almaktadır. Bu yüzden; Tabakoğlu (2010:23): "Helal yoldan elde edilmiş mülkiyeti, gasb ve hırsızlıktan korumak, bu suretle helal olmayan kazançlara mani olmak, emeğe olan saygının bir ifadesidir" demektedir.

Homoislamicus davranış ölçeğinde helal kazanç boyutunu ölçen üç madde ele alınmıştır. Bunlardan birincisi elde edilen gelirin kişinin sadece kendi çalışmasının sonucu ile değil Allah'ın takdiri ile oluştuğu ve helal kazanç yoluyla kazancın önemsenmesi, alın teri ile kazanç elde edilmesinin en makbul yol olarak görülmesi, olarak ifade edilebilir.

### 5. Veri Seti, Model ve Yöntem

Çalışmada Türkiye'de faizsiz işlem yapan bankalar olan katılım bankalarının çalışanlarının bazı sosyo-demografik özelliklerinin homoislamicus davranış alt boyutlarını etkilediği varsayılmaktadır. Çalışmada nicel araştırma yöntemlerinden anket yöntemi seçilmiştir. Anketler 1 Eylül - 30 Ekim 2021 tarihleri arasında iki aylık süre aralığında çalışanlara uygulanmıştır. Veriler SPSS 26 ve AMOS 24 programlarında analiz edilmiş ve sonuçlar değerlendirilmiştir. Anketler için homoislamicus davranış ölçeği literatür taraması yapıldıktan sonra araştırmacı tarafından geliştirilmiş, altı alt bileşenden oluşan homoislamicus davranış ölçeği ortaya çıkarılmıştır.

#### 5.1. Veri Toplama Araçları

Ankette ölçek geliştirmek için Prof. Dr. Sabahattin Zaim'in, "İslâm Ekonomisinin Temelleri" (Zaim, 2013) eserinde ifade ettiği "İslâm İnsanı" özellikleri dikkate alınmış ve homoislamicus ölçeğini oluşturmak için 40 soru oluşturulmuştur. Geliştirilen ölçeğin kapsam geçerliğini tespit etmek amacıyla 2 uzmanın görüşü alınmıştır. Uzman grubunun değerlendirmesi sonucunda ilgili gözden geçirmeler yapılmış ve araçların kapsam geçerliğine sahip olduğu görülmüştür. Yapılan incelemeler sonucunda, soruların anlaşılır ve maksada uygun seviyede özellik taşıdığına kanaat getirilmiştir. Ayrıca; uzman



akademisyenlerle çalışma konusuyla ilgili olarak mütalaa yapılarak araştırmamızın evreni değerlendirilmiştir. Ancak faktör analizinden sonra uygun olmayan sorular ölçekten çıkarılmıştır. Testler sonucunda ölçek için uygun olan sorular ile ekonomik davranışlarda homoislamicus davranış ölçeği oluşturulmuştur.

Anketin analizinden elde edilen verilerle, ilkönce güvenilirlik analizi gerçekleştirilmiştir. (bkz. Tablo: 1) Bu analiz; katılımcıların anketi doldururken verdikleri cevapların tutarlılığını göstermekte ve yapılan incelemede, aynı yolla hareket edip, aynı neticenin elde edilebilmesi gerekmektedir.

**Tablo: 1**  
**Güvenilirlik İstatistiği**

	Güvenilirlik Testleri (*)	
<b>Cronbach's Alpha</b>	<b>Standart Cronbach's Alpha</b>	<b>Madde Sayısı</b>
.938	.947	36

Ankete dahil ettiğimiz sorulardan; benzer veya anlaşılmayacak biçimde soruların durumları gözden geçirilmiştir. Her bir soru ölçek dışında tutulduğunda, güvenilirlik sonucu (Cronbach Alfa) skorunun ne şekilde değiştiği gözlemlenmiştir. Alfa değerinde artış olan, sorular arası korelasyon matrisinde %30'un altında korelasyon değerine sahip ve Nf kapsamında yapılan faktör analizinde ortaya çıkan Toplam Faktörü şekillendirme etki oranlarına göre %30'un altında olan 10., 11., 26. ve 28. soruların kapsam dışı bırakılarak ölçekten çıkarılmasına karar verilmiştir. Böylece ölçekteki 40 sorudan 4'ü çıkarılmış ve ölçekte 36 soru kalmıştır.

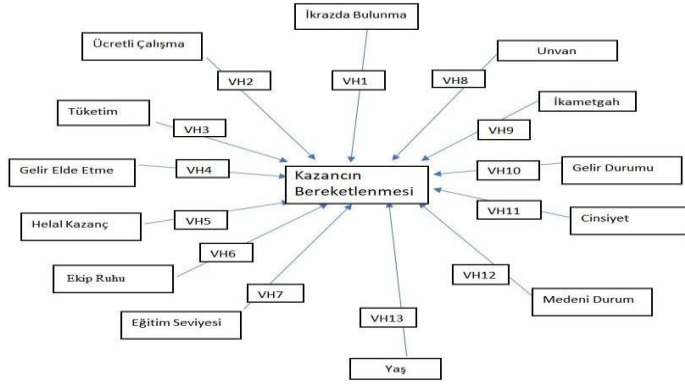
**Tablo: 2**  
**KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Örnekleme Yeterliliği Ölçüm Testi		.925
Bartlett Testi	Yaklaşık Ki-Kare Testi	5524.223
	Serbestlik Derecesi	630
	Anlamlılık	.000

Testlerin sonucunda, KMO 0.925, anlamlılık değeri,  $(p)=0.000<0.05$  şeklinde elde edilip, anlamlı görülmüştür. Verilerin C. Alfa katsayısı 0.938 ile en üst düzeyde sonuç göstermiştir.

İncelemelerde, doğrusal faktör analizinin herhangi faktör içeriğini elde etmektense, bir tez veya önceden oluşturulan tecrübî bir inceleme neticesinde oluşturulan faktör birlikteliklerinin doğrulanması amacıyla kullanıldığı bilinmektedir. Doğrusal faktör analizinin tez içeriği gözlemleri yapılmış datalarının teyidi için kullanılır. Yapısal eşitlik modeli (YEM) kapsamındaki hipotezlerimiz oluşturularak, Şekil 1'de kapsamlı şekilde gösterilmiştir.

