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Executive Summary

The objective of our journal is to publish up-to-date, high-quality, original research papers. In our 53rd issue of the 30th volume, we present twenty-five studies that included socioeconomic-based findings and reviews, which broadly the issue contains research papers. Research papers provide a clear contribution to knowledge in the field with solid theoretical and/or methodological support and give a critical, concise yet comprehensive and contemporary examination of economics in real life and its applications.

The study of Kayakuş is the first article of our issue that deals with the tourism relationship between Covid19, which has quite negative effects in terms of preventing individuals from going out and socialising as an epidemic disease. The study, executed using machine learning methods to analyse the present and predict the future, determined that the most successful strategies in making predictions were ANN, DVR, and MDR. Speaking of the future, it is necessary not to leave behind or ignore the new generation that will form our future. The second study in this issue, conducted on the new generation - Generation Z with a reasonably large collaboration- investigated the relationship between emotional intelligence and depression in 844 university students. It reveals that emotional intelligence reduces depression through life satisfaction. Since a promising future also goes through a sustainable development approach, the third study in this issue is devoted to women, one of the leading actors in sustainable development. This study examines socioeconomic and cultural development and change of women's labour in the context of the evolution of economic thought and development economics.

The expectation that the share of international service trade in global trade will increase to a dominating extent until 2050 in the constantly developing and renewing Finance and Insurance sector makes the fourth study interesting in terms of projections for the future. This article, which analysed 82 middle and high-income countries between 2005 and 2018 within the framework of the Panel Fixed Effect Model, presents that the depth of financial institutions and GDP are the joint driving force in promoting the export of finance and insurance & pension services for both high-income and middle-income countries; meanwhile, foreign investment is an inevitable motivation source for solely middle-income countries. The fifth study by Aras and Yazgan was conducted on the mediating role of communication and performance perception in the effect of organisational culture on information sharing by the surveys of 362 academicians. The following research, by Değer, on the fund accumulation system and ageing finds strikingly that ageing can create unsustainability in savings-based pension systems. While Canöz investigates the role of international financial instruments as hedging or safe-haven assets in the Covid-19 pandemic crisis in terms of investor's sense of fear; Yıldırım examines the research in the field of banking risk management between 2010 and 2020 via social network analysis.

The subject of the ninth article is authentic leadership. In the study, which investigated how employees' job performances in identity, commitment and knowledge management are affected by leadership style, it is determined that the attitudes of their managers affect all factors related to the time spent in the workplace for 306 white-collar professionals. Food safety, predicted centuries ago to become scarce, is discussed in the tenth study of our issue in terms of Turkey. The eleventh study, similarly, evaluates a current issue that touches daily life. Using face-to-face data collected by easy sampling method from 188 passengers who encountered service error during the process of receiving service from airlines; the moderating effects of negative word of mouth communication are investigated in the relationship between the level of dissatisfaction - doing nothing and the level of blame in the relationship between the level of dissatisfaction and change.

The twelfth article is about football economics. Since the purpose is to determine the effects of consumer animosity on boycott motivation through Negative WOM, it is observed in the study's findings that this hostility has a positive and significant impact on motivation. The thirteenth study by Nugroho is titled "*The Relationship between Maqid Sharia and Profitability Ratio in Islamic Banking Sector Performance*", while the fourteenth is titled "*The Effect of Income, Occupation and Education on Household Cigarette Consumption in Turkey*". The previous study revealed specifically in Turkey that occupation, income and education of households directly and strongly affect cigarette consumption. While Erhan Duman discusses the effect of macroeconomic variables on foreign direct investments in the BRICS-T countries in the quarter periods between 2010 and 2021 with panel data analysis as a research topic in his fifteenth article; the sixteenth article, Berçintürk and Yereli are to identify the determinants of fiscal decentralisation in OECD countries between 2000 and 2016 by using the Panel Adjusted Standard Errors method. The seventeenth research, a critical work, argues that the social structure ontology of the New Sociology of Economics, which criticises economics, has broken its bond with society and claims to have re-established this connection, is insufficient. While starting by mentioning the objectives, it should be noted that the eighteenth study aims to determine the effect of the financial consolidation programs implemented in PIIGS countries on private consumption expenditures.

Many studies approach social sciences with different and more entertaining dimensions in this issue. One of them is Hoş's research in which he evaluated artist rights in Canada regarding business relations. Similarly, another study that serves multidimensionality is the research of İnel and Şengüler, which tries to determine brand value through artificial intelligence. Another factor that gained our appreciation as the editorial board for this issue is the effort to increase collaboration among researchers in social sciences. In this context, another multi-collaboration study is the article by Tunç, Nas and Demir in the field of the BTK sector. So much so that Akan and Tepeler's Sharing Economy on the Axis of Sustainability and Trust, the twenty-second work in our issue, is a successful example of bilateral collaboration. It should also be emphasised that fifteen of the twenty-five articles in this issue are studies carried out by researchers in collaboration. In this respect, twenty-three, twenty-four and twenty-fifth studies are collaborative studies.

The twenty-third study of our issue evaluates profit management practices in banks through participation and investment banks. In the analysis made with panel data analysis management, it was determined that banks were engaged in profit management activities by using the special provisions variable in their financial statements, which is a remarkable finding for the field of finance. The last two studies in this issue are devoted to studies related to the energy sector. The twenty-fourth article aims to reveal the factors affecting energy efficiency in Hungary; the closing article of the issue gives a privatisation proposal for the electricity market in the Turkish case in terms of creating a complex-competitive platform.

Dear researchers, scientists and readers, we know that publishing in quality academic and scientific journals like Sosoekonomi is always challenging. However, please let neither waiting time nor a lengthy evaluation process your determination to succeed. No one knows better than you how arduous the road to success is.

We hope you will share our enjoyment and academic pleasure while reading this issue. We are truly grateful for your ongoing interest in our journal.

Sevilay Ece GÜMÜŞ-ÖZUYAR

Editorial Board Member

Editörün Notu

Dergimizin amacı, güncel, kaliteli ve özgün araştırma makaleleri yayınlamaktır. 30. cildimizin 53. sayısında sosyoekonomik temelli bulgu ve incelemeleri içeren yirmi beş çalışma mevcuttur. Araştırma makaleleri, sağlam teorik ve/veya metodolojik destekle alandaki bilgiye açık bir katkı sağlar ve gerçek hayatta ve uygulamalarında ekonominin eleştirel, özlü ancak kapsamlı ve çağdaş bir incelemesini gerçekleştirir.

Salgın bir hastalık olarak bireylerin dışarı çıkmasını ve sosyalleşmesini engellemesi açısından oldukça negatif etkileri bulunan Covid19 ile turizm ilişkisini konu alan Kayakuş'un çalışması sayımızın ilk makalesidir. Bugünü analiz etme ve geleceği tahmin etme için kullanılan makine öğrenme yöntemleri kullanılarak yürütülen çalışmada, tahminleme yapma açısından Avrupa ülkeleri özelinde en başarılı yöntemlerin YSA, DVR ve ÇDR olduğu saptanmıştır. Geleceğimizi oluşturan Z kuşağı üzerine yapılan bu sayının ikinci çalışması, 844 üniversite öğrencisi ile yeni jenerasyonun duygusal zekâ ve depresyon ilişkisi arasındaki sebebi araştırmış ve duygusal zekânın depresyonu yaşam doyumunu aracılığıyla azalttığını saptamıştır. İyi bir gelecek aynı zamanda sürdürülebilir bir kalkınma anlayışından geçtiği için bu sayının üçüncü çalışması ise sürdürülebilir kalkınmada başat aktörlerden biri olan kadına ayrılmıştır. Bu çalışmada iktisadi düşüncenin ve kalkınma iktisadının evrimi bağlamında kadın emeğinin sosyoekonomik ve kültürel gelişimi ve değişimi incelenmiştir.

Sürekli gelişen ve kendini yenileyen Finans ve Sigortacılık sektöründe uluslararası hizmet ticaretinin 2050'lere kadar uluslararası ticaretteki payının önemli ölçüde artacağı beklentisi, dördüncü çalışmayı da geleceği öngörmek açısından ilginç kılmaktadır. 2005 ile 2018 yılları arasında 82 orta ve yüksek gelirli ülkeyi Panel Sabit Etki Modeli çerçevesinde analiz eden çalışmada yüksek gelirli ve orta gelirli ülkeler için finansal kurumların derinliği ve GSYH'nın ortak itici güç olarak finans ve sigortacılık & emeklilik hizmetlerinin ihracatını teşvik ettiği ancak orta gelirli ülkeler için aynı zamanda yabancı yatırımlarının da önemli bir motivasyon oluşturduğu ortaya konulmuştur. Aras ve Yazgan'a ait olan beşinci çalışma, 362 akademisyenden gelen anket sonuçları ile örgüt kültürünün bilgi paylaşımına etkisinde iletişim ve performans algısının aracı rolü üzerinde durulmuştur. Takip eden araştırma ise Deger'e ait olup fon biriktirim sistemi ve yaşlanma üzerinedir ve oldukça carpıcı bir biçimde yaşlanmanın birikim esaslı emeklilik sistemlerinde sürdürülemezlik yaratabileceğini tespit etmiştir. Canöz, Covid19 pandemisi krizinde riskten korunma veya güvenli liman varlıkları olarak küresel finansal araçların rolünü yatırımcının korku hissiyatı açısından araştırırken; Yıldırım 2010-2020 arasında bankacılık risk yönetimi alanındaki çalışmaları sosyal ağ analizi ile incelemiştir.

Dokuzuncu makalenin konusu otantik liderliktir. Çalışanların kimlik, bağlılık ve bilgi yönetiminde iş performanslarının liderlik tarzıyla birlikte nasıl etkilendiğinin araştırıldığı çalışmada, sarsıcı derecede ilgi çekici olan 306 beyaz yakalı profesyonel için yöneticilerinin tutumlarının işyerinde geçirilen zamana dair tüm unsurları etkilediği tespit edilmiştir. Son dönemin önemli konularından biri olan gıda güvenliği ve Türkiye açısından önemli onuncu çalışma ele alınmıştır. Onbirinci çalışma ise yine gündelik hayata dokunan güncel bir konuya temas etmektedir. Havayollarından hizmet aldıkları süreçte hizmet hatası ile karşılaşmış 188 yolcudan kolayda örneklem yöntemiyle yüz yüze toplanan veriler kullanılarak; tatminsizlik düzeyi - hiçbir şey yapmama ilişkisinde suçlama düzeyinin ve tatminsizlik düzeyi-değiştirme arasındaki ilişkide olumsuz kulaktan kulağa iletişimin düzenleyici etkileri araştırılmıştır.

Onikinci makale futbol ekonomisi ile ilgilidir. Amaç, tüketici düşmanlığının boykot motivasyonu üzerindeki etkilerini Negatif Ağızdan Ağıza Ağıt (WOM) ile belirlemek olduğundan, çalışmanın bulgularında bu düşmanlığın söz konusu motivasyon üzerinde olumlu ve anlamlı bir etkisinin olduğu görülmüştür. Nugroho'nun yaptığı onüçüncü çalışma "*İslami Bankacılık Sektörünün Performansında Şeriat Hedefleri ve Karlılık Oranı İlişkisi*" ve on dördüncü çalışma "*Türkiye'de Gelir, Meslek ve Eğitimin Hanehalkı Sigara Tüketimi Üzerindeki Etkisi*" başlığını taşımaktadır. Bahsi geçen son çalışmanın bulguları Türkiye özelinde hanehalkına ait meslek, gelir ve eğitim değişkenlerinin hanedeki sigara tüketimini etkilediğini net bir biçimde ortaya koymuştur. Duman, BRICS-T ülkelerinde 2010-2021 yılları arasındaki çeyrek dönemlerde panel veri analizi ile makroekonomik değişkenlerin doğrudan yabancı yatırımlara etkisini onbeşinci makalede araştırma konusu olarak ele alırken; onaltıncı makalede Berçintürk ve Yereli 2000-2016 yılları arasında OECD ülkelerinde mali yerleşmenin belirleyicilerini Panel Düzeltilmiş Standart Hatalar yöntemini kullanarak tespit etmişlerdir. Onyedinci makale, iktisat bilimini toplumla olan bağı kopardığı gerekçesiyle eleştiren ve bu bağı tekrar kurduğunu iddia ederek sosyal yapı ontolojisinin yetersiz olduğunu ileri sürmektedir. Onsekizinci çalışmanın amacı ise PIIGS ülkelerinde uygulanan finansal konsolidasyon programlarının özel tüketim harcamaları üzerindeki etkisini belirlemek şeklindedir.

Bu sayıda sosyal bilimlere farklı ve daha eğlenceli boyutları ile yaklaşan birden çok sayıda çalışma bulunmaktadır. İşte bunlardan birisi de Hoş'un Kanada'da sanatçı haklarını iş ilişkileri açısından değerlendirdiği

arařtırmasıdır. Benzer řekilde çok boyutluluęa hizmet eden bir dięer alıřma da İnel ve řengüler'in yapay zekâ üzerinden marka deęeri belirlemeye alıřtıęı arařtırmasıdır. Bu sayıda yayın kurumumuzun takdirini kazanan en önemli husus sosyal bilimlerde arařtırmacılar arasında iřbirlięinin artmasına yönelik gayretin sonu vermesi olarak sylenebilir. Bu baęlamda bir dięer oklu iřbirlięi alıřması Tun, Nas ve Demir'in BTK sektr alanında yaptıkları makaledir. yle ki sayımızın yirmiikinci alıřması olan Akan ve Tepeler'in Srdrlebilirlik ve Gven Ekseninde Paylařım Ekonomisi de bu kapsamda bařarılı bir ikili iřbirlięi rneęidir. Zaten bu sayıdaki yirmibeř makalenin onbeři arařtırmacıların birlikte yrttkleri alıřmalarıdır.

Sayımızın yirminc alıřması, bankalarda kâr ynetimi uygulamalarını katılım ve yatırım bankaları üzerinden deęerlendirmektedir. Panel veri ile yapılan analizde bankaların, mali tablolarında yer alan zel karřılıklar deęiřkenini kullanarak kâr ynetimi faaliyetinde buldukları tespit edilmiřtir ki bu finans alanı iin dikkat ekici bir bulgudur. Bu sayının son iki alıřması da enerji sektr ile ilgili alıřmalara ayrılmıřtır. Yirmidrdnc makale Macaristan'da enerji verimlilięini etkileyen faktrlerin ortaya ıkarılması amacını gderken; sayının kapanıř makalesi ise Trkiye rneęinde elektrik piyasası iin zelleřtirme nerisini daha rekabeti bir platform yaratmak aısından deęerlendirmiřtir.

Deęerli arařtırmacılar, bilim insanları ve okuyucular, Sosyoekonomi gibi kaliteli akademik ve bilimsel dergilerde yayın yapmanın ne kadar zor olduęunun her zaman bilincindeyiz. Ancak ne bekleme sresinin ne de deęerlendirme sresinin sizin bařarılı olma kararlılıęınızı etkilemesine izin vermeyin. Bařarıya giden yolun ne derece zahmetli ve meřakkatlı olduęunu sizlerden daha iyi kimse bilemez.

Bu sayımızı okurken aldıęımız zevke ve akademik zevkimize ortak olacaęınızı umuyoruz. Dergimize gsterdięiniz ilgiye samimiyetle minnettarız.

Sevilay Ece GMř-ZUYAR

Yayın Kurulu yesi

Estimating the Changes in the Number of Visitors on the Websites of the Tourism Agencies in the COVID-19 Process by Machine Learning Methods

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COVID-19 Sürecinde Turizm Acentelerinin Web Sitelerindeki Ziyaretçi Sayısındaki Değişimin Makine Öğrenmesi Yöntemleriyle Tahmin Edilmesi

Abstract

In this study, the number of visitors of five different tourism agencies was tried to be estimated by machine learning method using the number of cases and deaths in Europe during COVID-19. Artificial neural network (ANN), support vector regression (SVR), and multiple linear regression (MLR) were used as machine learning models. A model consisting of two independent variables and one dependent variable was created. According to the analysis made according to three different techniques, the most successful results; According to R2, it was seen that ANN, DVR, and MDR, and according to other statistical methods, ANN, MDR, and DVR, respectively.

Keywords : COVID-19 Pandemic, Tourism Agency, Website, Number of Visitors, Machine Learning.

JEL Classification Codes : I10, C53, M30, S46.

Öz

Bu çalışmada COVID-19 süresince Avrupa'daki vaka ve ölüm sayıları bilgileri kullanılarak beş farklı turizm acentesinin ziyaretçi sayısı makine öğrenmesi yöntemiyle tahmin edilmeye çalışılmıştır. Yöntem olarak makine öğrenmesi modellerinden yapay sinir ağları (YSA), destek vektör regresyonu (DVR) ve çoklu doğrusal regresyon (ÇDR) kullanılmıştır. İki bağımsız değişken ve bir bağımlı değişkenden oluşan model oluşturulmuştur. Üç farklı tekniğine göre yapılan analize göre en başarılı sonuçların; R2'ye göre YSA, DVR ve ÇDR, diğer istatistiksel yöntemlere göre de sırasıyla YSA, ÇDR ve DVR olduğu görülmüştür.

Anahtar Sözcükler : COVID-19 Salgını, Turizm Acentesi, Web Sitesi, Ziyaretçi Sayısı, Makine Öğrenmesi.

1. Introduction

Undoubtedly, the Internet is an effective distribution channel for consumers (Wan, 2002). The Internet has changed individuals, companies, and organisations' daily lives and information search methods. Also, the Internet's validity as a tool for advertisement and marketing has been proven (Kasavana et al., 1998).

The Internet's infinite opportunities have made it one of the crucial issues of today's tourism perspectives. The 24/7 service of the Internet available worldwide is a great advantage for tourism (Kotler et al., 2017). Moreover, other advantages brought by the Internet are its speed and relatively low cost, enabling independent operators to have access to world markets and offering the opportunity of distribution (O'Connor, 1999). The Internet provides an ever-increasing travel and tourism resource that includes a broader user base and potential users. In general, the Internet can be used in tourism in two ways: firstly, as a data source where the user has access to sources to obtain information, and secondly, to facilitate marketing and business transactions (Walle, 1996). The Internet has changed the planning, controlling, running, and integration of most business activities in the accommodation industry, including marketing activities (Kasavana et al., 1998).

A website is a form of direct contact between the travel agency and the customers, and therefore, it provides direct sales and communication channels (Cunliffe, 2000). Web-based marketing offers five advantages: Global coverage and access, convenience/fast transaction process, efficiency and flexibility in information processing, data-based management and relationship skills, and lower cost of sales and distribution (Rosenbloom et al., 1999). Therefore, tourism agencies that wish to increase sales and establish interactive communication with the customers develop their websites and mainly carry out their activities in this manner (Pulliam, 1999).

According to a report prepared by the World Tourism Organization Business Council (2001), approximately 70% of travellers used online travel agencies and called or visited tourism offices less. Besides, about 70% of the travellers who used the Internet reported that they directly called airline companies less. Approximately 60% stated that they called car rental companies and accommodation companies directly less and ordered travel brochures less by phone (So & Morrison, 2004).

The world faces a new coronavirus outbreak spread to 260 countries or regions (World Health Organization, 2020). The World Health Organization (WHO) announced an internationally crucial emergency for health epidemically on January 30, 2020. Also, it declared a pandemic on March 11, 2020. COVID-19 is not limited to losing human lives. It also has short- and long-term social, economic and political implications (Farzanegan et al., 2020).

While COVID-19 is terrorising the whole world, many countries and regions introduced travel restrictions and border closures to stop the spread of the virus. It was also

claimed that the appearance of infectious diseases is a natural result of global tourism and mobility (Richter, 2003). There are many studies on crises affecting tourism (Aliperti et al., 2019; Cró & Martins, 2017; Sio-Chong & So, 2020; Wang, 2009). The COVID-19 pandemic has simultaneously affected a few countries' economic growth and welfare, along with severe consequences for international tourism (Gössling et al., 2020).

There are numerous studies in which artificial intelligence techniques were used to estimate tourism demand. Law et al. employed deep learning methods SVR and ANN models for tourism demand estimation (Law et al., 2019). Andrew et al. conducted a study on estimating hotel occupancy rates through time series models (Andrew et al., 1990).

In the study they conducted, Faranegan et al. found a significant and positive relationship between the cumulative cases and death numbers resulting from COVID-19 and the previous tourism records by using the data obtained from 90 countries and performing a multiple regression (Farzanegan et al., 2020).

Polyzos et al. designed a machine learning method to estimate the effect of the new coronavirus outbreak on the tourists from China arriving in the United States of America and Australia. They used data from the SARS outbreak in 2003 to train a model called Long Short-Term Memory (LSTM) based on artificial neural networks. The LSTM was calibrated for the details of today's pandemic (lockdowns, flight prohibition, etc.). As a result of the study, it was revealed that it would take 6 to 12 months to return to pre-pandemic levels and that this situation would have adverse and significant effects not only on the tourism industry but also on other sectors that are in interaction with it (Polyzos et al., 2020).

This study estimated the daily number of visitors visiting tourism agencies' websites using the current number of cases and deaths from the daily COVID-19 statistical data in Europe. The tourism agencies selected in the study are booking.com, tripadvisor.com, agoda.com, hotels.com and kayak.com. The websites of the five most visited tourism agencies were selected. The most important factor in his selection was the number of daily visitors. The estimation method, support vector machine, multiple linear regression and artificial neural networks method were used among the machine learning methods.

2. Data and Methodology

The study used the daily case and death numbers in 54 European countries retrieved from An Agency of the European Union (EU Agency) as the independent variable (European Union Agency, 2020). Although many tourism agencies have websites, five sites with the highest number of visitors were selected in the study. The main factor in the agencies chosen is the number of daily visitors and interactions. The website's daily visitor information was obtained from websiteiq.com (websiteiq.com, 2020). Multiple linear regression and artificial neural network methods were used among machine learning methods to estimate the number of visitor support vector machines, and the results were comparatively analysed. For the

application and analyses of artificial intelligence techniques, the Knime program was chosen.

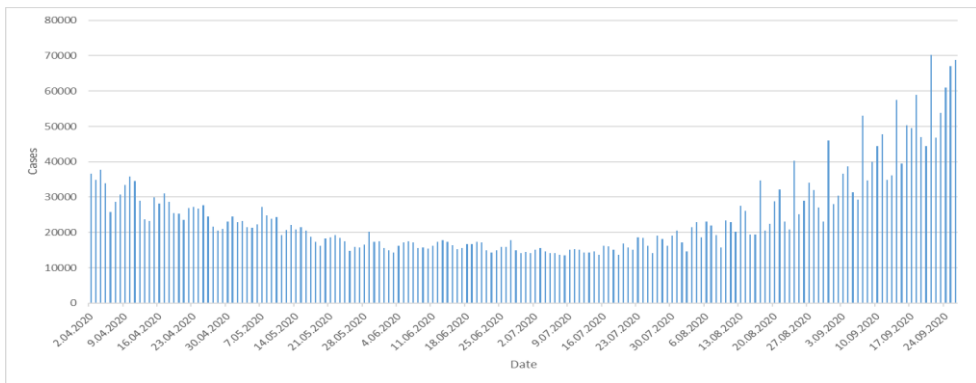
2.1. Data Set

The study investigated how the COVID-19 data affected the number of visitors visiting the websites of tourism agencies, and by using these data, the number of visitors was estimated through machine learning methods. The study estimated the number of visitors to 5 big tourism agencies' websites using 178-day COVID-19 data in Europe between 02.04.2020 and 26.09.2020.

In the study, the number of data was increased by dividing the same data samples into different groupings using the cross-validation method. In this method, initially, the data are randomly separated as testing and training data. While the training data are used in the establishment stage of the model, the testing data are not used in modelling, and the model's validity is tested over this new data set (Bishop, 1995; Temel et al., 2012).

As the study's independent variable, the numbers of cases and deaths obtained from "An Agency of the European Union" were used (EU Agency, 2020, 2020). In Figure 1, the change in the number of daily cases caused by European COVID-19.

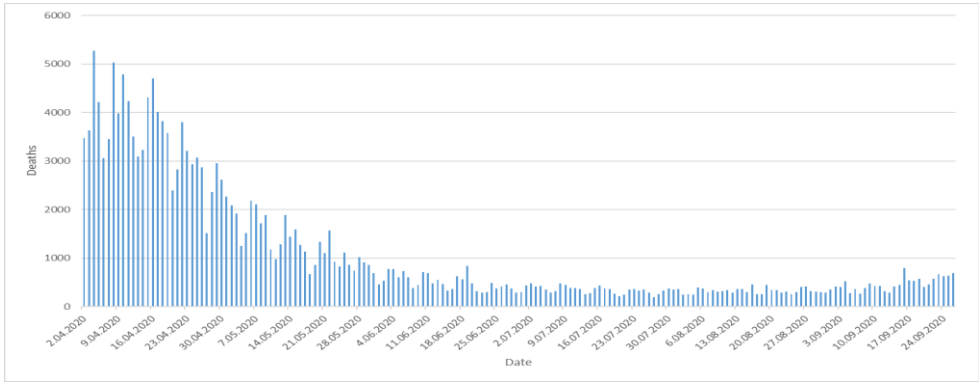
Figure: 1
Number of Daily Cases in Europe



(EU Agency, 2020)

Figure 2 shows the change in the number of daily deaths caused by COVID-19 in Europe graphically.

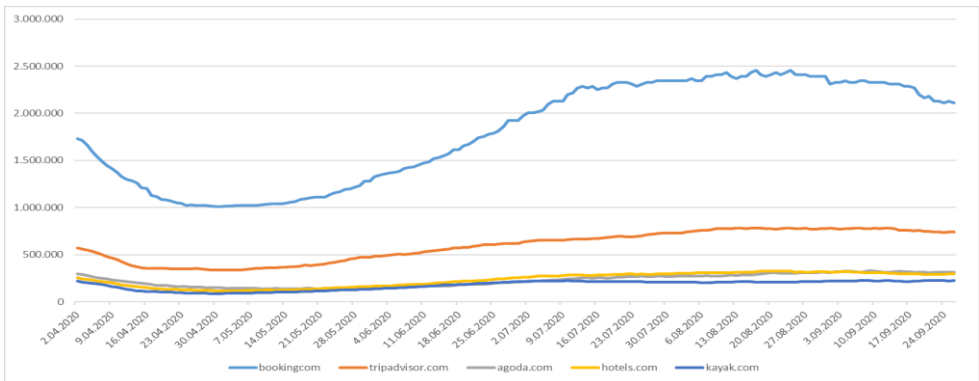
Figure: 2
Change in Daily Deaths Related to COVID-19



(EU Agency, 2020)

As the dependent variable, five big tourism agencies whose daily visitor numbers are over 170.000 on average were determined. The website's average daily website visitors were 1.799.132 visitors for booking.com, 591.288 visitors for tripadvisor.com, 227.451 visitors for agoda.com, 233.206 visitors for hotels.com, and 176.193 visitors for kayak.com (websiteiq.com, 2020). Figure 3 shows the change in the five tourism agencies' daily visitor numbers during the study period.

Figure: 3
Five Tourism Agencies' Daily Visitor Numbers



(websiteiq.com, 2020)

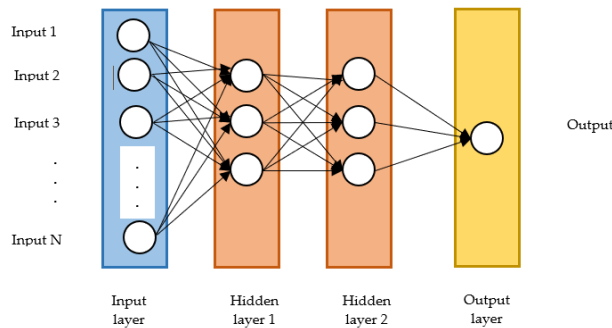
2.2. Artificial Neural Network

The artificial neural network (ANN) method was first used in tourism demand forecasting in the 1990s. Artificial neural networks are used in many applications in tourism

management and marketing, such as estimating tourists' preference activities and behaviours, estimating the demand, and analysing guest loyalty (Bloom, 2005). It is seen that ANN mostly outpaced the multiple regression models and time series in estimating issues related to tourism (Law, 2000; Law & Au, 1999; Pattie & Snyder, 1996).

Artificial neural networks are named after the nerve cell networks in the brain. Artificial neural networks are designed to bring together the neurons' basic properties in the brain and process the data similarly to a human's brain. An artificial neural network is a mathematical function that calculates the output variable depending on the input variable (Kim et al., 2003). In another definition, the structure and functioning of artificial neural networks can be defined as data processing systems inspired by biological neural. (Palmer et al., 2006). An ANN is generally made up of numerous processing elements, known as neurons, organised into layers, as seen in Figure 4.

Figure: 4
Artificial Neural Networks



The first neuron, called the input layer, directly depends on the input vector. The purpose of the input layer is to provide data from the outside world to the network. The last layer, called the output layer, produces an output signal. Hidden layers are between the input layer and the output layer (Lippmann, 1988). Hidden layers create models for nonlinear relationships between inputs and outputs (Klimasauskas, 1992). One of the essential points to be considered in the architecture of ANN is the choice of the hidden layer structure. Although there have been efforts to develop guidelines for deciding on the most suitable hidden layer and the number of nodes, there is no standard procedure, and it is still a matter of trial and error (Hill & Remus, 1994). Each neuron is connected to other neurons by connections, each with a numerical value known as “weight” (Palmer et al., 2006).

Each neuron receives inputs (x_1, x_2, \dots, x_n) attached with a weight indicating the connectivity power of that neuron for each connection (Hill & Remus, 1994). Input variables are multiplied by the corresponding weight values of the neuron connection. A bias (b_i) can

be expressed as a connection weight type that has a constant value different from zero that is added to the total of the inputs (Murat et al., 2014). In line with this information, the neural network model is established as:

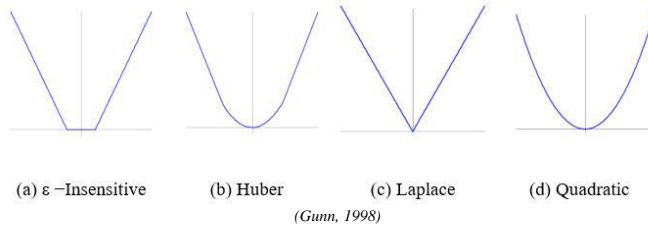
$$u_i = \sum_{j=1}^n w_{ij}x_j + b_i \quad (1)$$

ANNs are based on two types of architecture: feed-forward and backpropagation neural networks. The feed-forward network structure refers to a one-way flow and data processing, which allows each node to receive information only from the previous neuron. On the other hand, the backpropagation neural network is a two-way data processing method. In this method, each node receives information from the previous layer and allows the feedback to be transmitted to the next layers (Tsaur et al., 2002).

2.3. Support Vector Regression

Support Vector Machines (SVM) is a machine learning method used for classification and regression developed by Vapnik (Vapnik, 2013). Support vector machines, an algorithm based on statistical learning methods, are designed to provide a solution for limited quadratic programming and a global optimisation problem (Chen et al., 2015). It can also be applied to regression problems by adding an alternative loss function to SVMs (Smola & Schölkopf, 1998). The loss function should be changed to include a margin measurement. Figure 5 shows lost parts.

Figure: 5
Loss Functions



The quadratic loss function corresponds to the traditional least-squares error criterion. The Laplacian loss function is less susceptible to outliers than the quadratic loss function. If the data's primary distribution is unknown, Huber is suggested as a proper loss function with the most suitable properties (Gunn, 1998).

Support vector regression has started to be used as a powerful approach to estimate and solve linear and non-linear systems with the appearance of Vapnik's ϵ -insensitive loss function (Lijuan & Guohua, 2016).

Given a data set as in Equation 2:

$$D = \{(x^1, y^1), \dots, (x^l, y^l)\}, x \in R^n, y \in R \quad (2)$$

A linear support vector regression:

$$y = f(x) = \langle w, x \rangle + b \quad (3)$$

A functional minimum provides optimal regression function:

$$\Phi(w, \xi) = \frac{1}{2} \|w\|^2 + C \sum_i (\xi_i^- + \xi_i^+) \quad (4)$$

Where, the value of C is predetermined. ξ^- and ξ^+ represent the upper and lower limitations on the system's outputs.

Like classification problems, a nonlinear model is often used to model data. A non-linear mapping can be used to map the data into a high dimensional feature space where linear regression is performed. A non-linear SVR solution which uses X-Insensitive (ϵ -insensitive) loss function is given by,

$$\underbrace{\max}_{\alpha, \alpha^*} W(\alpha, \alpha^*) = \underbrace{\max}_{\alpha, \alpha^*} \sum_{i=1}^l (y_i - \epsilon) - \alpha_i (y_i + \epsilon) - \frac{1}{2} \sum_{i=1}^l \sum_{j=1}^l (\alpha_i^* - \alpha_i) (\alpha_j^* - \alpha_j) K(x_i, x_j) \quad (5)$$

$$0 \leq \alpha_i, \alpha_i^* \leq C, i = 1, \dots, l \quad (6)$$

$$\sum_{i=1}^l (\alpha_i - \alpha_i^*) = 0 \quad (7)$$

Solving Equation 5 with Equations 6-7 determines Lagrange multipliers and α_i, α_i^* , and the regression function:

$$f(x) = \sum_{SVs} (\bar{\alpha}_i - \bar{\alpha}_i^*) K(x_i, x) + \bar{b} \quad (8)$$

where,

$$\langle \bar{w}, x \rangle = \sum_{i=1}^l (\alpha_i - \alpha_i^*) K(x_i, x_j) \quad (9)$$

$$\bar{b} = -\frac{1}{2} \sum_{i=1}^l (\alpha_i - \alpha_i^*) (K(x_i, x_r) + K(x_i, x_s)) \quad (10)$$

If b contains is in the Kernel function and the Kernel contained a bias term, equality constrained can be left out, and the regression function:

$$f(x) = \sum_{i=1}^l (\bar{\alpha}_i - \bar{\alpha}_i^*) K(x_i, x) \quad (11)$$

Optimisation principles for other loss functions can similarly be achieved by replacing the internal multiplication with a kernel function.

2.4. Multiple Linear Regression

A mathematical model is used to explain the relationship between two (simple regression) or more variables (multiple regression), and this model is called the regression model. The dependent variable is sometimes referred to as estimation or response, while independent variables are called estimators (Mata, 2011).

A simple linear regression represents the relationship between the dependent variable y and the independent variable x , as shown in Equation 12.

$$y_i = \beta_0 + \beta_1 x_i + e_i, i = 1,2,3, \dots, n \quad (12)$$

Using the least-squares method, the best fitting line can be obtained by minimising the sum of the squares of the vertical distance from each data point over the line (Brown, 2009). According to the multiple regression model, a dependent variable correlates with two or more independent variables.

$$y_i = \beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \dots + \beta_p x_{pi} + e_i, i = 1,2,3, \dots, n \quad (13)$$

β_0 is constant, and when all explanatory variables are 0, it will be the foreseen value of y . In a model with ρ explanatory variables, each explanatory variable will have its β coefficient (Grégoire, 2014).

The least-squares method estimates the regression coefficients in a multiple regression analysis.

2.5. Performance Analysis Methods

To measure the success of the predictions made, the Coefficient of Determination (R^2) in Equation 14, Mean Squared Error (MSE) in Equation 15, Root Mean Squared Error (RMSE) in Equation 16 and Mean Absolute Error (MAE) in Equation 17 were used.

$$R^2 = 1 - \frac{\sum(y_i - x_i)^2}{\sum(y_i - y_{ave})^2} \quad (14)$$

$$MSE = \frac{1}{n} \sum_{i=1}^n (y_i - x_i)^2 \quad (15)$$

$$RMSE = \sqrt{\frac{1}{n} \sum_{i=1}^n \left| \frac{y_i - x_i}{y} \right|^2} \quad (16)$$

$$MAE = \frac{\sum_{i=1}^n |y_i - x_i|}{n} \quad (17)$$

$$MAPE = \frac{\sum_{i=1}^n \left| \frac{y_i - x_i}{y_i} \right|}{n} \cdot 100 \quad (18)$$

where y_i is the observation value and x_i is the predicted value, y_{ave} average of observation values.