**Şekil: 1**  
**Homoislamicus Yapısal Eşitlik Modellemesi**



Homoislamicus yaklaşımı için YEM hipotez tanımları şöyledir:

- VH1: İkrazda Bulunmanın, malının bereketleneceğine inanma üzerine etkisi vardır.
- VH2: Ücretli Çalışmanın, malının bereketleneceğine inanma üzerine etkisi vardır.
- VH3: Tüketim Harcamalarının, malının bereketleneceğine inanma üzerine etkisi vardır.
- VH4: Gelir Elde Etme, malının bereketleneceğine inanma üzerine etkisi vardır.
- VH5: Helal Kazancın, malının bereketleneceğine inanma üzerine etkisi vardır.
- VH6: Ekip Ruhunun, malının bereketleneceğine inanma üzerine etkisi vardır.
- VH7: Eğitim seviyesinin malının bereketleneceğine inanma üzerine etkisi vardır.
- VH8: Unvanın malının bereketleneceğine inanma üzerine etkisi vardır.
- VH9: İkametgah Coğrafi Bölgelerinin malının bereketleneceğine inanma üzerine etkisi vardır.
- VH10: Gelir durumunun malının bereketleneceğine inanma üzerine etkisi vardır.
- VH11: Cinsiyetin malının bereketleneceğine inanma üzerine etkisi vardır.
- VH12: Medeni durumun malının bereketleneceğine inanma üzerine etkisi vardır.
- VH13: Yaş seviyesinin malının bereketleneceğine inanma üzerine etkisi vardır.

Yapısal eşitlik modelini tanımlamanın basit yollarından biri, “yol diyagramı” olarak adlandırılan özel bir şema çizmektir. Yol diyagramı, ele alınan modelin grafiksel bir temsili olarak kullanılır. Bu diyagram, modelin bileşenleri arasındaki ilişkileri ve etkileşimleri görsel olarak ifade etmektedir.

Söz konusu diyagram, oluşturulan herhangi bir modelde yer alan değişkenler arasında oluşan sebebe dayalı veya sebebe dayalı olmayan bağlantıları anlatmaktadır. Değişkenler arasında mevcut ilişkiler analiz edilirken, AMOS yazılımıyla bahse konu bağlantıları ifade edecek en uygun modelle data uyumu incelenmektedir. Tabloda yapısal eşitlik modeli analizinin hesaplanan uyum iyiliği değerleri görülmektedir.

**Tablo: 3**  
**Homoislamicus Yaklaşımı İçin YEM Hipotezleri**

Faktör Açıklaması	Regresyon Katsayıları	p	Bağımlı Değişken	Hipotez Sonucu
İkrazda Bulunma	0.285	0.075	Kazancın Bereketlenmesi	Kabul
Ücretli Çalışma	0.026	0.812		Red
Tüketim Harcamaları	0.082	0.290		Red
Gelir Elde Etme	0.503	0.029		Kabul
Ekip Ruhunu	0.125	0.595		Red
Helal Kazanç	0.102	0.192		Red
Eğitim seviyesi	-0.014	0.438		Red
Unvan	-0.017	0.729		Red
İkametgah	-0.001	0.846		Red
Gelir durumu	-0.005	0.839		Red
Cinsiyet	-0.02	0.507		Red
Medeni durum	-0.001	0.981		Red
Yaş seviyesi	0.008	0.662		Red

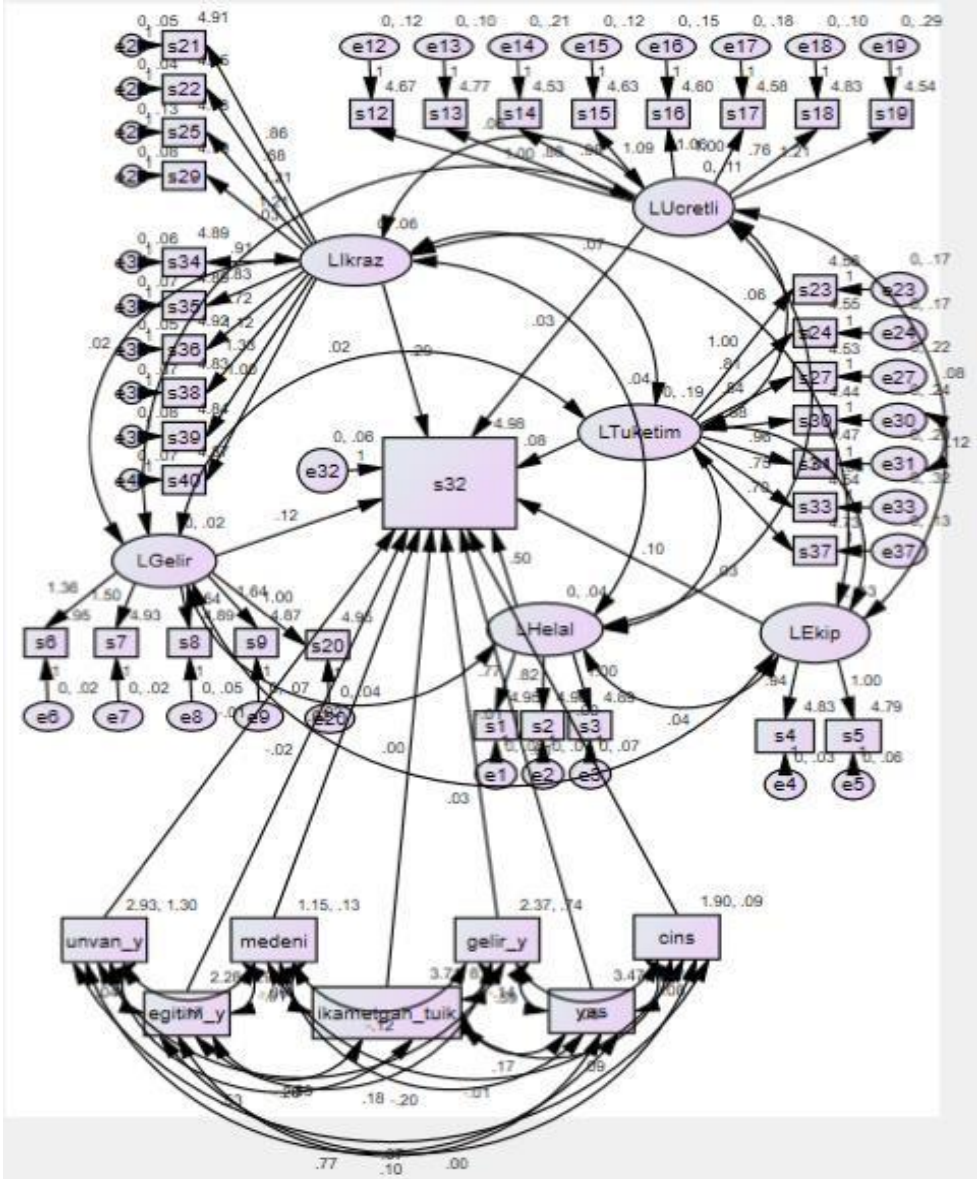
Tablo 3'te yer alan İkrazda Bulunma faktörünün %90 güven seviyesinde homoislamicus üzerine direkt ve anlamlı tesir yaptığı görülmektedir. Gelir Elde Etmenin (sayısal karşılığıyla 0.029 faktöründe) homoislamicus üzerine %95 güven seviyesinde direkt tesir yaptığı görülmüştür. YEM'den altta yer alan Tablo'da yer aldığı gibi homoislamicus ile ilgili yapılan hipotez testlerine ilişkin varılan bulgulara baktığımızda; "Gelir elde etmenin, homoislamicus üzerinde tesiri mevcuttur" şeklindeki VH4 hipotezimiz kabul görmüş, %95 güvenilirlik seviyesinde arada istatistiki manada anlamlı bağlantı olduğu kabul edilmiştir. "İkrazda bulunmanın, homoislamicus üzerinde tesiri mevcuttur" şeklindeki VH1 hipotezimiz de %90 güvenilirlik noktasında istatistiki manada anlamlı ilişkiye sahip olup, hipotez kabul görmüştür.

**Tablo 4**  
**Yapısal Eşitlik Modeli Analizinin Hesaplanan Uyum İyiliği Değerleri**

Model	NPAR	CMIN	DF	P	CMIN/DF
Başlangıç model	171	1606.784	818	.000	1.964
Arındırılmış model	989	.000	0		
Bağımsız model	86	6600.900	903	.000	7.310
Model	NFI	RFI	IFI	TLI	CFI
	Delta1	rho1	Delta2	rho2	
Başlangıç model	.757	.731	.864	.847	.862
Arındırılmış model	1.000		1.000		1.000
Bağımsız model	.000	.000	.000	.000	.000
Model	PRATIO	PNFI	PCFI		
Başlangıç model	.906	.685	.780		
Arındırılmış model	.000	.000	.000		
Bağımsız model	1.000	.000	.000		
Model	NCP	LO 90	HI 90		
Başlangıç model	788.784	678.779	906.554		
Arındırılmış model	.000	.000	.000		
Bağımsız model	5697.900	5443.231	5959.154		
Model	FMIN	F0	LO 90	HI 90	
Başlangıç model	5.503	2.701	2.325	3.105	
Arındırılmış model	.000	.000	.000	.000	
Model	FMIN	F0	LO 90	HI 90	
Bağımsız model	22.606	19.513	18.641	20.408	
Model	RMSEA	LO 90	HI 90	PCLOSE	
Başlangıç model	.057	.053	.062	.002	
Arındırılmış model	.147	.144	.150	.000	
Model	AIC	BCC	BIC	CAIC	
Başlangıç model	1948.784	2009.462			
Arındırılmış model	1978.000	2328.935			
Bağımsız model	6772.900	6803.416			
Model	ECVI	LO 90	HI 90	MECVI	
Başlangıç model	6.674	6.297	7.077	6.882	
Arındırılmış model	6.774	6.774	6.774	7.976	
Bağımsız model	23.195	22.323	24.090	23.299	
Model	HOELTER	HOELTER			
	.05	.01	7.077	7.077	7.077
Başlangıç model	161	167	6.774	6.774	6.774
Bağımsız model	44	45	24.090	24.090	24.090

Yapısal eşitlik modelinin detaylı sonuçları Şekil 2’de görülmektedir.

Şekil: 2  
Yapısal Eşitlik Modelinin Sonuçları



Nihai çalışma kapsamında ölçeğin yapı geçerliđi için açıklayıcı faktör analizi (AFA) yapılmıştır. Varimax döndürme tekniđi kullanılmış ve sonuçlara tablo 5'te yer verilmiştir. Homoislamicus Davranış Ölçeğinin Maddelerinin bileşenlerine göre dağılımı faktör analizi sonrası şekillenmiştir.

**Tablo: 5**  
**Homoislamicus Ölçeğinin Faktör Analiz Sonuçları**

Toplam Açıklanan Varyans (*)									
Faktör	Başlangıç Özdeğerler			Çıkarılma Sonrası Faktör Yük Kareler Toplamı			Döndürme Sonrası Yük Kareler Toplamı		
	Toplam	Varyans	Birikimli %	Toplam	Varyans	Birikimli %	Toplam	Varyans	Birikimli %
2	2.877	7.990	43.417	2.877	7.990	43.417	4.128	11.468	25.902
3	1.813	5.036	48.453	1.813	5.036	48.453	4.092	11.366	37.268
4	1.363	3.786	52.239	1.363	3.786	52.239	3.730	10.362	47.630
5	1.233	3.425	55.664	1.233	3.425	55.664	2.077	5.768	53.398
6	1.116	3.099	58.763	1.116	3.099	58.763	1.931	5.365	58.763

AFA sonucunda faktörlerin öz değeri, açıkladıkları varyans yüzdesinin ve toplam varyans yüzdesinin yer aldığı açıklanan toplam varyans tablosu incelendiğinde öz değeri 1'den büyük olan 6 bileşen (faktör) olduğu görülmektedir. Birinci faktörün öz değeri 12,754 ve açıkladığı varyans yüzdesi %35,427 olup varimax döndürme sonrasında yüklerin kareler toplamı 5,196'dır. İkinci faktörün öz değeri 2,877 ve açıkladığı varyans yüzdesi %7,990 olup döndürme sonrasında yüklerin kareler toplamı 4,128'dir. Üçüncü faktörün öz değeri 1,813 ve açıkladığı varyans yüzdesi %5,036 olup döndürme sonrasında yüklerin kareler toplamı 4,092'dir. Dördüncü faktörün öz değeri 1,363 ve açıkladığı varyans yüzdesi %3,786 olup döndürme sonrasında yüklerin kareler toplamı 3,730'dur. Beşinci faktörün öz değeri 1,233 ve açıkladığı varyans yüzdesi %3,425 olup döndürme sonrasında yüklerin kareler toplamı 2,077'dir. Altıncı faktörün öz değeri 1,116 ve açıkladığı varyans yüzdesi %3,099 olup döndürme sonrasında yüklerin kareler toplamı 1,931'dir. Homoislamicus davranışı belirleyen faktörler, 6 faktörlü yapısıyla toplam varyans oranının %58,763'ünü açıklamaktadır.

Faktör analizi sonrasında 36 maddeden oluşan homoislamicus davranış ölçeđi ortaya çıkmıştır. Ankette bileşenlere göre sorulan sorular şunlardır:

İkrazda Bulunma Boyutu:

1. Sosyal yardımda bulunduğumda, malımın bereketleneceđine inanırım,
2. Kazancımı helal yollara harcarım,
3. Müslüman çalışkan olmalıdır,
4. Faizle para kazanmanın haram olduğunu bilirim,
5. Zekâtımı düzenli olarak vermeye dikkat ederim,
6. Paramı değerlendirirken; helal ve haram ölçülerine riayet ederim,
7. Borcum varken, önceliğim o borçlarımı en kısa sürede ödemektir,
8. Faizin malımı eksilteceđine inanırım,
9. Borçlarımı zamanında öderim,

10. Zekâtın fakirin zenginin malı üzerindeki hakkı olduğuna inanırım,
11. Faizli işlem yapmaktan kaçınırım.

#### Ücretli Olarak Çalışma Boyutu:

12. Çalışmamın sonucunda aldığım gelirden dolayı, Allah'a şükretmesini bilirim,
13. Hatalarım söylendiğinde eleştirilere açık davranırım,
14. Gerektiğinde iş arkadaşlarımla işbirliği yaparım,
15. İş sağlığı ve güvenliği tedbirlerine uyarım,
16. Bana verilen malzemeleri ekonomik biçimde kullanırım,
17. İşimi daha iyi yapabilmek için verimli çalışma metotlarını araştırırım,
18. İşimi sonuna kadar kontrol eder, iş çıktılarının eksiksiz olmasına özen gösteririm.