MAE and RMSE measure the errors that give a general idea about the difference between the observed and modelled values. MBE shows whether the observed concentrations were overestimated or underestimated. According to these criteria, high R2 and low MAE, MSE, RMSE, and MAPE values identify a model that fits well.

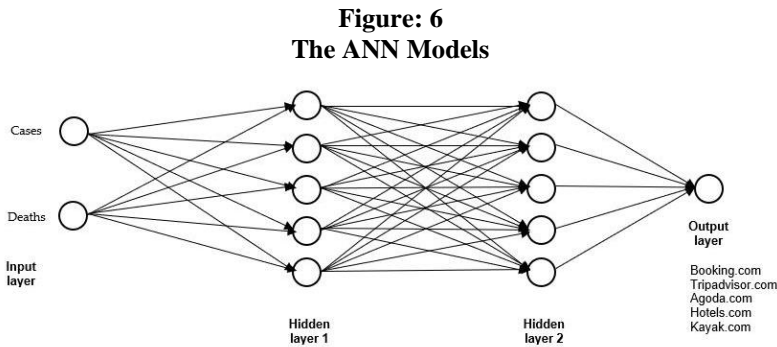
3. Results and Discussion

The study used 178-day COVID 19 cases and visitor numbers of data covering the period between April 2 and September 26, 2020, in Europe. The data are normalised between 0 and 1 by transferring them in Excel format into the program and using the decimal scaling method in the first place. In this method, the normalisation process is performed by moving the decimal points of the data. To normalise the data using the decimal scaling method, each data is divided by the maximum absolute value of the data. v_i of the data is normalised as v_i' by Equation 10:

$$v_i' = \frac{v_i}{10^j} \tag{19}$$

Here, j is the smallest integer, $\max_i(|v_i'|)$ being <1 .

In an artificial neural network model, 70% of the data are chosen randomly for testing purposes and 30% for training purposes, and they are transferred to the designed network. An ANN is modelled to have 10.000 iterations, 2 hidden layers, and 5 neurons in each hidden layer. While creating the model, the parameters were determined to obtain the highest performance for each dependent variable. The ANN model created is seen in Figure 6.



Statistical results of tests performed with artificial neural networks are shown in Table 1.

Table: 1
Performances of ANN Method

Independent variables	R2	MSE	RMSE	MAE	MAPE
booking.com	0,832	0	0,022	0,015	0,089
tripadvisor.com	0,870	0,003	0,058	0,037	0,073
agoda.com	0,769	0,001	0,031	0,021	0,102
hotels.com	0,863	0,001	0,027	0,019	0,091
kayak.com	0,705	0,001	0,025	0,190	0,097

The fact that the R2 value is 1, which shows how well the data fit into a linear curve, indicates that the test data provides a linear curve. The RMSE value used to find the distance between predicted and actual values is zero, which means that the model has made no mistakes. Therefore, RMSE is desired to be close to zero. MSE shows how close a regression curve is to a few points. Estimate models close to zero can be said to be more successful. MAE is a magnitude that indicates the difference between two continuous variables. In other words, it shows the average vertical distance between the actual value and the line that best fits the data. Low MAE indicates the success of the forecast model (Kayakuş, 2021). Forecast models with MAPE values below 10% are considered models with a "high accuracy" or "very good" accuracy rating (Lewis, 1982; Witt & Witt, 1992). According to these criteria, high R2 and lowest RMSE, MSE and MAE values determine the most successful model.

According to the ANN method, the R2 value in estimating the visitor numbers of tourism agencies was determined to be 0,870 maximum and 0,705 minimum. The results can generally be considered successful. The MSE values being very close to 0 in the study shows the ideal number. The RMSE values are desired to be close to 0, and in the study, it was determined to be in the range of 0,022 - 0,058, which is very close to the desired value. For MAE and MAPE, the lowest values are accepted as ideal values. In the study, MAE took values between 0,015 and 0,190, and MAPE took values between 0,073 and 0,102, which are close to the ideal values.

In the MLR method, 2 independent variables were used in the input, and 178-day data were used to calculate each independent variable's value. Table 2 shows the performances of each independent variable according to the MLR method.

Table: 2
Performances of MLR Method

Independent variables	R2	MSE	RMSE	MAE	MAPE
booking.com	0,436	0,002	0,040	0,036	0,233
tripadvisor.com	0,55	0,012	0,109	0,092	0,180
agoda.com	0,273	0,003	0,054	0,044	0,209
hotels.com	0,426	0,002	0,049	0,044	0,219
kayak.com	0,416	0,003	0,056	0,05	0,260

According to the MLR method, the R2 value in the visitors' estimation of the websites of the tourism agencies was determined as 0,55, the highest, and 0,273, the lowest. The results were obtained even under the desired values. The MSE values are acceptable in the study as they were close to 0. The RMSE value is expected to be close to 0. Accordingly, in

the study, it was within the range of 0,040 and 0,109, which is relative to the desired value. MAE took values between 0,015 and 0,190 in the survey, while MAPE was determined between 0,180 and 0,260. The lowest values are accepted as ideal values for MAE and MAPE. It was seen in the study that these values were close to the desired values.

As the SVR method, the non-linear method was used in the study. It gave the most successful result because of the tests performed; Radial Basis Function (RBF) was preferred as the Kernel function. Different combinations were tried for C and ϵ , which are SVR parameters; consequently, as the best performance was obtained with ϵ 0,01 and C 500, they were decided to be used. In Table 3, the performances of each independent variable according to the SVR method are presented.

Table: 3
Performances of the SVR Method

Independent variables	R2	MSE	RMSE	MAE	MAPE
bookingcom	0,910	0,107	0,328	0,213	0,296
tripadvisorcom	0,654	0,384	0,619	0,366	0,613
agoda.com	0,449	0,608	0,780	0,418	1,317
hotels.com	0,719	0,332	0,576	0,343	1,854
kayak.com	0,599	0,469	0,685	0,411	1,165

According to the SVR method, in estimating the number of visitors to the tourism agencies' websites, the R2 value was determined as 0,910 maximum and 0,449 minimum. The results can vary according to the tourism agencies' data, and some results yield the desired and undesired values. As MSE values are expected to be close to 0, some values obtained in the study were far from the desired values. The RMSE value is also wanted to be close to 0, and in the study, it was seen that the RMSE values ranged between 0,328 and 0,780, and some agencies took the desired value. It was determined in the study that MAE ranged between 0,213 and 0,418, and MAPE took values between 0,296 and 1,854. For MAE and MAPE, the lowest values are accepted as the ideal. The study showed that MAE was close to desired values, while MAPE was far from desired ones.

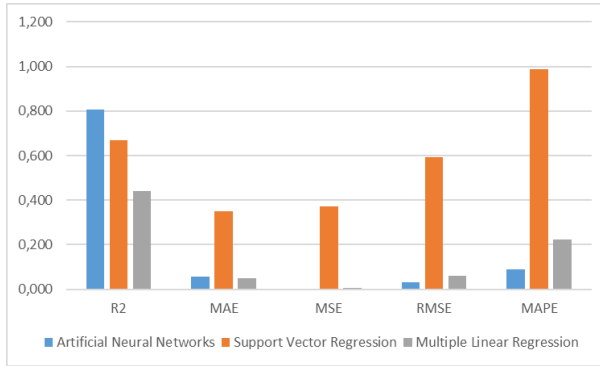
The average statistical results of the tests performed according to three different analysis techniques are presented in Table 4.

Table: 4
The Average Statistical Results of Three Different Techniques

Test techniques	R2	MSE	RMSE	MAE	MAPE
Artificial neural networks	0,808	0,001	0,033	0,056	0,090
Support vector regression	0,670	0,371	0,593	0,349	0,987
Multiple linear regression	0,442	0,004	0,058	0,051	0,222

Figure 7 is the graphic representation of the test results presented in Table 5.

Figure: 7
Average Test Results



When the results of the analyses performed in line with three different artificial intelligence techniques were examined, it was seen that the most successful results were obtained with ANN, SVR, and MLR for R2, and with ANN, MLR, and SVR for MAE, MSE, RMSE, and MAPE, respectively.

4. Conclusion

The COVID-19 pandemic affects people's health and economies and changes their social and cultural habits. In the study, using the cases and death numbers from the COVID-19 data in Europe, their effects on the number of visitors to the tourism agencies' websites and the relevant changes were estimated.

Tourism agencies are intermediaries between consumers, travel companies, and hotels. Especially recently, with the developments in the Internet, tourism agencies have directed their activities towards the worldwide web and increased their investments in this area. Today, many people get information from tourism agencies using internet sites rather than face-to-face or telephone service to make their reservations, purchase and cancel transactions.

This study researched the effect of COVID-19 on people visiting tourism agencies. Three different machine learning methods support vector regression, multiple linear regression and artificial neural networks were employed in the study, and their success rates were compared. The study results show a correlation between the changes in the number of cases and deaths and people visiting tourism agencies' websites.

The study distinguishes itself from other studies on estimating tourism data. It used the COVID-19 data and the information on the visitors of the websites of tourism companies.

With this study, it will be possible to predict how the websites of tourism agencies will be affected if the outbreak lasts for a long time or if a similar outbreak is encountered. Thus, tourism agencies and hotels can be prevented from receiving based on factual information.

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For Generation Z: What Is the Underlying Reason Between Emotional Intelligence and Depression Relationship?

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Z Kuşağı İçin: Duygusal Zekâ Özelliği ve Depresyon İlişkisinin Arkasında Yatan Sebep Nedir?

Abstract

Exploring the individual characteristics of Generation Z becomes crucial with this generation's increasing number and significance in business life. This study investigates the mediating role of life satisfaction on emotional intelligence and depression linkage. It examines whether the mediating role is contingent upon Generation Z's majors (STEM/non-STEM) and gender. The universe was Generation Z university senior students. Data were gathered via an online survey (emotional intelligence, life satisfaction, depression scales) from 844 university students. Findings reveal that emotional intelligence decreases depression via life satisfaction. Gender moderated this relationship so that the mediating role of life satisfaction was more pronounced in female Generation Z.

Keywords : Generation Z, Emotional Intelligence, Life Satisfaction; Depression.

JEL Classification Codes : I23, I31, J10.

Öz

Z Kuşağı'nın iş hayatında artan sayıları ile birlikte öneminin de anlaşılması, bu kuşağa ilişkin bireysel özelliklerin araştırılmasını gerektirmiştir. Bu çalışma, yaşam doyumunun duygusal zekâ ile depresyon arasındaki ilişki üzerindeki aracı rolünü araştırmakta ve aracılık etkisinin Z Kuşağı olan katılımcıların üniversite alanlarına (STEM/STEM dışı alan) ve cinsiyetlerine göre farklılık gösterip göstermediğini incelemektedir. İş hayatına adım atacak olan Z kuşağı üniversite son sınıf öğrencilerinin evreni oluşturduğu çalışmada veriler, çevrimiçi anket ile (duygusal zekâ, yaşam doyum, depresyon ölçekleri) 844 lisans öğrencisinden toplanmıştır. Bulgular, duygusal zekanın depresyonu yaşam doyumunu aracılığıyla azalttığını ortaya koymaktadır. Yaşam doyumunun aracılık rolünün kadın Z Kuşağı'nda daha belirgin olduğu tespit edilmiştir.

Anahtar Sözcükler : Z Kuşağı, Duygusal Zekâ, Yaşam Doyumu, Depresyon.

1. Introduction

For the first time in history, five generations are active in business life: Traditionalists (1900-1946), Baby Boomers (1947-1964), Generation X (1965-1980), Generation Y (1981-1995) and Generation Z (1996-Present) (Oblinger & Oblinger, 2005). Generational cohort theory identifies that experiences and events combine individuals within each group with similar beliefs, values and attitudes, which set them apart from other cohort groups (Inglehart, 1977). The generational differences among the first four generations have been broadly discussed in academic research, conferences, popular media and business-oriented books (Oh & Reeves, 2011; Wasserman, 2007). What about the newest generation (also known as Generation Z, Gen Z, Gen Zers)¹ who is currently (and will be soon) entering the job market? Gen Z should be viewed as leaders of tomorrow. Gen Z is bright as they can process a large amount of material and information rapidly but cannot process the information emotionally (Nagy & Székely, 2012). Research suggests that Gen Z teenagers differ in terms of emotional intelligence from other age cohorts (Gentina et al., 2018).

Emotional intelligence is identified as the ability to sense emotions and emotions to improve thinking capabilities (Mayer & Salovey, 1997). There are two main approaches to studying emotional intelligence: ability and trait models. The former describes emotional intelligence as a set of capabilities for the emotional expressions, regulation and utilisation of emotions in the process of acting and thinking (Mayer & Salovey, 1997). The latter takes a narrow approach to emotional intelligence, including traits, social skills and dispositional behaviour (Petrides & Furnham, 2000). The trait emotional intelligence approach engages in personality variables such as optimism, impulsivity and empathy. Trait emotional intelligence involves constructs that have potential correlates such as happiness, motivation and self-awareness. In contemporary research, both the measures of ability and trait emotional intelligence have been proven to have predictive validity (Mikolajczak et al., 2007; O'Connor & Little, 2003).

Trait emotional intelligence is an important predictor of real-life outcomes. It has become a widespread interest in academic and psychological research in recent years due to its relationships with subjective well-being (Mavroveli et al., 2007), job satisfaction (Kafetsios & Zampetakis, 2008), organisational commitment (Petrides & Furnham, 2006), academic achievement (Mohzan et al., 2013) and stress (Ciarrochi et al., 2002). Another area of study where the effect of trait emotional intelligence might be influential is depression. For a long time, much research has been applied to investigate and understand the major causes of depression. Although the negative relationship between trait emotional intelligence and depression has been well reported (Davis & Humphrey, 2012; Salguero et al., 2012) underlying process of this relation, specifically for Gen Z, is inconclusive. Hence, the research question which intrigues the researchers arises: How does Gen Zers' trait emotional intelligence affect their depression levels?

¹ "Gen Z" and "Gen Zers" phrases are used interchangeably in the current study.

Theoretically, emotional intelligence is associated with numerous essential human values, such as the quality of social and interpersonal relationships and life satisfaction (Bar-On, 2010). Trait emotional intelligence and life satisfaction are important resources for enhancing students' learning, success and quality of education (Salami, 2010). Research with self-report measures has found positive correlations between trait emotional intelligence and life satisfaction (Ciarrochi et al., 2002). Life satisfaction has been associated with negative, depressive symptoms (Davis & Humphrey, 2012).

This study aims to propose and test an integrative model examining the mediating role of life satisfaction on the relationship between trait emotional intelligence and depression with a focus on Gen Z. The study focuses on discovering the fundamental components of Gen Zers in the self-perceptions form. The conceptual model proposes that high levels of trait emotional intelligence in Gen Zers will subsequently lead to reduced levels of depression via enhancing their life satisfaction. The theoretical rationale for the proposed model can be found in positive psychology movement theory (Fredrickson, 2001; Seligman and Csikszentmihalyi, 2000), which argues about the circumstances and practices that contribute to the thriving and/or the ideal functioning of groups and people in the society (Gable and Haidt, 2005). Accordingly, when the individuals engage in positive thinking (e.g., via trait emotional intelligence) and feel a deeper sense of happiness (e.g., via life satisfaction), they minimise their preoccupation with the tragic and stressful side of life events (e.g., abstain from depression) and experience subjective well-being (Seligman & Csikszentmihalyi, 2000). Thus, this study will contribute to the positive psychology movement theoretical framework and emphasise the merit of trait emotional intelligence as a promoter and facilitator in life satisfaction, which helps reduce depression in Gen Z.

The majority of the Gen Z population consists of students. Therefore, the present study's sample comprises undergraduates studying at universities. We believe that demographic variables like gender (Petrides & Furnham, 2000) and major fields (Chen & Weko, 2009) might play considerable roles in trait emotional intelligence-depression linkage. Hence, the second purpose of this research is to examine the moderating roles of gender and major fields, such as STEM (Science, Technology, Engineering, and Mathematics) and non-STEM (Social Sciences), on the proposed mediated model. In this regard, this research will contribute to the literature by fulfilling the calls of several authors to further research on the gender differences in trait emotional intelligence among different majors by recruiting samples of sufficient size and additional faculties (e.g., business and management, engineering) (Sanchez-Ruiz et al., 2010).

Gen Z's emotional profiles, beliefs, values and attitudes might differ across countries and cultures (Yüksekbilgili et al., 2015). As the present study focuses on Gen Z, the first common characteristics of this target generation in the international and the national context will be discussed before the theoretical framework and hypotheses.

Gen Z: International versus Turkish Context

The new generation, born between 1996 and 2010, is known by various names: Generation Z, Gen Z, Gen Zers, the I-Generation, Gen Tech, Digital Natives, New Silent, iGen and the Post-Millennial (Csobanka, 2016). In the U.S., there are approximately 61 million Gen Zers, a larger group than Generation X and two-thirds of Baby Boomers (Tickell, 2018). Gen Zers were born and raised in the heart of technology. In terms of the international context, Gen Z witnessed various historical and economic events, the technology revolution being the most influential, such as Iraq/Afghanistan war, the Tsunami disaster in Asia, Wikileaks, Arab Spring, Syrian refugees, and ISIS. They were born in a world marked by terrorism (post 9/11) and an unstable economic context.

Gen Zers are innovative and think of themselves as the creators of a novel society with greater recognition and tolerance of diverse sexes, races and religions. Their characteristics are marked by their independence, innovativeness, mobility and flexibility level. Gen Zers lack interpersonal skills due to their interest in technology (Bejtkovský, 2016). As Gen Zers are social media savvy, most suffer from chronic sleep deprivation (Nagy & Székely, 2012). Gen Z is a multi-tasker and concerned about the environment. Gen Zers are less likely to develop social skills that lead to intimate and genuine interpersonal relationships due to their technological addiction when compared to the Traditionalists, Baby Boomers and Generation X. When compared with the older generations; it is much harder to educate, train and direct Gen Z employees as this generation is not so good in the social interactions. Gen Zers are intelligent, self-motivated, and able to process information at a rapid speed (Seemiller & Grace, 2016). Gen Zers have a more realistic point of view in terms of life events. They are more aware of the opportunities due to technological advancements than the previous generations (Cho et al., 2018). Gen Zers are also known for their importance in defending others' rights and their own. This generation aims to make a radical positive social change in the world (Csobanka, 2016). Furthermore, this generation is considered to have low levels of organisational commitment in the workplace. Gen Zers like to boast about their achievements, even if they are the youngest generation in business life (Cho et al., 2018).

The organisational and societal culture of Turkey can be described as a combination of "Eastern" and "Western" values (Ayca, 2001). Recent political, social, and economic problems have led to uncertainty in the country (Demir & Ersan, 2018). Despite the scarcity of research in a national context, Gen Z was defined as having certain global characteristics such as technology orientation, independence and individuality in the Turkish context (Arar & Yüksel, 2015). Turkish Gen Z starts to use computers at the age of eight, use the Internet at the age of 9 and have their smartphones at the age of 10 (Özkan & Solmaz, 2015). Turkish Gen Z students scored highest in supporting free speech (Broadbent et al., 2017), one of this generation's main features. Furthermore, with the USA, Canada, New Zealand and South Africa, Turkish Gen Zers scored the highest in their desire to work for an organisation that promotes positive social change for their future career.

2. Theoretical Framework and Hypotheses

For over a decade, the trait emotional intelligence has been the subject of intensive theoretical examination. Trait emotional intelligence is consistent in emotions and behaviours such as optimism, empathy and adaptiveness. It relies upon the individual differences in self-perceptions of an individual's emotional capabilities (Petrides & Furnham, 2000). Research suggests that the trait emotional intelligence is a proxy for the self-perceptions which are related to emotions and relevant to positive life outcomes, including greater well-being (Schutte & Malouff, 2011). Conversely, the self-reported trait emotional intelligence is negatively related to depression (Fernandez-Berrocal et al., 2006). Depression has been defined as a pervasive mental health problem with heterogeneous etiological origins (Ciarrochi et al., 2002). Depression cases can be explained by environmental influences and life stress, cognitive and biological factors (Beck & Bredemeier, 2016). The negative effects of trait emotional intelligence on depression have been investigated in several studies (Fernandez-Berrocal et al., 2006; Mavroveli et al., 2007). Considering the negative impact of trait emotional intelligence on depression, research asserts that there can be potential mediating effects on the trait emotional intelligence-depression linkage (Hertel et al., 2009; Mikolajczak et al., 2007).

Life satisfaction is an important facet of dealing with depressive symptoms. Trait emotional intelligence has been theoretically suggested to predict life satisfaction (Kong et al., 2012). Life satisfaction is a significant construct associated with depression (Fernandez-Berrocal et al., 2006). Therefore, life satisfaction is argued to act as an important psychological mechanism to mediate the relationship between Gen Z's trait emotional intelligence and depression.

The theoretical lens underpinning the mediating effect of life satisfaction on the association between trait emotional intelligence and depression linkage is the positive psychology movement theory (Fredrickson, 2001; Seligman & Csikszentmihalyi, 2000), which assumes that the total balance of individuals' negative and positive emotions has been revealed to predict and influence their judgments concerning subjective well-being. Individuals' subjective well-being has been defined by their conscious experiences in terms of cognitive satisfaction and/or hedonic feelings; thus, concerned with individuals' subjective experiences of their lives (Diener, 2000). Subjective well-being, or happiness, is the meaning and purpose of life; thus, the ultimate objective and outcome of human existence (Huta & Ryan, 2010). Research on subjective well-being has been associated positively with emotional intelligence (Schutte & Malouff, 2011) and with the absence of depressive symptoms (Luhmann et al., 2012).

Emotional intelligence has been considered an essential part of positive psychology (Bar-On, 2010). People with higher emotional capabilities have a greater capacity to recognise, use and cope with their emotions in their selves and others that enhancing their feelings of subjective well-being (Mayer & Salovey, 1997). Higher levels of trait emotional intelligence have been determined to be related to indices of subjective well-being such as

life satisfaction (Schutte & Malouff, 2011). People who possess trait emotional intelligence characteristics such as adaptability and self-motivation, assertiveness, emotional management and social awareness experience greater subjective well-being and higher inclination towards satisfaction with their lives (Chamorro-Premuzic et al., 2007). Given the existence of intrapersonal aspects of trait emotional intelligence related to emotion regulation and interpersonal aspects like having positive relations with others (Austin et al., 2005), it seems reasonable to assume that high trait emotional intelligence would be associated with high satisfaction with life and in turn, result in lower levels of depression. High trait emotional intelligence may serve as a coping resource and protective factor. People with high trait emotional intelligence are assumed to demonstrate better adjustment and higher positive coping with unfavourable life events that may further foster well-being, which cause higher life satisfaction resulting in reduced depression. According to positive psychology movement theory, individuals, who have high levels of subjective well-being, such as life satisfaction (via high trait emotional intelligence in this study), would experience hedonic feelings more and go through disruptive feelings, such as depression, less (Seligman & Csikszentmihalyi, 2000).

Depression has been rated as the fourth-largest cause of health issues due to its effects on the individual in terms of anxiety, sad mood, irritability and losing productivity (Downey et al., 2008). Much of the research conducted to date on depression, in particular, has been carried out primarily on previous generations, such as Generation X (Njoroge & Yazdanifard, 2014) and Millennials (Ordun & Akun, 2016). Considering that more than 300 million people worldwide suffer from depression, significant ways to decrease the rates, especially in Gen Zers, are being sought after.

To summarise, previous research supports (1) links between trait emotional intelligence and depression (Hansenne & Bianchi, 2009) and (2) the relationship between life satisfaction and depression (Mahmoud et al., 2012). On the other hand, to the authors' knowledge, no study has investigated whether this relationship is mediated through life satisfaction for Gen Z. It might be that Gen Zers' trait emotional intelligence is primarily related to their life satisfaction and that this strong sense of satisfaction might contribute to lower levels of depression. Based on this discussion, we propose the following hypothesis:

H1. Gen Zers' life satisfaction will mediate the relationship between their trait emotional intelligence and depression levels.

2.1. The Role of Gender

Gender plays a role concerning trait emotional intelligence such that females score higher than males as they are more empathic, perceptive and flexible (McIntyre, 2010). On the other hand, prior research has focused on the gender differences in depression such that females are at increased risk of depression at earlier ages since competing social roles, role limitation with associated lack of choice and role overload leads to females' increased risk of depressive feelings (Piccinelli & Wilkinson, 2000). There are significant gender

differences in the pervasiveness of depression. Higher prevalence rates of depression are reported among females compared to males, and the gender differences observed among adults are similar among adolescents (Frost et al., 2015). The eliciting conditions for experiences of depression differ by gender, such that females tend to experience more sadness and inner-directed negative emotions. In contrast, males feel more outer-directed negative emotions (Albert, 2015). Thus, it might be that females who have low trait emotional intelligence would be inclined to experience higher depressive symptoms than males.

Research has also provided evidence that gender differences play a major role in life satisfaction, such that males score higher on life satisfaction than females (Goldbeck et al., 2007; Moksnes et al., 2013). While research on gender differences in depressive symptoms has flourished (Salk et al., 2017; Weinberger et al., 2018), the underlying mechanism for the gender differences, specifically for Gen Z, has been virtually ignored. Various effects of emotional intelligence and life satisfaction on females' greater vulnerability to depressive symptoms have been suggested. Nonetheless, the relationships among these aforementioned factors leading to more depression in females have not been explored. Behavioural theories of females' greater vulnerability to depressive symptoms compared with that of males generally attribute this vulnerability to the negative consequences of females' social status and power (Bandura, 1986). Females tend to experience more negative events and have less control over important areas of their lives than males (Nolen-Hoeksama et al., 1999). This gender difference in depression appears to emerge in the early years (i.e., for Gen Z) and then remains throughout the adult life span (Salguero et al., 2012).

While considering the proposed model, generating a more thorough understanding of the relationships among the study variables may therefore require further investigating whether the strength of these relationships differs on gender for Gen Z. Thus, we hypothesise that:

H2. Gen Z's gender type will moderate the strength of the mediated relationship between their trait emotional intelligence and depression levels. The mediated relationship will be weaker for the male group than for the female group.

2.2. Role of STEM versus non-STEM Major Fields

Research provides evidence that students (e.g., Gen Z) in different academic disciplines have different emotional profiles (Sanchez-Ruiz et al., 2010). Although there are various approaches to classifying academic disciplines in terms of majors (Becher, 1994; Stoecker, 1993), the most contemporary one is dividing majors as STEM (Science, Technology, Engineering and Mathematics, including physical, biological/agricultural engineering/engineering technologies, and computer/information sciences) and non-STEM (all other majors including social sciences such as management, psychology, law, economics, international relationships and art) (Chen & Weko, 2009). Students in non-STEM majors have higher scores than STEM students in empathy and cooperation (Babbage

& Ronan, 2000). Traits like empathy and emotional expression are not equally important in engineering and social sciences majors. These traits are mostly considered in social sciences such as management, psychology and sociology. Students in social sciences are more capable of fulfilling personal relationships and communicating their feelings to others when compared with those in STEM majors (Sanchez-Ruiz et al., 2010). The former is more explicit about their own and others' emotions and less likely to give in to their urges than the latter. Therefore, social sciences students score higher than engineering students in trait emotional intelligence (Groen et al., 2018). Research provides evidence that the trait emotional intelligence of university students differs among majors. Students from non-STEM majors score higher in trait emotional intelligence than those in STEM majors (Groen et al., 2018; Sanchez-Ruiz et al., 2010).

Research has also ascertained that subjective well-being, like depressive symptoms that are assessed as negative and life satisfaction, is closely linked to social interests (Staggs et al., 2007). Students in non-STEM majors are more cheerful and satisfied with their lives than those in STEM. They are good at controlling their emotions and regulating stress (Sanchez-Ruiz et al., 2010). Considering the potential mediating effect of life satisfaction on the trait emotional intelligence-depressive symptoms linkage, the extensive literature on emotional profiles among different academic majors can steer the development of a hypothesis such that:

H3. Major fields (STEM versus non-STEM) will moderate the strength of the mediated relationship between Gen Z's trait emotional intelligence and depression levels. The mediated relationship will be weaker for STEM majors than for the non-STEM group.

3. Methodology

3.1. Participants and Procedure

All participants were chosen from Gen Z (1995-2010) undergraduates studying in STEM and non-STEM majors. The data were drawn from two private universities located in Ankara, Turkey. Data collection continued between the period of January-February 2019. A survey-based research design has been instrumented for data collection. The survey was voluntarily administrated online via a web link for Gen Z students. The questionnaire included informed consent, and the participants were assured of the confidentiality of the study. The online survey form was designed in a structure that did not permit the participants to leave unanswered questions. The data collection lasted for one month. No incentives were offered for participation. In total, 844 students completed the online questionnaire. Among the participants, 57% were male, and 43% were female. Of 844 students, 53% were in STEM majors, whereas 47% were non-STEM majors. The students' CGPAs were as follows: 1.4% between 0.00 and 0.99, 9.6% between 1.00 and 1.99, 49.4% between 2.00 and 2.99, and 39.6% between 3.00 and 4.00.

3.2. Measures

This study utilised a cross-sectional research design. The self-reported survey included the measures of trait emotional intelligence, life satisfaction and depression scales. Demographic information was collected on gender, age, cumulative grade point average (CGPA), university, major and class.

Trait Emotional Intelligence Questionnaire (TEIQue-SF). Gen Zers' trait emotional intelligence levels were assessed using the Trait Emotional Intelligence Questionnaire (TEIQue-Short Form; Petrides & Furnham, 2004). The 30-item short form of TEIQue (Cooper & Petrides, 2010) yields a single score for the global trait emotional intelligence that indicates dissimilarities of each person in their comprehension of emotions across their life span (Petrides & Furnham, 2006). An example item is "I believe I'm full of personal strengths", ranked on a seven-point Likert scale from 1 (Completely Disagree) to 7 (Completely Agree). Higher scores demonstrate an increased degree of global trait emotional intelligence (Petrides & Furnham, 2004). Turkish scale adaptation was borrowed from Deniz et al. (2013) ($\alpha = 0.81$).

Confirmatory Factor Analysis (CFA) was carried out to test the unidimensional factor, including full sample data (N=844). Initially, the scale with 30 items did not provide an acceptable fit with the data, with CFI and NNFI smaller than 0.90. After deleting item 17 due to an insignificant loading, and item 22 and item 23 due to low factor loadings, CFA was conducted again. The final model provided an acceptable fit to data ($\chi^2=1305$, $p < .001$; $\chi^2/df = 4.02$; GFI=.908, CFI = .890; TLI=.816, RMSEA = .07). Then, in line with previous studies (e.g., Petrides & Furnham, 2004), a single trait emotional intelligence score was computed using all items' summation. The Cronbach alpha for the total scale with 27 items was 0.85 for the pooled sample.

Subsequently, CFAs were conducted separately for non-STEM (N=398) and STEM majors (N=446). After deleting the three items, the final model provided an acceptable fit to data ($\chi^2=1180$, $p < .001$; $\chi^2/df = 3.64$; GFI=.890, CFI = .890; TLI=.871, RMSEA =.08) in non-STEM sample. CFA also yielded a reasonable fit to data in STEM sample ($\chi^2=1327$, $p < .001$; $\chi^2/df = 4.09$; GFI=.893, CFI = .889; TLI=.861, RMSEA = .08). The Cronbach alpha coefficients of the instruments for non-STEM and STEM samples were found as 0.86 and 0.85 respectively.

Satisfaction with Life Scale (SWLS). Gen Zers' life satisfaction levels were assessed using the five-item scale and developed using Diener et al. (1985). A sample from the scale is "I am satisfied with my life". A seven-point agree-disagree scale was used for the responses. Turkish scale adaptation was taken from Yetim (1993) ($\alpha = 0.86$).

The results of a single factor structure composed of the five items provided good fit with the pooled data ($\chi^2=18.74$, $p < .001$; $\chi^2/df = 3.74$; GFI=.991, CFI = .994; TLI=.988, RMSEA = .04). Additional CFA results yielded a very good fit to data in non-STEM

($\chi^2=8.19$, $p < .001$; $\chi^2/df = 1.63$; GFI=.992, CFI = .90; TLI=.897, RMSEA = .04) and STEM major samples ($\chi^2=13$, $p < .001$; $\chi^2/df = 2.76$; GFI=.980, CFI = .990; TLI=.981, RMSEA = .06). The respondents' ratings were averaged to form a total life-satisfaction score (Judge and Watanabe, 1993). The Cronbach alpha coefficients of the instrument for the pooled, non-STEM and STEM samples were found as 0.90, 0.88 and .090 respectively.

The Beck Depression Inventory (BDI). The Beck Depression Inventory (BDI) (Beck et al., 1961), as the frequently used self-rating instrument for depressive symptomatology, was used to assess the participants' depression levels. The scale involves 21 items with structured explanations, including four possible stages that differ from 0 to 3. Sample descriptions for an item are as follows: "I don't feel I am being punished", "I feel I may be punished", "I expect to be punished", and "I feel I am being punished". The participants can choose more than one alternative for each item. However, only the highest rating should be considered when the total score is computed. The total score, ranging from 0 to 63, is calculated by summing up the item scores. The increase in the scores displays an increase in the levels of depression (Bringmann et al., 2015). The Turkish adaptation of the instrument was conducted by Seber et al. (1993) ($\alpha = 0.86$).

The results of a one-factor structure composed of the 21 items provided good fit with the pooled data ($\chi^2=691$, $p < .001$; $\chi^2/df = 4.06$; GFI=.910, CFI = .914; TLI=.90, RMSEA = .07). The additional CFA results yielded also adequate fit to data in non-STEM ($\chi^2=469.2$, $p < .001$; $\chi^2/df = 2.76$; GFI=.898, CFI = .90; TLI=.897, RMSEA = .04) and STEM major samples ($\chi^2=409$, $p < .001$; $\chi^2/df = 2.40$; GFI=.909, CFI = .908; TLI=.901, RMSEA = .05). The Cronbach alpha coefficients of the instrument for the pooled, non-STEM and STEM samples were found as 0.89, 0.91 and .089 respectively.

4. Results

4.1. Preliminary Analysis

Initially, we checked the data for missing values and normality. No univariate and multivariate outliers are detected. Then, after testing the construct validity of the scales with CFA (see measures section), we computed the composite variables.

Table 1 illustrates the descriptive statistics and correlations among the pooled/total sample study variables. Means, standard deviations and correlations for STEM and non-STEM majors are shown in Table 2. The correlations in Table 1 indicate that both trait emotional intelligence ($r=-0.65$, $p < .01$) and life satisfaction ($r = -0.62$, $p < .01$) were negatively correlated with depression in the pooled sample. As can be seen in Table 2, for non-STEM majors, trait emotional intelligence ($r=-0.63$, $p<01$) and life satisfaction ($r=-0.62$, $p<.01$) were negatively correlated with depression. Likewise, for STEM majors, both trait emotional intelligence ($r=-0.65$, $p<01$) and life satisfaction ($r=-0.60$, $p<.01$) were negatively correlated with depression.

Table: 1²
The Descriptive Statistics of Pooled Data

Variable	Mean	S.D.	1	2	3	4	5	6
1. Gender	-	-	-	-	-	-	-	-
2. Major	-	-	-.28**	-	-	-	-	-
3. CGPA	3.27	.69	-.18**	.09**	-	-	-	-
4. Trait Emotional Intelligence	4.57	.71	-.04	.07*	.05	-	-	-
5. Life Satisfaction	4.09	1.51	-.09**	.10**	.06	.60**	-	-
6. Depression	.72	.51	.01	-.07*	-.06	-.65**	-.62**	-

Table: 2³
The Descriptive Statistics by Majors

Variable	Mean	S.D.	1	2	3	4	5
1. Gender	-	-	-	-	-	-	-
2. CGPA	3.34 (3.20)	.69 (.68)	-.190** (-.128**)	-	-	-	-
3. Trait EI	4.63 (4.53)	.71 (.71)	-.003 (-.037)	.056 (.037)	-	-	-
4. LS	4.26 (3.95)	1.50 (1.51)	-.026 (-.099*)	-.035 (.137**)	.581** (.60**)	-	-
5. Depression	.67 (.75)	1.51 (.49)	-.030 (.014)	-.054 (-.064)	-.630** (-.655**)	-.623** (-.603**)	-

4.2. Hypotheses Testing

We conducted mediation and moderated mediation models that include 95% bootstrap confidence intervals (e.g., Hayes, 2013; Preacher et al., 2007). In the first analysis, a direct mediation model was utilised to test the mediating effect of life satisfaction on the relationship between trait emotional intelligence and depression in the pooled sample. The model was tested with Preacher and Hayes's (2004)'s macro. We included the Cumulative Point of Average (CGPA) scores of the students as the control variable in our analyses. The effect of the control variable at each stage was insignificant.