#### Tüketim Harcamalarında Bulunma Boyutu:

19. Zaruret olmadıkça borç altına girmem,
20. Kazancımı ihtiyaç sahipleriyle bölüşebilirim,
21. Tüketimimi gelirimme göre ayarlarım,
22. Gelirim ihtiyacımdan fazla ise tasarruf ederim,
23. Harcamalarımdaya lüks ve gösterişten kaçınırım,
24. Harcamalarımı gerçekleştirirken israftan kaçınmaya özen gösteririm,
25. Aşırı harcamalardan kaçınırım.

#### Gelir Elde Etme Boyutu

26. Geçimimi sağlamak için çaba sarf ettiğimden dolayı memnunum,
27. İşimi en iyi şekilde yapmaya çalışırım,
28. Bahis oyunları ve kumar gibi zahmetsiz kolay kazanç yollarını tercih etmem,
29. Doğru sözlü olmanın, Allah katında değerini bilirim,
30. İş yaparken hile ve rüşvetten kaçınırım.

#### Ekip Ruhuyla Hareket Etme Boyutu

31. Elde ettiğim gelir, sadece kendi çalışmamın sonucu ile değil, Allah'ın takdiriyle olmuştur,
32. Helal yoldan kazanç sağlamayı önemserim,
33. En makbul kazanç alın teri ile kazanılan paradır.

#### Helal Kazanç Boyutu

34. İş arkadaşımın kazancının yüksek olması, beni kıskançlığa sevk etmez,
35. İş arkadaşlarımla veya astlarımla haklarını korurum,
36. İş arkadaşlarıma veya astlarıma, iş dağılımını adaleti gözeterek yaparım.

## 5.2. Katılımcılar

Homoislamicus davranıřının incelenmesi ve ekonomik insan yöneliřlerinin bu alanda analizinin yapılması amacıyla katılım bankası alıřanlarına anket ynlendirilmiřtir. Verilen cevaplar gzden geirilmiş, eksik cevaplanan ve tm sorulara aynı yanıt verilen anketler deęerlendirmeden ıkarılmıştır. Sekaran'a (1992: 253) gre, 1 milyon kiřilik bir evren iin uygun rneklem byklęnn 384 kiři olduęu belirtilmiřtir. Bu alıřmada, evren byklę katılım bankasında alıřan 6000 kiřiden (TKBB, 2023: 79) oluřmaktadır. alıřma iin belirlenen rneklem byklęnn 380 kiři olarak yeterli olduęu grlmřtir. Katılım bankaları arasında pazar payı aısından nde gelen bir kurumda Homoislamicus davranıřlarını ve ekonomik insan eęilimlerini analiz etmek amacıyla, 380 katılım bankası alıřanı rneklem olarak seilmiřtir. Anketler, arařtırmacı tarafından Jotform adlı online anket uygulaması kullanılarak gerekleřtirilmiřtir. Neticede deęerlendirmeye uygun 293 anket verisi elde kalmıřtır. Anketlerin geri dnř oranı % 77,10'dur. Toplanan anket cevapları incelenmiř, eksik doldurulan ve tm sorulara aynı yanıt verilen anketler deęerlendirme dıřı bırakılmıştır. Sonu olarak, 293 anket veri seti deęerlendirmeye uygun bulunmuř ve istatistiksel analizler bu 293 anket zerinden gerekleřtirilmiřtir. Bu makalenin saha alıřmasının katılım bankası alıřanları zerinde yapılmasının nedeni katılım bankalarının Trkiye'de İřlami bankacılık ile zdeřleřtirilmesi ve toplumda banka alıřanlarının İřlami davranıř kurallarına ve iř ahlakına daha fazla uyacaęına dair beklentinin olmasıdır.

**Tablo: 6**  
**Katılımcılarla İlgili Bilgiler**

Demografik Bilgiler		Sayı	Yzde
Eęitim	Lise	13	4.4
	nlisans	5	1.7
	Lisans	180	61
	Yksek lisans	89	30
	Doktora	6	2
	Toplam	293	100
Unvan	Uzman Yardımcısı	38	13
	Uzman	72	25
	Ynetici	71	24
	Mdr	97	33
	Dięer	15	5.1
	Toplam	293	100
Yařadığı Blge	Akdeniz	9	3.1
	Doęu Anadolu	5	1.7
	Ege	37	13
	Gneydoęu Anadolu	10	3.4
	İ Anadolu	66	23
	Karadeniz	19	6.5
	Marmara	147	50
Toplam	293	100	
Aylık Gelir	5000 tl ve altı	44	15
	5001-10000 tl	127	43
	10001-15000 tl	92	31
	15001 tl ve zeri	30	10
	Toplam	293	100
Medeni Durum	Evli	248	85
	Bekar	45	15
	Toplam	293	100



Cinsiyet	Kadın	30	10
	Erkek	263	90
	Toplam	293	100
Yaş	18-24	9	3.1
	25-30	55	19
	31-36	77	26
	37-42	104	36
	43-48	38	13
	49-54	10	3.4
	Toplam	293	100
Dindarlık	Evet	257	88
	Hayır	1	0.3
	Kısmen	35	12
	Toplam	293	100
Daha önce faizli bankada çalışma durumu	Evet	61	21
	Hayır	232	79
	Toplam	293	100
Daha iyi maaş verilirse faizli bankada çalışır mı?	Evet	4	1.4
	Hayır	279	95
	Kararsız	10	3.4
	Toplam	293	100

Ankete katılanlardan “Dindar mısınız?” sorusuna “evet” şeklinde cevap veren 257 kişinin %87,7’si ve 52 kişinin %20’si daha önce faizli bir bankada çalıştığını beyan etmiştir. Bu soruya “hayır” yanıtını veren 1 katılımcı bulunmaktadır ve bu kişi daha önce faizli bir bankada çalışmadığını belirtmiştir. Katılımcılardan 35 kişi “Dindar mısınız?” sorusuna “kısmen” yanıtını vermiş olup, sadece 9 kişi daha önce faizli bir bankada çalıştığını ifade etmiştir.

## 6. Bulgular

Homoislamicus ölçek soruları oluşturulduktan sonra yaş, eğitim, unvan, ikamet edilen coğrafi bölge ve gelir durumu gibi değişkenleri homoislamic davranış üzerine tesiri incelenmiştir.

Bulgular ele alınırken öncelikle olarak yaş değişkeninin homoislamic davranışa etkisi değerlendirilmiştir. Alt grup faktörler üzerinde eğitimin oluşturduğu etkinin ANOVA Testleri Anlamlılık değeri  $> 0.05$  olan hipotezler Red edilmiştir.  $0.05$ 'ten küçük çıkan hipotezler kabul edilmiştir.

**Tablo: 7**  
**Yaş Durumuna İlişkin Anova Tablosu**

		ANOVA				
		Kareler Toplamı	Serbestlik Derecesi	Kareler Ortalaması	F İstatistiği	Anlamlılık
İkrazda Bulunma Boyutu	Gruplar Arası	4.855	5	.971	.971	.436
	Gruplar İçi	287.145	287	1.001		
	Toplam	292.000	292			
Ücretli Çalışma Boyutu	Gruplar Arası	5.500	5	1.100	1.102	.359
	Gruplar İçi	286.500	287	.998		
	Toplam	292.000	292			
Tüketim Harcamalarında Bulunma Boyutu	Gruplar Arası	3.128	5	.626	.622	.683
	Gruplar İçi	288.872	287	1.007		
	Toplam	292.000	292			
Gelir Elde Etme Boyutu	Gruplar Arası	4.817	5	.963	.963	.441
	Gruplar İçi	287.183	287	1.001		
	Toplam	292.000	292			

Ekip Ruhuyla Hareket Etme Boyutu	Gruplar Arası	4.352	5	.870	.868	.503
	Gruplar İçi	287.648	287	1.002		
	Toplam	292.000	292			
Helal Kazanç Boyutu	Gruplar Arası	1.533	5	.307	.303	.911
	Gruplar İçi	290.467	287	1.012		
	Toplam	292.000	292			

Anova testinde anlamlılık sonucu  $> 0.05$  görüldüğünden, personelin yaşının alt boyutları üzerinde bir etkisi olmadığı görülmüştür. Katılımcıların eğitim durumları ile homoislamicus alt boyutları arasındaki ilişkinin anlamlı olup olmadığı değerlendirilmiştir (bkz. Tablo 8).

**Tablo: 8**  
**Eğitim Durumuna İlişkin Anova Tablosu**

		ANOVA (*)				
		Kareler Toplamı	Serbestlik Derecesi	Kareler Ortalaması	F İstatistiği	Olasılık (*)
İkrazda Bulunma Boyutu	Gruplar Arası	1.403	2	.701	.700	.498
	Gruplar İçi	290.597	290	1.002		
	Toplam	292.000	292			
Ücretli Çalışma Boyutu	Gruplar Arası	.580	2	.290	.289	.749
	Gruplar İçi	291.420	290	1.005		
	Toplam	292.000	292			
Tüketim Harcamalarında Bulunma Boyutu	Gruplar Arası	4.007	2	2.003	2.017	.135
	Gruplar İçi	287.993	290	.993		
	Toplam	292.000	292			
Gelir Elde Etme Boyutu	Gruplar Arası	1.550	2	.775	.774	.462
	Gruplar İçi	290.450	290	1.002		
	Toplam	292.000	292			
Ekip Ruhuyla Hareket Etme Boyutu	Gruplar Arası	.077	2	.039	.038	.962
	Gruplar İçi	291.923	290	1.007		
	Toplam	292.000	292			
Helal Kazanç Boyutu	Gruplar Arası	2.372	2	1.186	1.188	.306
	Gruplar İçi	289.628	290	.999		
	Toplam	292.000	292			

Analiz sonucu anlamlılık değeri  $> 0.05$  çıktığından dolayı, personelin eğitiminin homoislamicus alt boyutları üzerinde bir etkisi olmadığı görülmüş ve hipotezler red edilmiştir. Katılımcıların unvan durumları ile homoislamicus alt boyutları arasındaki ilişkinin anlamlı olup olmadığı değerlendirilmiştir (bkz. Tablo 9).

**Tablo: 9**  
**Unvan Durumuna İlişkin Anova Tablosu**

		ANOVA				
		Kareler Toplamı	Serbestlik Derecesi	Kareler Ortalaması	F İstatistiği	Anlamlılık
İkrazda Bulunma Boyutu	Gruplar Arası	10.631	4	2.658	2.720	.030
	Gruplar İçi	281.369	288	.977		
	Toplam	292.000	292			
Ücretli Çalışma Boyutu	Gruplar Arası	11.624	4	2.906	2.985	.019
	Gruplar İçi	280.376	288	.974		
	Toplam	292.000	292			
Tüketim Harcamalarında Bulunma Boyutu	Gruplar Arası	4.090	4	1.023	1.023	.396
	Gruplar İçi	287.910	288	1.000		
	Toplam	292.000	292			
Gelir Elde Etme Boyutu	Gruplar Arası	3.618	4	.905	.903	.462
	Gruplar İçi	288.382	288	1.001		
	Toplam	292.000	292			
Helal Kazanç Boyutu	Gruplar Arası	9.368	4	2.342	2.387	.050
	Gruplar İçi	282.632	288	.981		
	Toplam	292.000	292			

Ekip Ruhuyla Hareket Etme Boyutu	Gruplar Arası	1.474	4	.369	.365	.833
	Gruplar İçi	290.526	288	1.009		
	Toplam	292.000	292			

Analiz sonucu anlamlılık değeri ikrazda buluna boyutu, ücretli çalışma boyutu ve helal kazanç boyutu 0.05 altında çıktığından dolayı, personelin unvanlarının anlamlı bir farklılığa yol açtığı tespit edilmiştir. Hangi grubun etkili olduğunu incelemek için üç adet alt faktörün SPSS programında varyans homojenlik testi yapılmış ve varyansların heterojenliği varsayımı altında personelin unvanlarına göre çoklu karşılaştırması yapılmıştır.