² $N=844$, * $p<.05$, ** $p<.01$.

Gender coded as 0 = female, 1 = male.

Major coded as 0 = STEM, 1 = non-STEM

CGPA coded as 1 = 0.00-0.99, 2 = 1.00-1.99, 3 = 2.00-2.99, 4 = 3.00-4.00

Alpha reliabilities are shown in parentheses on the diagonal.

³ * $p<.05$, ** $p<.01$.

$N=398$ for non-STEM majors, $N= 446$ for STEM majors,

Numbers in parentheses are the values for STEM sample.

Trait EI=Trait Emotional Intelligence

LS=Life satisfaction

Gender coded 0 = female, 1 = male.

CGPA coded as 1 = 0.00-0.99, 2 =1.00-1.99, 3 =2.00-2.99, 4 =3.00-4.00.

Table: 3⁴
Direct Mediation Model of LS on Trait EI-Depression Linkage

	b	SE	t	p
Direct and total effects				
CGPA-Depression	-.015	.02	-.83	.40
Trait EI → Depression	-.30	.02	-14.19	.00
Trait EI → LS	1.25	.05	21.38	.00
LS → Depression	-.24	.07	-3.51	.00
Bootstrap results for Indirect Effect				
	Boot b	SE	Boot LLCI	Boot ULCI
Effect	-.15	.01	-.18	-.12
Normal theory tests for the indirect effects				
	Effect	SE	Z	p
	-.15	.01	-10.28	.00

A direct mediation model for the impact of life satisfaction on the trait emotional intelligence-depressive symptoms linkage is shown in Table 3. As shown, trait emotional intelligence had a negative effect on depression ($b = -.30$, $t = -14.19$; $p = .00$), and trait emotional intelligence was positively associated with life satisfaction levels of Gen Z undergraduates ($b = 1.25$, $t = 21.38$; $p = .00$). Moreover, the effect of life satisfaction on depression was negative ($b = -.24$, $t = -3.51$; $p = .00$). Using 5000 bootstrapping sample and 95% CI, the indirect effect of life satisfaction was significant ($b = -.15$, $SE = .01$; 95% CI [-.18, -.12]). So, H1 was supported. The normal theory test of the indirect effect confirmed the significance of life satisfaction as a mediator ($Z = -10.28$; $p = .00$).

Table: 4
Results of Moderated Mediation Analysis by Gender (N=844)

Predictor	B	SE	t	P
LS ($R^2 = .36$)				
Constant	-2.51	.45	-5.55	.00
CGPA	.047	.061	.762	.45
Trait EI	1.43	.088	16.28	.00
Gender	1.29	.545	2.37	.02
Trait EI * Gender Interaction	-.32	.12	2.75	.00
Depression ($R^2 = .50$)				
Constant	2.72	.11	25.26	.00
CGPA	-.02	.02	-1.12	.26
Trait EI	-.30	.02	-14.06	.00
LS	-.13	.01	-9.22	.00
Gender	-.09	.07	-1.32	.18
LS * Gender Interaction	.01	.01	.81	.42
Conditional Indirect Effect of Trait EI on depression via LS by Gender				
Gender	Boot Indirect Effect	Boot SE	Boot LLCI	Boot ULCI
Female	-.184	.022	-.184	-.142
Male	-.127	.017	-.165	-.094
Mediator	Index of Moderated Mediation			
LS	.056	.026	.006	.107

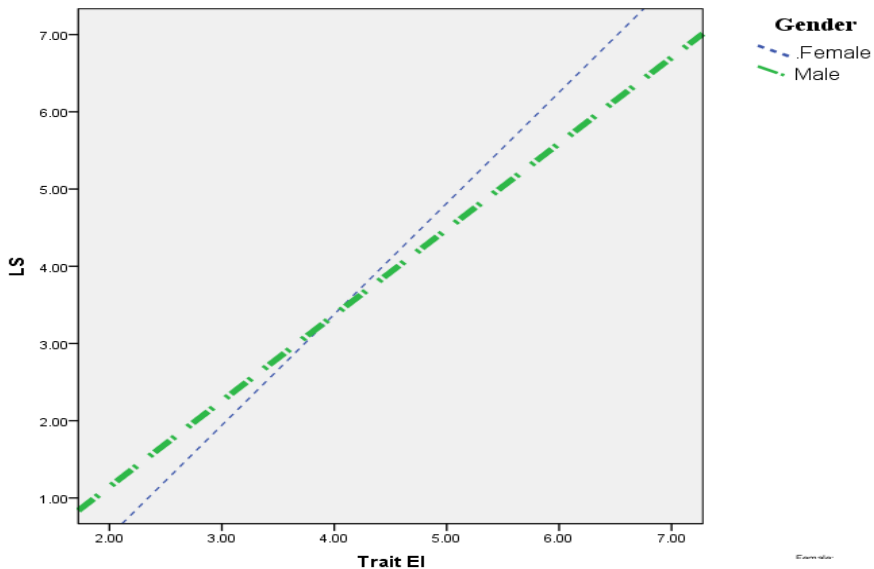
The moderated mediation tests were conducted by the PROCESS macro of Hayes (2013). For testing H2, we tested the conditional indirect effect of trait emotional intelligence

⁴ CGPA: Cumulative Grade Point of Average, Trait EI: Trait Emotional Intelligence, LS: LS.

on depression via life satisfaction as a function of gender (female and male): table 4 displays the moderated mediation regression estimates and direct and conditional indirect effects.

Gender acted as the moderator for the trait emotional intelligence and life satisfaction linkage (the interaction term of trait emotional intelligence by gender was significant) ($b = .32$, $SE = .12$, $t = 2.75$; $p = .00$). We plotted this moderation in Figure 1.

Figure: 1
Interaction Effect of Trait EI and Gender on LS



The effect of trait emotional intelligence on life satisfaction was much steeper in females compared to males (see Figure 1). The index of the moderated mediation in Table 4 was significant (Index=.05, boot SE= .03, 95% CI [.01, .10]), verifying the proposed hypothesised moderated mediation model (H2). That is to say, the magnitude of the mediating effect of life satisfaction on the trait emotional intelligence and depression linkage changes depending on the gender (female and male). The bootstrap for confidence levels for the conditional indirect effects of life satisfaction was significant for each gender. However, the mediating impact of life satisfaction levels on the trait emotional intelligence-depressive states relationship was stronger in females (boot effect=-1.18, boot SE= .02, 95% CI [-.23, -.14]) compared to males (boot effect=-1.13, boot SE= .02, 95% CI [-.16, -.09]).

For H3, we tested the conditional indirect effect of trait emotional intelligence on depression via life satisfaction as a function of majors (non-STEM and STEM). Table 5

displays the moderated mediation regression estimates and direct and conditional indirect effects.

Table: 5
Results of Moderated Mediation Analysis by Major (N=844)

Predictor	B	SE	t	P
LS (R ² =.35)				
Constant	-2.01	.41	-4.85	.00
CGPA	.063	.06	1.02	.30
Trait EI	1.27	.08	15.78	.00
Major	.42	.55	.77	.42
Trait EI * Major Interaction	-.05	.12	-.46	.64
Depression(R ² =.50)				
Constant	2.6197	.1022	25.6406	.0000
CGPA	-.0166	.0181	-.9141	.3609
Trait EI	-.3058	.0215	-14.1938	.0000
LS	-.1087	-.0128	-8.4741	.0000
Major	0844	.0727	1.1615	.2458
LS * Major Interaction	-.0224	.0165	-1.3542	.1760
Conditional Indirect Effect of Trait EI on depression via LS on major categories				
Major	Boot Indirect Effect		Boot SE	Boot LLCI
STEM	-.14		.02	-.18
Non-STEM	-.16		.02	-.20
Mediator	Index of Moderated Mediation			
LS	-.0214		.0276	-.0745
				.0319

Table 5 shows that neither the first- or second-stage moderation effects were significant. Likewise, the index of the moderated mediation was not significant (Index=-.02, boot SE=.02, 95% CI [-.07, .03]). This suggests that the mediating effect of life satisfaction was not contingent upon STEM and non-STEM majors. On the other hand, the bootstrap for confidence levels for the conditional indirect effects of life satisfaction were both significant for STEM (boot SE= .02, 95% CI [-.18, -.10]) and non-STEM (boot SE= .02, 95% CI [-.20, -.12]) majors. These findings comment that the magnitude of the mediating effect of life satisfaction on trait emotional intelligence-depression linkage did not vary by STEM and non-STEM majors.

Although not hypothesised, additional moderated mediation analyses for the conditional influence of gender within STEM and non-STEM majors, separately, were conducted. Initially, for non-STEM major sample (N=446), the index of the moderated mediation was not significant (Index=-.02, boot SE= .04, 95% CI [-.05, .10]). For the STEM sample, the mediating impact of life satisfaction on trait emotional intelligence-depressive symptoms relationship was not varied by gender. Nevertheless, for the non-STEM major sample, the index of the moderated mediation was significant (Index=.09, boot SE=.04, 95% CI [.01, .17]). Table 6 displays the estimates of the moderated mediation regressions.

Table: 6
Results of Moderated Mediation Analysis by Gender in non-STEM Sample (N=398)

Predictor	B	SE	t	P
LS (R ² =.36)				
Constant	-1.61	.59	-2.71	.01
CGPA	-.17	.08	-1.88	.06
Trait EI	1.39	.12	12.55	.00
Gender	1.74	.81	2.15	.03
Trait EI * Gender Interaction	-.41	.17	-2.33	.02
Depression(R ² =.50)				
Constant	2.79	.15	18.08	.00
CGPA	-.04	.02	-1.52	.12
Trait EI	-.29	.03	-8.88	.00
LS	-.15	.02	-7.94	.00
Gender	-.18	.11	-1.57	.11
LS * Gender Interaction	.03	.02	1.16	.25
Conditional Indirect Effect of Trait EI on depression via LS by Gender				
Gender	Boot Indirect Effect		Boot ULCI	
Female	-.209		-.151	
Male	-.119		-.056	
Mediator	Index of Moderated Mediation			
LS	.089	.043	.005	.174

To conclude, the magnitude of life satisfaction as a mediating factor on trait emotional intelligence-depression linkage varied by gender, particularly within the non-STEM major sample. As shown in Table 6, the bootstraps for confidence levels for the conditional indirect effects of life satisfaction were significant for each gender. However, the magnitude of mediating influence of life satisfaction on trait emotional intelligence-depression relationship was stronger in females (boot effect=-.21, boot SE= .03, 95% CI [-.27, -.15]) compared to males (boot effect=-.12, boot SE= .04, 95% CI [-.19, -.05]).

6. Concluding Comments and Implications

This research is designed to shed light on the potential effects of trait emotional intelligence on Gen Z's depression levels. The study has four main theoretical contributions. First, this research was specifically designed to examine the crucial impact of life satisfaction on the link between trait emotional intelligence and depression for Gen Z students. The indirect impact of trait emotional intelligence on depression via life satisfaction was noted for Gen Z. The findings demonstrate a framework indicating that high trait emotional intelligent Gen Zers are inclined to sustain high life satisfaction, which would cause to decrease any possible depressive symptoms. The present study contributes to the positive psychology movement (PPM) theory (Seligman & Csikszentmihalyi, 2000). According to PPM theory, an understanding of human strengths (i.e., trait emotional intelligence influence via life satisfaction) can help prevent or lessen the damage of depression, stress and disorder (Gable & Haidt, 2005). Thus, by the positive influence of Gen Zers' trait emotional intelligence on their life satisfaction, Gen Zers may experience less disruptive feelings such as depression.

The second contribution of the study is investigating the direct relationships among the study variables. Consistent with the previous research, the present study supports the

direct positive effect of trait emotional intelligence on life satisfaction (Palmer et al., 2002) and the negative effect of the former on depression (Fernandez-Berrocal et al., 2006). Satisfaction with life is heavily influenced by favourable emotional intelligence. Gen Zers with high trait emotional intelligence have immense potential to be aware of, comprehend, regulate, and direct their emotions, leading to higher levels of life satisfaction. High trait emotional intelligence involves a high ability to discriminate clearly among feelings and regulate emotional states (Hansenne & Bianchi, 2009). Gen Z students who pay greater attention to their own emotions show poor symptoms of depression.

Furthermore, in line with the previous research (Mahmoud et al., 2012), the findings support the direct negative effect of life satisfaction on depression. People who are satisfied with their lives are generally well adapted to their environment and are free from depressive symptoms. The importance of such an outcome lies in its obvious connection to a positive (i.e., life satisfaction) or negative state of subjective well-being.

Third, we also aimed to examine the existence of gender differences on the mediating impact of life satisfaction on the linkage between Gen Zers' trait emotional intelligence and depressive symptoms. In line with the previous research (Cooper & Petrides, 2010), the magnitude effect of life satisfaction on trait emotional intelligence-depression linkage is more substantial for females than males. This might be because females' development is less tied to autonomy and individualism, and females are more focused on interpersonal relations than males. Thus, females with low trait emotional intelligence are less likely to have moral, internal control and life satisfaction and have higher depressive symptoms than males (Naghavi et al., 2012).

Finally, the present study investigated whether the proposed model was contingent upon significant fields of study. In previous research by Sanchez-Ruiz et al. (2010), females in non-STEM majors scored higher on emotional intelligence than males. Contrary to the expectations, the mediating effect of Gen Zers' life satisfaction on the relationship between their trait emotional intelligence and depression was not contingent on STEM and non-STEM major fields. Then we conducted a supplementary analysis by separating the majors and testing the moderating gender effect on the proposed mediation relationship. Although the mediating effect of life satisfaction on trait emotional intelligence-depression linkage was not varied by gender for the STEM sample, the findings suggest that in non-STEM majors, Gen Z females feel the mediating influence to a greater extent than males.

This study offers some practical implications for managers, Human Resource (HR) professionals, career counselling practitioners and higher education institutions, who should have a comprehensive understanding of the factors that influence Gen Zers' depression levels, as depression has negative effects on job performance (Lerner & Henke, 2008), job satisfaction (Bradley & Roberts, 2004) and academic performance (Owens et al., 2012).

Since Gen Z is the youngest generation in the workforce, organisations should be ready for this generation. As Gen Zers' trait, emotional intelligence profiles can provide

valuable input into their life satisfaction and depression; the study's findings suggest that employers incorporate emotional intelligence knowledge into HR planning. When the relationships between trait emotional intelligence and life satisfaction are empirically substantiated for Gen Zers, a logical next step for implication will be to develop adaptive training and remedial programs that enhance Gen Zers' emotional abilities. Organisations can include activities related to increasing the necessary aptitudes for emotional intelligence, which then would increase the life satisfaction of Gen Z.

Career counselling practitioners should also consider the probable impact of trait emotional intelligence while making suggestions to Gen Zers related to their prospective occupation by assuming the role of life satisfaction and job engagement (Brown & Ryan, 2003). For higher education institutions, establishing Gen Zers' trait emotional intelligence profiles in major academic fields can also help achieve congruence between this generation's characteristics and their chosen field of study. Such agreement, in turn, may enhance Gen Zers' academic achievement and result in successful professional development. Finally, this study has implications for the academicians who wish to understand Gen Zers' trait emotional intelligence profiles that may help to boost Gen Zers' motivation and develop appropriate reinforcements with effective training modes. Knowledge of trait emotional intelligence may support Gen Zers in satisfying lifelong judgments that align with their emotional personality characteristics. These types of reviews may be considered by making life decisions consistent with their affective dispositions. Such decisions can be taken in the context of academicians via extracurricular activities (Petrides & Furnham, 2006) and can positively impact Gen Zers' life satisfaction.

The study findings have some limitations. First, the generalizability of the study may be restricted since the study was carried out in Turkey. In this sense, gathering data from only one national context may limit the generalizability of the results. Future studies from other countries with different characteristics would verify the results and thus provide generalizability. Another limitation is the perceptions of the study group of this research, as their notions of themselves may differ from what they aim or how they act.

Consequently, to further elaborate the study findings, qualitative research, including interviews and/or observation data, can be conducted with Gen Zers having diverse cultural backgrounds. Third, participants' assessments were collected at a single time, rather than observing the changes in various time frames. This may hinder the comprehension of the factors that may depend on time. In this respect, longitudinal research design can be conducted in the future. Finally, although the current study was limited in its reliance on self-report measures, this perspective of evaluating the self-assessments of trait emotional intelligence can still be a useful tool (Petrides & Furnham, 2006) as a relatively easy way to predict psychological adjustments such as life satisfaction and depression.

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Women Labour: What Was It? What Is It Now? A Theoretical Analysis Based on Different Economic Perspectives

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Kadın Emęi: Neydi, Ne Oldu? Farklı İktisadi Anlayışlar Temelinde Kuramsal Bir Analiz

Abstract

One of the main mechanisms of development in economies is the efficient use of factors of production. In the use of labour, one of the primary production resources in economies, it can be said that there is a distribution in favour of men in many countries in terms of existing gender patterns. Women's labour remains secondary because men are central in almost all social institutions and relations, and men's leading position is also considered. Women are generally held responsible for domestic work, making them less likely to benefit from labour markets and educational opportunities than males. However, within the framework of the evolution of economic thought and development, economics emerged as a separate discipline following the Second World War. Some changes in women's labour and pertinent views about it have occurred. The impact of women's labour on development has begun to be grasped. In all these contexts, in this study, the socio-economic and cultural advancement and turn of women's labour concerning the evolution of economic thought and development economics are investigated, and the place and magnitude of women's labour in development are discussed.

Keywords : Women Labour, Economic Thought, Economic Development, Domestic Labour.

JEL Classification Codes : B2, N3, O1.

Öz

Ekonomilerde kalkınmanın temel sağlayıcı mekanizmalarından biri üretim faktörlerinin etkin kullanımındır. Ekonomilerde ana üretim kaynaklarından biri olan emeğin kullanımında, birçok ülkede var olan toplumsal cinsiyet kalıpları bağlamında erkekler lehine bir dağılım olduğu söylenebilir. Kadının ve kadın emeğinin ekonomilerde ikincil planda kalmasının temel sebebi, hemen hemen bütün toplumsal kurum ve ilişkilerde erkeklerin merkezi konumda yer alması ve erkeklerin merkezi konumunun veri olarak ele alınmasıdır. Kadınların ev içi işlerden genel olarak sorumlu tutulması da kadınların işgücü piyasalarından ve eğitim olanaklarından erkeklerle göre daha az faydalanmalarına yol açmaktadır. Ancak; iktisadi düşüncenin ve bunun yanı sıra İkinci Dünya Savaşı'ndan sonraki yıllarda ayrı bir disiplin olarak ortaya çıkan kalkınma iktisadının evrimi çerçevesinde, kadın emeği ve bununla ilgili görüşlerde birtakım değişiklikler meydana gelmiştir. Kadın emeğinin kalkınma üzerindeki etkisi anlaşılmaya başlanmıştır. Bu bağlamda, bu çalışmada, iktisadi düşüncenin ve

kalkınma iktisadının evrimi bağlamında kadın emeğinin sosyoekonomik ve kültürel gelişimi ve değişimi incelenerek, kalkınmada kadın emeğinin yeri ve önemi ele alınmıştır.

Anahtar Sözcükler : Kadın Emeği, İktisadi Düşünce, İktisadi Kalkınma, Ev İçi Emek.

1. Introduction

Due to the patriarchal social structure in many countries throughout the historical process, the idea has prevailed that the main task of women is family and homework. In addition to economic activities aimed at earning wages, women also did domestic work. The patriarchal thought, which continued after the emergence of economics as a separate discipline, impacted women and, therefore, women's labour. Although Classical, Neoclassical, Marxist and Institutional Economic Thought differ slightly in some respects regarding their view of women's labour, their opinions are almost identical. The evolution of the notion of development is based on the evolution of development economics. The terms of development and growth were considered identical concepts roughly from the 1950s until the mid-1970s. The underdevelopment problem and the discussions about its solution focused on increasing the Gross Domestic Product (GDP) in the period mentioned above. It was posited that the main phenomenon indicating the economic development levels of countries was the real increase in GDP and per capita income. However, after the economic crisis had broken out in the mid-1970s, it was started to claim that economic development could not be clarified only with the increases in the GDP; other criteria should be considered. With these advancements, the development concept has begun to be perceived with social, institutional, humanitarian, ideological, political, cultural, and economic aspects. Since it has become more evident in the last few decades that development cannot be such a narrow scope term that increases in any country's GDP can only elucidate. Accordingly, development economics has started to be concerned about the significance of women and women's labour in the development process. Gender equality is regarded as a fundamental requirement of sustainable development. For this reason, the role and importance of female and female labour in the formation of development policies began to be interrogated.

The world economy has entered a different stage in which neoliberal economic policies have been implemented in many countries since the 1980s. In line with these policies, the demand for women's labour has expanded by the enhancing inclination to export-oriented industrialisation. This enhancement is directly related to the different stages reached by the capitalist development model through neoliberal policies and the phenomenon of globalisation as a requirement of this model. Thanks to the improvements in information technologies, the transition from industrial to information society have occurred. These advancements, cropping up in the process of globalisation, have paved the way for some changes and transformations in the discernment of development in the world. In line with this change, innovative sustainable development strategies hinging on the concepts such as human capital, knowledge, research and development, innovation, environment, and foreign trade have come to the fore. On the other hand, such strides have

also allowed the investigation of the development levels of countries based on gender. The role of women in the economies and the noteworthiness of women's labour as being a component of human capital are often tidily keynoted, particularly by the international financial institutions, primarily by the World Bank.

Particularly after the 1990s, feminist economics has become one of the main topics of conversation in new development approaches. The debates arose, paying attention to women's role and labour in development. After the emergence of feminist economics, a new deal has come in sight that ponders women's presence in economies based on gender. Thereof, it has been dawned that women's labour is exceptionally outstanding in activating the internal dynamics of any economy. The secondary role of women in the labour market and social life and the negligence of women's labour can be sighted as the problem in almost all developed and developing economies. However, in the world's least developed economies, women are more disadvantaged than men due to the existing patriarchal structures of these countries. Today, it is clear that the development of economies cannot be attained merely through policies aimed at expanding national income. In addition, the assignation of women's domestic labour as an essential factor in economic development has accelerated the humanitarian and sustainable development discussions and the apprehension of the contribution of women's labour to development and its indispensability in economies.

In the context of all these matters, the birth of economic thought and the evolution of economic thought in the historical flow will be discussed in the first part of the study. Women's labour will be analysed in various schools of economic thought. After that, the concept of development will be studied. Within the context of the change in the discipline of development economics, the evolution of women's labour will be tried to be enlightened. Further, the development strategies that have been commonly followed in the world for the last few decades will be clarified, and the relationship between development and women's labour in parallel with the changes in these strategies. It will also be debated how these strategies have altered the demand and glance of women's labour in economies. To address the shift in development strategies, the emergence of the developing economy and its evolution since then will be taken under review.

2. Remarks About Women Labour in Economic Thought

2.1. The Status of Women Labour in Classical and Neoclassical Economic Thought: Subordination and Oppression of Women Labour

Considering the scope, subject and definition of the classical economic theory, it can be said that the women and women's labour in economies, in most cases, are being ruled out. However, women and women's labour in economies has been taken into account by some theorists of classical economic thought¹. Michele Pujol, a French intellectual, economist,

¹ *John Stuart Mill is one of these theorists. John Stuart Mill is a British philosopher, political economist and one of the most influential thinkers in the history of classical liberalism. In his essay The Subjection of Women, written in 1869, Mill remarked on the oppression of women and the reduction and underestimation of the worth*

feminist, scholar and human rights activist, asserts that Adam Smith's *The Wealth of Nations* (1776) brings forward those women do not contribute to the economy except for their contribution to population growth (Pujol, 1992). On the other hand, Jean Baptiste Say, a liberal French economist and businessman who promoted perfect competition, free trade and removing restraints on business, claims that women are more irrational consumers than men, especially because they are very extravagant against jewellery (Bodkin, 1999).

Women contribute to the development process solely from home. In other words, they are involved in economic activities using their domestic labour. Domestic labour includes jobs carried out by women who do not realise in return for wages, such as childcare, cooking, laundry and house cleaning. Women's domestic labour is not regarded as productive, does not find value in the economy and do not include in the market economy. Adam Smith finds it appropriate for women to make sacrifices within the home through their domestic labour to assure the capitalist system's permanence. Like classical economic thought, neoclassical economic thought contemplates women as beings who had to make sacrifices at home due to the natural division of labour and who only care for and raise children. Therefore, it did not take into account women as economic actors. Because, according to neoclassical economic thought, women do not make a notable contribution to the production activities in economies (Toksöz, 2011: 48).

Neoclassical economic thinkers such as Alfred Marshall, Francis Ysidro Edgeworth, William Stanley Jevons, and Arthur Cecil Pigou presume women as irrational and inappropriate economic agents and assert women's participation in the labour market would harm family life and welfare in economies (Pujol, 1995). For example, Pigou frankly lined up with those weaker women than men, so welfare can be maximised in economies by keeping women's wages lower than men's. Pigou (1960: 565-6) assumes that the most basic factor affecting the women's labour supply is their husbands' income. Pigou thinks that the women labour in the industry is unqualified and secondary. Therefore, men and women can't

of their productive contributions. Mill is recognized for being not only the important philosopher of British liberalism but also the exclusively prominent philosopher of liberalism to have made the subordination of women a fundamental part of his philosophical study. "All women" he noted, "are brought up from the very earliest years in the belief that their ideal of character is very opposite to that of men, not self-will, and government by self-control, but submission, and yielding to the control of others, it is their nature to live for others" (Mill, 2000: 22). This prejudiced sight of women and the opinion that it was their character to live for others paved the way for the effective neo-classical economists to categorize particular laborious activities as "women's work", labelling particular activities as natural tasks rather than productive work. Mill argues that the existing conditions regulating the social relations of men and women make one sex dependent on the other. By arguing that gender equality should be provided unconditionally, Mill states that all ideas that deny women's freedom are meaningless (Mill, 2000: 3-4; Smith, 2001: 181). However, Mill states that if women can freely choose between marriage or working life, the woman who chooses marriage has chosen her profession. According to Mill, it is not possible for a woman to carry out her marriage and working life together (Hekman, 1992: 681; Mill, 2000: 58). Mill asserts that the main responsibilities of women in this situation are to raise their children and to do housework. Women's employment in a paid job would prevent them from fulfilling these responsibilities. Mill differs from the male thinkers of his time in the context of his views about gender equality. However, he nonetheless deals with the emancipation of women in a limited framework in the context of the freedom to choose home or work life.

receive equal wages in a perfectly competitive market. From this point of view, it would not be wrong to point out that neoclassical economists do not appraise women as human beings. The most important impetus for this is the patriarchal structures and judgments existing in the world.

Alfred Marshall, one of the prominent representatives of neoclassical economics, came up with the idea that increasing women's wages would cause them to neglect their motherhood and housewife duties. For this reason, he opposes the admission of women to the university (Pujol, 1984: 217-34). Mothers, more than fathers, are fallen back upon to devote themselves for the sake of their children. Thus, women have to relinquish employment. Marshall frequently continues that women's employment is noxious since "it tempts them to neglect their duty of building up a true home and investing their efforts in the personal capital of their children's character and abilities" (Marshall, 1901: 342). From his line of sight of Marshall, a mother's care for her children is one of the most fundamental constituents in the generation of the human capital that is necessitated by modern industry:

"If we compare (countries, regions, trades), we find that the degradation of the working classes varies almost uniformly with the amount of rough work done by women. The most valuable of all capital is that invested in human beings. Of that capital, the most precious part is the result of the care and influence of the mother, so long as she retains her tender and unselfish instincts and has not been hardened by the strain and stress of unfeminine work (Marshall, 1890: 468)."

Besides Marshall, economists such as Francis Ysidro Edgeworth suggest that women cannot make rational economic decisions. He denotes that women's productive capacities are being valid merely in domestic work by setting forth those women are being not efficient in the industrial sector and other business areas (Blau et al., 1976; Brown, 1984). Thus, the sexual division of labour is simply an efficient way of organising work.

Edgeworth asks the question in his renowned article of 1922 (equal pay to men and women for similar work), should men and women receive equal pay for equal work? (Edgeworth, 1922: 431). Edgeworth answers his question negatively, claiming that the work of men and women can never be similar, either qualitatively or quantitatively. Edgeworth claims that the actual value as a worker was about 30 per cent (Edgeworth, 1922: 440). Since women are not being productive, which is a fact, the market already acknowledges that? In addition, Edgeworth puts forward that men's wages should be more than women's since men have to subsist their families: "the women worker has not acquired by custom and tradition the same unwillingness to work for less than will support a family, the same determination to stand out against a reduction of wages below that standard" (Edgeworth, 1922: 436). Edgeworth (1922) advocates excluding women from the market economy mechanisms by frequently alluding to the biological differences like women are not robust and productive as men.

Moreover, Edgeworth asserts that women are untrustworthy and non-continuous workers. For a woman, different from a man, it is valid to go out and get married as soon as she starts to be out of use (Edgeworth, 1922: 444). The existence of women in the labour force is not regarded as a benefaction to economic welfare; it is rather problematised as disquieting serious unfavourable results for national welfare and household utility. Edgeworth informs that large numbers of women in the labour force would give rise to depression or the collapse of industry (Edgeworth, 1922: 436).

Jevons also disputes that child-bearing women should be excluded from the labour market (Jevons, 1883: 157). Jevons also remarks on his worry that women's employment would negatively affect household tasks and infant mortality rates. For this reason, the optimal division of labour is the conventional type, in which men work full-time outside the home and women work full-time within the home. Marshall and Pigou also voiced their worry about the negative effect of employment on women's household responsibilities and infant mortality rates (Marshall, 1930: 198, 721; Pigou 1960, 187). Marshall pointed out that women's employment seduces them to ignore their responsibility to construct a true home and give their endeavours in the personal capital of their children's character and talents. He persisted in their existence in the home (Marshall, 1930: 685). Working outside the home prevents women from carrying through their housework fully and raising their children properly (Marshall, 1930: 721). As Pigou indicates:

"The reality of this evil [working mothers' alleged neglect] is not disproved by the low, and even negative, the correlation between mothers' factory work and the rate of infant mortality. For in districts where women's work of this kind prevails, there is presumably - and this is the cause of women's work - great poverty. This poverty, which is injurious to children's health, is likely, other things being equal, to be greater than elsewhere in families where the mother declines factory work. It may be that the evil of the extra poverty is greater than that of the factory workers. This consideration explains the statistical facts that are known. They, therefore, militate in no way against the view that other things equal the factory work of mothers is injurious (Pigou, 1960: 187)."

These examples from different theorists point out that the builders of the neoclassical economy shared a biological comprehension of gender, which is a belief that the gender differences in the labour market, such as lower wages for women, gender discrimination, and the like, are a direct and natural result of the physical and biological disparities between men and women. But their claims about gender at the same time make an exception. The existing disparities between men and women at the same time form the traditional division of labour at home and in the labour market inevitably. This view has become widespread by the influence of their ideas: *Women's principal field of activity should be the home.*

Neoclassical economic thinkers have acted from the point that the presence of women in the labour market can only be in need. Women's labour force participation depends on the

husband's earnings. This situation sheds light on where today's economic understanding also gets its patriarchal foundations.

2.2. Marxist Economic Thought: As an Inevitable Structural Characteristic of Capitalism Subordination of Women Labour

In Marxist economic theory, women's labour is considered secondary in economies. Marxist economic thought considers women as a segment of the working class. It discusses the relationship between women and men within workers' relations with capital. In this context, it derives the subordination of women from capitalist class exploitation (Hartmann, 1979: 1).

In *Capital*, Marx expresses the family and the home by emphasising men. In pre-capitalist societies, a man must provide for his family. As Marx (1967) puts forth his elucidation of commodity production and his theory of surplus value, he focuses on the male worker who purchases commodities in the market to produce himself again for the labour of the following day. The work that enters into making ready these commodities for consumption and the unpaid labour which is fundamental to reproducing the worker is not participated to. In this context, Marx seems to come behind Adam Smith on the *Wealth of Nations*, who indites about the significance of self-interest:

"It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from regard to their self-interest" (Smith, 1976: 18).

But Nancy Folbre -who is an American feminist economist who directs attention to family economics, non-market work and the economics of care-asserts in response to this:

"Just a minute. It is not usually the butcher, the brewer, or the baker who fixes dinner, but his wife or mother (Folbre, 2001: 11)."

Marx disregarded domestic labour when they spoke of use and exchange values. In other words, any woman's labour at home does not have use and exchange value. Marx (1867: 718) also refutes that wage workers owe their existence to women, who continue their generation thanks to women's labour being spent in the home. At the same time, women's labour is fundamental to sustaining men's existing capacities and powers within the capitalist chain of production. Therefore, it can be asserted that Marx did not realise how useful and essential women's domestic labour is for the permanence and sustainability of the capitalist system. In addition, it would not be wrong to say that Marx has a patriarchal tendency while elucidating the concept of labour-power. As he states in *Capital* Volume I under the title of *Value, Price and Profit*:

"Like that of every other commodity, its value is determined by the quantity of labour necessary to produce it. The labouring power of a man exists only in his living individuality. A man must consume a certain mass of necessaries to grow up and maintain his life. But the man, like the machine, will wear out and must

be replaced by another man. Besides the mass of necessities required for his maintenance, he wants another number of necessities to bring up a certain quota of children to replace him on the labour market and perpetuate the race of labourers. Moreover, many values must be spent to develop his labouring power and acquire a given skill (Marx, 2018: 7)."

Domestic labour is regarded as unproductive labour. Because according to the analysis in question, no labour can be considered productive unless it has a concrete output that is subject to change in the market. Productive labour produces material, final, and valuable products that include all products except labour-power. The domestic labour of women mostly bounds up the reproduction of labour-power. Activities such as cooking, washing dishes and laundry, ironing and cleaning prepare the worker for the next working day. Thus, the reproduction of the labour force in the capitalist system would be actualised without interruption. These activities peculiar to women, and therefore the labour being expended for them, are not counted as productive according to Marx (1867: 718). In no part of Capital, Marx did not acknowledge that the regeneration of labour-power interconnects with women's unpaid domestic labour. On the contrary, he points out characterising the waged worker as self-producing. Even while touching on the generational reproduction of the labour force, Marx does not talk about the women's promotion to it, just referring to it as the natural increase of population (Marx, 1867: 788).

Friedrich Engels is a theorist who analyses the position of women and women's labour in the economies from a historical perspective. According to the author's book *Origin of the Family, Private Property and the State*, throughout the periods of matriarchal production, women have been stronger than men, or at least equal to men. Afterwards, through the transition to the private property regime, families had gained a patriarchal structure through the nascency of the capitalist system. Naturally, women began to lose power in a positional sense. Following the rise of capitalism and the detachment of family-based households from commodity production, the man continued to live as an individual who provides for the family and earns money. The woman continued to live as a housewife devoted to her man and home (Toksöz, 2011: 92). Engels and Marx acknowledged that women's secondary position was peculiar to capitalism in their early texts. The Communist Manifesto, published in 1848, claims that ruling class men oppress their wives in their own families and that communists aim to liberate women from this oppression. As they clarify:

"The bourgeois sees in his wife a mere instrument of production. He has not even a suspicion that the real point aimed at is to do away with the status of women as mere instruments of production (Engels & Marx, 1968: 50)."

The bourgeois family uses women just as private property (Marx & Engels, 1848). Almost in every part of these writings, the objective of this use was characterised by private property. The bourgeois regards and uses women as property and utilises them with the object of the transmission of private property. There are also some views of Engels and Marx

allege that the exploitative relationship, in which the men confiscate the labour of the women, takes place within the marriage:

"The first-class antagonism which appears in history coincides with the development of the antagonism between men and women in monogamous marriage, and the first-class oppression with that of the female by the male (Engels, 1968: 66)."