**Tablo: 10**  
**Unvan Durumuna İlişkin Çoklu Karşılaştırma Tablosu**

Alt Boyut (Bağımlı Değişken)	(I) Bankadaki unvanınız nedir	Çoklu Karşılaştırma				95% Güven Aralığı		
		(J) Bankadaki unvanınız nedir	Ort.Fark (I-J)	Standart Hata	Olasılık	Alt Sınır	Üst Sınır	
İkrazda Bulunma Boyutu	Uzman Yardımcısı	Uzman	0.2162	0.2189	0.981	-0.4121	0.8446	
		Yönetici	0.0233	0.2074	1	-0.5737	0.6204	
		Müdür	-0.2782	0.1755	0.719	-0.7925	0.2360	
		Diğer	0.0302	0.2854	1	-0.8362	0.8966	
	Uzman	Uzman Yardımcısı	-0.2162	0.2189	0.981	-0.844	0.4121	
		Yönetici	-0.1928	0.1950	0.98	-0.7477	0.3620	
		Müdür	-.4944*	0.1606	0.027	-0.9544	-0.0343	
		Diğer	-0.1860	0.2765	0.999	-1.0307	0.6587	
	Yönetici	Uzman Yardımcısı	-0.0233	0.2074	1	-0.6204	0.5737	
		Uzman	0.1928	0.1950	0.98	-0.3620	0.7477	
		Müdür	-0.3015	0.1446	0.331	-0.7150	0.1118	
		Diğer	0.0068	0.2675	1	-0.8199	0.8336	
	Müdür	Uzman Yardımcısı	0.2782	0.1755	0.719	-0.2360	0.7925	
		Uzman	.4944*	0.1606	0.027	0.0343	0.9544	
		Yönetici	0.3015	0.1446	0.331	-0.1118	0.7150	
		Diğer	0.3084	0.2436	0.920	-0.4790	1.0958	
	Diğer	Uzman Yardımcısı	-0.0302	0.2854	1	-0.8966	0.8362	
		Uzman	0.1860	0.2765	0.999	-0.6587	1.0307	
		Yönetici	-0.0068	0.2675	1	-0.8336	0.8199	
		Müdür	-0.3084	0.2436	0.92	-1.0958	0.4790	
	Ücretli Çalışma Boyutu	Uzman Yardımcısı	Uzman	0.3265	0.1542	0.312	-0.1147	0.7677
			Yönetici	0.3820	0.1575	0.158	-0.0685	0.8327
			Müdür	.6254*	0.1504	0.001	0.1960	1.0549
			Diğer	0.2813	0.2621	0.97	-0.5466	1.1092
Uzman		Uzman Yardımcısı	-0.3265	0.1542	0.312	-0.7677	0.1147	
		Yönetici	0.0555	0.1666	1	-0.4183	0.5294	
		Müdür	0.2989	0.1598	0.48	-0.1549	0.7528	
		Diğer	-0.0451	0.2676	1	-0.8819	0.7915	
Yönetici		Uzman Yardımcısı	-0.3820	0.1575	0.158	-0.8327	0.0685	
		Uzman	-0.0555	0.1666	1	-0.5294	0.4183	
		Müdür	0.2433	0.1630	0.7720	-0.2197	0.7064	
		Diğer	-0.1007	0.2695	1	-0.9409	0.7394	
Müdür		Uzman Yardımcısı	-.62545	0.1504	0.0010	-1.0549	-0.1960	
		Uzman	-0.2989	0.1598	0.48	-0.7528	0.1549	
		Yönetici	-0.2433	0.1630	0.772	-0.7064	0.2197	
		Diğer	-0.3441	0.2654	0.905	-1.1768	0.4886	
Diğer		Uzman Yardımcısı	-0.2813	0.2621	0.97	-1.1092	0.5466	
		Uzman	0.0451	0.2676	1	-0.7915	0.8819	
		Yönetici	0.1007	0.2695	1	-0.7394	0.9409	
		Müdür	0.3441	0.2654	0.905	-0.4886	1.1768	

Helal Kazanç Boyutu	Uzman Yardımcısı	Uzman	0.1875	0.2023	0.988	-0.3941	0.7692
		Yönetici	0.3022	0.2164	0.837	-0.3181	0.9226
		Müdür	-0.1121	0.1700	0.999	-0.6094	0.3850
		Diğer	-0.2053	0.2346	0.993	-0.9048	0.4940
	Uzman	Uzman Yardımcısı	-0.1875	0.2023	0.988	-0.7692	0.3941
		Yönetici	0.1146	0.1984	1	-0.4500	0.6793
		Müdür	-0.2997	0.1465	0.357	-0.7183	0.1187
		Diğer	-0.3929	0.2181	0.571	-1.0495	0.2635
	Yönetici	Uzman Yardımcısı	-0.3022	0.2164	0.837	-0.9226	0.3181
		Uzman	-0.1146	0.1984	1	-0.6793	0.4500
		Müdür	-0.4144	0.1654	0.13	-0.8881	0.0592
		Diğer	-0.5076	0.2312	0.295	-1.1949	0.1796
	Müdür	Uzman Yardımcısı	0.1121	0.1700	0.999	-0.3850	0.6094
		Uzman	0.2997	0.1465	0.357	-0.1187	0.7183
		Yönetici	0.4144	0.1654	0.13	-0.0592	0.8881
		Diğer	-0.0931	0.1886	1	-0.6916	0.5052
	Diğer	Uzman Yardımcısı	0.2053	0.2346	0.993	-0.4940	0.9048
		Uzman	0.3929	0.2181	0.571	-0.2635	1.0495
		Yönetici	0.5076	0.2312	0.295	-0.1796	1.1949
		Müdür	0.0931	0.1886	1	-0.5052	0.6916

Çoklu karşılaştırmaya göre müdür unvanına sahip olan personelin uzman personele göre ikrazda bulunma (yatırım, paylaşım vs.) ortalama düzeyinin daha fazla olduğu (anlamlılık = 0.027 ve 0.05'ten düşük) %95 güvenirlilik düzeyinde anlamlı bulunmuştur. Aynı zamanda; müdür unvanı taşıyan personelin uzman yardımcısı olan personele göre ücretli çalışma boyutunun ortalama düzeyinin daha az olduğu ve istatistiksel olarak, anlamlılık = 0.001 ve 0.05'ten küçük olduğu için %95 önem seviyesinde anlamlıdır.

İkamet edilen bölge ile homoislamicus davranışın alt boyutları arasında anlamlı bir farklılık olup olmadığını tespit için ANOVA testi uygulanmıştır.

**Tablo: 11**  
**İkamet Edilen Yer Durumuna İlişkin Anova Tablosu**

		ANOVA				
		Kareler Top.	Serbest. Derecesi	Ort. Kare	F İstatistiği	Anlamlılık Değeri
İkrazda Bulunma Boyutu	Gruplar Arası	15.429	6	2.572	2.659	.016
	Gruplar İçi	276.571	286	.967		
	Toplam	292.000	292			
Ücretli Çalışma Boyutu	Gruplar Arası	13.209	6	2.202	2.258	.038
	Gruplar İçi	278.791	286	.975		
	Toplam	292.000	292			
Tüketim Harcamalarında Bulunma Boyutu	Gruplar Arası	11.422	6	1.904	1.940	.074
	Gruplar İçi	280.578	286	.981		
	Toplam	292.000	292			
Gelir Elde Etme Boyutu	Gruplar Arası	9.572	6	1.595	1.616	.143
	Gruplar İçi	282.428	286	.988		
	Toplam	292.000	292			
Ekip Ruhuyla Hareket Etme Boyutu	Gruplar Arası	10.262	6	1.710	1.736	.112
	Gruplar İçi	281.738	286	.985		
	Toplam	292.000	292			
Helal Kazanç Boyutu	Gruplar Arası	2.713	6	.452	.447	.847
	Gruplar İçi	289.287	286	1.011		
	Toplam	292.000	292			

ANOVA testi sonucunda ikrazda bulunma boyutunda ikamet edilen bölgeye göre anlamlı bir farklılık tespit edilmiştir. İkamet edilen bölgenin homoislamicus davranışın diğer alt boyutları üzerinde anlamlı bir farklılık oluşturduğu görülmüştür. Gelir ile homoislamicus davranışın alt boyutları arasında anlamlı bir farklılık olup olmadığını tespit için ANOVA testi uygulanmış, sonuçlar Tablo 12'de verilmiştir.