On the other hand, Christine Delphy's views on the subject are remarkable; she was a French sociologist, feminist, and theorist known for pioneering materialist feminism. She also co-founded the French Women's Liberation Movement in 1970. Women's unpaid labour is not subject to exchange in the market, and the nature of production cannot explain this. This is due to the patriarchal structure and institutions in society. Delphy (1999: 83) states that the unpaid household services provided by married women are not considered a separate profession, but these services have value when purchased from the market. Delphy defends the view that women participate in a prevalent class position in which men exploit them as a class:

"The appropriation and exploitation of their labour within marriage constitute the oppression common to all women. Destined as women to become "the wife of someone and thus destined for the same relations of production, women constitute but one class (Delphy, 1977: 26)."

Delphy (1977) has used particular Marxist concepts to build her investigation of patriarchy and claims that the base of gender relations in the domestic mode of production. She asserts that there are two modes of production in contemporary society: a capitalist one and a domestic one. Gender inequality originates from the trained model, in which the husband confiscates the wife's labour. The woman does not get an equitable yield for the housework and childcare, cooking, washing clothes etc.; she provides for her husband. Therefore, Delphy contends she should be considered in the case of exploitation. Delphy grounds her contention on the traditional Marxist presumption that the organisation of the material level, especially the relations included in the production, is the centre for social organisation's specification (Delphy, 1999). Delphy's invention was not merely to claim that housework is as much a mode of production as working in a capitalist-owned factory. At the same time, it is to follow this analysis by conceptualising a different way of production in which that work is included. The first step of this argument is relatively uncontroversial today, which can be expressed as *housework being a mode of production*. But that wasn't the case when Delphy's work was first published in France in the 1970s. Delphy (1977) effectively demonstrated that housework is a production by giving examples from French agriculture. Furthermore, she claims that much analysis carried through by so-called Marxists on the status of women and domestic labour is in direct paradox with the basic tenets of Marxist analysis and thinks her analysis is more coherent with the principles of historical materialism. Afterwards, Delphy puts forward that women's relation to production

is defined not by the content of the tasks being carried out by them but by the nature of the social relations under which they labour:

"I would contend that, on the contrary, far from it being the nature of the work performed by women which explains their relationship to production, it is their relations of production which explain why their work is excluded from the realm of value (Delphy, 1977: 4)."

Delphy considers the injustice that women are exposed to more than men while working in a paid job due to the housework duties imposed on women. Delphy strongly opposes those who say that capitalist relations primarily determine women's oppression. She considers this type of theorising to be particularly harmful in its effects on the women's movement. As pointed out by Maxine Molyneux (2012: 118-9) who is a Pakistani sociologist focusing on the women's movement:

"Although the importance of female labour in the family is not always acknowledged, it has been an indispensable contribution to the economy. In history, women have almost always done other things besides housework. This is especially true where a family is a production unit, for example, in large farms, retail trade, and workshops; even today in France, there are more than a million women in agriculture, classified as support for the family, i.e., unpaid workers. As a result of the development of industrialisation and the decline of subsistence agriculture, female labour has ceased to be fully exploitable in the family; for this reason, some women were withdrawn from wage labour, while others were condemned to full-time housewives, deprived of the possibility to participate in production for the market. However, for two reasons, women's participation in wage labour did not lead to a significant change in their general situation: First, whether or not they worked outside the home, all women continued to spend unpaid household labour; secondly, in cases where women participate in paid labour, their wages are most likely controlled by their husbands and used to cover the services that women have provided in the past (such as childcare and laundry). So, the only difference is that women do housework in return for their livelihood before joining paid labour. When they join paid labour, they no longer receive any compensation because they make their living in the paid sector. The marriage contract that most women have at some point in their lives has led to this continuation. This common position in the contract constitutes the basis of the common class situation of women. Women are deprived of their right to control their labour through marriage because they no longer have the freedom to sell that labour. How to spend their labour hand over to use the products of their labour is subject to the will of their husbands. Therefore, men exploit women's labour and, as such, they oppress women in the class."

Molyneux continues to remark that gender and class are closely interrelated for explicit motives generally; poor women are so quickly mobilised by economic exigency.

When governments fall through basic supply needs, women take away their backing. When the subsistence of their families, particularly their children, is menaced, women compose the body of troops of bread rebels, protesters, and petitioners (Molyneux, 2001: 44).

The status of women in the capitalist system is considered to a great extent. Women's exploitation is emphasised by simulating the relationship between men and women, labour and capital. In the socialist system, it was foreseen that women would be emancipated. Engels would notice the emancipation of women arising from their expanded entering into the domain of production:

"The emancipation of woman would only be possible when women can take part in production on a large, social scale, and domestic work no longer claims anything but an insignificant amount of her time (Engels, 1972: 221)."

This statement functions with the gendered supposition that women inherently take responsibility for domestic labour. This process has no place in terms of the division of society into social classes. In the state socialist societies following the Russian Revolution of 1917, this self-assured argument by Engels was repeated many times to prove right and their lack of success in indicating the emancipation of women expressively. The final statement of this intentional gender-blind approach of Marxism was professed by a Yugoslav official in the 1970s, whom:

"Marxists have ascertained that the causes of the unequal position of women do not lie in their oppression by men, and those women do not constitute a uniform stratum; rather, their status is inextricably linked to the existence of class society based on the exploitation of man by a man based on private ownership. Hence the only way to achieve the emancipation of women is by pursuing the road to the revolutionary struggle to topple the class social system (Quoted in Wilber & Jameson, 2013: 1023)."

It is propounded that the struggle against the capitalist system is a required condition for the emancipation of women. Since the subordination of women is a structural characteristic of the capitalist system.

Within all these contexts, in respect of Marxist economic thought, it can be articulated that women's domestic work has no material value. The labour that women spend does not directly affect the production of a commodity materially. Beyond that, it is evident that women's emotional, spiritual, and mental labour is not considered.

2.3. The institutional economic thought: Institutional Determinants of the Exclusion of Women Labour

Gender is a series of social relationships generated in a particular institutional frame of reference (Jones, 2007). Few economic historians deal with the relevance of gender-division-based institutional structures. Most neoclassical and Marxian accounts of the rise

of capitalism assume a stage-based transition from precapitalist to capitalist institutions without explicit consideration of social, cultural, political and institutional conflicts that do not comply with this progression. Inequalities based on gender sticky cultural norms about it, exonerating many historical representatives of accountability for them. Nonetheless, gender issues cannot be demoted to simply being informed and motivated through cultural relationships. Instead, as Frasner (2007) puts forward, gender requires to be comprehended using a bifocal objective: one that associates gender with the economic structures of society, that is, the gender-based division of labour, and the fundamental distinction between paid productive labour and unpaid reproductive and domestic labour, and one that clarifies how status is specified within a different cultural framework, especially institutionalised forms of interacting that are culturally appraised as masculine and feminine.

Economies are being affected by institutional factors and gender beliefs, which are cultural models that exemplify what most people rely on or ratify as being true about the classifications of men and women. By acting from here, the institutional economic thought confirms the existence of a gendered division of labour in economies. The ability of women to participate in the labour market, for example, is frequently hindered by custom and sexist rules and institutions which, as Douglass Cecil North (1990: 3)-who was an American economist known for his studies in economic history by applying economic theory and quantitative techniques to clarify economic and institutional change- has claimed, institutions are the rules of the games in a society, or more formally, are humanly devised constraints that structure human interaction and affect the way markets function. As much as possible, these constraints require to be included in macro models and enrich economic policy:

“Neoclassical theory is simply an inappropriate tool to analyse and prescribe policies that will induce development. It is concerned with the operation of markets, not with how markets develop. How can one prescribe policies when one doesn’t understand how economies develop (North, 1994: 359).”

In addition, institutional economic thought imported those women, in particular, to work in lower-quality jobs and secondary markets beyond their preferences by citing the inflexibility of labour markets and the legal and institutional arrangements made by companies with monopoly power. It emphasises women’s employment in secondary jobs and men’s in high-paying primary jobs in the markets. Primary jobs in the market entail encouraging, creative, problem-solving, and disciplining personality traits. Secondary jobs are more related to the service sector and employ women and youth. Women are often employed at lower wages (Reich et al., 1973: 359-62).

Institutional economic thought has been analysed by separating men and women by hinging on the logic of neoclassical economic thought (Konca, 2006: 31). As a result of this separation, two distinct concepts have transpired in labour market, characterising *men's and women's jobs*. The labour market encapsulates women's position that is few. On the other hand, the desire of many women to work in a small number of women's careers has led to

an increase in the competition between them and, accordingly, a reduction in their wages. On the other hand, men belonging to the broader job groups face less competition in the market compared to women. Therefore, their salaries are becoming higher than that of women. As Anker puts forth:

"It is not clear whether women's preferences in the labour market reflect their real preferences before joining the labour market. Both the neoclassical and institutional economic thought ignores some critical variables that are non-economic and are located outside the labour market. They are lacking in clarification of many non-economic questions, such as why women come to the labour market having less education, why women have a narrower range of professions, why responsibilities such as housework and childcare always belong to women, or why women do not reach higher levels in their professions (Anker: 1997: 315-39)."

Gender inequality is composed of institutional forces to a certain degree, which purports that the results may not be based solely on impacts associated with the employee's qualifications (Doeringer & Piore, 1971).

2.4. Feminist Economics: Rebellion Against the Neglectedness of the Women Labour

Since the 1980s, the sex-oriented approaches and basic principles of classical, neoclassical and institutional economics have begun to be interrogated, putting women and women's labour at the secondary level in world economies. Interrogations, as well as criticism, have been mainly brought by feminist economists². Feminist economists have

² *Feminist thought can be periodically divided into first, second, and third wave feminism in the relevant literature. First wave feminism directs its critiques on the subordination of women in the economy and society. It associates the reason for this with the fact that women do not have equal rights and freedoms with men in the public sphere. The liberal feminism, which showed its influence in the 18th and 19th centuries, is periodically included in the first wave feminism. Liberal feminism has brought to the fore the argument that women are individuals just like men, and therefore they should have equal rights with men in every domain. Issues such as equality of educational opportunity and women's leadership and political participation are among the subjects that first-wave feminism is closely paid attention (Altınbaş, 2006; Kotef, 2009). Towards the middle of the twentieth century, feminist thought began to gain an appearance beyond the defence of women's rights. In addition to women's rights, it has gained an appearance that focuses on femininity. In this period being called second-wave feminism, radical and cultural feminists focused on the female body and sexuality particularly in the 1960s and 1970s (Evans, 1995; Thompson, 2002). Unlike first-wave feminism, they acted on the idea that gender discrimination exists not only in the public sphere, but also in the private sphere. Issues such as the prevention of harassment and rape, the right to abortion are the focus of radical and cultural feminists (Pearce, 1999; Schulman, 2004). Socialist and Marxist feminist thoughts are periodically included in the second wave feminism. Issues such as the improvement of women's working conditions in the market, and closure of the gender pay gap are the subjects of Marxist and socialist feminist thought (Luxton, 2014). In the 1990s, the theoretical framework of first wave and second-wave feminism started to be criticized, which offers a single solution for the emancipation of all women across the world. The impact of third wave feminism still continues robustly throughout the world, which is also described as post-modern feminism in the relevant literature (Gillis & Munford, 2004; Snyder, 2008).*

argued that the influential economic theories have shaken down women and women's labour to the economy's background. For this reason, they asserted that economics as science also does not involve women and, therefore, women's perspective. There is an inevitable linkage between the social construction of nature and social disciplines and the social construction of gender. The application of the discovery of this linkage by feminist thought to the field of economics can be qualified as feminist economics (Ferber, 1995). Within this scope, the destination of feminist economics is to purify the economics of masculinity. In addition, it can be expressed as the enrichment of economics by incorporating the experiences of all people belonging to different cultures, ethnicities and economic classes on the principle of a more multiple human understanding and identities (Nelson, 1995). Mainstream economics presents only the identity and perspective of men through the general, objective, rational and universal investigation. By this means, mainstream economics exercises implicit domination over women and reproduces it continuously through several institutions (Strassman, 1995: 1-5). This is the issue that feminist economics directly sets against. Feminist economists have disclosed that the suppositions of mainstream economics (especially neoclassical economics) are not capable of expounding economic and social advances coming off in the historical process (Serdaroğlu, 1995: 71).

Meanwhile, postmodernism paved the way for feminist theory to increase its influence on world economies and formulate new economic theories and policies. In essence, feminist economics aspires to discover the place and involvement of women in economies by unveiling the flaws through the re-examination of mainstream economics. The impetus because feminist economists have focused their criticism on mainstream economics, especially neoclassical economics, is as Serdaroğlu emphasises:

“Feminism is primarily a revolt against relations of domination. Relations of domination point to the patriarchal understanding. Another reason is that feminist economics aims to decipher the borders and break the codes of the patriarchal understanding of neoclassical economics hinged on the dominance of men. Under market-based economics, neoclassical economics tries to invalidate these criticisms (Serdaroğlu, 1997: 3-7).”

Feminist economics does not take as a goal to generate a comprehension of the economy that includes only women and takes men at the rear. Feminist economics criticises the mainstream economics' behaviour about attaching priority to men in economies by asserting that economic thought should be deputed of such discrimination (Strober, 1994). A discipline that rejects the understanding of male domination of economies and societies and criticises the sex-oriented structure of mainstream economics cannot make the mistake of defending women's dominance in economies (Kalaycı, 2017: 356). Feminist economics aims to redesign the discipline of economics by revising it to improve women's social and economic position (Strober, 1994). Thuswise, the field of economics would become more comprehensive concerning both theory and policy.

Feminist economics cannot be considered an economic thought that only considers production and consumption activities, subject to market exchange (Işık & Serdaroğlu, 2015: 12). Feminist economics has sights trained to be a thought which covers all economic activities being carried out in the market, including women's economic experiences and economic activities, i.e., domestic labour. Stand together with this objective; it professes that the subject and borders of economics should be extended. Regarding feminist economists, there are two main reasons for the devaluation of women and women's labour. One is the gender division of labour, and the other is society's existing patriarchal structure. As Blue (2017: 66) indicates:

"Gender analysis of women's positions in the labour market looks at how changing, transforming, and differing expectations affect women's labour market experience regarding women's roles as wives and mothers as being defined by society. Gender is considered a part of the complex social structure, which impacts other individuals' cultural, social, and economic status."

Feminist economics attempts to make women's invisible domestic labour visible³. The conceptual dualism between male and female sets apart the family from social production, which bounds women to the domain of domesticity (Brown, 2014: 48-57). Mainstream economics has developed its analysis on the existence of some exchange goods with the monetary value commodified and produced in the market. However, it is a significant contribution to the literature to consider different production activities such as housework, childcare and elderly care⁴, which do not transform into commodities, hence are not subject to exchange activities but play a vital role in the continuation of the capitalist

³ *The phenomenon of feminism has underlined the role of mothers' unpaid work in finding resources for the ascending of the following generation. The feminist agenda would involve provision for that work, in some sort that would turn on alternatives rather than confining women in domestic roles. Folbre (2006) has proposed that government payments to parents should be regarded as payments for services rather than as welfare. Payments for mothers would characterize women as fundamental and incarcerate them in the domestic domain. But there is some demonstration that there is culturally advancement towards a place where being confined in the role of housewife is hereafter such a menace. At that time the work of mothering was extremely combined with housework, however, the difference between the two is now obvious. We could claim that everyone makes housework, and it is logical self-care that everyone should do some housework. Caring for young children is different, which generates a public benefit, and it is logical that the entire society should contribute to the costs of this work (Folbre, 2001, 2006). Cultural evolution towards men requesting to join much more than former generations in the hand on the care of their children drops the probability of women being essentialized and confined in housewife roles. If the work of caring for young children gets provisioned as a duty to the rest of the society, it may enhance men's take upon of these works, as increased wages have taken in jobs like nursing and social work carried out by trained personnel with the aim of welfare. Indisputably, it may look intimidating to some women to abandon supervision over their children's care, particularly given the insufficient access that women have to labour market money-making and career progression.*

⁴ *Women's conventional responsibility for the unpaid work of caring dependents has enhanced their economic dependence on men and putted them on favourable circumstances especially with regard to financial and social opportunities in the labour market. Mothers earn substantially less than other women over their lifetime and face a significant risk of poverty in the event of nonmarriage or divorce. More care work is now being realized for pay, frequently by women who earn less than they would in other jobs calling for the same education and experience (England et al., 2001; England & Folbre, 1999).*

system and most of them are carried out by women. In this sense, feminist economics is an alternative point of view that highlights the role of patriarchy in discriminating against women in the labour market, declaring men to have played a substantial role in safeguarding male jobs at the expense of women (Hartmann, 1976: 139). Succinctly, the main purpose of feminist economics is to stress the contribution of women in the economic field and manifest that women are an active part of the development process in economies. Thus, expanding the boundaries of economics with different methods, theories, and policies would be actualised.

3. Overview of the Development Economics and Its Assessment in the Focus of Women Labour

Regarding the emergence of development economics as a sub-discipline, Second World War was accepted as the turning point. The collapse of the international economic system between 1939 and 1945, which corresponds to the war years, has caused a global shock. This has given real impetus to the ascendancy of development economics as a separate discipline. Herewith, development theories have started to occur. Each development theory relies on different assumptions about the nature of the development. They present their concepts by asking questions to illuminate countries' development processes by proposing their strategies (Toksöz, 2011: 13). Truthfully, the perspective of development economics on the problem of development and its solutions have differed in the historical process. Roughly throughout the 1950s and 1960s, it has taken cognisance of the notions of growth and development equivalent to each other. Development has been tackled as an economic issue that relies on production and accumulation. Private investments and assistance should contribute to industrialisation, a process in which technological improvement is principal. This, also known as traditional development economics or modernisation theory, was questioned by many scholars in the mid-1960s and lost its influence. Since modernisation theory has lost its impact, alternative approaches have come into play.

Since the mid-1980s, studies involving the social, political, cultural, institutional and environmental aspects of development have been carried out, and more holistic solutions have been proposed for the development problem than in previous periods. Since the 1990s, the notion of sustainable development has cropped out with economic, social and ecological aspects of development. When the evolution of development theories in the historical process is perused attentively, it can be claimed that there is some parallelity between the theories and the general international economic conjuncture. Women were not viewed as active actors in economies and part of the development process for a long time. The evolution of development economics, particularly concerning women's labour, will be discussed in detail from the historical perspective in the following chapters.

3.1. Modernization (Traditional Development) Theory: Unremunerative Women Labour

The emanation of development studies is mainly dated to President Harry Truman's speech (Inaugural Address) in 1949. He asked the Western world to share their technology, skills and experiences to pull formerly colonised countries out of poverty (Truman, 1949: 4-5). The stress on technological advancement and how developing countries should trace industrialisation, economic growth, and consumption that had emerged in the West came to the fore in development studies, mainly what has been denominated in the modernisation theory. Modernisation theory regards historical conventions and pre-existing institutions of alleged primitive societies as barriers to modern economic growth.

The modernisation theory presents the path and processes of developed countries as a prescription for underdeveloped and developing countries. Development has been submitted as a modernisation project in social, political, cultural and economic terms. The traditional development approach remained influential until roughly the mid-1960s. Accordingly, developing countries are directly associated with adopting developed countries' social, political, cultural and economic values and policies. From the viewpoint of the modernisation theory, Western countries, mainly Western European countries, can be classified as developed countries.

For this reason, the development path of Western countries should be taken as an example by the underdeveloped and developing countries of the world. In this way, the underdeveloped and developing countries of the world would be able to acquire economic, social and cultural wealth. The rise of the US from the Second World War as the world's most powerful state and hegemonic power contains the embodiment process of the modernisation theory. The general understanding of economics in this period involves Keynesian economic policies, the foundations of which date back to the Great Depression. The development theories generated in this period were in association with Keynesianism. Theories have claimed that economic development could be attained by implementing practical state intervention and import substitution industrialisation strategies. Most of the theories were inspired by John Maynard Keynes- his accentuation of the state's role-who supposes that market forces and private actors would be unable to procure adequate investments to develop the backward areas. The main discussions centred upon the suitable models and theories that encourage a process of industrialisation and growth.

Economic modernisation theories like Rostow (1960)'s Stages of Growth have been significantly motivated by the Harrod-Domar model that clarifies in a mathematical aspect the growth rate of a country concerning the saving rate and the productivity level of capital. Rostow has foretold that what he denominates backward areas would have to get through a predefined set of stages to achieve the US and Europe (Rostow, 1952: 26). This would only be attained by making significant investments and articulating the capitalist world economy. The large-scale intervention of the state has frequently been acknowledged. Paul Rosenstein

Rodan (1943) and Ragnar Nurkse (1952) also suggested that a big push model in infrastructure investment and the planned economy was required to incite industrialisation.

This period in question has a strong position on the place and demand of women labour in the economies. Afterwards, the Second World War demand for women's labour expanded. Especially between 1940 and 1947, the need for women labour accrued rapidly, particularly in the US (Schweitzer, 1980: 89). Women's wages rose dramatically throughout the war. They unexpectedly fell after the war as industries started to reproduce activities again. As Schweitzer indicates:

“After the war, when the defence factories closed and servicemen returned, the female labour force shrank to a size closer to that of 1940 than to that of 1944. There had been some growth. Eighty per cent of the women in the labour force in 1945 were still working, an increase of 18 per cent over the number of women working in 1940. But the rise in female employment is more appropriately attributed to the growth of traditionally woman-employing occupations (such as clerical work and electrical manufacturing) than to any changes brought by the war in either the willingness of women to work or the occupations open them. While more women were in the labour force in 1950 than in 1940, they still worked primarily in those industries that had always employed women. The barriers to women had been breached temporarily, but the return to peacetime conditions left women where they had been before 1941 (Schweitzer, 1980: 90)”.

It is pointed out that gender inequality deteriorates in the early stages of industrialisation, drives up throughout the intermediate level of industrialisation, but becomes indistinct after attaining a certain level. The traditional system of gender discrimination kept going and even escalated with rapid industrialisation, modernisation and economic development (Boserup, 1970: 53).

In the post-war period, economic progress in developing countries accelerated the gradual transition from household production to specialised production of goods and services. Meanwhile, the industrialisation effort in the period in question undermined the domestic production activities and the household industry (Toksöz, 2011: 144). The establishment of large industrial enterprises has led to the collapse of many household industries. These radical changes have also pushed men working at home towards becoming factory workers. On the other hand, women have continued to work predominantly in the household industry, which declined in number and importance. They were also excluded from income-generating economic activities in the market. The majority of workers were men in capital-intensive production sectors such as steel, shipbuilding, industry and automotive in the developing countries of Latin America and East Asia, which adopted import substitution industrialisation strategies throughout the period in question. On the other hand, women were predominantly employed in low-tech production sectors such as weaving and food. As it can be understood, the workforce requested by the system was

mainly met by the male workforce, and women were thrown into unskilled jobs and second place in the economy.

3.2. Dependency Theories: Understanding the Inequalities of Women's Unpaid Labour

The validity of the modernisation paradigm in the world economy began to be interrogated towards the mid-1960s. The modernisation paradigm was shortly criticised for its theoretical and empirical bases. Mainly, Rostow's evident relation between anti-communism and modernisation contributed to the criticisms against modernisation theory for being only a device for the US-led Cold War in opposition to communism. Modernisation theory was also criticised for accepting a suspicious distinction between the traditional and modern and characterising development in a linear and iterable mode. A Series of socioeconomic and macroeconomic problems, particularly in Latin American countries, has proven that the modernisation paradigm does not apply to all countries.

Dependency Theory has been effective since the mid-1960s, which has offered thorough elucidations of underdevelopment in many aspects. Paul Baran (1958) was the first propounder of the dependency theory, and the theory was subsequently further expanded and enhanced by many theorists, including Andre Gunder Frank (1966), Samir Amin (1974) and others. The dependency theory hinges on the concept of exploitation of the poor undeveloped countries by the capitalist developed countries. Dependency occurs since "some countries can expand through self-impulsion while others, being dependent, can only expand as a reflection of the dominant countries, which may have positive or negative effects on their immediate development" (Dos Santos, 1970: 231). In this context, it is originally Marxian in character. Dependency theory illuminates development and underdevelopment by taking a capitalistic framework to the centre.

Dependency theory claims that the development prescription proposed by the modernisation paradigm cannot be easily implemented in underdeveloped countries because of the dependency in question. Baran asserts that colonisation prohibited industrialisation in the colonial countries since the profits that could have been reinvested in productive areas were transferred to the centre of the colonial power (Baran, 1958). Accordingly, he put the ground for dependency theory's comparison of the relation of exploitation between capitalist and worker to that of the geopolitical centre and periphery or metropolises and satellites (Frank, 1966). This was an obvious criticism of modernisation, which insists that the growth of dual economies or traditional societies could be achieved by switching from the traditional to the modern sector. It would not be possible to carve out a uniform development strategy that relies on Western countries' experience without considering the underdeveloped and developing countries' political, economic, social and cultural possibilities. The dependency theory proclaims that women continue to be exploited despite the technological developments that encourage women's participation in the labour force in the development process throughout the world (Günday, 2011: 70). Furthermore, it has been accepted that

keeping the wage level of women at the lower limit, and exploiting women at this point, is a kind of necessity to ensure the continuity of the capitalist system in the world economies.

Another critical point is that the crises experienced by capitalism since the 1970s have caused a significant loss of momentum in the production process in Western countries. As a result, restructuring the world economies has become necessary. Reorganising production and changing the position of labour in the economic system have come to the fore, particularly in women's labour.

3.3. Globalization, Integration and Economic Development: The Emergence of Women Labour in the New Economic Order

Over the past few decades, countries have rapidly integrated into the global economy. This has led to unprecedented global market growth and the emergence of capitalist relations worldwide. Neoliberal economic policies lie behind these advancements. In this context, privatisation, financialisation, and deregulation policies have diffused to almost all countries. These policies continued by accelerating their effects on world economies, especially in the globalisation process that thrived afterwards the Cold War. From the 1980s onward, Keynesian or socialistic policies of full employment, well-built public sectors, and protection of domestic industries yielded precedence to neoliberal policies of flexible labour, privatisation, export-led growth and foreign investment promotion. This change brought about the end of the welfare or developmental state, the wearing out of trade unions, and the reduction of numerous social benefits and rights.

On the other hand, globalisation has laid the groundwork for extraordinary economic, political, and social changes. After adopting export-based industrialisation and development models in the globalisation process, dramatic increases have been experienced in women's employment in developing countries. Employment in the manufacturing and service sectors has enhanced significantly and more rapidly than in agriculture in almost all developing countries (Toksöz, 2011: 146).

The phenomenon of globalisation has induced the rising exigency for women workforce in world economies. Parallel to this, the importance of women's labour, and accordingly, women's employment, has enlarged worldwide. The competitive environment has put pressure on all world economies, manifesting itself in every domain using globalisation. Countries that want to augment their global competitiveness have modernised their labour markets. It has begun to be acknowledged that preventing the exclusion of women from the labour market is one of the driving forces of economic development.

The labour market was contemplated by women's unpaid domestic labour who were heads of households and whose vital needs were provided by women. This presupposition of domesticity, in turn, worked into women low-wage workers once they presented their labour to the productive sector. As the advancement of capitalism and globalisation kept going, capital demonstrated gender-blindness, and women's cheap, efficient labour was

regarded to be more expedient than that of men (Elson & Pearson, 1981). Furthermore, the neoliberal policies, especially trade liberalisation, have substantially influenced women, as export-oriented production has enlarged female employment in most developing countries (Standing, 1989).

The new international division of labour has taken place in developing countries (notably the newly industrialised countries of East Asia), specialising in exporting low-tech traditional consumer goods. They were at the forefront of exporting these goods by utilising cheap women's labour and advanced in production. Employment of young women in export industries such as textiles and electronics started in East Asia, where they have taken an essential part in productive growth (Horton, 1996: 3). After a while, they specialised in producing high-tech products, especially electronics. They continued to employ women's labour as an important and inexpensive source of the production process.

A great deal of analysis about the impacts of globalisation in developing countries has arisen from the inclusive effect of enhancing transnationals and the new international division of labour (Frobel et al., 1980, Jenkins, 1984). There has been attention to both negative and positive impacts within the literature, especially on women (Elson & Pearson, 1981; Mitter, 1986). Since globalisation, women's employment has increased, gaining a certain degree of economic independence. However, this has increased their domestic responsibilities even more. Particularly within the scope of the structural adjustment programs, the withdrawal of the state from the social sphere can be regarded as one of the factors that paved the way for this. Structural adjustment created a triple burden for women (Moser, 1992), and globalisation has consolidated its results. As state welfare systems have been suspended, such provision has passed over unpaid women's labour. The new global labour market relied on low-paid, flexible work; poor households could not pivot on a sole breadwinner to keep alive (Standing, 1989). Women have become an essential component of this liberalised labour market. As part of the structural adjustment policies, certain areas have emerged where women are stacked as unregistered, uninsured, insecure, and low-paid, with often uncertain and long working hours and poor working conditions. In addition, women have been exposed to exploitation in many economies under flexible and deteriorated working conditions as a cheap labour force in the globalisation process. Patricia Fernandez-Kelly and Diane Wolf addressed this ambivalence in their analysis of women's labour and globalisation:

"Globalization is a double-edged process as far as women are concerned. On the one hand, employment opportunities derived from transformations in the global economy produce new kinds of capitalist and patriarchal controls over women. In addition, those women receive very low wages, often below subsistence standards. On the other hand, in Indonesia, new modalities of labour gave women tools with which they resisted patriarchy. Furthermore, despite their level of exploitation, those jobs were often more appealing than the pre-existing options. Women I interviewed preferred work in global sweatshops to the village rice fields" (Fernandez-Kelly & Wolf, 2001: 1246).

Women were generally employed in jobs considered a continuation of women's feminine roles, such as housekeeping, child and patient care, cooking, knitting and sewing. Jean I. Pyle and Kathryn B. Ward, in their studies examining the impact of globalisation on women's labour, identified four sectors in world economies where primarily women work, which reinforce the reproduction of the female roles:

"Over the last three decades, increasing numbers of women have become sex workers, maids, workers in export production, or microfinance recipients to earn incomes in the restructured global economy. Many must migrate domestically or internationally to obtain this work. These 'industries' now span the globe, occurring in most areas of the developing world and industrialised countries" (Pyle & Ward, 2003: 470).

The expansion of the service sector has brought along a rapid increase in women's employment. The service sector has reflected the large-scale increase in female jobs worldwide in the fields of activity and occupations belonging to this sector (Kuhn & Bluestone, 1987: 8-9). As also Hartmann points out:

"The service sector grows because the availability of cheap women labour creates a labour supply. The use of women in the labour market instead of the home provides demand for substitute services, such as replacing ready-made food with home-cooked meals. In addition, the commercialisation of individual services requires increased female participation in the labour force" (Hartmann, 1987: 55).

All these progress have also incorporated the expanding use of women's labour. For example, while the adult female population working outside the home in the US was 34 per cent in 1960, it has exceeded 60 per cent today approximately (Einstein, 2013: 34). Although the exigency for women's labour has increased as a necessity of the process, the gender-based division of labour has continued to sharpen at the global level⁵.

Women's work is frequently insecure, temporary or part-time, with little protection and few fringe benefits. Female employment has long been intensified in the informal sector, and sexual division has cut across formal and informal sectors (Scott, 1995). The removal of regulations in labour markets, fragmentation of production processes, reduction of industrial activities globally, and new spheres of export specialisation have wholly enhanced

⁵ *Partial workers, uninsured workers, and workers working under the most severe conditions in terms of worker health and safety are overwhelmingly women. In many countries in South Asia, factory doors are locked at night on women working in shifts of clothing and toys. In a fire in a toy factory near Bangkok in Thailand in 1993, 188 workers were burned to death, and 469 women were injured. This is neither the first nor the last example. According to the ILO data of 1995, 500 million people work in the informal sector in the world. It accounts for a quarter of the world's working population and 35% of the world's gross product is realized in this sector. In some countries, this rate increases even more. For example, from 1990-1994, more than 80% of all jobs created in Latin America are in the informal sector. In Africa, 60% of the urban population is employed in the informal sector, with 9 out of every 10 jobs created being unregistered. (In order to get more information, see Eđitim Sen (2005: 18-30).*

the demand for low-paid, flexible women labour. By the agency of out-sourcing and subcontracting, women of all ages are frequently employed in smaller firms, factories or at home producing for transnational companies. The results have been an abrasion of any dissociation between the formal and informal sectors as connections between the two have been strengthened, and alterations have occurred in former modes of sexual division across different models of economic activity. Women labour is growingly integrated into world production, but in a fragmented form with conflicting outcomes. The evaluations of the authors such as Carr and Chen on the subject are illuminating:

"Existing data suggest that most economically active women in developing countries work in the informal sector. Even in the once-rapidly growing economies of East and Southeast Asia, which before the recent crisis experienced a substantial growth in modern sector employment, a significant share of women workers was outside the formal sector: for example, 43 per cent of women workers in South Korea and 79 per cent of women workers in Indonesia. However, much of women's informal paid work, particularly home-based market work, is not accounted for in official statistics. If the magnitude of women's invisible paid work were to be fully counted, the share of women and informal workers in the workforce would increase (Carr et al., 2000: 126)".

"Informal employment is generally a larger source of employment for women than for men in the developing world. Other than in North Africa, where 43 per cent of women workers are in informal employment, 60 per cent or more of women non-agricultural workers in the developing world are informally employed. In sub-Saharan Africa, 84 per cent of women non-agricultural workers are informally employed compared to 63 per cent of men; in Latin America, the figures are 58 per cent of women compared to 48 per cent of men. In Asia, the proportion is 65 per cent for both women and men (Chen, 2005: 6)".

Some scholars also claimed that the devaluation of women's labour had deepened after globalisation (Beneria et al., 2000; Blossfeld & Hofmeister, 2006; Peterson, 2008). Their significant contribution to the social production of labour is incredibly disregarded. This devaluation affects their job exploitation and enhances their home responsibilities. Globalisation is aggravated for women, which translates into additional liabilities and charges for women (Seguino & Grown, 2006; Robinson, 2006). Moghadam (2005) states that neoliberal policies increase women's obligations to cope with rising prices and shrinking incomes. Moghadam asserts that losing men's jobs or falling wages attracts women more intensely to the labour market. He argues that this reinforces the feminisation of labour; it stiffens women's participation in low-wage work in industries and services. This paves the way for the *feminisation of production*. The feminisation of output is directly related to women's labour power (Berik, 2000).

In her article, Çağatay and Özler (1995) follow the effect on women of economic liberalisation policies obtruded upon countries in the grip of financial crisis throughout the 1980s and 1990s. International financial institutions enjoined an austere set of policies

targeting liberalising markets and decreasing the state's role. They highlight the effect on women and sexual relations of structural adjustment policies and macroeconomic stabilisation. She emphasises the fact that these have generally paved the way for a fiscal tightening by applying pressure on public budgets, claiming that the fiscal policies of most governments in the last few decades mirror the enhanced authority of capital vis-à-vis labour; on the one hand, and of foreign and national investors vis-à-vis the rest of the citizenry, on the other. Government expenditure on social welfare has diminished, taking off the burden of social welfare service back into the home. Since, in most societies, the sexual divisions of labour give over women with primary liability for the care of the family, cutbacks in health and public services were dramatically reduced. Social expenditures on education and sanitation expenditures challenge them to generate a substitute. These policies had prompt unfavourable welfare effects on the poor, particularly women in poor households. Furthermore, Çağatay and Berik (1990, 1992) criticise overly simple generalisations about economic development's effect on women's share in manufacturing employment. For instance, their comprehensive investigation of Turkish manufacturing employment demonstrates that Turkey's change in national development policies had no perceptible effect on women's employment but that women are most gathered in export-oriented industries.

The developments in the information society after the 1990s, the failure of the neo-liberal and structural adjustment policies to achieve the desired success, and the universal increase in poverty paved the way for some changes in development policies. Especially in South Asia, Latin America, and Sub-Saharan Africa have been exposed to the negative impacts of the structural adjustment policies. Low growth rates and enormous increases in poverty, malnutrition, and adverse health conditions are some of these negative impacts. The widespread criticism of such consequences of structural adjustment policies throughout the 1990s forced international financial institutions and organisations to deal with the problems of countries struggling with severe socio-economic difficulties (Petchesky, 2003: 142-151). New policies have begun to be determined under the poverty reduction discourse. Some attempts have been made to create an understanding that relies on gender equality in development.

There are favoured motives because a particular focus should be on gender equality, women's economic participation and rights. First, the current stage of globalisation and neoliberal policies are specified by the feminisation of labour; the feminisation of poverty; the great numbers of women working as nursemaids or domestics; the expansion in the trafficking of women; and women's ongoing responsibility for childcare, housework, and eldercare. Second, the work of women spread both the productive and reproductive domains, or the market economy and the care economy. Third, the fragilities peculiar to world capitalism influence women unproportionally, whether in their formative or reproductive roles.

The concurrence of globalisation and gender and development includes many dimensions of women's labour and rights. Meanwhile, various approaches have been put

forward that deal with the relationship between women and development, especially since the 1980s. Most of them have been redounded to the literature by feminist theorists who are particularly interested in the problem of gender inequality. Women in Development is one of them.

The Women in Development approach accepts development and modernisation as identical and aims to include women in the development process. The policy states that women's access to financial resources, technology, and advanced services would increase their productivity, positively affecting development. The study of Ester Boserup *Women's Role in Economic Development* (1970)⁶ was published at the time when a new wave of feminists began to fight for their rights in the United States and Western Europe by bringing focus to matters such as equal rights, employment, equity and citizenship for women. Boserup launches her book with the pathbreaking statement: "The main characteristic of economic development is the progress towards an increasingly intricate pattern of labour specialisation" (Boserup, 1970: 15). She also highlights that the family's division of labour is determined by age and gender and the distribution that changes across regions and cultures. Those advancements have accelerated the debates about Women in Development.

⁶ *Her study stands for a sweeping and pioneering endeavour to give a survey of women's role in the development process. In the literature on development, the particular role of women had been greatly disregarded, especially the question of how development exerts influence on women's subordinate status in most communities. Boserup indicated a range of topics that are methodically associated with the role of women in the economy. Boserup (1970: 22) highlighted gender as a determinative element in the division of labour, which is widespread across countries and regions: "Even at the most primitive stages of family autarky there is some division of labour within the family, the main criteria for the division being that of age and sex". Both in primitive and in more developed societies, the gender division of labour within the family is ordinarily regarded as inherent. Boserup was signify that economic growth, and particularly the sprawl of capitalism in the developing and undeveloped regions and countries of the world, had not served women and men evenly. Boserup used an empirical study from Africa, Asia and Latin America to verify her results those women were being dropped back, as subsistence producers using primitive methods in the agricultural sector; as low paid workers in non-farm and urban sectors and as unpaid workers in rural domains, contributing to farm productivity subsequent to the outmigration of men. Her assertion that women especially in sub-Saharan Africa carried out much of the work required for daily subsistence generally, involving reproductive and agricultural work, whereas the men mostly were responsible for hunting, trade and warfare. Sub-Saharan Africa paves the way for the impoverishment of local women, who lost income, position and, power relative to men. She also remarks that in Africa that is common for "food production to be taken care of by women with little help from men" (Boserup, 1970: 16). She points out that "the subsistence activities usually omitted in the statistics of production and income are largely women's work" (Boserup, 1970: 163). Boserup demonstrated that particularly African rural women had experienced a great increase in their amount of work during this century, they had become the leading producers not only of subsistence food but also of cash crops. Until that time, in spite of considerable information on the determinative contribution of women in agricultural production, it was supposed that they solely supported small farmers, who were nearly conceptualized as male consistently. Besides the Boserup's study on women in agriculture, Agarwal's (1994) investigation of gender and land rights in South Asia, and research about the effects of neoliberal policies on women and rice production in the Gambia (Carney, 1992) show the gendered nature of agriculture and agrarian transformation in developing territories of the world. These researches focus attention on the social dimensions of what carves out women's and men's labour in agriculture, besides the gender segregation in the rights to land and other rural properties.*

Boserup's study infused the United Nations Decade for Women (1976-1986) and opened up a research and investigation stage about gender. Following the initiation of the United Nations, a remarkable body of literature has given attention to the unfavourable impacts of industrialisation, economic modernisation, and commercialisation on the socioeconomic position of women worldwide. Since then, their focus has been canalised to various dimensions of women and development in several regions of the Third World. After this progress, Marilyn Waring's 1988 study, *If Women Counted*, contributed to better recognising the topic. Over the past few decades, national governments and scientists, researchers and activist groups have contributed substantially using their studies and activities to this endeavour.

Alongside the Women in Development approach, the Gender and Development approach came into sight in the 1980s. Unlike the Women in Development approach, gender replaced the concept of women. This approach deals with women's lives in various private and public spheres and examines women's accession to productive resources such as credit, education, and land. Within the context of the approach, development has not traditionally been considered merely in the economic aspect.

In all these contexts, it is frank that the view of women's labour in economies has chopped about in the neoliberal and globalisation process. However, although women's labour has increased in economies, women have faced many problems such as low wages and legal insecurity. Women are seen as a flexible and cheap labour factor that has significantly boosted women's employment rates in economies.

3.4. New trends in Development and Women Labour: Visualizing Economic Policy Which is (Professedly) Friendly to Women

In the late 1990s, economic and social problems such as financial crises, unemployment, increasing inequality, and poverty emerged in many developing regions where neoliberalism implemented neo-liberal economic policies. Under the current stage of globalisation in which neoliberalism stood out ideologically, financed capital is becoming ever more compelling. This paved the way for the balance of payments crises and drove the domestic economies into disorder like those experienced by a host of East and Southeast Asia countries in the 1990s. Accordingly, the fighting against poverty has started to form almost all international institutions and organisations (Massow, 2000: 45-47). Fundamental humanitarian issues such as equality and poverty in income distribution occupied more space than the macroeconomic indicators in the 1980s. The impact of international institutions and organisations on the evolution of the development paradigm is undeniable. Particularly in the World Bank, the discourse has shifted from structural adjustment to poverty reduction. The Bank's report (*Engendering Development: Through Voice, Resources, and Voice*), published in 2001, emphasises the negative impacts of gender inequality on development. Concerning the report, in the case of gender inequality in economies, economic growth and development would not be carried out effectively, which causes poverty (Kuiper & Barker, 2006: 1).

Therefore, the interest in women's labour as an element of human capital in development debates has dramatically enhanced. The Millennium Development Program started to be implemented in September 2000, which underlines that the development of countries is directly related to political, cultural, social and institutional factors and economic factors. The program has searched for solutions to problems related to the environment, education and health, which hinder the realisation of the development process in underdeveloped countries. This program targets fighting against poverty and hunger, providing the availability of essential services such as education and health for all people, ensuring gender equality and women's empowerment, reducing infant and child mortality rates, and preventing lethal and epidemic diseases such as HIV and AIDS. These goals have carried a new perspective on development. The principles of the women's empowerment program also have included a function that would change the mindset of women's labour in development and eliminate gender-based discriminations that exist in many countries. The European Employment Strategy⁷ (which dates back to 1997) is being put into effect in the European Union countries that have carried out important actions on unemployment. The main scope of the strategy is to provide entrepreneurship, employability and equal opportunities in the labour market. This framework aims to increase the quality of human capital to ensure the full implementation of the policies. In particular, promoting education policies and equality of opportunity in education have become the main objectives (Öz & Karagöz, 2015: 100-1). Another important aim of this strategy is to support the economic empowerment of poor women, particularly in underdeveloped and developing countries.

In addition, gender mainstreaming was declared on the official agenda of the European Union in 1998. It has started taking place among the candidate countries' accession criteria to the European Union. Gender mainstreaming is generally about removing gender-based barriers to access opportunities and resources in economies. This target envisages the realisation of legal measures and institutional arrangements that will eliminate gender inequalities in issues such as violence against women and political participation and the principle of ensuring equality of opportunity in the labour market (Lombardo & Meier, 2006). Gender mainstreaming has also been carried out by the World Bank since 2006 under the title of Gender Action Plan. The Plan declares women as the basis of efficiency and sustainability in economic development. It mainly includes incentive policies aimed at expanding the employability of women in labour and financial markets.

⁷ Leon (2009: 197-209) pointed out that the reconciliation of work and family life has been an evident EU policy discourse since the beginning of the 1990s. It specified the two main policy instruments for reconciling work and family life for women: childcare provision and parental leave. While the former falls within the domain of welfare provision, the latter is among mechanisms designed to enhance flexible work arrangements. Both instruments aim to support working parents. Work/family balance strategies are firstly purposed to simplify the engagement of young mothers in the labour market by proposing public childcare provision; this is done at the cost of not investigating other more far-reaching and complex understandings of the work/family conflict according to her (In order to get detailed information, See, Leon 2009:197-209).

The World's Women 2000: Trends and Statistics is the third issue in the series of reports⁸ (the other two issued in 1991 and 1995) that investigates the position of women through the objectives of statistical data and analysis. It lays out an all-inclusive study of how women live in different regions. It emphasises the primary statistical analysis findings on women's position as to men's worldwide in various domains, including families, health, education, work, human rights and politics. As indicated in the report:

"Women now comprise at least one-third of the world's labour force in all regions except Northern Africa and Western Asia, and those proportions are increasing" (UN, 2000: 109).

UNDP⁹ and the World Bank have revealed that gender inequalities prevent economic growth and development. For example, the World Bank's Development Report, Gender Equality and Development, published in 2012, stresses that poverty, weak economic development, and a lower standard of living are inevitable in countries with gender inequality (World Bank, 2012). According to the estimates of the World Bank, a six-point increase in the ratio of working women in any country would increase the national income by 7%. On the other hand, it would reduce poverty by 15% (World Bank, 2012).

This report provides a multidimensional analysis of increasing women's employment in underdeveloped and developing countries. Besides various issues such as high female mortality rates, girls' access to educational opportunities, sexual violence, and gender differentiation in private property ownership. Report highlights that gender-related inequalities in the labour market create negativities in the process of capital accumulation. It argues that the expansion of women's participation in employment enhances productivity. In the report, women are regarded as being merely a human capital element. As stated in the description, it aims to improve women's equipment and channel this equipment into the generation of surplus value for capital. In this respect, it is misleading to think that the World Bank has a specific priority for women's employment. Women have particular importance for capital accumulation. Women are also seen as the ideal labour force for flexible production, which has recently not fallen off the agenda. As stated in the report, gender inequality reduces a country's ability to compete internationally, primarily if that country

⁸ In order to get further information, see UN Statistics Division (UN Stats), *Statistics and indicators on women and men: The World's Women 2000, Trends and Statistics*, <<http://unstats.un.org/unsd/demographic/products/indwm/wwwpub.htm#pub.htm>>, 05.04.2022).

⁹ The UNDP Gender Equality Strategy 2018-2021, the third such strategy, ensures a road map to amplify and associate gender equality into all dimensions of UNDP's work to decrease poverty, build strength and reach peace in communities and territories, helping to trigger progress towards the 2030 Agenda. Especially, the strategy describes the UNDP's strategy about strengthening interventions handling structural changes that accelerate gender equality and women's empowerment and exalt the integration of gender equality into its work on the environment, energy and crisis response and recovery (In order to get more information, see: <<https://www.undp.org/content/undp/en/home/librarypage/womens-empowerment/undp-gender-equality-strategy-2018-2021.html>>, 12.11.2019).

specialises in the export of goods and services that are equally suitable for producing male and female workers.

Officials of the World Bank and other international financial institutions insist that women's education and employment in the labour market are essential for economic development. The World Bank official stated that women continue to exist as a vast, untapped economic resource in the Middle East and North Africa. More women workers must transform economies that rely on enhancing private-sector exports to compete worldwide. While women constitute half the 325 million people in those regions, and some countries, as many as 63 per cent of university students, they make up only 32 per cent of the labour force, about the report, "Gender and Development in the Middle East and North Africa: Women in the Public Sphere." "No country can promote the standard of living and raise the well-being of its people "without the participation of half of its population" said Christiaan Portman, World Bank's vice president. He continues: "Experience in other countries has repeatedly demonstrated that women are fundamental actors in development". However, the insistence of international financial institutions on this issue paradoxically goes hand in hand with other neoliberal beliefs that require the withdrawal of public resources and institutional support from the social services that families and women need most¹⁰.

4. Conclusion

To grasp the status of women's labour in the economies and its evolution and contribution to the development process, it is essential to investigate that in the different economic theories and the capitalist system. The assignment of hierarchically structured tasks to men and women relates to the patriarchal system that allows men to control women's labour and bodies. Capitalism has been intertwined with the patriarchal system since its early emergence. The patriarchal inequality permeates the cells of social fabrics and continues to exist by gaining new and specific appearances through capitalism. Male domination itself is a system that dominates women. On the other hand, capitalism oppresses women in particular ways by being promoted by patriarchy. These forms of oppression can be encountered in the household, in the process of unpaid labour, and the work-life.

From the point of view of classical and neoclassical economics, women are expected to be the primary caregivers in families. Mainly neoclassical economics contends that women are preponderating over men in domestic work through their instinctive maternal senses and skills. The presence of women in the world is frequently not discerned by neoclassical economics, which takes a strangely reductionist and seriously trite shape. Economic theory interesting in inequality between the genders gives attention to inequality in wages, job recruitment, promotion and firing for women and men with indistinguishable qualifications and availability. Neoclassical theory clarifies these inequalities as an outcome

¹⁰ In order to get more information visit: <<https://www.nytimes.com/2003/09/17/world/women-called-mideast-s-untapped-resource.html>>, 18.03.2022.

of free and rational choice, relying on the biological distinctions between the sexes. The founders of neoclassical economics rummily argued that women's involvement in economic life would harm family life. The likely adverse outcomes that may arise if women are included in the labour market have also been expressed.

It could be argued that Marxist economic thought does not regard domestic labour as productive. On the other hand, it has a gender-based structure. Unpaid work is unproductive. Thus, it would be hard for them to argue that women undertook fundamental political or economic roles. Women's unpaid domestic labour includes the generation's production, the care of the elderly and patients, and the reproduction of wage labour-power. In this process, women produce objects of need and use values. However, it is a fact that these labour activities are not related to the nature of women. Women undertake pregnancy, childbirth, and lactation due to their biological characteristics in the reproduction of the human generation. However, there is no biological reason for women to provide care beyond this. These activities are imposed on women by patriarchal social relations. In other words, it is socially determined. However, in *Grundrisse* and *Capital*, Marx did not examine women's domestic production as an essential component of social output, which constitutes an important component of social production.

On the other hand, the subordinate position of women in economies can be considered a derivative of the relations among different social classes. Analysis of household relations also has an important place in investigating ties between social classes. However, as Hartmann (1979: 13) points out, it "gives no clues about why women are subordinate to men inside and outside the family and why it is not the other way around. Marxist categories, like capital itself, are sex blind. The categories of Marxism cannot tell us who will fill the empty places".

Feminist economic thought exhibits a critique of mainstream economics by questioning the perspective of women in economies. It criticised the exclusion of women from economic, social and political life due to some ongoing social, patriarchal and cultural norms in economies. Feminist economics criticised the neoclassical theory of economics and the gender phenomenon that has come to the fore in almost every domain. For this reason, it cannot be expected that feminist economics would have a utopia that excludes men and sets sight to constitute women's dominance in economies. Feminist scholars and activists worldwide carry on that any benefits or enhanced demand for women's labour and entrepreneurship have been equilibrated by worsening work conditions and wages, burdens on women-owned businesses, ongoing sexual-based segregation, and powerlessly compulsory or insufficient labour law-making. Aside from demonstrating the extent of women's integration in the world economy, feminist scholars have also advanced theoretical models clarifying why and how this has occurred. They give viewpoints from a broad series of fields, such as development theory which highlights the masculinisation of the development process. All these are essential contributions to recognising the place of women's labour in economies and the development process.

By the way, institutionalists associate gender norms with critical economic institutions. It is possible to acknowledge that gender norms as exemplary for how historical and cultural patterns influence the position of women labour in economies. A typical property of labour markets worldwide is that particular jobs are carried through only men, while others are fulfilled only by women. Feminism desires to bring women into sociality as individual actors with rights equal to those equal to exclusive adult men. Feminist economic thought ideologically encourages women to be individuals rather than members of families or communities. In the 1960s, especially with the influence of second-wave feminism, issues such as domestic production and childcare by women began to find a place in the economics literature.

On the other hand, it would be fundamental to look at development economics and its evolution within the historical process to find out the sight of women's labour in the development process.

In the period of import substitution industrialisation, when Keynesian economic thought and modernisation theory was dominant, the importance of women's labour was low. Boserup's study on women's contribution to economic development showed the momentum for the concern for women in action.

On the other hand, neoliberalism has become the dominant economic thought globally since the late 1970s. Neoliberal policies have made themselves felt through the practices such as export-oriented industrialisation, the flexibility of production processes, limitation of social government expenditures, and privatisation. Changes in the development theories through the neoliberal policies since the 1980s have had an expressive impact on women's lives, who have become enhanced articulated as actors in the world's the production and consumption processes. At this time, globalisation has also influenced women in the most diverse dimensions of their lives and the outmost reaches of the world. The globalisation and deregulation of the labour market and the commodification of basic needs led to the transfer of the burden of work such as education, health and care to the family.

On the other hand, women have become voluntary carriers of these burdens due to the sexual division of labour in world economies. In a patriarchal capitalist society, when women participate in paid work regarded as male work, the burdens of housework and care continue for them, though it lessens. Although the presence of women in working life has continued for centuries, no significant change has been observed in men's duties in sharing domestic chores.

After the 1990s, by way of the emergence of the human development perspective, the importance of the human factor in development dawned on, and the difficulty of women labour in economies became prominent. On the other hand, within the basic framework of the Millennium Development Program being introduced in the 2000s, some policies were put into practice, aiming to provide gender equality and augmentation with the gravity of

women's labour worldwide. Gender has been a frequently mentioned subject in a significant part of the reports being published by international institutions and organisations. But the words offer a description rather than a structural or historical analysis of gender inequalities. The World Bank's 2012 World Development Report is one of the most important examples.

Today, the existence of a male-dominated society stands before us as an undeniable fact based on the exploitation of women's labour, adorned with patriarchal remnants. Besides that, it is easier for men to earn a regular income, access social resources, and participate in artistic and scientific activities. This is the main obstacle preventing women from working paid jobs, participating in various activities, and having a self-developing occupation. Social policies should be designed to empower women and consider their unequal position in society. This moment is inevitable for the emancipation of women and the construction of a new community.

Last but not least, the principal driver that stakes out the development process is humans. Accordingly, it is ineluctable that the primary purpose of development is to provide equal opportunities to everyone and increase their living standards without creating gender apartheid in health, education, and income. Societies that do not invest in women and where women are not brought into the economy would always be incomplete concerning development.

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Determinants of the Export of Financial and Insurance & Pension Services

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Finans ve Sigortacılık & Emeklilik Hizmetleri İhracatının Belirleyicileri

Abstract

International trade in services, defined as the backbone of the global economy, is expected to take approximately 50% by 2040 globally. Among services, two service categories are financial and insurance & pension services. Considering the contribution of the exports of these services to the local and global economy and the increasing trend of their export values, this study aims to examine the main determinants of the export of financial and, insurance & pension services. Therefore, it analyses the impacts of changes in Foreign Direct Investment Inflows and Outflows, Financial Institutions Depth, Corruption Perception Index, Gross Domestic Product, and Federal Funds Rate on the export of financial and insurance & pension services. The Panel Fixed Effect Model is applied using annual panel data from 2005 through 2018 for 82 high and middle-income countries. Empirical findings show that Financial Institutions Depth and Gross Domestic Product have positive effects on the export of financial and insurance & pension services in high-income countries, while for middle-income countries, Financial Institutions Depth, Gross Domestic Product, and Foreign Direct Investment Outflow variables promote the export of financial and insurance & pension services.

Keywords : Service Sector, International Trade in Services, Financial Service Export, Insurance & Pension Services Export.

JEL Classification Codes : C23, F10, F30, G20, G22.

Öz

Küresel ekonominin bel kemiği olarak tanımlanan uluslararası hizmet ticaretinin, 2040 yılına kadar dünya genelindeki payının yaklaşık %50 olması beklenmektedir. Hizmet kategorileri arasındaki finans ve sigortacılık & emeklilik hizmetleri ihracatının yerel ve küresel ekonomiye katkısı ve ihracatındaki artış trendi göz önüne alındığında, bu çalışma, finans ve sigortacılık & emeklilik hizmetleri ihracatının temel belirleyicilerini incelemeyi amaçlamaktadır. Doğrudan Yabancı Yatırım Giriş ve Çıkışları, Finansal Kurumların Derinliği, Yolsuzluk Algı Endeksi, Gayrisafi Yurtiçi Hasıla (GSYH) ve Federal Rezerv Bankası Fon Oranlarındaki değişikliklerin finans ve sigortacılık & emeklilik hizmetleri ihracatı üzerindeki etkilerini analiz eder. 2005-2018 yılları arasında 82 yüksek ve orta gelirli ülkeler için yıllık panel veriler kullanılarak Panel Sabit Etki Modeli uygulanmıştır. Ampirik bulgular, yüksek gelirli ülkelerde Finansal Kurumların Derinliğinin ve GSYH'nin finans ve sigortacılık

& emeklilik hizmetleri ihracatı üzerinde olumlu etkileri olduğunu ortaya koyarken orta gelirli ülkeler için, Finansal Kurumların Derinliği, GSYH ve Doğrudan Yabancı Yatırım Çıkış değişkenlerinin finans ve sigortacılık & emeklilik hizmetlerinin ihracatını teşvik ettiğini göstermektedir.

Anahtar Sözcükler : Hizmet Sektörü, Uluslararası Hizmet Ticareti, Finans Hizmeti İhracatı, Sigortacılık & Emeklilik Hizmetleri İhracatı.

1. Introduction

Services are the most dynamic component of international trade and the backbone of the global economy (WTO, 2019a: 7). They are defined as the engine of growth since they cover a large economic area (Mattoo et al., 2008: 335). Trade-in services can help economies achieve more rapid growth, enhance domestic firms' competitiveness, and promote inclusiveness regarding skills, gender, and economic activity location. Since services are supplied as an intermediate in producing goods, and digital technologies provide remote connections, more services are tradable. Developing and developed countries try to improve themselves in this field (Amador et al., 2019: 128). The share of trade in services in world Gross Domestic Product (GDP) has followed a linearly increasing trend nearly for 50 years. In the twentieth century, the service sector is seen as one of the principal actors in global trade. It is estimated that the share of trade in services will reach approximately 50% by 2040 globally (WTO, 2019a: 10). Therefore, trade in services provides international investors and exporters (Lu et al., 2012: 1637).

General Agreement of Trade in Services (GATS), entered into force on January 1, 1995, is the first set of legally enforceable rules covering international trade in services. It provides transparent and predictable conditions under which services companies can operate (WTO, 2019a: 11). GATS expresses international trade in services as the service supply through four modes - cross border supply, consumption abroad, commercial presence, and natural persons - based on the producer and the consumer (United Nations, 2010). Besides GATS classification, United Nations (UN) Extended Balance of Payments (EBOPS) 2010¹ declared 12 service categories in the *Manual on Statistics of International Trade in Services*.

Two of them are the financial and insurance & pension services. Financial services assume greater importance and are defined as the economy's brain and regarded as a source of comparative advantage and trade of economies (Do & Levchenko, 2004: 2; WTO, 2019a: 67). According to El Khoury (2006: 7), financial services prove a country's development level since they enable global transactions and facilitate exchanging goods and services. Developed financial systems positively affect economic growth. Essentially, the financial system is the core component of the economy. It is related to economic and socio-political institutions (Dowell-Jones & Buckley, 2016: 8). Since all economic activities depend on access to financial services, the share of the financial service sector in global trade has grown since the 1980s by encouraging global economic growth via financial intermediaries (such

¹ See; <<http://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/annexes.htm>>, 25.05.2021.

as banks and insurance companies), markets (such as stock and bond markets). Insurance & pension services have a significant role in economic development (Khatun, 2016: 215). At the same time, the rapid growth of financial services contributes to the development of the insurance & pension service sector (Impavido & Tower, 2009: 5). Insurance & pension services play a significant role in the functioning of an economy as facilitators of production in trade in all goods and services (Rouzet et al., 2014: 4).

As a part of the financial system, the insurance sector has a critical role in financial and economic development (Khatun, 2016: 215). Insurance & pension services protect people who withdraw from the labour market from falling into poverty (Cuadros-Menaca, 2020: 1). According to Haiss & Sümegi (2008: 422), the rationale behind how insurance influences economic growth is two. First, the significance of the insurance sector among the total financial intermediation has increased over time. Second, the engagement and intensity of links between insurance, capital markets, and banking have improved. The development of insurance & pension systems promotes the role of the capital market in supporting growth (Impavido & Tower, 2009: 6). Therefore, as a component of the financial service sector, insurance & pension services play a significant role in the functioning of an economy as facilitators of production in trade in all goods and services (Rouzet et al., 2014: 6). The prominent role of these sectors in the regional and global integration of the financial services markets and the economic growth should not be ignored (Gani & Clemes, 2016: 512).

In particular, countries have power in international business areas by increasing their exporting activities to support their national economies (Lindemane, 2011a: 961). Lindemane (2012: 355) claims that the core point of exporting financial services is a country's export capability. As an indicator of a country's export capability, the 'market capacity' reveals that the level of financial services calculated in the currency may be realised at a certain price level. Lindemane (2011a: 962) created a scheme that shows the key factors of a country's financial service export strategy. The three basic steps for this strategy are as follows: (i) identifying the level of internal and external financial services market saturation, (ii) identifying key factors and measuring the country's potential in financial services export growth, (iii) analysing legislation in importing countries and choosing of channels for export of financial services.

According to United Nations Conference on Trade and Development (UNCTAD) statistics², the total export of financial and, insurance & pension services has substantially increased and attracted the attention of many developed countries. The share of financial and insurance & pension services exports is significant among the total service exports. While the export of service sector is increasing steadily, exports of financial and, insurance & pension services are growing. According to Trade Map statistics³, all services exported value was around five trillion dollars in the world in 2020. Among these values, the share of financial services export is 533 billion dollars. The export value of insurance & pension

² See; <<https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=135718>>, 25.05.2021.

³ See; <https://www.trademap.org/Service_SelService_TS.aspx?nvpm=>, 25.05.2021.

services is 134 billion dollars worldwide. The percentage of financial and insurance & pension services exports among all services export is approximately 14%.

We now show a holistic approach by handling these two service categories together based on the most recent classification of EBOPS 2010. Due to the lack of empirical studies that analyse these two service sectors' exports, we meticulously focused on the main determinants of exporting these service categories. When considering their export's importance for economies, this paper is intended to demonstrate the main determinants of financial and insurance & pension services exports for high and middle-income economies by applying panel data analysis. Therefore, the paper investigates the impacts of changes in Foreign Direct Investment (FDI) Inflows and Outflows, Financial Institutions Depth, Corruption Perception Index (CPI), GDP (constant 2010 US\$) of countries, and Federal Funds Rate on financial and insurance & pension services export.

The rest of the paper is organised in the following manner: Section 2 discusses the literature regarding financial and, insurance & pension services and handles the most appropriate determinants of these services exports. Section 3 presents the definitions of the variables and data used. Section 4 provides the study's methodology and the findings of the empirical analysis. Finally, section 5 concludes the study.

2. Literature Review and Main Determinants of the Export of Financial and Insurance & Pension Services

Many papers pay attention to the importance of financial and, insurance & pension services that are accepted as a fundamental component of the modern market-led economies and contribute to economic growth (Levine, 1997: 689; Mattoo et al., 2006: 66; Demirgüç-Kunt & Levine, 2008: 4; Gani & Clemes, 2016: 512). In this context, we review the relevant literature and emphasise the main determinants of the export of financial and insurance & pension services.

El Khoury (2006: 282) points out that financial services indicate a country's development level since they enable global transactions and facilitate exchanging goods and services. Due to the interaction of financial services with other services such as transportation and information & communication technologies (ICT), trade in financial services (TIFS) has gained much importance in both developed and developing countries. Thus, many countries seek an advantage in the financial services sector (Lorde et al., 2015: 556). De Haan et al. (2012) state that a developed financial system directs funds to their most productive ones for economic development. Therefore, countries with a well-developed financial system develop fast since the external financing constraints restraining firms' and industries' expansion are diminished (Demirgüç-Kunt & Levine, 2008: 32). Also, thanks to the developed financial sector, international trade in services can increase competition and encourage innovation since the financial resources are secured and distributed efficiently (Gonzalez, 2019: 4). Moreover, since developed financial systems contribute to better corporate governance and efficient allocation of resources, there is a significant influence

on the relationship between financial development and economic growth (Ang & Mckibbin, 2007: 216).

According to United Nations (2010: 63-67), the content of financial services in EBOPS 2010 Sectoral Classification List is evaluated as financial advisory services, financial asset management services, merger and acquisition services, corporate finance and venture capital services, credit card and other credit-granting services, custody services for financial assets or bullion, foreign exchange, regulation and administration of financial markets, service charges on purchases of International Monetary Fund (IMF) and resources commissions, credit rating, costs associated with undrawn balances under standby or extended arrangements with IMF, financial intermediation services indirectly measured (FISIM) and fees associated with financial transactions such as money transfer, letters of credit, factoring and financial leasing.

The insurance & pension services assure people who withdraw from the labour market to avoid poverty and other risks (Cuadros-Menaca, 2020: 11). Insurance & pension services consist of direct insurance (life insurance, freight insurance, and additional direct insurance), reinsurance, auxiliary insurance services, pension, and standardised guarantee services (pension services and standardised guarantee services) (United Nations, 2010: 57). Export of financial and, insurance & pension services can be defined as providing financial services by financial institutions (such as banks, insurance, broker companies, etc.) supplied in one country to the clients of another country (Lindemane, 2011a: 960).

With the development of digital technologies, these services can be supplied quickly without physical proximity between service suppliers and consumers. The recent decades' technological advances and promotion of the free-market economy reveal more cross-border financial, insurance & pension services activities. Face-to-face interaction is not necessary, thanks to the possibility of exporting services via digital platforms. For instance, a bank can offer its services electronically, or insurance firms underwrite and submit claims online. Mobile banking, e-banking, and online sales methods have become popular in the global business world thanks to digitally-enabled services (WTO, 2019b: 25), and the share of export of financial and insurance & pension services export is approximately 14% among all services in 2020 via 670 billion dollars.

At this point, it is required to know the determinants of financial and insurance & pension services export since they are the resource of comparative advantage and trade (Do & Levchenko, 2004: 2), and their export provides inflows of money into the domestic economy (Briggs, 2017: 8). Therefore, Table 1 shows the main determinants of the export of financial and insurance & pension services most closely related to the literature.

Table: 1
Main Determinants of the Export of Financial and Insurance & Pension Services Export

	Determinant	Literature
1	Financial Institutions Depth	<p>The primary stimuli that initiates the export of financial services is the saturation of the domestic market with financial services (Lindemane, 2011b: 74). This depends on the financial development of the domestic market (Harms et al., 2003: 98), so the core determinant of financial and, insurance & pension services export is the 'financial development' of the domestic market.</p> <p>Sahay et al. (2015:5) define financial development as '<i>a depth of size markets, access financial services, and efficiency for the ability of institutions to provide financial services at with sustainable revenues, and activeness of financial market</i>'. Access, depth, and efficiency of financial markets and institutions characterise the financial development level of the country (Čihák et al., 2012: 3). According to the IMF Financial Development database⁴, financial development depends on the development level of financial institutions and financial markets. Among them, 'Financial Institutions Depth' compiles data on bank credit to the private sector in per cent of GDP, pension fund assets to GDP, mutual fund assets to GDP and insurance premiums, life and non-life to GDP. This determinant is a specific and inclusive variable for the export of financial and, insurance & pension services; it is seen as the primary determinant of these services' export.</p>
2	FDI Inflows and Outflows	<p>For the export of financial and, insurance & pension services, the financial development of the domestic market is a core determinant that depends on financial openness (Mattoo et al., 2006: 83; Borchert et al., 2020: 30). The advances in the financial system increase the trade openness level of the country (Do & Levchenko, 2004: 18). According to Ozkok (2015: 9-15), variation in financial improvement across countries depends on financial openness and over time, so in this field, FDI movements ensure financial openness.</p> <p>Lindemane (2011a: 966) uses the 'Financial Freedom' indicator, which means <i>free competition and the lowest intervention by the government in the financial sector (through direct regulation, property rights, etc.)</i>. The benefits of international trade in financial and insurance & pension services are seen with foreign banks and insurance companies through FDI by transferring knowledge and technology. That is why we draw attention to FDI Inflow and Outflow. To illustrate, in 2017, around 77% of financial services were traded worldwide through foreign affiliates (WTO, 2019a: 25).</p> <p>Specifically, in insurance service export, FDI movements in insurance are significant determinants for developing home and host countries' insurance markets (Moshirian, 1999: 192; Cole et al., 2012: 926).</p> <p>According to World Trade Organization (WTO) Report (2019a: 178), FDI (including in non-services sectors) are a determinant for service export. The study by Eichengreen & Gupta (2013) demonstrates the relationship between FDI inflows and services exports in 60 emerging markets. Ahmad et al. (2018) mention a positive relationship between FDI inflows and services exports in 13 Asian economies. Therefore, the FDI Inflow and Outflow are the main determinants of exporting financial, insurance & pension services.</p>
3	Corruption Perception Index (CPI)	<p>Transparency is an indicator of the dysfunction and corruption levels and affects the trade dynamics of countries (Lindemane, 2011a: 966-971). Gelos and Wei (2005: 3012) note that international funds prefer to hold more assets in more transparent markets. They suggest that becoming more transparent contributes to global financial integration by avoiding volatility during unstable times. Also, poor public governance discourages FDI and portfolio equity inflows to countries (Kose et al., 2009: 45). The presence of transparency in financial and insurance & pension institutions and markets prevents governments from information asymmetries that cause an inefficient allocation of financial flows and mismatches. Hence, as an indicator of transparency, CPI is seen one of the main determinants of the export of financial and insurance & pension services.</p>
4	GDP (Constant US\$)	<p>The financial system affects the economy's structure and is indirectly relevant to economic development's inclusiveness (Honohan, 2008: 2493). According to Rouzet et al. (2014: 6), financial and insurance services are shareholders of the economy in terms of GDP and facilitation of the production of trade in goods and services.</p> <p>The size of the banking system and the liquidity of stock markets are positively related to economic growth (Demirgüç-Kunt & Levine, 2008: 43). Beck et al. (2000: 63) demonstrate that financial intermediaries positively impact total factor productivity growth, contributing to overall GDP growth. As UNCTAD (2020b: 14) presents, the leading financial services exporters are developed economies and have a comparative advantage in the financial services export in the world. Also, Ma & Pope (2003: 239) measure 'insurance demand' in the host country using the GDP variable. Their results suggest that the development of the economy is positively correlated with the participation of foreign insurers. When the relationship between economic growth and financial development, GDP is seen as one of the main determinants of export finance and insurance & pension services.</p>

⁴ See; <<https://data.imf.org/?sk=F8032E80-B36C-43B1-AC26-493C5B1CD33B>>, 25.05.2021.