**Tablo: 12**  
**Gelir Durumuna İlişkin Anova Tablosu**

		ANOVA				
		Kareler Top.	Serbestlik Derecesi	Ort. Kare	F İstatistiği	Anlamlılık Değeri
İkrazda Bulunma Boyutu (Anderson- Rubin)	Gruplar Arası	7.943	3	2.648	2.694	.046
	Gruplar İçi	284.057	289	.983		
	Toplam	292.000	292			
Ücretli Çalışma Boyutu (Anderson- Rubin)	Gruplar Arası	13.397	3	4.466	4.632	.004
	Gruplar İçi	278.603	289	.964		
	Toplam	292.000	292			

ANOVA testi sonucunda ikrazda bulunma boyutunda ve ücretli çalışma boyutunda çalışanların elde ettikleri gelire göre anlamlı bir farklılık tespit edilmiştir. Gelirin homoislamicus davranışın diğer alt boyutları üzerinde anlamlı bir farklılık oluşturduğu görülmemiştir. Diğer boyutlarda anlamlılık değeri 0.05'in üzerinde çıkmıştır. Bu nedenle tabloda yer verilmemiştir.

Çalışanların medeni halleri ile homoislamicus davranışın alt boyutları arasında anlamlı bir farklılık olup olmadığını tespit için T testi uygulanmıştır. T testi sonucu çıkan anlamlılık değerleri Tablo 13'te verilmiştir.

**Tablo: 13**  
**Medeni Duruma İlişkin Bağımsız İki Örneklem Testi Tablosu**

	Anlamlılık	Bağımlı Değişken
İkrazda Bulunma	0.368	Medeni Durum
Ücretli Çalışma	0.069	
Tüketim Harcamalarında Bulunma	0.671	
Gelir Elde Etme	0.629	
Ekip Ruhuyla Hareket Etme	0.301	
Helal Kazanç	0.934	

Medeni durumun homoislamicus davranışın diğer alt boyutları üzerinde anlamlı bir farklılık oluşturmadığı tespit edilmiştir. Alt boyutlarda anlamlılık değeri 0.05'in üzerinde çıkmıştır. Çalışanların cinsiyetleri ile homoislamicus davranışın alt boyutları arasında anlamlı farklılık olup olmadığını tespit için T testi uygulanmıştır. T testi sonucu çıkan anlamlılık değerleri Tablo 14'te verilmiştir.

**Tablo: 14**  
**Cinsiyet Durumuna İlişkin Bağımsız Örneklem Testi Tablosu**

Faktör Açıklaması	Anlamlılık	Bağımlı Değişken
İkrazda Bulunma	0.336	Cinsiyet
Ücretli Çalışma	0.014	
Tüketim Harcamalarında Bulunma	0.003	
Gelir Elde Etme	0.822	
Ekip Ruhuyla Hareket Etme	0.458	
Helal Kazanç	0.024	

Cinsiyet değişkeninin homoislamicus davranışın ücretli çalışma, tüketim harcamalarında bulunma ve helal kazanç alt boyutlarında anlamlı bir farklılık oluşturduğu görülmektedir. Cinsiyetin ikrazda bulunma, gelir elde etme ve ekip ruhuyla hareket etme alt

boyutları üzerinde anlamlı bir farklılık oluşturmadığı tespit edilmiştir. Alt boyutlarda anlamlılık değeri 0.05'in üzerinde çıkmıştır.

## 7. Sonuç

İktisat biliminde, ekonomik hayatta insanın davranışları "homoeconomicus" kavramıyla ifade edilir. Homoeconomicus, yalnızca kendi çıkarlarını gözeten bencil bir bireyi tanımlar. Ancak, iş hayatında homo-economicus bireylerin varlığı, iş ahlakının sürekliliğini olumsuz etkilemiştir. Ahlaklı bir iş hayatı için homoislamicus davranış sergileyen, ahlaklı bireylere ihtiyaç vardır. Çalışmanın amacı, katılım bankalarında görev yapan çalışanların homoislamicus davranışlarını incelemektir. Bunun için altı boyut (ikrazda bulunma, ücretli olarak çalışma, tüketim harcamalarında bulunma, gelir elde etme, ekip ruhuyla hareket etme ve helal kazanç) ve 40 sorudan oluşan "homoislamicus ölçeği" geliştirilmiştir. Türkiye'nin farklı bölgelerinde çalışan 293 katılım bankası personelinin alınan anketler aracılığıyla toplanan veriler, SPSS26 istatistik programı kullanılarak analiz edilmiştir.

Saha çalışmasının sonuçlarına göre; yaş ve eğitim düzeyinin homoislamicus alt boyutları içerisinde anlamlı bir farklılığa neden olmadığı tespit edilmiştir. Çalışanların, önlisans, lisans ve yüksek lisans seviyesindeki eğitimlerinin; yaş konusunda olduğu gibi, eğitim durumları açısından da bir etkisi olmadığı görülmüştür. Bu da insan kaynağının kurum kültürüne uygun ve homoislamicus davranış özelliği gösterenlerden istihdam edildiğinin bir yansıması olabilir ve eğitim düzeylerinin bu gerçeği değiştirmeyeceği varsayılmaktadır. Mustafa Koç (2010) bu konuyla ilgili çalışmasında eğitim düzeyleri ve dindarlık arasında anlamlı bir farklılık olmadığını tespit etmiş olup, bizim çalışmamızda da bulgularımız aynı yöndedir. Yapılan çalışmada yaş homoislamicus davranışı üzerinde farklılık oluşturmamaktadır. Ancak Taş'ın (2004: 63-83) çalışmasında gençlerde yaşın dindarlık üzerinde etkisi olduğu tespit edilmiştir. Çalışmaya göre dindarlığın sosyal hayat ve ibadet boyutlarının, gençlerde daha yüksek puanda çıktığı görülmüştür. Özellikle 61 yaş üzeri bireylerin dindarlık hassasiyetlerinin daha yukarıda olduğuna rastlanmıştır. Bu sonuç, analizimiz sonuçlarından farklılık göstermemektedir.