5	Federal Funds Rate	<p>Global interest rates are another global determinant affecting capital flows and the insurance market. Firstly, the real interest rate is one of the determinants of capital flows. Especially, high-interest rates in the short term are perceived as an opportunity for speculative activities, so increasing profitable arbitrage and speculation opportunities generate many capital flows by stimulating portfolio investments across financial markets (Eratas & Oztekin, 2010: 60). According to Ahmed & Zlate (2014: 221), capital flows lead to an efficient allocation of resources that increases economic growth, and significant capital inflows may cause an appreciation of currencies, which affect export and growth performance.</p> <p>Many studies have found the effect of U.S. interest rates on capital flows. Calvo et al. (1993: 140) state that the low U.S. interest rates attract capital inflows to the USA. Also, Byrne & Fiess (2011: 19) also show that U.S. interest rates are a significant determinant of global capital flows to Emerging Market Economies (EMEs). Kim (2000: 236) points out that decreases in the world interest rates increased the capital flows in the 2000s. Therefore, when we consider that the capital flows are a determinant of financial service export, we use Federal Funds Rates as a determinant of global capital flows.</p> <p>Besides the effect of U.S. Interest Rates on capital flows, particularly during times of persistently low-interest rates, the income of life insurers from investments may be insufficient to meet contractually guaranteed obligations to policyholders, which cannot be lowered. Rising interest rates enhance life insurers' cash flows (CIPRnewsletter, 2014: 20). If capital market interest rates are expected to remain low, life insurers will have to set aside more reserves and raise premiums. In terms of pension services, especially group pensions, require higher provisions than individual businesses if interest rates remain low (Holsboer, 2000: 43).</p> <p>The effect of interest rates is seen on the export of financial and insurance & pension services. That is why Federal Funds Rate has been stressed as one of the main determinants of exporting financial, insurance & pension services.</p>
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3. Dataset and Model Specification

In this section, we present our study's dataset and econometric model. This balanced panel dataset contains 14 years' annual panel data of the export values of financial and insurance & pension services of 82 countries over the period 2005-2018. We select this period because the export values of the financial and insurance & pension services are available for 82 countries between 2005 and 2018 in the Trade Map database.

The high correlation between financial service export value and insurance & pension services export value (approximately 0.8504) is the reason to use their total values as a dependent variable: *Export of Financial and Insurance & Pension Services Export*. This high correlation refers to financial services exporters and insurance & pension services exporters.

Besides the dependent variable, Export of Financial and Insurance & Pension Services Export, the empirical model of our study contains such variables: FDI Inflow, FDI Outflow, Financial Institutions Depth, Corruption Perception Index (CPI), GDP (constant 2010 US\$), and Federal Funds Rate for the estimation of determinants of financial and insurance & pension services export of the countries. The definitions and sources of our data set are summarised in Table 2 as follows:

Table: 2
Dataset

No	Variable	Definition	Time	Source
1	(ln)Export	Total Export of Financial and Insurance & Pension Services	2005 - 2018	Trade Map
2	FDI Inflow (% of GDP)	Foreign Direct Investment Inflow	2005 - 2018	World Bank
3	FDI Outflow (% of GDP)	Foreign Direct Investment Outflow	2005 - 2018	World Bank
4	(ln)Financial Institutions Depth	Financial Institutions Depth Index	2005 - 2018	IMF
6	(ln)CPI	Corruption Perception Index	2005 - 2018	Transparency International
7	(ln)GDP	Gross Domestic Product (constant 2010 US \$)	2005 - 2018	World Bank
8	(ln)FEDInterest	Federal Funds Rate	2005 - 2018	FRED Economic Data

According to the World Bank country classification, the study divides countries into high and middle-income groups to analyse the impact of determinants separately. 42 out of 82 countries belong to the high-income group, while the rest are middle-income countries.

Separation of countries according to their income levels instead of their development levels is more effective on the significance and validity of the analysis results. Because when based on the classification made by UNCTAD (2020a: 1-9), some developing countries (e.g., Singapore and Hong Kong, China) rank ahead of developed countries (e.g., Japan and Canada) among the leading exporters of financial and insurance & pension services. Therefore, when these countries are considered according to their income levels, they can come together under the group of high-income countries. However, the leading financial and, insurance & pension services exporters cannot come together in a classification that takes the countries' development levels. That is why we prefer to select countries according to their income levels.

The regression model of the study aims to reveal the determinants that influence the financial and insurance & pension services exported by countries. The econometric panel regression model of the study is specified as:

$$\ln \text{Export}_{it} = \beta_0 + \beta_1 \text{FDIInflow}_{it} + \beta_2 \text{FDIOutflow}_{it} + \beta_3 (\ln) \text{FinancialInstitutionsDepth}_{it} + \beta_4 (\ln) \text{CPI}_{it} + \beta_5 (\ln) \text{GDP}_{it} + \beta_6 (\ln) \text{FEDInterest}_{it} + \beta_7 \text{FDIOutflow}_{it} * (\ln) \text{FEDInterest}_{it} + \mu_{it} \quad (1)$$

where the subscript i represents the country ($i = 1, 2, \dots, 82$) and t represents time ($t = 2005, 2006, \dots, 2018$) in the panel regression model. In addition to this, applied economists estimate interaction terms to infer how the effect of one independent variable on the dependent variable depends on the magnitude of another independent variable (Ai & Norton, 2003: 123). Therefore, the model will be run with an interaction between FDI Outflow and Federal Funds Rates.

4. Empirical Analysis Result

The study's independent variables are chosen by referencing financial, insurance & pension services literature. Table 3 reports the descriptive statistics, and Table 4 provides a correlation matrix of the variables (at level) used in the analysis separately for high and middle-income groups.

Descriptive statistics reveal the difference between high-income and middle-income countries. Export volume, FDI (inflow and outflow), institutional financial depth, and GDP of high-income countries are more than middle incomes. In addition to this, the corruption perception in middle-income countries is higher. Also, the correlation of high-income countries' variables (such as FDIInflow and FDIOutflow, Export and GDP) demonstrates a stronger correlation than middle-income ones.

We conduct the Levin-Lin-Chu (LLC) unit root test to determine whether the variables are stationary. The unit root test helps identify whether the trend is stochastic, through the presence of a unit root, or deterministic through a polynomial-time trend (Phillips & Perron, 1988: 335). Therefore, we apply unit root tests to the series of high and middle-income countries. After the unit root test, the regression's Fixed Effect (FE) Model

is estimated. The diagnostic tests - heteroskedasticity, autocorrelation, and cross-sectional independence - will be applied to model whether it is valid and appropriate. The existence of even one of these problems negatively affects the validity of the model so that robustness estimators should be applied according to the problems involved.

Table: 3
Descriptive Statistics of Variables

	Variable	Obs.	Mean	St. Dev.	Min.	Max.	Skewness	Kurtosis
High Income Countries	Export	588	1.03e	2.33e	8772	1.50e	3.564	16.492
	FDIInflow	588	11.004	36.888	-58.322	451.639	7.595	72.273
	FDIOutflow	588	8.127	31.647	-89.659	301.249	5.385	41.909
	FinancialInstitutions Depth	588	.561	.262	.095	1	.022	1.773
	CPI	588	67.872	16.676	31	97	-.214	1.990
	GDP	588	1.06e	2.57e	7.92e	1.79e	4.670	26.525
	FEDInterest	588	1.375	1.732	.09	5.02	1.188	2.946
	(Interaction term) FDIOutflow*(ln)FEDInterest)	588	-3.735	60.517	-687.702	352.183	-5.167	61.238
Middle Income Countries	Export	560	759969.6	1583252	3246	9105070	3.180	13.335
	FDIInflow	560	4.007	3.821	-1.391	33.795	2.797	15.954
	FDIOutflow	560	.989	2.437	-2.589	30.328	8.501	95.429
	FinancialInstitutions Depth	560	.206	.181	.015	.883	2.007	6.923
	CPI	560	33.001	8.871	17	65	.885	3.896
	GDP	560	4.72e	1.23e	3.86e	1.09e	5.282	35.761
	FEDInterest	560	1.375	1.732	.09	5.02	1.188	2.946
	(Interaction term) FDIOutflow*(ln)FEDInterest)	560	-.441	3.979	-13.994	47.005	6.395	77.661

Table: 4
Correlation Matrix

	Variable	Export	FDIInflow	FDIOutflow	FinancialInstDepth	CPI	GDP	FEDInterest	Interaction Term FDIOutflow*(ln)FEDInterest)
High Income Countries	Export	1.000							
	FDIInflow	-0.027	1.000						
	FDIOutflow	0.027	0.803	1.000					
	FinancialInstitutions Depth	0.423	0.045	0.049	1.000				
	CPI	0.249	-0.010	0.065	0.721	1.000			
	GDP	0.712	-0.092	-0.065	0.301	0.120	1.000		
	FEDInterest	-0.059	0.067	0.068	-0.022	0.023	-0.008	1.000	
	(Interaction term) FDIOutflow*(ln)FEDInterest)	-0.016	-0.514	-0.205	0.028	-0.011	0.014	0.228	1.000
Middle Income Countries	Export	1.000							
	FDIInflow	-0.058	1.000						
	FDIOutflow	0.222	0.428	1.000					
	FinancialInstitutionsDepth	0.204	-0.129	0.099	1.000				
	CPI	0.057	-0.072	-0.033	0.558	1.000			
	GDP	0.656	-0.135	0.015	0.265	0.093	1.000		
	FEDInterest	0.111	0.211	0.090	-0.070	-0.101	-0.046	1.000	
	(Interaction term) FDIOutflow*(ln)FEDInterest)	-0.070	0.276	0.536	-0.135	-0.088	-0.039	0.393	1.000

4.1. Panel Unit Root Test

A stationary process shows that variance and mean do not change over time. In other words, able to say that a process is stationary, its variance and mean are constant over time and the value of the covariance between two time periods depends on the distance or lag between the two time periods and not on the actual time at which the covariance is computed

(Gujarati & Porter, 1999: 382). Stationary series means the elimination of the spurious regression. The Levin-Lin-Chu (LLC) unit root test is applied to test the stationarity level of variables. According to Levin et al. (2002: 4), the hypotheses are:

- H₀: Panels contain unit roots.
- H_a: Panels are stationary.

The LLC unit root test results of variables are presented in Table 5:

Table: 5
Unit Root Tests

	High-Income Countries		Middle-Income Countries	
	<i>Adjusted t</i>	<i>p-value</i>	<i>Adjusted t</i>	<i>p-value</i>
Levin-Lin-Chu	-8.122	0.000	-6.968	0.000
(ln)Export	-7.840	0.000	-7.069	0.000
FDIInflow (% of GDP)	-6.055	0.000	-6.103	0.000
FDIOutflow (% of GDP)	-2.803	0.002	-7.856	0.000
(ln)FinancialInstitutionsDepth	-6.329	0.000	-5.363	0.000
(ln)CPI	-3.247	0.000	0.342	0.633
(ln)GDP	-6.222	0.000	-6.072	0.000
(ln)FEDInterest	-7.605	0.000	-6.801	0.000
(Interaction term)				
FDIOutflow*(ln)FEDInterest				

Except for the (ln)GDP variable of the middle-income group, all p-values are less than 5% in both economic groups. The Null Hypothesis of the LLC unit root test is rejected, and these variables are stationary. In the rest of the analysis, only the (ln)GDP⁵ variable will be included in the panel regression model with its first difference form (via D.(ln)GDP notation). In contrast, others are included at the level form for middle-income countries.

4.2. Heteroskedasticity, Autocorrelation, and Cross-sectional Independence Tests

To have an unbiased and consistent regression model, we check the heteroskedasticity, autocorrelation, and cross-section dependency encountered in the model.

Table: 6
Heteroskedasticity Test

Modified Wald Test for Groupwise Heteroskedasticity		
	High-Income Countries	Middle-Income Countries
<i>chi2</i>	3338.03	8108.69
<i>Prob>chi2</i>	0.000	0.000

Since Prob>chi2 is less than 5%, the H₀ hypothesis is rejected. This indicates that there is a problem with heteroskedasticity in the respective model. It shows that the error term is not homogeneously distributed to the variables in the series.

⁵ The variable is stationary in its first difference for middle-income group.

Table: 7
Autocorrelation Test

	Autocorrelation	
	High-Income Countries	Middle-Income Countries
<i>Durbin Watson</i>	.554	.885
<i>Baltagi-Wu LBI</i>	.772	1.087

Durbin-Watson and Baltagi-Wu LBI test results are less than 2, indicating an autocorrelation problem in the Fixed Effects Model for both high and middle-income groups.

Table: 8
Cross-Sectional Dependency Test

	High-Income Countries	Middle-Income Countries
<i>Pesaran's test of cross-sectional independence</i>	14.271	3.494
<i>Prob.</i>	0.000	0.000
<i>Frees' test of cross-sectional independence</i>	6.162	3.861
<i>Alpha 0.05</i>	0.243	0.262

It is seen that there is cross-section dependence in the fixed model established according to Pesaran and Frees tests in high and middle-income categories.

Before applying the robustness estimator for the model, we have proved the 'Robust Hausman' tests for FE Model for high and middle-income groups. Since heteroskedasticity and other forms of temporal and cross-sectional dependency problems are encountered in our panel dataset, we perform a robust Hausman test to general forms of spatial and temporal dependence and are suitable for most econometric applications (Hoechle, 2007: 281). Tables 9 and 10 demonstrate the Robust Hausman test results for country groups.

Table: 9
Robust Hausman Test for High Income Group

	Variable	-Coefficients-	(B)	(b-B)	sqrt (diag(V_b-V_B))	
		(b) FE	REgls	Difference	S.E.	
High-Income Countries	FDIInflow	-.002	-.002	-.000	.000	
	FDIOutflow	-.000	-.001	.000	.000	
	(ln)FinancialInstitutions Depth	.206	.518	-.312	.087	
	(ln)CPI	-.304	.139	-.443	.110	
	(ln)GDP	2.580	1.130		1.450	.159
	(ln)FEDInterest	-.074	-.081	.007	.001	
	(Interaction term) FDIOutflow*(ln)FEDInterest	-.000	-.001	.000	.000	
		b = consistent under Ho and Ha; obtained from xtreg				
	B = inconsistent under Ha, efficient under Ho; obtained from xtreg					
Test: Ho: difference in coefficients not systematic						
$\chi^2(6) = (b-B)'[(V_b-V_B)^{-1}](b-B)$ = 121.11 Prob>chi2 = 0.000						

Table: 10
Robust Hausman Test for Middle Income Group

	Variable	-Coefficients-		(b-B) Difference	sqrt (diag(V _b -V _B)) S.E.		
		(b) FE	(B) REgls				
Middle-Income Countries	FDIInflow	-.022	-.027	.004	.002		
	FDIOutflow	.061	.076	-.014	.006		
	(ln)FinancialInstitutions Depth	-.071	.220	-.291	.089		
	(ln)CPI	-.653	-.216	-.436	.103		
	D.(ln)GDP	1.849	.972	.876	.187		
	(ln)FEDInterest (Interaction term)	.033	.025	.007	.003		
	FDIOutflow*(ln)FEDInterest	-.016	-.025	.008	.001		
	b = consistent under Ho and Ha; obtained from xtreg						
B = inconsistent under Ha, efficient under Ho; obtained from xtreg							
Test: Ho: difference in coefficients not systematic							
chi2(6) = (b-B)'[(V _b -V _B) ⁻¹](b-B)							
= 52.60							
Prob>chi2 = 0.000							

According to the Robust Hausman tests, the null hypothesis is rejected at the 5% significance level. Therefore, the Robust Hausman test shows that the applied Regression FE Model is acceptable.

4.3. Prais-Winsten Standard Errors Estimator Model

There are heteroskedasticity, autocorrelation, and cross-section dependency problems in the fixed model we have established for high and middle-income countries. Therefore, we must use robustness estimators to eliminate these problems and make the model significant. Due to these three problems in our Fixed Model, we prefer to use Prais-Winsten Estimator. Additionally, Prais-Winsten Standard Errors Estimator is more efficient for small samples based on Ordinary Least Squares (OLS) estimation. Tables 11 and 12 give the robustness tests for high and middle-income countries, respectively.

Table: 11
Fixed Effect Estimation for High-Income Countries

Prais-Winsten Standard Errors Estimator Model		
(ln)Export	Coef.	P > z
FDI Inflow (% of GDP)	-.000	0.781
FDI Outflow (% of GDP)	.000	0.938
(ln)FinancialInstitutions Depth	1.041	0.000
(ln)CPI	.038	0.888
(ln)GDP	.717	0.000
(ln)FEDInterest	9.85e	1.000
cons.	-4.087	0.061
R-squared		0.917
Wald chi 2		644.07
Prob>chi 2		0.000
Rho		.861

According to the result Prais-Winsten Standard Errors Estimator, Financial Institutions Depth and GDP variables significantly affect the Export variable in the high-income group.

Table: 12
Fixed Effect Estimation for Middle-Income Countries

Prais-Winsten Standard Errors Estimator Model		
(ln)Export	Coef.	P > z
<i>FDI Inflow (% of GDP)</i>	.009	0.452
<i>FDI Outflow (% of GDP)</i>	.072	0.028
<i>(ln)FinancialInstitutions Depth</i>	.232	0.046
<i>(ln)CPI</i>	-.126	0.646
<i>D.(ln)GDP</i>	.864	0.000
<i>(ln)FEDInterest</i>	.013	0.739
<i>cons.</i>	-9.211	0.000
R-squared		0.860
Wald chi 2		588.06
Prob>chi 2		0.000
Rho		.783

Tables 11 and 12 show that Financial Institutions Depth and GDP (constant 2010 US\$) affect Financial and Insurance & Pension Services Export successively at 5% and 1% significance levels. In addition, the coefficient of Financial Institutions Depth reveals the relationship with the dependent variables as elastic for high-income countries.

4.4. Robustness Check

Robustness is necessary for valid causal inference in that the coefficients of the critical core variables should be insensitive to adding or dropping variables under appropriate conditions (Lu & White, 2014: 195). Differently, instead of the Federal Funds Rate, LIBOR (London Interbank Offered Rate) is the reference rate at which large banks indicate that they can borrow short-term wholesale funds is added to check the validity of interest rates in the robustness. Tables 13 and 14 report the robust regression results for high- and middle-income countries.

Table: 13
Fixed Effect Robustness Test for High-Income Countries

Prais-Winsten Standard Errors Estimator Model (High Incomes)		
(ln)Export	Coef.	P > z
<i>FDI Inflow (% of GDP)</i>	-.000	0.908
<i>FDI Outflow (% of GDP)</i>	.000	0.775
<i>(ln)FinancialInstitutionsDepth</i>	1.042	0.000
<i>(ln)CPI</i>	.036	0.892
<i>(ln)GDP</i>	-.719	0.000
<i>(ln)LIBOR</i>	-.100	0.344
<i>cons.</i>	-4.118	0.056
R-squared		0.917
Wald chi 2		657.27
Prob>chi 2		0.000
Rho		.858

According to the Prais-Winsten Standard Errors Estimator, Financial Institutions Depth and GDP variables significantly affect the Export variable in the high-income group. Table 13 presents that Financial Institutions Depth and GDP (constant 2010 US\$) affect Financial and Insurance & Pension Services Export positively at a 1% significance level.

Table: 14
Fixed Effect Robustness Test for Middle-Income Countries

Prais-Winsten Standard Errors Estimator Model (Middle Incomes)		
(ln)Export	Coef.	P > z
<i>FDI Inflow (% of GDP)</i>	.008	0.515
<i>FDI Outflow (% of GDP)</i>	.089	0.002
<i>(ln)FinancialInstitutionsDepth</i>	.225	0.043
<i>(ln)CPI</i>	-.111	0.662
<i>D.(ln)GDP</i>	.861	0.000
<i>(ln)LIBOR</i>	-.006	0.944
<i>cons.</i>	-9.207	0.000
R-squared		0.861
Wald chi 2		681.72
Prob>chi 2		0.000
Rho		.773

The Prais-Winsten Standard Errors Estimator results demonstrate that FDI Outflow, Financial Institutions Depth, and GDP variables significantly and positively affect the middle-income group's Financial and Insurance & Pension Services Export. However, the impact of GDP is higher (0.861) than the other variables in the model.

The fact that the financial institution's depth index is meaningful for exporting financial and insurance & pension services for both country groups indicates that the model was constructed correctly. According to the studies of Lindemane (2011b: 74); Čihák et al. (2012: 3); Sahay et al. (2015: 5), the export of financial and insurance & pension services depends on the financial development of economies. Since financial institutions' depth index compiles data on bank credit to the private sector in per cent of GDP, pension fund assets to GDP, mutual fund assets to GDP and insurance premiums, life, and non-life to GDP, we can say that we have reached a coherent finding with the literature for financial and insurance & pension services export. Besides, some emerging economies' role increases in these services' export. Even the report of UNCTAD (2020b: 14) attracts attention to the economic growth of leading financial services exporters. Therefore, increasing the GDP value of both country groups positively affects exports of financial and insurance & pension services. This result is closely related to literature, too.

Lastly, the significant positive effect of FDI Outflow on the export of financial and insurance & pension services for middle-income countries indicates that middle-income economies will gain more from financial and insurance & pension services export when they are more open, as Ozkok (2015: 9-15) states that FDI outflows ensure financial openness that encourages financial and, insurance & pension services export. Contrary to our expectations, we cannot comment on FDI Inflow, CPI, and LIBOR variables because the coefficients of variables are insignificant.

5. Conclusion

Services defined as the backbone of the global economy and the growth engine, are the most dynamic component of international trade. According to EBOPS 2010, there are 12 service categories in the *Manual on Statistics of International Trade in Services*. Two of them are the financial and insurance & pension services. They are regarded as a comparative

advantage and trade of economies (Do & Levchenko, 2004: 2; WTO, 2019a: 67). Their volume and importance are increasing due to their intermediate role in producing goods and services. They show a country's development level since they enable global transactions and facilitate exchanging goods and services. Thanks to the technological advances and promotion of the free-market economy in the last decades, the export of financial, insurance & pension services increased yearly. They constitute 14% of all service exports in 2020 via 670 billion dollars. Hence, this study examines the main determinants of export financial, insurance & pension services for high- and middle-income countries. Specifically, the study analyses the impacts of changes in FDI inflows and outflows, financial institutions' depth, corruption perception index, GDP (constant 2010 US\$), and Federal Funds Rate on financial and insurance & pension services export. In addition, we have added an interaction term ($FDI\ Outflow * (\ln)FEDInterest$) to infer how the effect of one independent variable on the dependent variable depends on the magnitude of another independent variable. Via annual panel data from 2005 through 2018 for 82 high and middle-income countries, Panel Fixed Effect (FE) model is applied to identify the impact of determinants of financial and insurance & pension services export. After we controlled the validity of the FE Model with Robust Hausman Tests for two country groups, we tested the model using Prais-Winsten Standard Errors Estimator due to heteroscedasticity and autocorrelation and cross-section dependence problems. We have checked the FE model with Prais-Winsten Standard Errors Estimator by adding LIBOR rates instead of Federal Funds Rates.

As a result, this paper shows that financial institutions' depth and GDP in high-income countries positively impact the financial and insurance & pension export. Additionally, financial institutions' depth, GDP, and FDI outflow variables promote exporting financial, insurance & pension services to middle-income countries.

It is possible to say that we have reached a coherent finding with the literature for financial and insurance & pension services export since both determinants are closely linked with 'Financial Development', which initiative Financial and Insurance & Pension Services Export (Beck et al., 2000: 63; Ma & Pope, 2003: 239; Demirgüç-Kunt & Levine, 2008: 4; Honohan, 2008: 2493; Lindemane, 2011b: 74; Rouzet et al., 2014: 4).

Also, the finding that FDI outflow activities promote the export of financial and insurance & pension services in middle-income economies supports that FDI movements in insurance are significant determinants for the development of home and host countries' insurance markets (Moshirian, 1999: 192; Cole et al., 2012: 926). Besides, around 77% of financial services were traded worldwide through foreign affiliates (WTO, 2019a: 25).

This result for developed countries shows that when some of these countries, positioned as financial centres, lose their positions against other developed countries, finance and insurance flows will decrease. These countries need to protect their competitiveness against shifts favouring other developed countries in this sense. On the other hand, the experience of middle-income countries due to the increased attempts to invest abroad will contribute to developing their finance and insurance markets.

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The Mediating Role of Communication and Performance Perception in the Effect of Organisational Culture on Knowledge Sharing: A Research on Higher Education Institutions in Turkey

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Örgüt Kültürünün Bilgi Paylaşımına Etkisinde İletişim ve Performans Algısının Aracı Rolü: Türkiye'deki Yükseköğretim Kurumlarında Bir Araştırma

Abstract

The study aims to test the mediating role of performance and communication perception in the effect of organisational culture on information sharing. In line with this general purpose, it has been tested whether performance and communication perception influence the impact of the organisational culture in which the academics' working in a higher education institution work on their knowledge-sharing behaviours. Research data were collected using the knowledge-sharing, communication and performance perception, and organisational culture scales in the 2020-2021 academic year. The research population consists of 1199 academicians. All the academicians were sent an e-mail, 377 questionnaires were returned, and 362 valid questionnaires were obtained. The research data were tested with the structural equation model (SEM). It has been found that the organisational culture of individuals predicts knowledge sharing, and communication-performance perception has a mediating role in the relationship between organisational culture and knowledge sharing. This result revealed that communication and performance perception influence knowledge sharing and act as a mediator in the effect of organisational culture on knowledge sharing.

Keywords : Academicians, Communication Perception, Performance Perception, Knowledge Sharing, Organisational Culture.

JEL Classification Codes : M10, M12, M15.

Öz

Çalışmanın amacı, örgüt kültürünün bilgi paylaşımına etkisinde performans ve iletişim algısının aracı rolünü test etmektir. Bu genel amaç doğrultusunda, bir yükseköğretim kurumunda görev yapan akademisyenlerin bilgi paylaşma davranışları üzerinde örgüt kültürünün etkisini ve performans ve iletişim algılarının bu etki de aracı rolü olup olmadığı test edilmiştir. Araştırma verileri bilgi paylaşımı ölçeği, iletişim ve performans algısı ölçeği ve örgüt kültürü ölçeği kullanılarak 2020-2021 akademik yılında toplanmıştır. Araştırma evrenini bir kamu üniversitesinde görev yapan 1199 akademisyen oluşturmaktadır. Tüm akademisyenlere e-posta aracılığıyla araştırma anketi ulaştırılmış olup, 377 anket geri dönmüş ve 362 geçerli anket elde edilmiştir. Araştırmanın verileri yapısal eşitlik modeli (YEM) ile test edilmiştir. Analiz sonucunda örgüt kültürünün bilgi paylaşımını yordadığı ve örgüt kültürü ile bilgi paylaşımı arasındaki ilişkide iletişim-performans algısının aracılık rolü

üstlendiği tespit edilmiştir. Bu sonuç, iletişim ve performans algısının bilgi paylaşımını etkilediğini ve örgüt kültürünün bilgi paylaşımına etkisinde aracılık ettiğini ortaya koymuştur.

Anahtar Sözcükler : Akademisyen, Bilgi Paylaşma Davranışı, Örgüt Kültürü, İletişim ve Performans Algısı.

1. Introduction

Knowledge sharing is critical in creating and using new information, especially in knowledge-based organisations. Many factors affect the transformation of knowledge from implicit knowledge to explicit knowledge. Among the factors affecting knowledge sharing, we can list the personal characteristics of employees, such as personality traits and cultures, as well as organisational factors, such as organisational culture, structural features, and organisational structure. It is very important to share knowledge in enterprises with an R&D department and constantly renew themselves, producing and designing new products. Knowledge, knowledge sharing, and innovation are key factors for competitiveness and sustainability for business (Mumcu, 2020: 1). Establishing an organisational culture that primarily supports knowledge sharing plays a role in revealing implicit knowledge. The organisation should provide communication between the employees and maintain its healthy execution. Knowledge sharing can take place through healthy communication. All communication channels must exist in the organisation and be used effectively. The shared information and the production, creation, and design of new products, as a result, will also influence the performance of the employees. Therefore, the increase in the organisation's performance and profitability is directly proportional to the rise in the performance of the employees. For-profit organisations should create a culture that supports knowledge sharing to increase performance and profitability.

2. Theoretical Framework and Hypotheses

2.1. Organisational Culture

The concept of culture studies sciences such as anthropology, sociology, and social psychology. Although organisational culture seems to belong to organisational behaviour, it is closely related to sociology, psychology, and social psychology. Organisational culture is one of the most critical factors affecting the behaviour of employees at work. Studies in organisational behaviour frequently investigate the effects of organisational culture on human behaviour in the organisation. Schultz (1995: 5) explains the focus of the organisational culture as "the beliefs, values, and meanings used by members of an organisation to grasp how the organisation's uniqueness originates, evolves, and operates". From a rationalist perspective, organisational culture is one of the tools used by the organisation to achieve its goals (Schultz, 1995: 14). The components of organisational culture can be expressed as organisational structure, knowledge management system, trust,

communication, leadership, and reward system (Al-Alawi et al., 2007: 23; Islam et al., 2011: 5902; Kathiravelu et al., 2014).

Many variables affect the organisational culture, which is affected (Allameh et al., 2011: 1229). Information technologies (IT) are also influenced by organisational culture (Chang & Lin, 2019; Shih & Huang, 2010). Organisational culture has a natural impact on knowledge sharing (Kathiravelu et al., 2014: 120-121; Kulkarni et al., 2006: 318; Tong et al., 2015; Zheng et al., 2013) and facilitates knowledge sharing behaviour and provides a suitable environment for knowledge sharing. Organisational culture is essential to managing knowledge effectively, and it can sometimes be one of the most critical obstacles to knowledge sharing (Allameh et al., 2011: 1225; Gold et al., 2001: 189). In other words, a negative organisational culture can hinder the success of knowledge management and knowledge sharing by creating an obstacle. However, a positive organisational culture also positively affects knowledge management behaviours (Alavi et al., 2006; Allameh et al., 2011: 1229; Chang & Lin, 2019: 129). In this regard, organisational culture is an essential factor that facilitates knowledge management activities and enables work more effectively (Alavi et al., 2006; Al-Tit, 2016). One of the purposes of knowledge management in the organisation is to create a culture of sharing knowledge (Kulkarni et al., 2006: 318). Studies examining the relationship between knowledge management, knowledge sharing, and organisational culture have gone one step further and revealed the concept of "knowledge sharing culture" (Smith & McKeen, 2002; Powers, 1999).

There are many studies examining the relationship between organisational culture and knowledge management (Allameh et al., 2011; Andam, 2017; Fettahlioğlu et al., 2017; Fong & Kwok, 2009; Li et al., 2013; McManus & Loughridge, 2002; Nayır & Uzunçarşılı, 2008; Prado-Gascó et al., 2017) and also examining the relationship between organisational culture and knowledge sharing (Al-Alawi et al., 2007; Ardichvili et al., 2003; Bock et al., 2005; Bures, 2003; Eaves, 2014; Ghasemi et al., 2014; Jo & Joo, 2011; Long & Fahey, 2000; Lyu & Zhang, 2017; Islam et al., 2011; Issa & Haddad, 2008; Rivera-Vazquez et al., 2009; Riege, 2005; McDermott & O'Dell, 2001; Pushpamali, 2015; Tong et al., 2015; Yang, 2007; Zhang, 2018; Zheng et al., 2013).

The authors have evaluated culture and organisational culture in different dimensions. For instance, Schein (1985) also examined organisational culture in four dimensions: power culture, role culture, support culture, and successful culture. The study examined organisational culture in four dimensions: "power culture, hierarchy culture, success culture, and support culture". Mamatoğlu developed the questionnaire used in the study (2004; 2006: 181), inspired by the studies of Harrison (1972) and Handy (1985). According to Harrison, culture consists of all ideologies or perceptions and defined his theory as four ideologies, orientations, or perceptions (power, hierarchy, success, and support) (Mamatoğlu, 2004: 306).

2.2. Knowledge Sharing

Briefly reviewing the related literature, knowledge management has problems (security problems, ethics problems, cultural barriers, cost of adopting new technology, knowledge workers problems) (Aras, 2021). The most important of these is perhaps the barriers to knowledge sharing. If knowledge resides in people's minds, data warehouses, files, or computer memories, it does not mean much to the organisation (Goh, 2002: 24). Knowledge workers are the primary sources of knowledge in organisations (Aras, 2021: 60; Jarvenpaa & Staples, 2001: 151; Kharabsheh, 2007: 419). The knowledge needs to be disseminated throughout the organisation. Knowledge sharing is critical to many organisational processes and outcomes, including effectively transferring knowledge between individuals, new product development, organisation survival, and transfer of best practices (Öztürk & Aras, 2021). To manage knowledge effectively in organisations, it is necessary to ensure that knowledge is shared between employees and departments and that individual and department information becomes organisational knowledge (Islam et al., 2011: 5900). Gupta & Govindarajan (2000: 72) stated that "Unless knowledge is pumped efficiently throughout the network, the enterprise will not only pay the price of reinventing the same wheel but will also risk becoming prey to competitors that can replicate its ideas rapidly". Therefore, for today's organisations or knowledge-intensive organisations, information is essential for performance, success, adaptation to the organisation's environment, and survival.

There are several obstacles to knowledge workers not sharing knowledge. The cultural dimensions influence knowledge transfer and management practices (Alavi et al., 2006; Barachini, 2009; Brues, 2003; Mueller, 2012). Bures (2003) states that cultural dimensions barriers to knowledge sharing can be divided into "individual and social barriers". Individual barriers are "loss of power, fear from revelation, uncertainty, the illusion of reward deprivation, single culture elements, the difference between awareness and knowledge, conflict of motives". Social barriers are "language, conflict avoidance, bureaucracy and hierarchy, incoherent paradigms, underestimating lower levels".

Oyemomi et al. (2019) research has shown that organisational culture significantly affects knowledge sharing. Organisational culture is essential in promoting knowledge exchange, learning and creation. Edvinsson & Sullivan (1996: 360) stated that organisational culture is a part of the intangible structural capital that supports knowledge sharing. Lai & Lee's (2007) research has shown that effective cultures positively affect the success of knowledge sharing. To be successful, organisational cultures must be formed to support knowledge sharing. To standardise and maintain knowledge, organisational culture must have communication channels that support knowledge sharing.

2.3. The Mediating Role of Communication and Performance Perception

Chester Barnard (1938) stated that communication is the "heart" of the management process (Rajhans, 20009: 81). There are two internal subsystems in organisations: One consists of the groups and the other consists of individual relationships. Organisational culture operation depends on the interactions of the subsystems within the organisation (Harris & Nelson, 2008: 24, 32). Organisational culture and internal organisational communication are two interrelated concepts. Researchers emphasise that internal organisational communication is very effective in sharing knowledge. Internal communication also has an increasing effect on the motivation of the employees (Rajhans, 2009: 80). Beliefs and practices adopted by employees increase organisational performance, and knowledge exchange among employees (Gochhayat et al., 2017: 3). The presence of communication, knowledge management system and reward system is effective for knowledge sharing (Kathiravelu et al., 2014). Also, sharing of knowledge encourages employees to increase their sustainable performance and dynamic abilities, thus ensuring the sustainability of the organisation (Zou et al., 2020: 1). Organisational performance depends on organisational culture, shared values, and how these values are shared among employees (Peters & Waterman, 1982; Prystupa, 2017: 154). The existence of organisational culture with strong beliefs and values is closely related to the organisation's performance. Organisational culture impacts individual and organisational performance (Maamari & Saheb, 2018). According to Evans & McShane (1988), since performance evaluation is included in the organisational culture, performance evaluation must comply with the organisational culture. Al-Alawi, Marzooqi & Mohammed's (2007) research showed a positive relationship between information systems/technology, communication (interaction between staff), a reward system, and knowledge sharing in organisations. The existence of an incentive and reward system in the organisation also increases the knowledge sharing of the employees (Bartol & Srivastava, 2002; Kathiravelu et al., 2014; Leonard, 1998). In addition, organisational culture, organisational structure, and management affect the performance of knowledge workers (Kulkarni et al., 2006: 318). Harris & Nelson (2008) stated that "Organisational communication is the study of meaningful behaviours within the system and subsystems of the organisational culture". Gochhayat et al. (2017) found that intra-organisational communication has a mediating role in the effect of organisational culture on organisational effectiveness.

Communication within the organisation sheds light on the organisation's future, and its members guide them to achieve goals and motivate them to achieve organisational and individual goals. In addition, it prevents conflicts by increasing cooperation (Gochhayat et al., 2017: 3).

Based on this information, the research hypotheses were established as follows:

- H1.** Organisational culture affects communication and performance perception positively.
- H2.** Communication and performance perception affects knowledge sharing positively.

H3. Organisational culture affects knowledge sharing positively.

H4. Communication and performance perception has a mediating role in the effect of organisational culture on knowledge sharing.

3. Research Methodology

3.1. Population, Sample, and Data Collection

The universe of the research consists of academicians working at a state university. 1199 academicians work in the university that constitutes the research universe. An online questionnaire was sent to all the academicians, but 377 of them responded. In line with the examinations, it was determined that 15 of the questionnaires were filled in incorrectly or incompletely, and the questionnaire form answered by a total of 362 academicians within the scope of the study was evaluated. 46% of the participants in the study were women, and 115 participants were over 48 years old. The number of male academicians in the sample group is higher than the number of female academics; it is seen that the sample group has a homogeneous structure in terms of demographic characteristics. 82 professors, 94 associate professors and 150 assistant professors participated in the study. 64% of the academicians who answered the questionnaire are faculty members.

3.2. Measurement of Variables

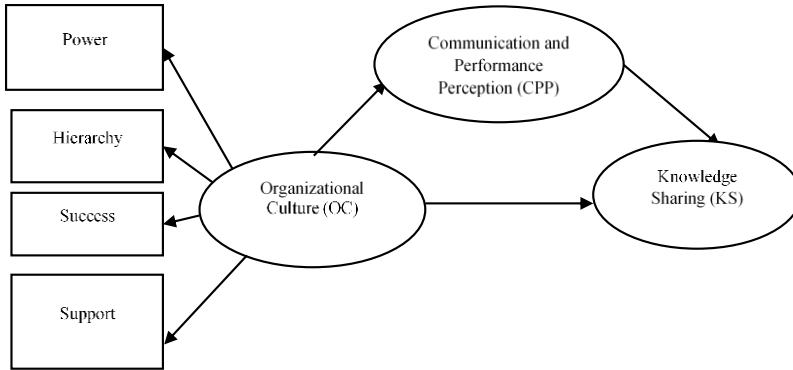
An open-ended and closed-ended 5-question information form was prepared to determine the demographic characteristics of the academicians (gender, age, title, unit of work and duration of work) to be used in the study.

Research data were collected using the knowledge-sharing, communication and performance perception, and organisational culture scales in the 2020-2021 academic year. A questionnaire composed of the organisational culture scale consisting of 16 items, the knowledge sharing scale comprising 18 items, and the communication and performance perception scale containing 12 items. Scale items are evaluated on a 5-point Likert-type scale. In the study, the organisational culture scale (OCS) developed by Mamatoğlu (2004), based on Harrison's four-dimensional organisational culture (hierarchy, success, power support) typology, was used (Mamatoğlu, 2004). A knowledge-sharing scale consisting of 18 items developed by Yeo and Youssef (2010) was used to measure knowledge sharing (Karavardar, 2012: 152; Öztürk & Aras, 2021). The communication and performance perception scale was developed by Mamatoğlu (2006).

This study aims to exhibit the mediating role of communication and performance perception on the effect of organisational culture on knowledge sharing. In line with this purpose, first, the impact of the organisational culture on knowledge sharing will be determined. After this step, the mediating effect of the concept will be tested by including communication and performance perception in the research model.

In line with these results, the research model was created in Figure 1.

Figure: 1
Research Model



3.3. Results

To test the reliability level of the scales used in the research, the "Cronbach's Alpha" coefficients were calculated, and the findings are summarised in Table 1.

Table: 1
Internal Consistency Coefficients of The Scales Used in The Study

Scales	α
OC	0.77
Power	0.72
Hierarchy	0.73
Success	0.80
Support	0.78
KS	0.80
CPP	0.77

The relationship between organisational culture, knowledge sharing, and communication and performance perception scales was calculated using the Spearman correlation coefficient to determine the direction and severity of the relations between variables. The obtained results are presented in Table 2.

Table: 2
Correlation Analysis Results

	1	2	3	4	5	6
1.Power	-					
2.Hierarchy	.649*	-				
3.Success	.390*	.533*	-			
4.Support	.329	.421*	.058	-		
5.Knowledge Sharing	.622*	.335*	.434*	.651*	-	
6. Communication and Performance Perception	.509*	.337*	.567*	.446*	.542*	-
* p<0.01						

As seen in the correlation matrix in Table 2; It is seen that there is a positive, statistically significant, and moderate relationship between the organisational culture sub-dimensions; hierarchy and support ($r=0.421$, $p<0.01$), power and hierarchy ($r=0.649$, $p<0.01$), power and success ($r=0.390$, $p<0.01$), hierarchy and success ($r=0.533$, $p<0.01$).

It is seen that there is a positive, statistically significant, and moderate relationship between a knowledge sharing and the sub-dimensions of organisational culture, power ($r=0.622$, $p<0.01$), hierarchy ($r=0.335$, $p<0.01$), success ($r=0.434$, $p<0.01$) and support ($r=0.651$, $p<0.01$), communication and performance perception and the sub-dimensions of organisational culture, power ($r=0.509$, $p<0.01$), hierarchy ($r=0.337$, $p<0.01$), success ($r=0.567$, $p<0.01$) and support ($r=0.446$, $p<0.01$), communication and performance perception and knowledge sharing ($r=0.542$, $p<0.01$).

Examination of these causal relationships after determining the relationships between the variables. The research model was created to test the research hypotheses and evaluate the mediating effect of communication and performance perception, tested with the structural equation model. First, the factor structure was examined with data showing the goodness of fit in CFA goodness of fit tests. According to the model goodness of fit values, RMSEA, NFI and TLI values were within acceptable limits. AGFI, GFI, and CFI values are also in good agreement. In the light of these data, it can be said that the model is compatible with the data.

The structural equation model developed for the research is summarised in Figure 2. The structural equation model for the relationships between organisational culture, communication performance perception, and knowledge sharing for this model is summarised in Table 3.

Figure: 2
Structural Equation Model

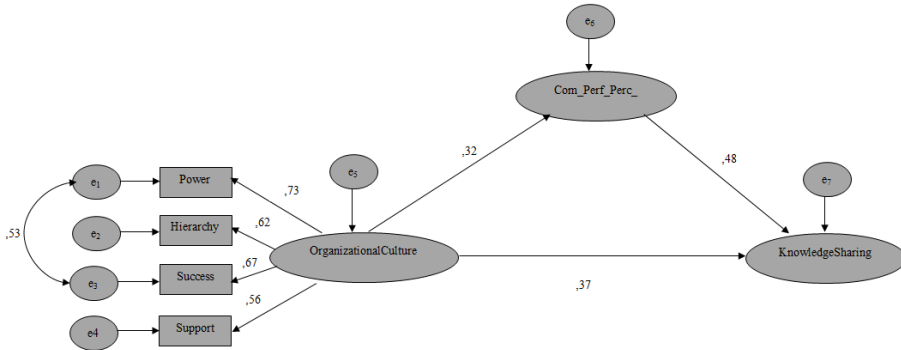


Table: 3
Structural Equation Model for The Relationships Between Organisational Culture, Communication Performance Perception and Knowledge Sharing

Hypotheses	Total Effect	Direct Effect	Indirect Effect	S.E.	t
H ₁ : OC → CPP	.32	.32	.0	.07	3.39***
H ₂ : CPP → KS	.48	.48	.0	.06	4.41***
H ₃ : OC → KS	.60	.37	.23	.07	5.26***
***p<.001					

The developed structural equation model results showed that organisational culture predicts the perception of communication and performance ($\beta=.32$, $t=3.39$ $p <.001$). Therefore, the H₁ hypothesis was accepted. At the same time, communication and performance perception also predict knowledge sharing ($\beta=.48$, $t=4.41$ $p <.001$). The H₂ hypothesis was accepted. Also, organisational culture predicts knowledge sharing ($\beta=.37$, $t=5.26$ $p <.001$). The H₃ hypothesis was accepted. And finally, it has been observed that organisational culture has an indirect effect ($\beta=.23$, $t=5.26$ $p <.001$) on communication and performance perception through knowledge sharing. Therefore, the H₄ hypothesis was accepted. In addition, based on the results of Bootstrap analysis, it is seen that communication and performance perception play a partial mediator role in the relationship between organisational culture and knowledge sharing (95% CI [.07, .21]).

4. Conclusion

Most of the studies in knowledge management emphasise the importance of knowledge sharing. One of the problems faced by knowledge management in organisations is knowledge sharing. Since people are the source of knowledge sharing, things that affect people behaviourally are also effective in knowledge sharing. Therefore, organisational behaviour literature also explores the factors affecting knowledge sharing. Undoubtedly, organisational culture is among the factors that affect human behaviour in the organisation. However, numerous studies examine the relationship between organisational culture and

knowledge sharing. Communication is another factor that affects both employee performance and knowledge-sharing behaviour. Studies examine the relationship between communication and performance perceptions, organisational culture and knowledge sharing, but its mediating role has not been discussed before. This study examines the predictive relationships between organisational culture, knowledge sharing and communication and performance perception and the mediating role of communication and performance perception in the relationship between organisational culture and knowledge sharing. In this sense, the study aimed to contribute to knowledge management literature and management literature.

The correlation analyses showing the relationships between the sub-dimensions of organisational culture, knowledge sharing, and communication-performance perception scales revealed a positive and significant relationship between organisational culture and knowledge sharing and communication and performance perception. These results are consistent with most of the findings in the literature.

Structural equation model results, in which the predictive relationships between organisational culture, knowledge sharing, and communication-performance perception are examined, show that organisational culture positively predicts knowledge sharing and communication-performance perception.

In addition, it has been determined that organisational culture indirectly affects knowledge sharing through communication-performance perception. In other words, it was concluded that the communication-performance perception variable is a mediating variable in the relationship between organisational culture and knowledge sharing.

It has been concluded that the positive perception of the employee regarding intra-organisational communication positively affects the perceptions of support, hierarchy, and successful culture. In addition, it has been concluded that the positive perception of the employee about the performance evaluation system has a positive effect on the perception of hierarchy culture and negatively affects the perception of power culture (Mamatoğlu, 2006: 197).

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Funded Pensions and Ageing: An Empirical Investigation

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Fon Biriktirim Sistemi ve Yaşlanma: Ampirik Bir İnceleme

Abstract

The social security reform wave in the 1990s and the early 2000s responded to the rising deficits of the public PAYG (pay-as-you-go) systems. Privatisation of social security was regarded as a cure for the population ageing problem believed to lie under the situation. Some academics were sceptic and argued that privatisation was not a remedy to the ageing problem. This paper empirically investigates the validity of this claim. Using a simple market equilibrium condition, the implications of the ageing population for saving rates are examined for more than 150 countries for the 2000 to 2100 period. It is found that ageing may cause unsustainability in funded pension systems. The impact is especially profound for southern and eastern European countries, Korea, and Japan.

Keywords : Social Security, Funded Pension Systems, Ageing.

JEL Classification Codes : J11, J32, H55.

Öz

Dağıtım esaslı sosyal güvenlik sistemlerinin açıkları nedeniyle, 1990larda ve 2000lerin başlarında bir sosyal güvenlik reform dalgası ortaya çıktı. Sorunun altında yatan yaşlanma olgusuna, sosyal güvenliğin özelleştirilmesi ile çözüm sunulabileceği düşünüldü. Bu görüşe şüphe ile yaklaşan bazı akademisyenler özelleştirmenin yaşlanma sorununa çözüm olamayabileceğine işaret ettiler. Bu çalışma, yaşlanmanın özel birikim esaslı sosyal güvenlik sütunu üzerindeki etkisinin ampirik incelemesini yapmaktadır. Basit bir piyasa denge koşulu kullanılarak, yaşlanan nüfusun tasarruf oranları için iması 2000-2100 dönemi için 150'den fazla ülke örneğinde incelenmiştir. Buradan hareketle, yaşlanmanın birikim esaslı emeklilik sistemlerinde sürdürülemezlik yaratabileceği saptanmıştır. Etki özellikle Doğu ve Güney Avrupa ülkeleri ile Kore ve Japonya'da baskındır.

Anahtar Sözcükler : Sosyal Güvenlik, Birikim Emeklilik Sistemleri, Yaşlanma.

1. Introduction

The outlook in the 1990s for public PAYG (pay-as-you-go) social security systems was dire. There were warnings against existing deficits, which were expected to worsen unless policy actions were taken (Disney, 2000; Roseveare et al., 1996; World Bank, 1994). The sustainability of the PAYG systems was regarded as a problem for developing and developed economies. With the current young and working generation financing the pension expenditure on the existing old and retirement age, the ageing population was deemed a significant threat to public PAYG systems.

The World Bank proposed a policy template. The multi-pillar system proposal of the World Bank envisioned the saving function of the social security system to be shouldered by the private sector. Given a public pillar's continued but diminished existence, a privately managed pillar would provide additional retirement-saving tools. Everyone would accumulate funds and receive pensions by their accumulated funds and the implied returns. As the individual took more responsibility for creating resources for retirement, the expenditure burden on the public PAYG systems would be reduced. With every individual saving for himself or herself, the population's demographics would be irrelevant concerning an individual's ability to finance retirement. Hence the ageing population crisis, and the implied deficits for the public PAYG social security systems, would be averted.

The public system was not seen as an efficient way to save, exemplified by low and negative returns on previous experiences (World Bank, 1994: 127-128; James, 1998: 276-277; Iglesias & Palacios, 2000: 22-28). With the private sector in control, any mismanagement by the state would be evaded. The system would fund physical capital accumulation and growth through accumulated savings. The demographic threat would be eliminated, for the system foresaw everyone saving for oneself. The redistributive function of the public PAYG system and the implied solidarity would be limited. Still, the proposal of the World Bank became the main recipe for social security system reform. It was an inspiration for reform in the 1990s and the 2000s, especially in Latin American and Central and Eastern European countries.

A considerable scholarly debate on pros and cons accompanied the introduction of the privately funded pillars. As countries experimented with multi-pillar systems, shortcomings became pronounced. Hence, the ability of privately managed funded systems to solve the existing problems of social security systems came under heavy criticism. One raised voice was Barr (2002: 7-9) concerning Barr (1979). Barr stated that a privately funded pillar would not be immune to the demographic pressure implied by the ageing economies. To see the problem, assume an ageing economy with a privately funded system. Today, a young generation saves by acquiring assets. Tomorrow, this generation will become old and sell their accumulated assets to finance retirement. However, in the future, due to the ageing population, the number of buyers of assets, that is, the young individuals buying funds to finance *their retirement*, will be below. The lack of demand for assets in the future would imply a fall in the value of assets. With their retirement wealth eroding, future pensioners

would find it challenging to finance their retirement. The public institutions may have to pick up the slack, and social security systems may return to where they have started concerning public social policy spending.

This paper comes in because of the lack of immunity of a privately managed funded system to an ageing population. This study aims to empirically investigate the impact of ageing populations on the feasibility of a privately managed funded social security system. A spurious saving-dissaving equilibrium condition with only intuitive foundations is stated with this aim in mind. Given the current saving rate, demographic dynamics, national income dynamics, and public (dis)saving, this condition can be used to calculate a future saving rate. Numerical calculations are performed for several countries to identify the future paths of saving rates required to maintain the stated equilibrium. If the calculations yield an excessively high future saving rate, the funded system is deemed unable to handle the demographic pressure on the social security system.

The following section outlines the evolution of social security systems and the introduction of the privately managed funded pillars. Following that, the empirical contribution of this paper is presented. Firstly, the saving-dissaving equilibrium condition is stated. This is followed by the presentation of the data and the obtained results. The last section concludes by summarising the results and discussing policy implications.

2. Establishment of Privatised Social Security

The public PAYG social security systems as we know them today originate from Bismarck's insurances of the 1880s. This foundation was further solidified by Beveridge's contributions (Scholz, 2015). Backed by the government intervention attitudes due to Keynesian economics, the notion of a welfare state gained traction after the Second World War. With the economic volatilities of the 1970s and the 1980s rose neoliberal policies. The reflection of the neoliberal policies on social security was eliminating the welfare state (Tokol & Alper, 2018).

The erosion of the welfare state was legitimised through concerns regarding the financial sustainability of the public PAYG social security systems. Social security-related debate in the 1990s and the early 2000s concerned ageing populations and the implied social security costs. Several institutional reports and academic publications provided demographic projections and calculated the implied financial burden (World Bank, 1994; OECD, 1998; Palacios & Pallares-Miralles, 2000; Roseveare et al., 1996; Sleebos, 2003).

There were calls for policy actions. The World Bank provided one policy response template. In the well-known report on the issue, the World Bank (1994) approach identified three basic functions for social security systems: insurance, distribution and saving. The World Bank perspective proposed the isolation of these functions and the introduction of three pillars that constitute the social security system.

The first pillar was envisioned as a PAYG mechanism under public management. It was financed through the tax base and provided a baseline coverage. The main functions would be the provision of insurance and redistribution implicitly consistent with the notion of solidarity. The second and third pillars were designed as funded systems, specifically, as obligatory and voluntary saving mechanisms. Financed by privately managed contributions, these pillars would enable the individuals to save for themselves. The World Bank (1994) debates the options of public and private administration for funded pillars. Given concerns regarding governments' mismanagement of accumulated funds and expectations from the private management to generate higher returns (Coronado et al., 2003; Genakoplos et al., 2000: 1-2), the recommendation weighs in favour of private management.

The World Bank system combines a tax-financed, publicly managed PAYG system and a contribution-financed privately operated system. The privately managed funded pillar takes the burden of retirement financing from the public PAYG pillar. Also, the generosity of the public PAYG pillar is reduced. This combination is expected to address the financial sustainability problem of the social security systems. Also, since individuals save for themselves under a funded system, this multi-pillar approach was expected to evade the demographic problems implied by ageing economies.

Inspired by the success of the Chilean experience (de Mesa & Mesa-Lago, 2006) in the early 1980s and consistent with the erosion of the welfare state through neo-liberal policies, the three-pillar system of the World Bank introduced the private sector into the design of pension systems. This design was heavily favoured while designing social security system reforms, especially in Latin America and the Central and Eastern European Countries.

The new multi-pillar system was expected to increase savings, generate resources for investment and promote growth. This indeed appears to be the case. Empirical studies point to increased savings due to obligatory saving mechanisms introduced (Arnberg & Barslund, 2013; Chetty et al., 2014; Lachowska & Myck, 2015; Messacar, 2015; Vaillancourt et al., 2015; Yang, 2020). However, these systems did not reduce social security system deficits in the short run.

The failure of private funded pillars to reduce the financial sustainability burden of the public PAYG pillars was primarily due to two reasons. Firstly, the performed reforms are generally carve-out. The funded pillar is carved out of the public PAYG pillar. In some cases, contributions are directed away from the public PAYG pillar to the privately funded pillar. In other cases, new entrants to the labour force are directed away from the public PAYG pillar and into the privately funded pillar. Either way, the revenues of the public PAYG pillar fall.

Secondly, while the revenues of the public PAYG pillar fall, expenditures do not decrease. The public PAYG pillar must pay pensions to exist members. If a member is retired, the obligation to pay pensions is obvious. If a member is still working, this person

has paid contributions, and thus the PAYG pillar must pay a pension or return the contributions in a lump sum manner. Either case implies that expenditures do not fall.

Thus, as the social security system evolves from a single pillar public system to a multi-pillar system with private sector involvement, the deficits of the public PAYG pillar will initially increase. Kotlikoff (1995) warns against this transition cost and highlights the importance of the approach adopted to finance this cost concerning Pareto improvement implied by the reform. Coupled with the economic hardships of the 2008 crisis, the transition cost became one of the main reasons for the rollback of pension reforms in Latin American and Central and East European Countries (Altıparmakov, 2018: 227-228; Datz & Dancsi, 2013; De Mesa & Mesa-Lago, 2006: 153; Louzek, 2014: 97; Polakowski & Hagemeyer, 2018).

The rollbacks appear to have entered a new phase due to COVID-19. Because of limited incomes caused by lockdowns and other restrictive measures, people desire to access accumulated pension funds. Politicians have enabled this access. Chile, the one-time role model for privatised pensions, is about to allow further access to pension funds, having already done it twice (Pension Policy International, 2021). Such actions may adversely affect old-age pension provision, and policies necessary to restore the implied inequalities will increase the burden on the government budget (Lorca, 2021). Despite these concerns, other countries may follow suit.

Despite rollbacks and other interventions, privately managed funded pillars have entered the social security systems. It appears unlikely that they will fade away. Instead, the issue is to what extent they will prevail. Hence their existence and dynamics continue to be a research concern. Therefore, their interaction with the persisting ageing phenomenon necessitates investigation.

3. The Analysis

This section begins with an intuitive model to investigate the impact of ageing on funded pension systems. The model is a simple verbal construction of the asset market equilibrium for a closed economy with the government. The implied equilibrium condition enables the identification of the saving rate path given demographic dynamics, public borrowing and output. The following subsection presents the adopted data practices and summarises the results.

3.1. The Model

In line with the aim of this manuscript, an equilibrium condition for saving and dissaving is stated. The condition considers a closed economy with the government to account for public dissaving. For such an economy, at any point in time t , the saving will be a share of income by young people. Specifically, savings will be:

$$mps_t I_t N_{y,t} \tag{1}$$

where mps_t is the saving rate, I_t is per capita income and $N_{y,t}$ is the number of young, and therefore the people saving in the economy. This saving is matched by dissaving from two sources: the elders selling assets to finance their retirement and the government borrowing to finance any deficit. Thus, a saving young individual can either buy the assets already held and sold by the dissaving elders or buy the debt instruments issued by the government.

The elders' current assets were obtained when they were young. Assuming no altruism, dissaving by the current old generation is the saving done by the previous generation. Therefore, the dissaving by the existing elders can be simplified as the saving by the young of the last period:

$$mps_{t-1}I_{t-1}N_{y,t-1} \quad (2)$$

Adding the dissaving of the government, a market equilibrium condition can be stated as follows:

$$mps_t I_t N_{y,t} = mps_{t-1} I_{t-1} N_{y,t-1} + g_t Y_t \quad (3)$$

where g_t is the public borrowing requirement rate out of aggregate national income, Y_t . Rearrangement of this condition yields:

$$mps_t = \frac{mps_{t-1} I_{t-1} N_{y,t-1} + g_t Y_t}{I_t N_{y,t}} \quad (4)$$

Further simplification provides:

$$mps_t = mps_{t-1} \frac{I_{t-1}}{I_t} \frac{N_{y,t-1}}{N_{y,t}} + g_t \frac{N_t}{N_{y,t}} \quad (5)$$

where we have employed the notion that national income, Y_t , is related to per capita income and population, i.e. $Y_t = I_t N_t$ where N_t is the aggregate population. Hence, $\frac{g_t Y_t}{I_t N_{y,t}} = g_t \frac{N_t}{N_{y,t}}$.

The condition as stated in Equation 5 enables the calculation of a current saving rate (mps_t) given the previous period saving rate (mps_{t-1}), the growth rate of income (I_{t-1}/I_t), the growth rate of the number of (saving) young individuals ($N_{y,t-1}/N_{y,t}$), public borrowing rate (g_t) and the share of young individuals in the aggregate population ($N_t/N_{y,t}$). Three basic relationships are obvious. Firstly, a higher output growth implies a lower saving rate. Secondly, an increase in public borrowing needs to be met by higher saving rates. Lastly, the ageing population (fall in the growth rate of youngsters and the ratio of youngsters in the population) necessitates an increase in the saving rate. The structure is simple enough to investigate the relationship between ageing and saving.

This simple construct may be criticised for its implication regarding saving and growth, as established theoretical constructs regarding saving and growth claim that these are positively related. Saving provides investment resources, thus enhancing the physical capital stock and leading to growth. This line of reasoning has considerable empirical

support as well. However, that may not always be the case. Loayzai, Schmidt-Hebbel and Serven (2000: 400-401) point to some cases where the relationship may be opposite. They point out that permanent income theory implies higher future income is related to reduced savings. Deaton (1992) exemplifies how the relationship may be uncertain in lifecycle models. Attanasio, Picci and Scorcu (2000) report a negative relationship between lags in the saving rate and current income growth, implying a saving for a rainy day type of behaviour. Thus, a negative relationship between saving and growth rates is unexpected but still a theoretical possibility.

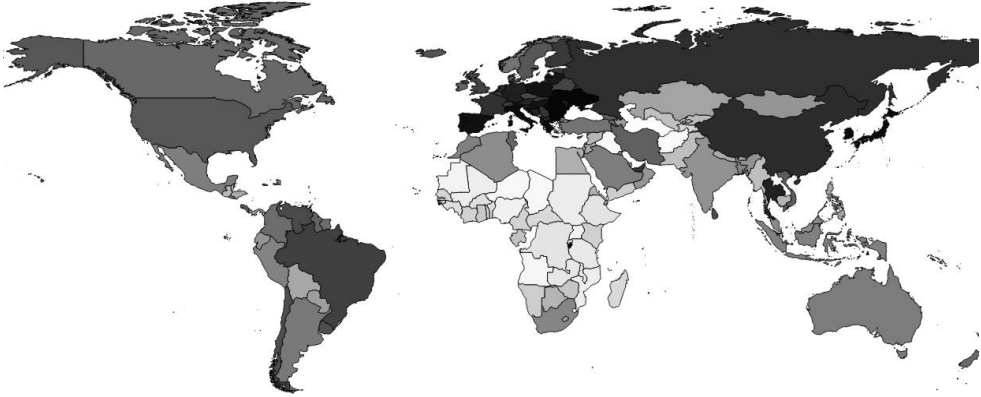
3.2. Data and Analysis

The analysis is based on calculations due to Equation 5. This requires data on demographics, national income, and government borrowing. The data from the World Population Prospects 2017 Revision of the World Bank regarding demographics. The database is available from 1950 to 2100. To ensure that the ageing phenomenon is being solidly reflected in the calculations, the population projections from the "Low Fertility" scenario have been employed. The data is available in five-year gaps, and the age group, 20-60, has been focused on. The United Nations (2017) provides details on the demographic data.

National income data, public borrowing as a percentage of national income and data on saving rates are available from the International Monetary Fund's World Economic Outlook Database April 2018 Edition. But the national income and public borrowing rate data are not available as a projection until the year 2100, only until 2023. Therefore, using econometrics, the first task is to extend the current national income and the public borrowing rate projections. The data sources have downloaded all the variables for as long a period and as extensive a country coverage as possible. After cleaning the observations missing data, all the variables are regressed against a logarithmic time trend. The estimated coefficients are used to extend the variables into the future, enabling the calculation of Equation 5 to be extended to the year 2100. The source data coverage differs across countries, and this restricts the sample. The resulting database consists of the 153 countries listed in Appendix Table 1.

Given the compiled data, saving rates for the 153 countries were calculated till the year 2100 using Equation 5. The results of the performed calculations are visualised in Figure 1. The figure presents the values of the saving rate changes from 2015 to 2050 on a greyscale world map. High levels of change are represented by darker tones, whereas lighter tones represent lower levels of change. For 124 countries in the sample, the calculations imply a savings rate fall. However, for some countries, increases in the saving rate are needed to maintain Equation 5. The dark regions of Europe immediately become obvious. Asia is also observed to require increases in the saving rate.

Figure: 1
Changes in the Saving Sates Projected for 2015-2050

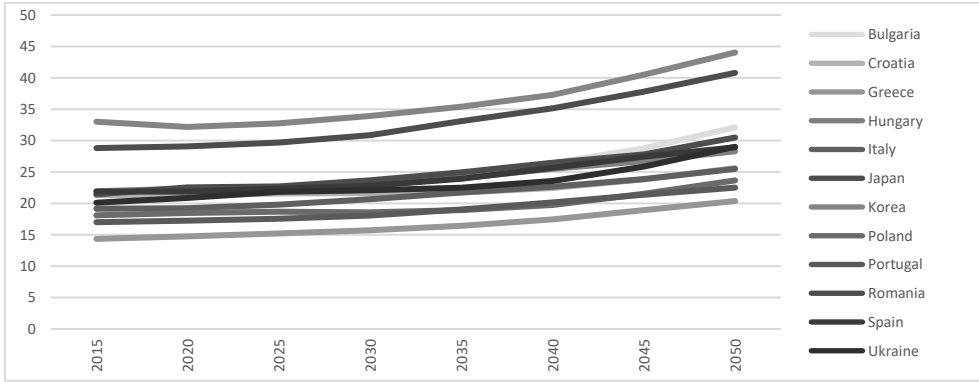


Source: Author's calculations.

A closer examination of the results shows that the saving rate must increase for 29 countries. These countries are Albania, Austria, Barbados, Bosnia and Herzegovina, Bulgaria, Burundi, China, Croatia, Germany, Greece, Hungary, Italy, Japan, Korea, Latvia, Lithuania, Macedonia, Mauritius, Moldova, Netherlands, Poland, Portugal, Romania, Russia, Slovenia, Spain, Thailand, Trinidad and Tobago and Ukraine. The changes in the saving rates range from a meagre 1% increase in the case of Mauritius to a mind-boggling 225% increase in the case of Burundi. Countries with more than a 20% increase in their savings until 2050 are considered to keep the analysis focused. Bulgaria, Croatia, Greece, Hungary, Italy, Japan, Korea, Poland, Portugal, Romania, Spain, and Ukraine. Figure 2 shows these countries' calculated saving rate paths until 2050. Burundi is excluded as an outlier for it displays an unrealistically high savings increase and is a tiny economy.

The remaining sample includes Southern and Eastern European countries, Korea, and Japan. What makes these countries unique in displaying adverse outcomes in response to the population, growth and borrowing dynamics? As stated, Equation 5 implies three important dynamics about the calculated saving rate paths: i) a higher output growth implies a lower saving rate, ii) an increase in public borrowing needs to be met by higher saving rates, and iii) an ageing population implies an increase in the saving rate.

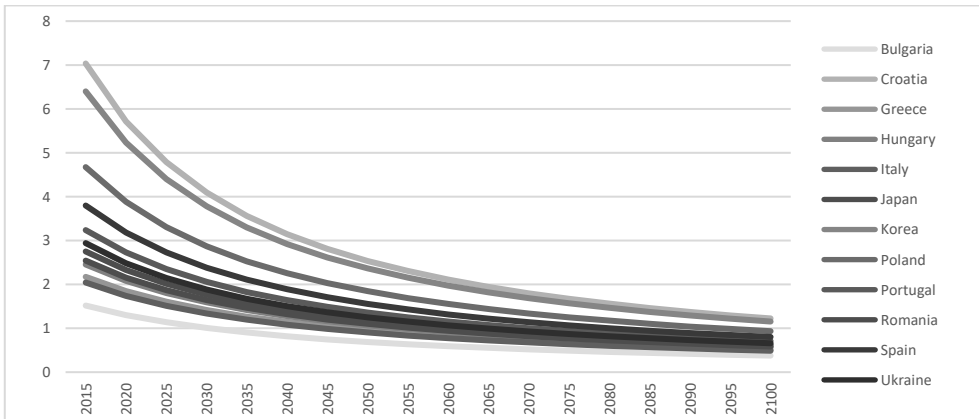
Figure: 2
Calculated Saving Rates 2015-2050 (%)



Source: Author's calculations.

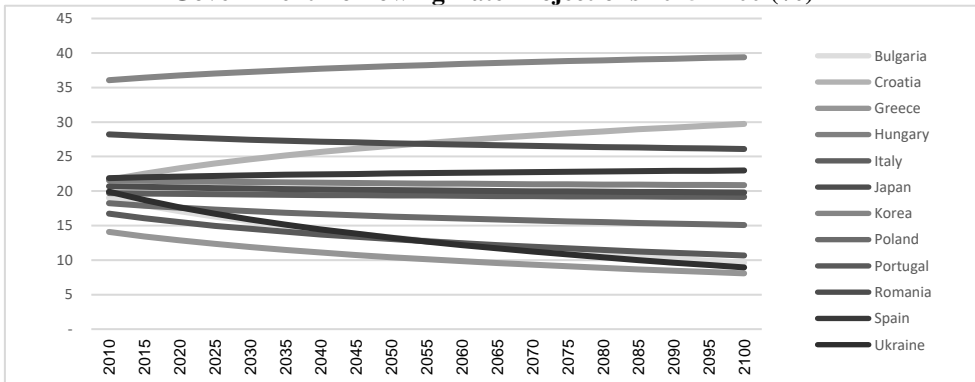
The situation relating to output growth is presented in Figure 3. The convergent behaviour of output growth rate is obvious, with the output growth rate falling to zero. The falling output growth should imply higher saving rates. This is consistent with Figure 2. Consider, next, Figure 4, where government borrowing rate trajectories are displayed. There is no consistent path that homogenises this group of countries. Some countries, such as Greece, are systematically borrowers, whereas others, such as Japan, are lenders. Hence no clear relationship between saving rate and government borrowing is apparent.

Figure: 3
Output Growth Rate Projections 2015-2100 (%)



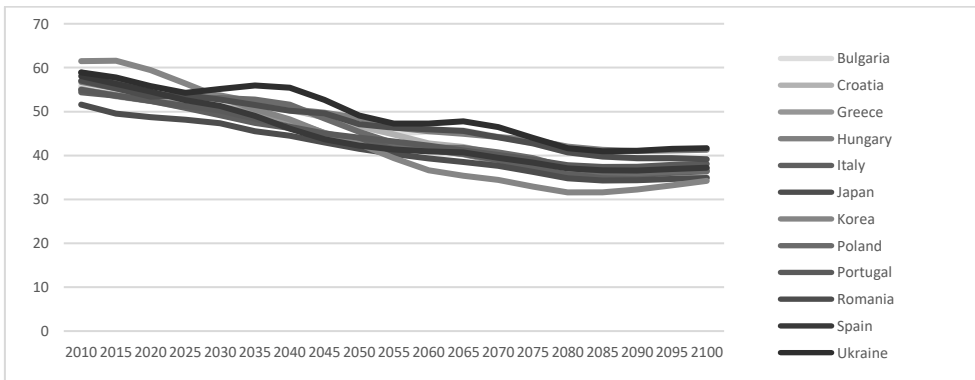
Source: Author's calculations.

Figure: 4
Government Borrowing Rate Projections 2015-2100 (%)



Source: Author's calculations.

Figure: 5
Share of Age 20-60 in Total Population 2015-2100 (%)



Source: Author's calculations based on United Nations, Department of Economic and Social Affairs, Population Division (2017).

What remains is the demographic dynamics. Figure 5 shows how the share of the age 20 to 60 cohort in the total population changes through time. The percentage of the 20-60 age group in the total population falls over time. Considering this in Equation 5, the ageing population appears to impact saving rates adversely.

It is difficult to identify a characteristic other than relatively slower population growth that provides a commonality of the countries under focus, i.e., Bulgaria, Croatia, Greece, Hungary, Italy, Japan, Korea, Poland, Portugal, Romania, Spain, and Ukraine. Bulgaria, Croatia, Hungary, Poland, Romania, and Ukraine are former Soviet countries. Last 40 years, they have integrated into the market economies of the west. Greece, Italy, Spain, and Portugal are relatively well-off European countries, all southern. Japan and Korea are known for the performance of their economies and are often cited as growth examples. Japan

is generally a saver, whereas Greece's public dissaving was a crucial issue after the 2008 crisis. The only common characteristic appears to be their demographic dynamics.

To highlight this, Table 1 has been prepared to present the population growth of these countries, the world population growth rate, and the high-income country group population growth rate. For the 1980-2020 period, high-income countries display a population growth rate of 0.67%. Only Korea exceeds this with an average growth rate of 0.79%. During the 2000-2020 period, high-income countries display a population growth rate of 0.62%. Only Spain exceeds with 0.76%. Many countries show negative population growth during these periods.

Table: 1
Annual Population Growth Rates (%)

	1980-2020	2000-2020
Bulgaria	-0,59	-0,80
Croatia	-0,31	-0,52
Hungary	-0,23	-0,23
Poland	0,18	-0,09
Romania	-0,33	-0,74
Ukraine	-0,29	-0,56
Greece	0,28	-0,03
Italy	0,13	0,21
Portugal	0,16	0,04
Spain	0,59	0,76
Japan	0,20	-0,03
Korea	0,79	0,51
World	1,42	1,21
High income	0,67	0,62

Source: Author's calculations based on annual population growth data (SP.POP.GROW) from World Development Indicators, World Bank.

4. Conclusion

Ageing populations were considered a severe threat to the financial sustainability of the public PAYG social security systems in the 1990s. Following the World Bank perspective, several countries privatised their social security systems. Their shortcomings became visible as private-funded pillars rose to supplement public PAYG pillars. One of the issues raised was whether private-funded pensions would solve the ageing-induced financial sustainability problem of public PAYG systems by shifting the financing obligations from the state to the individual.