Analizler sonucunda, gelir seviyesi arttıkça ikrazda bulunma puanlarının yükseldiği tespit edilmiştir. Anket sonuçlarına göre diğer çalışanlara nazaran aylık ücret düzeyi en yüksek olan grubun homoislamicus puanlarının yüksek olduğu tespit edilmiştir. Bunun nedeninin katılım bankalarında verilen eğitimler, bulunulan ortamın kişinin dini hassasiyetlerini etkilemiş olduğu söylenebilir. Gelir seviyesi artma trendinde olan personelin, aynı zamanda gelirini sosyal sorumluluk ve sosyal yardımlara aktarmasının daha kolay olacağı varsayılmaktadır. Zaten homoislamicus davranışta da bireyin zenginleştiğe çevresine katkı ve destek sağlaması beklenir.

İkrazda bulunma boyutunda unvanlar arasında istatistiksel olarak anlamlı farklılık bulunan grup; müdür ve uzman unvanı taşıyanlardır. Ücretli çalışma boyutunda unvanlar arasında istatistiksel olarak anlamlı farklılık bulunan grup; müdür ve uzman yardımcısı

unvanlarıdır. Helal kazanç boyutunda unvanlar arasında istatistiksel olarak anlamlı farklılık bulunan grup; müdür ve yönetici unvanlarıdır. Müdürlerin her üç grupta da verdiği cevaplar itibarıyla ortalama tutumları daha yüksek görülmektedir. Buna göre; müdür unvanındakilerin katılım bankalarındaki tecrübelerinin, kurum kültürüne daha fazla sahip çıkmaları ve homoislamicus davranış tarzına uyum göstererek kurumlarını benimsedikleri söylenebilir. Bu unvan grubu katılım bankasında aynı zamanda kurum kültürü eğitimi vermeleri dolayısıyla hem teori ve hem de kendilerini bu role adapte ederek yaşantılarında daha fazla homoislamicus davranış uygulamalarına yer vermelerinin söz konusu olduğunu söyleyebiliriz.

Müdür unvanındakilerin kazanç itibarıyla en üst konumda olmalarından dolayı hem sosyal sorumluluk paylaşımları hem işyeri çevresi ve aynı zamanda aile çevresinde, diğer üç unvana göre tercihleri homoislamicus analizimizde, İslami Değerlerle hareket etme çizgisine daha yakın olduğu görülmüştür. Konuyla ilgili, geçmişte TCCD Marmaray kurumunda (Uludağ, 2016) yapılan çalışmada, en üstteki yönetici iş ahlâkı ölçeği ortalama puanı taşıyan grubun, uzman yardımcıları olduğu tespit edilmiştir. Sonrasında bu unvanların; müdür yardımcıları, uzman, müdür, şef şeklinde sıralandığı görülmektedir. En düşük yönetici ahlâk ölçek ortalaması gösteren grubun memurlar olduğu tespit edilmiştir. Bu sonuç katılım bankasında yaptığımız anketten elde ettiğimiz sonuçtan farklıdır. Bu farklılığın potansiyel nedenleri ise; çalışma disiplinleri (İslami veya konvansiyel bakış açıları), istihdam kriterleri ve eğitim politikaları olmakla birlikte, konuya ilişkin ileri araştırma yapılması önerilir.

Bölgelerle ilgili yaptığımız analize göre; Marmara Bölgesi'nin İç Anadolu, Karadeniz ve Doğu Anadolu Bölgelerine göre daha zayıf maneviyata sahip olduğu görülmektedir. Bu durum, Marmara Bölgesi'ndeki katılım bankalarında çalışanların daha yüksek oranda dini hassasiyetleri olan bölgelerden seçilme ihtimalini artırabilir. İstihdam politikalarını bu sonuca göre ayarlayarak, bankaların personel seçim süreçleri üzerinde etkili olabilir. Bu öneri, Marmara Bölgesi'nde dini hassasiyetin artırılmasına yardımcı olabilir ve böylece katılım bankalarının genel performansını iyileştirebilir.

Çalışmamızda, gelir düzeyi yükseldikçe homoislamic davranış puanlarının yükseldiği görülmektedir. Katılım bankalarının bu bulguyu, çalışanlarına daha fazla manevi değerlere dayalı eğitim ve geliştirme programları sunarak kullanabileceği düşünülmektedir. Örneğin, daha yüksek gelir gruplarına hitap eden özel programlar oluşturulabilir, bu programlar manevi değerlere odaklanabilir ve böylece çalışanların iş ahlâkını ve homoislamicus davranışını artırabilir. Kurt'un (2009) çalışmasında gelir yükseldikçe dinden uzaklaşma görüldüğü belirtilmektedir. Oysa bizim çalışmamızdan tam tersine bir netice elde edilmiştir.

Katılım bankalarında çalışanlar üzerinde etkili olacak bir ahlâki ve değerler bazlı "ahlâklı Liderlik Programı'nın" geliştirilmesi ve uygulanması önem arz etmektedir. Bu program, bankacılık sektöründeki karar verme süreçlerine, her adımda İslami değerleri entegre etme amacını taşımalıdır. İslami bankacılığın temel prensiplerine dayalı bir liderlik modelinin, çalışanların faizli bankalara yönelmelerini engelleyeceği düşünülebilir. Ahlâk ve

değerler bazlı liderlik programı, iş yeri kültürünü ve çalışanların davranışlarını şekillendireceği için, ücretin ötesinde motive edici unsurlar sunabilir. Bu tür bir programın, çalışanların faizli bankacılık sistemine karşı duyarlılığını artırabileceği öngörülebilir.

Bankaların çalışanlarına İslami Finans prensipleri çerçevesinde mali eğitimler vermesi ve bu eğitimlerde helal kazanç konusuna odaklanması önerilir. Bu eğitimlerde, faizli ve faizsiz bankacılık arasındaki temel farklılıklar, İslami ekonomisinin temel prensipleri ve helal kazanç ile israftan arınmış tüketimin önemi üzerinde durulabilir. Ayrıca, bu eğitimlerde, çalışanların helal ile haram arasındaki ayrımı daha net anlamalarını sağlayacak İslami etik kuralları hakkında bilgi verilmesi önemlidir. Eğitimlerin bir parçası olarak, çalışanlara İslami bankacılığın sunduğu nimetler ile faydaları ve faizli bankacılığın zararları konusunda gerçek yaşam senaryoları anlatılabilir. Bu tür bir eğitim programı, çalışanların faizli bankacılık sistemine olan ilgisini azaltabilir ve İslami değerlere olan bağlılıklarını pekiştirebilir.

Çalışanların İslami değerlere bağlılıklarını güçlendirmek ve faizli bankacılığa karşı olan duyarlılıklarını artırmak için şeffaf ve hesap verebilir bir iş kültürü oluşturması önerilir. İş yerinde şeffaflığın artırılmasının, çalışanların İslami bankacılığa olan güvenini sağlayacağı ve bunun da faizli bankalara yönelimi azaltacağı söylenebilir.

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