This paper employs a simple asset market equilibrium condition to investigate the impact of ageing on funded pensions. Given economic growth, government borrowing and demographic dynamics, saving rates for more than 150 countries are calculated until 2100. The observed dynamics imply that saving rates must increase considerably to maintain equilibrium in Eastern and Southern Europe and East Asia (especially Japan and Korea). The funded pension systems in these countries are vulnerable to demographic shocks, and these countries may have to revert to public PAYG systems.

This result should be approached with caution. Out of the more than 150 countries considered in this study, only a handful display a systematic relationship between ageing

populations and excessive savings rate increases. Hence a generalisation of this conclusion should be made with notes of caution. This empirical analysis cannot address some issues.

Political sustainability of social security arrangements, for example, is an issue that is hard to investigate empirically. If social security is a public good, Samuelson's condition implies that privatisation of social security may reduce social welfare (Samuelson, 1954). Indeed, Wolf and del Rio (2021) consider retrenching private pensions less of an issue related to funding returns or ageing. They proposed that if a sufficient number of individuals end up with lower pensions under privatised social security, a retrenchment pressure arises. Wold and del Rio (2021) claim their findings are relevant for the reversal pressures in Latin America and Central and Eastern Europe.

For the Korean case, Jung (2009) points to introducing the funded pillar by emphasising saving rather than being embedded in a system of intergenerational solidarity. Jung (2009) points out that such an emphasis on saving and the possibility of fund exhaustion places the funded pillar in Korea differently than in Western cases. Lack of trust may make a funded pillar unsustainable, in this case. Hence the sustainability of private funded pillars is a political economy issue, a point not addressed in my empirical investigation.

The projections presented are done using time trends. Lacking an account for unforeseeable events, this study has certain limitations. The empirical analysis cannot factor in significant shocks, such as COVID-19 and possible technological leaps in the 21st century. COVID-19 has been a substantial blow to the global economy. A further shock has recently been introduced due to the Ukraine-Russia war. If one can include them in growth projections, the impact would be lower growth paths. Due to Equation 5, this necessitates higher saving rates, complicating the analysis.

Leaps in growth-enhancing technology could push the discussion in unforeseen directions. Debates on Industry 4.0 paint a picture of a production process with less but better-educated labour. What will happen to those pushed out of the labour force? Can they even save for themselves and finance their retirement? What use is a funded pillar in social security systems if they cannot? Discussions point to further integrating the state in welfare provision, as phrases like the taxation-of-robots enter social policy literature. Such dynamics are not accounted for in this analysis.

There are different complex output dynamics. Ageing implies threats to the sustainability of funded pillars. Falling output growth rates contribute to this. This means that policies aimed at high economic growth rates could contribute to the sustainability of funded pillars. This complicates the World Bank (1994) perspective where savings aimed at retirement financing would lead to growth. At least for some countries, growth may be necessary for private-funded pillars to succeed. Failure to grow may force a rollback of the privately funded pillars.

Even for the countries with relatively solid privately managed funded pillars, ageing may be an issue. This study provides empirical evidence and points to several countries. To the author's best knowledge, no institution monitors ageing about private funded social security. One policy action would be to institutionalise a watch on ageing in this regard.

Yet the relevance of such action is debatable. Reversals of pension privatisation are already underway in some countries. With COVID-19 and the implied economic hardships, many countries have eased access to accumulated retirement funds. Individuals are using up retirement resources to overcome their current financial difficulties. Social security system design focuses on shifting from multi-pillar systems to shock-responsive social policy systems capable of responding to significant events such as COVID-19. Many countries feel the need to experiment with alternative social security system options. Current debate prioritises universal basic income, implying a reduced role for the private sector in pension provision in the future. Hence the near future appears less likely to be a debate regarding funded private pensions.

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Appendix Table: 1
Country and Time Coverage of the Data

		Gross domestic product, constant prices, the national currency	Gross national savings, per cent of GDP	General government primary net lending/borrowing, per cent of GDP
1	Afghanistan	2002 to 2023	2002 to 2023	2004 to 2023
2	Algeria	1980 to 2023	1980 to 2023	1990 to 2023
3	Angola	1980 to 2023	1980 to 2023	1996 to 2023
4	Antigua and Barbuda	1980 to 2023	2014 to 2023	1990 to 2023
5	Argentina	1980 to 2023	1980 to 2023	1993 to 2023
6	Armenia	1992 to 2023	1995 to 2023	2005 to 2023
7	Australia	1980 to 2023	1980 to 2023	1990 to 2023
8	Austria	1980 to 2023	1980 to 2023	1988 to 2023
9	Azerbaijan	1992 to 2023	1992 to 2023	1994 to 2023
10	Bahrain	1980 to 2023	1980 to 2023	1990 to 2023
11	Bangladesh	1980 to 2023	1980 to 2023	1990 to 2023
12	Barbados	1980 to 2023	1980 to 2023	1994 to 2023
13	Belarus	1992 to 2023	1993 to 2023	2001 to 2023
14	Belgium	1980 to 2023	1980 to 2023	1980 to 2023
15	Belize	1980 to 2023	1980 to 2023	1996 to 2023
16	Benin	1980 to 2023	1980 to 2023	1989 to 2023
17	Bhutan	1980 to 2023	1980 to 2023	1987 to 2023
18	Bolivia	1980 to 2023	1980 to 2023	1985 to 2023
19	Bosnia and Herzegovina	1996 to 2023	1998 to 2023	1998 to 2023
20	Botswana	1980 to 2023	1980 to 2023	2000 to 2023
21	Brazil	1980 to 2023	1980 to 2023	2002 to 2023
22	Brazil	1980 to 2023	1980 to 2023	2002 to 2023
23	Bulgaria	1980 to 2023	1980 to 2023	1998 to 2023
24	Burkina Faso	1980 to 2023	1980 to 2023	1985 to 2023
25	Burundi	1980 to 2023	1980 to 2023	1992 to 2023
26	Cabo Verde	1980 to 2023	1980 to 2023	1994 to 2023
27	Cambodia	1987 to 2023	1986 to 2023	1996 to 2023
28	Cameroon	1980 to 2023	1980 to 2023	2000 to 2023
29	Canada	1980 to 2023	1980 to 2023	1980 to 2023
30	Central African Rep.	1980 to 2023	1980 to 2023	1988 to 2023
31	Chad	1980 to 2023	1980 to 2023	1995 to 2023
32	Chile	1980 to 2023	1980 to 2023	1990 to 2023
33	China	1980 to 2023	1980 to 2023	1989 to 2023
34	Colombia	1980 to 2023	1980 to 2023	1989 to 2023
35	Comoros	1980 to 2023	1980 to 2023	1984 to 2023
36	Costa Rica	1980 to 2023	1980 to 2023	1990 to 2023
37	Cote d'Ivoire	1980 to 2023	1980 to 2023	1997 to 2023
38	Croatia	1992 to 2023	1992 to 2023	1992 to 2023
39	Cyprus	1980 to 2023	1980 to 2023	1995 to 2023
40	Czech Republic	1995 to 2023	1995 to 2023	1995 to 2023
41	Dem. Rep. of Congo	1980 to 2023	1980 to 2023	1996 to 2023
42	Denmark	1980 to 2023	1980 to 2023	1980 to 2023
43	Djibouti	1991 to 2023	1990 to 2023	1990 to 2023
44	Dominican Republic	1980 to 2023	1980 to 2023	1997 to 2023
45	Ecuador	1980 to 2023	1980 to 2023	1995 to 2023
46	Egypt	1980 to 2023	1980 to 2023	1999 to 2023
47	El Salvador	1980 to 2023	1981 to 2023	1990 to 2023
48	Eritrea	1992 to 2023	1992 to 2023	1992 to 2023
49	Estonia	1993 to 2023	1993 to 2023	1995 to 2023
50	Ethiopia	1980 to 2023	1980 to 2023	1980 to 2023
51	Finland	1980 to 2023	1980 to 2023	1980 to 2023
52	France	1980 to 2023	1980 to 2023	1980 to 2023
53	Gabon	1980 to 2023	1980 to 2023	1990 to 2023
54	Georgia	1994 to 2023	1994 to 2023	1995 to 2023
55	Germany	1980 to 2023	1980 to 2023	1995 to 2023
56	Ghana	1980 to 2023	1980 to 2023	1980 to 2023
57	Greece	1980 to 2023	1980 to 2023	1988 to 2023
58	Grenada	1980 to 2023	2014 to 2023	1990 to 2023
59	Guatemala	1980 to 2023	1980 to 2023	1995 to 2023
60	Guinea	1980 to 2023	1980 to 2023	1990 to 2023
61	Guinea-Bissau	1980 to 2023	1980 to 2023	1991 to 2023
62	Guyana	1980 to 2023	1980 to 2023	1997 to 2023
63	Haiti	1980 to 2023	1980 to 2023	1997 to 2023
64	Honduras	1980 to 2023	1980 to 2023	1990 to 2023

65	Hungary	1980 to 2023	1980 to 2023	1995 to 2023
66	Iceland	1980 to 2023	1980 to 2023	1980 to 2023
67	India	1980 to 2023	1980 to 2023	1989 to 2023
68	Indonesia	1980 to 2023	1980 to 2023	1993 to 2023
69	Islamic Rep. of Iran	1980 to 2023	1980 to 2023	2002 to 2023
70	Iraq	1998 to 2023	2004 to 2023	2004 to 2023
71	Ireland	1980 to 2023	1980 to 2023	1995 to 2023
72	Israel	1980 to 2023	1980 to 2023	2000 to 2023
73	Italy	1980 to 2023	1980 to 2023	1988 to 2023
74	Jamaica	1980 to 2023	1980 to 2023	1990 to 2023
75	Japan	1980 to 2023	1980 to 2023	1980 to 2023
76	Jordan	1980 to 2023	1980 to 2023	1985 to 2023
77	Kazakhstan	1992 to 2023	1992 to 2023	2002 to 2023
78	Kenya	1980 to 2023	1980 to 2023	1982 to 2023
79	Korea	1980 to 2023	1980 to 2023	1995 to 2023
80	Kuwait	1980 to 2023	1980 to 2023	1990 to 2023
81	Kyrgyz Republic	1992 to 2023	1992 to 2023	1995 to 2023
82	Latvia	1992 to 2023	1992 to 2023	1998 to 2023
83	Lesotho	1992 to 2023	1992 to 2023	1995 to 2023
84	Lithuania	1995 to 2023	1995 to 2023	2000 to 2023
85	Luxembourg	1980 to 2023	1980 to 2023	1995 to 2023
86	FYR Macedonia	1992 to 2023	1992 to 2023	1997 to 2023
87	Madagascar	1980 to 2023	1980 to 2023	1980 to 2023
88	Malawi	1980 to 2023	1980 to 2023	2002 to 2023
89	Malaysia	1980 to 2023	1980 to 2023	1990 to 2023
90	Maldives	1980 to 2023	1980 to 2023	1990 to 2023
91	Mali	1980 to 2023	1980 to 2023	2000 to 2023
92	Malta	2000 to 2023	1980 to 2023	2000 to 2023
93	Mauritania	1990 to 2023	1990 to 2023	2004 to 2023
94	Mauritius	1980 to 2023	1980 to 2023	2000 to 2023
95	Mexico	1980 to 2023	1980 to 2023	1990 to 2023
96	Moldova	1992 to 2023	1992 to 2023	1995 to 2023
97	Mongolia	1980 to 2023	1980 to 2023	1991 to 2023
98	Montenegro	2000 to 2023	2001 to 2023	2002 to 2023
99	Morocco	1980 to 2023	1980 to 2023	1990 to 2023
100	Mozambique	1980 to 2023	1980 to 2023	1980 to 2023
101	Myanmar	1997 to 2023	1998 to 2023	1997 to 2023
102	Namibia	1990 to 2023	1989 to 2023	1990 to 2023
103	Nepal	1980 to 2023	1980 to 2023	2000 to 2023
104	Netherlands	1980 to 2023	1980 to 2023	1995 to 2023
105	New Zealand	1980 to 2023	1980 to 2023	1985 to 2023
106	Niger	1980 to 2023	1980 to 2023	1995 to 2023
107	Nigeria	1990 to 2023	1990 to 2023	1990 to 2023
108	Norway	1980 to 2023	1980 to 2023	1980 to 2023
109	Oman	1980 to 2023	1980 to 2023	1990 to 2023
110	Pakistan	1980 to 2023	1980 to 2023	1993 to 2023
111	Panama	1980 to 2023	1980 to 2023	1994 to 2023
112	Paraguay	1980 to 2023	1980 to 2023	1980 to 2023
113	Peru	1980 to 2023	1980 to 2023	2000 to 2023
114	Philippines	1980 to 2023	1980 to 2023	1989 to 2023
115	Poland	1980 to 2023	1980 to 2023	1995 to 2023
116	Portugal	1980 to 2023	1980 to 2023	1986 to 2023
117	Qatar	1980 to 2023	1980 to 2023	1991 to 2023
118	Romania	1980 to 2023	1980 to 2023	1991 to 2023
119	Russia	1992 to 2023	1992 to 2023	1998 to 2023
120	Rwanda	1980 to 2023	1980 to 2023	1992 to 2023
121	Saudi Arabia	1980 to 2023	1980 to 2023	1991 to 2023
122	Senegal	1980 to 2023	1980 to 2023	1994 to 2023
123	Serbia	1998 to 2023	1997 to 2023	2000 to 2023
124	Seychelles	1980 to 2023	1980 to 2023	1983 to 2023
125	Slovakia	1993 to 2023	1993 to 2023	1995 to 2023
126	Slovenia	1992 to 2023	1992 to 2023	1995 to 2023
127	Solomon Islands	1980 to 2023	1980 to 2023	1997 to 2023
128	South Africa	1980 to 2023	1980 to 2023	2000 to 2023
129	Spain	1980 to 2023	1980 to 2023	1980 to 2023
130	Sri Lanka	1980 to 2023	1980 to 2023	1990 to 2023
131	Sudan	1980 to 2023	1980 to 2023	1990 to 2023
132	Suriname	1980 to 2023	1991 to 2023	1990 to 2023
133	Sweden	1980 to 2023	1980 to 2023	1980 to 2023
134	Syria	1980 to 2023	1980 to 2023	1990 to 2023

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135	Tajikistan	1992 to 2023	1992 to 2023	1998 to 2023
136	Tanzania	1980 to 2023	1980 to 2023	1991 to 2023
137	Thailand	1980 to 2023	1980 to 2023	2000 to 2023
138	Togo	1980 to 2023	1980 to 2023	1989 to 2023
139	Trinidad and Tobago	1980 to 2023	1980 to 2023	1988 to 2023
140	Tunisia	1980 to 2023	1980 to 2023	1991 to 2023
141	Turkey	1980 to 2023	1980 to 2023	2000 to 2023
142	Uganda	1980 to 2023	1980 to 2023	1997 to 2023
143	Ukraine	1992 to 2023	1992 to 2023	1995 to 2023
144	United Arab Emirates	1980 to 2023	1980 to 2023	1991 to 2023
145	United Kingdom	1980 to 2023	1980 to 2023	1980 to 2023
146	United States	1980 to 2023	1980 to 2023	2001 to 2023
147	Uruguay	1980 to 2023	1980 to 2023	1999 to 2023
148	Uzbekistan	1992 to 2023	1992 to 2023	1996 to 2023
149	Venezuela	1980 to 2023	1980 to 2023	1988 to 2023
150	Vietnam	1980 to 2023	1980 to 2023	1998 to 2023
151	Yemen	1990 to 2023	1990 to 2023	1990 to 2023
152	Zambia	1980 to 2023	1980 to 2023	2000 to 2023
153	Zimbabwe	1998 to 2023	2009 to 2023	2005 to 2023

Notes: Gross domestic product (constant national currency), gross national savings (per cent of GDP) and general government primary net lending/borrowing (per cent of GDP).

The Link between Asset Value and Fear Sentiment during Covid-19 Pandemic

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Covid-19 Pandemisi Boyunca Varlık Değeri ve Korku Hissiyatı Arasındaki Bağlantı

Abstract

This article explores the role of global financial instruments as hedging or safe-haven assets in the Covid-19 pandemic crisis, which has weakened the global economy, by linking it to the investor's fear sentiment perspective. Correspondingly, it analyses the effects of shocks in the VIX index, which represents the global investor's fear sentiment, on shocks in some investment assets during the ongoing pandemic. Eight major financial instruments from different asset classes are tested along with the VIX index to achieve this goal. The analysis covers a 156-week time series and assays the variables from symmetric and intertemporal perspectives. The findings show that the most robust asset is the American Dollar fiat currency, followed partly by the Euro and gold. BTC also has been safe for a short time.

Keywords : Covid-19 Pandemic, Fear Sentiment, Financial Assets, Safe-Haven, Portfolio Selection, the Rolling Window Estimation.

JEL Classification Codes : G01, G11, G15, G17.

Öz

Bu makale, küresel ekonomiyi zayıflatan Covid-19 pandemi krizinde riskten korunma veya güvenli liman varlıkları olarak küresel finansal araçların rolünü yatırımcının korku hissiyatı perspektifiyle ilişkilendirerek araştırmaktadır. Buna bağlı olarak, küresel yatırımcının korku hissiyatını temsil eden VIX endeksindeki şokların, devam eden pandemi sırasında bazı yatırım varlıklarındaki şoklar üzerindeki etkilerini analiz etmektedir. Bu amaca ulaşmak için farklı varlık sınıflarından sekiz ana finansal araç, VIX endeksi ile birlikte test edilmektedir. Analiz, 156 haftalık bir zaman serisini kapsamakta ve değişkenleri simetrik ve zamanlar arası perspektiflerden tahlil etmektedir. Bulgular, en sağlam varlığın Amerikan Doları itibarı para birimi olduğunu, ardından kısmen Euro ve altının geldiğini göstermektedir. BTC'nin ise kısa süreliğine sağlam durduğu söylenebilir.

Anahtar Sözcükler : Covid-19 Pandemisi, Korku Hissiyatı, Finansal Varlıklar, Güvenli Liman, Portföy Seçimi, Hareketli Pencere Tahmini.

1. Introduction

The Covid-19 outbreak deeply shook the global financial system and caused great market chaos. The needs of investors who face unprecedented risks in the markets have augmented day by day, and at the same time, they have struggled to find a safe haven.

Considering that the pandemic is a combination of economic, political, and social troubles influencing the whole world, its cost differs significantly from other financial crises. Despite felicitic news originating from vaccine studies' achievement and increased vaccination rate reflected on the markets positively, the future is still uncertain because of mutations of the virus. That is why it is promptly requisite to reassess the safe-haven role of certain types of financial assets.

Avoiding investor loss represents a greater sensitivity than seeking protection against investor losses in the face of extraordinary situations or crises. Simultaneously, this concept has been tested in experimental environments (Tversky & Kahneman, 1991). On the opposite side, avoiding a loss in the face of a market turmoil causes changes in optimum portfolio selection. It pushes investors to seek safe-haven investments from among various financial instruments. The concept of a safe-haven investment is motivated by hedging, and investors are more concerned with avoiding losses than possible gains (Hwang & Satchell, 2010).

In the face of unpredictable and unexpected events such as the stock market crash of 1987, investors withdrew their investments from risky assets and transferred them to secure assets. From this point of view, the ongoing Covid-19 pandemic is a pertinent case to query investors' pursuit of hedging tools. The literature has some evidence that gold, the US Treasury bills and bonds, and fiat currencies such as the US dollar and Swiss francs serve as safe havens throughout market turmoil (Baur & Lucey, 2010; Fleming et al., 1998; Grisse & Nitschka, 2015; Kaul & Sapp, 2006).

This paper aims to investigate and detect the time-varying impacts of the fear sentiment on major financial instruments during the Covid-19 outbreak. Thus, it will be possible to determine which financial instruments investors prefer and avoid. Furthermore, by reporting the outputs of a causality analysis that considers the period as a whole, the difference in the time-varying causality test will be better emphasised.

In this study, the intertemporal capital asset pricing model (ICAPM) revealed by Merton (1973) is applied to explore the interaction between major financial assets and VIX. While using this model, the basic assumption within the scope of the study is that VIX is a variable that measures systemic risk. In other words, the model focuses on knowledgeable traders who predict the trend of VIX-based financial asset prices through risk-return dynamics. As Merton (1973) remarks, ICAPM is based on consumer-investor behaviour, and assumptions must be intertemporal to be reasonable. The intertemporal nature of the model allows for capturing effects that would not appear in a static model.

This research contributes to literature related to the globally crucial financial market instruments. First, this current article examines the price dynamics of main financial instruments under extreme threats for the entire world and explores their hedging and safe-haven properties. Absorbing the interplay between financial instruments and fear sentiment can give investors both portfolio management and risk management clues to deal with economic downside risks. It can also provide them with a spacious set of information. Second, fear sentiment greatly influences investment choices. Hence, it is a driving factor of volatility in asset prices, especially during economic downturns. Some previous studies have used the measurement of fear sentiment with dummy or proxy variables, but they always do not accurately reflect fear sentiment in finance theory. Therefore, the VIX was chosen to serve as a panic indicator in the financial market and confirm the ability of global financial assets to hedge against downside risks. VIX commonly supports the literature suggesting an acceptable indicator for investor behaviour that cannot be measured against various risks. Third and last, earlier studies ignore the time-varying of model parameters, which show the inconstant relationship between financial assets and VIX. This study also retests their interaction with rolling window regression by performing a bootstrapping approach.

Moreover, a causality test focuses on the intertemporal change of causality relationships between variables. Thus, whether financial assets act as a hedge in the face of fear sentiment will be based on the ICAPM, which shows a theoretically positive relationship between variables. If the fear index has a rising trend, the betas of safe-haven assets will be logically positive, but others will be negative.

The organisation of this study is as follows. Section 2 briefly mentions ICAPM and its equation within the scope of this study. A literature review of the research question is presented in Section 3. Section 4 describes the dataset, and Section 5 the methodology. The empirical results of the time-varying causality analysis between asset price data and VIX are discussed in Section 6. In the last section, there are results explanations.

2. Intertemporal Capital Asset Pricing Model

The basic logic of ICAPM is that long-term investors should be concerned with the level of their wealth over time and the intertemporal returns they earn from their wealth. ICAPM is a more rational model since investment opportunities change over time and are an idea closer to reality. Naturally, relative risk-averse, long-term, and conservative investors seek to hold on to intertemporal hedges, which are assets that perform better when investment opportunities worsen (Campbell et al., 2018: 207).

The common point of studies on ICAPM is the assumption that factor betas or risk prices change over time. In the practical implementation of the ICAPM, this study uses the VIX, a predictor of the market risk premium, a determinant of risk aversion, and a countercyclical variable. The analysis assumes that times of rising VIX are economically distressed because positive shocks in VIX generally lead to adverse shocks in wealth. Hence the ICAPM tested in this paper is as follows (Su et al., 2022):

$$E_{t-1}(R_t) = R^f + \mu(VIX_t) - \gamma\mu(VIX_t)R_{t-1} \quad (1)$$

" R^f ": It is asset price when the value of VIX is 0.

" $\gamma\mu(VIX_t)R_{t-1}$ ": It highlights the behaviour of its traders that will affect the volatility of any financial asset market.

" $\mu(VIX_t)$ ": It is " $1 - \gamma R_{t-1}$ " and it is a positive value since $\gamma R_{t-1} < 1$.

In brief, it is necessary to prove that VIX has positively impacted the asset for an asset to be considered a safe haven.

3. A Brief Review of the Related Literature

In times of market turmoil, it has been a common research topic to determine the ability of financial assets to protect investors' wealth in adverse economic conditions. It is worth re-evaluation of them in each new market turmoil. The Covid-19 infection is a case study that should be considered by finance and economics researchers. Although it covers about two years, a significant amount of research has been done, and it continues to be done, especially looking into its effect on financial assets.

Chen et al. (2020) explore the impact of a proxy variable of the fear sentiment arising from Covid-19 on Bitcoin price dynamics. They use search queries on Google about Covid-19 as a proxy variable. Findings prove that Bitcoin is not a safe haven during the pandemic. Conlon and McGee (2020) assay the frequently declared safe-haven features for Bitcoin during the Covid-19 outbreak, and the findings attest that Bitcoin does not move as a safe haven. Kristoufek (2020) emphasises that Bitcoin has no potential to be a safe haven in the Covid-19 outbreak and chaos in the financial markets. Simultaneously, Conlon et al. (2020) defend that Bitcoin and Ethereum are not safe havens for many international stock markets. As this study finds, their inclusion in the portfolio increases the downside risk of portfolio return throughout the Covid-19 turmoil. Raheem (2021) emphasises that Bitcoin's being safe-haven hypothesis cannot be accepted with the Covid-19 announcement and that it has lost its safe-haven properties in this period. By contrast, Mariana et al. (2021) find that although Bitcoin and Ethereum exhibit high volatility, they are short-term safe havens for stock markets during the pandemic.

Dutta et al. (2020) claim that gold is a safe haven for global crude oil markets during ongoing cases of patients and deaths. Ji et al. (2020) appraise investors' search for safe haven among various financial assets such as stock market index, cryptocurrency, commodity, and fiat currency throughout the Covid-19 pandemic. Findings underpin that gold and soybean commodity futures remain durable as safe-haven assets. Kinatader et al. (2021) analyse which of the world's dominant financial asset classes are safe havens during the pandemic and identify that gold, US, UK, and German government bonds are secure for investors. Dividing the pandemic dates into two phases, Akhtaruzzaman et al. (2021) argue that gold serves as a safe-haven asset for exchanges during the initial phase of the pandemic (between

12/31/2019 and 03/16/2020). However, it loses its safe-haven role in the second phase (between 03/17/2020 and 03/24/2020).

On the contrary, Mensi et al. (2020) note that gold and oil markets are inefficient, especially during the pandemic. Disli et al. (2021) argue that gold, crude oil, and Bitcoin did not exhibit safe-haven properties during the pandemic. Chemkha et al. (2021) defend that gold is a weak safe haven and that Bitcoin cannot be a safe haven due to its volatility. Similarly, Cheema et al. (2020) remark that gold and silver failed to maintain investors' wealth. According to them, the US Treasuries and Swiss Francs are key safe havens during Covid-19.

Aslam et al. (2020) show that the Canadian Dollar and Swiss Francs exhibited the highest efficiency during the outbreak. AlAli (2020) analyses the validity of the hypothesis of whether Swiss Francs, gold, and Bitcoin will behave as safe-haven assets in the course of Covid-19. Whereas Swiss Francs and gold have positive returns in line with their characteristics of safe-haven assets, Bitcoin does not.

Yarovaya et al. (2020) compare stock indices, precious metals, 10-year government bonds, and cryptocurrencies during the Covid-19 outbreak. They claim that gold and stock indices have a powerful average return potential, although returns have declined. Additionally, 10-year bond yields have minor decreases, but the highest loss is in cryptocurrencies. Further, Brunnermeier et al. (2020) recommend the US Treasury bills as a globally safe asset in crisis times. Liu et al. (2020) create a fear index for the Covid-19 pandemic. They explore the fear sentiment's influence on the risk of collapse for the Shanghai Stock Exchange. They conclude that the Chinese stock market's failure risk increases as confirmed deaths augment. Papadamou et al. (2020) examine the impact of a coronavirus search index presented by Google Trends on thirteen leading stock market volatilities. The findings indicate that the Covid-19 outbreak is higher risk-averse, especially in European stock markets. Also, Baker et al. (2020) assert that the US stock market reacted much stronger to Covid-19 than in previous market turmoil. As a counterclaim, Salisu et al. (2020) advocate that commodity returns increase as fear sentiment increases, and the commodity market offers better safe-haven instruments than the stock market at the same time. Rubbaniy et al. (2021) explore the safe-haven properties of environmental, social, and governance (ESG) stocks during the pandemic. Accordingly, it is concluded that the ESG indices do not have safe-haven properties, depending on the proxy variables representing the pandemic.

In summary, the effect of fear sentiment on the financial asset classes is unclear, and there is a research question of whether they can be a safe haven in the pandemic. Further study of the impact of VIX on financial asset classes will evidence whether they can be considered a safe haven asset in fear sentiment. Based on this research, investors can decide by looking at the beta sign which assets to hold to avoid wealth losses caused by the high VIX. Thus, they can achieve the purpose of hedging asset risk.

4. Data Set and Descriptive Statistics

The study analyses a 156-week time series that includes critical moments, such as when China reported a mysterious respiratory disease to WHO and when WHO declared a pandemic. The relevant period covers three years, from January 7, 2019, to December 27, 2021.

The Chicago Board Options Exchange (CBOE) Volatility Index or VIX is an index that measures the degree of fear in the markets as a measure of systematic risk. It is designed to estimate the 30-day expected volatility of the US stock market, derived from the real-time, mid-high prices of the S&P 500 Index call and put options. Most succinctly, it detects the anticipated volatility of the stock market focused on the relationship between option prices and market volatility (CBOE, 2021). It also represents the fear sentiment in this study.

Theoretically, it can reach any value from zero to positive infinity, but not negative. A high VIX Index means that expectations are negative and future risk projections are high. The generally accepted rule for the limit of the VIX is that if its value is 12 and below, the market is in a low volatility period. Above 20, the market is in an abnormally high volatility period. If it goes above 30, the markets are excessively volatile.

In addition to an indicator of fear sentiment, a time series of eight main assets in the same period are included in the analysis. Financial instruments consist of a cryptocurrency, a stock market index, a government bond, three commodities, and two fiat currency indices. Table 1 below contains some information related to them and their descriptive statistics.

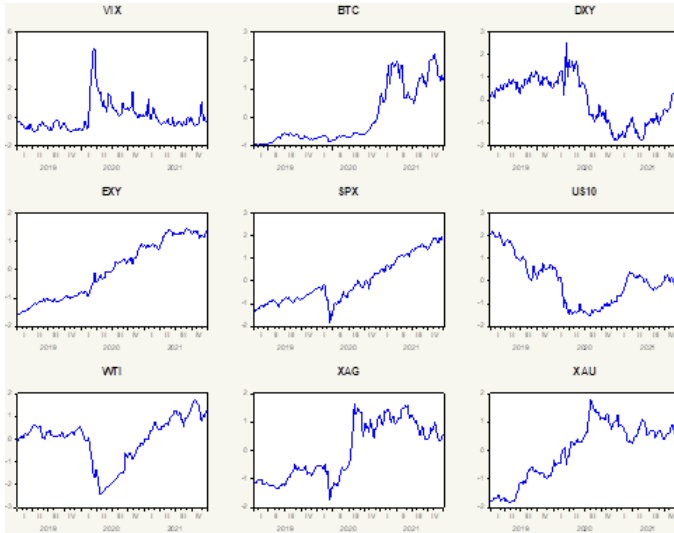
Table: 1
Variables Used in the Study

Variables	Abbreviation	Unit	Source	Mean	Median	SD
Fear Sentiment	VIX	%	Yahoo Finance	21.00	18.08	9.23
The US 10-Year Bond Yield	US10	%	Yahoo Finance	1.48	1.51	0.60
Bitcoin Price	BTC	\$	Yahoo Finance	22253.04	10634.34	19310.30
The US Dollar Index	DXY	%	Yahoo Finance	95.25	96.10	3.01
Euro Index	EXY	%	Investing.com	102.20	102.11	6.62
Crude Oil WTI Futures Price	WTI	\$	Yahoo Finance	52.46	56.11	18.27
Gold Spot Price	XAU	\$	Yahoo Finance	1682.35	1753.86	216.58
Silver Spot Price	XAG	\$	Yahoo Finance	20.65	18.59	4.59
Standard & Poor's 500 Index	SPX	\$	Yahoo Finance	3478.66	3283.30	640.62

Since the units and numerically sizes of the variables are different in Table 1, the study continues with their standardised forms. Besides reducing the variables to a certain extent, the standardisation of variables does not cause any information loss. Figure 1 below displays variables' value movements in the relevant period.

Due to the pandemic announcement by WHO on March 11, it can be monitored on the VIX graph that the fear index increased. At the same time, this rise displays the fear sentiment of investors. The pandemic announcement's impact is quite visible on the graphs, with rapidly falling or rising values of some assets immediately after March 11, 2020.

Figure: 1
The Display of Variables' Standardized Forms on Graphs



5. Methodology

One of the previous approaches in developing the Granger (1969) causality test is the standard Wald test based on the asymptotic distribution theory. However, when the variables are stationary at different degrees or cointegrated, the traditional asymptotic approach is not convenient for testing causal impacts. Engle and Granger (1987) and Granger (1988) enounce solving this problem with the Vector Error Correction Model. Implementing the causality relationship of integrated or cointegrated variables in the VAR system brings a series of complex pre-test procedures. This proposal is a functional empirical practice. Still, it has severe difficulties, such as testing unit roots and cointegration analysis. Providentially, Toda and Yamamoto (1995) propose a proper VAR system procedure regardless of variables' integration order or the cointegration space's size. Even though the lack of a pre-test obstacle is the most crucial advantage of this test, this approach fails to fulfil standard assumptions, especially the error term's distribution (Wesseh Jr. & Zoumara, 2012: 521). Thus, Hacker and Hatemi-J (2006) propound a bootstrap technique that eliminates these problems in the literature concerning causality. Also, they declare that this methodology is appropriate for scrutinising market efficiency.

5.1. Hacker and Hatemi-J (2006) Causality Test

Toda and Yamamoto (1995) improve a causality test based on a standard asymptotic distribution regardless of the number of unit roots and the data's cointegration relationship. Moreover, the T-Y test offers analysis data without pre-test conditions. However, Hacker

and Hatemi-J (2006: 1489) unravel that the chi-square performs poorly in the error term's asymptotic distribution when the T-Y causality test is practised for small sample sizes. For this reason, they recommend using a leveraged bootstrap distribution to reduce size deterioration. Bootstrapping is an approach to Monte Carlo simulation. They bring out a new symmetric causality test as a progression of the T-Y causality test.

There are some similarities between the H-H test and the T-Y test, and the H-H test does not care about the cointegration relationship and the degree of integration. On the other hand, the difference between the H-H and the T-Y test is that it obtains critical values using bootstrap when error terms do not have a normal distribution (Ozer & Kirca, 2018: 193-194).

The H-H symmetric causality test can be mathematically expressed as follows:

$$\begin{bmatrix} VIX_t \\ X_t \end{bmatrix} = \beta_0 + \beta_1 \begin{bmatrix} VIX_{t-1} \\ X_{t-1} \end{bmatrix} + \dots + \beta_{p+d_{max}} \begin{bmatrix} VIX_{t-p+d_{max}} \\ X_{t-p+d_{max}} \end{bmatrix} + e_t \quad (2)$$

As examined equation with number 1, "p" represents the optimal lag number detected by the Vector Autoregressive (VAR) model, and d_{max} symbolises the maximum degree of integration between the two series. VIX refers to the proxy variable of fear sentiment, and X refers to all assets separately.

The optimal lag length is assigned by utilising a variety of information criteria. The Hannan-Quinn and Schwarz information criteria are some of them. Researchers can select the optimal lag length by pointing to the same lag. However, they sometimes do not beckon the same lag and choose different lag lengths optimally. Providing that a similar situation is encountered, Hatemi-J (2003) has introduced the Hatemi-J information criterion (HJC) to the literature to avoid this complexity. The HJC procedure can be formulated as follows:

$$HJC = \ln(|\hat{\Omega}|) + j \left(\frac{n^2 \ln T + 2n^2 \ln(\ln T)}{2T} \right), j = 0 \dots \dots, p \quad (3)$$

As glanced at an equation with the number 2, "Ω" typifies the variance-covariance matrix of error terms in the VAR model when predicting lag length, "n" is the number of the equation in the model, and "T" symbolises the number of observation (Deger & Pata, 2017: 38).

On the other side, the maximum degree of integration between variables is found by unit root tests. Structural breaks and trends in the series should be considered while applying the unit root test. Unit root tests with breaks also report more accurate results if structural breaks are observed in the series.

5.2. The Rolling Estimation and the Time-Varying Parameters

Four econometric approaches are generally used to predict the model if there are structural breaks in the period to be analysed. These are recursive estimation, rolling

estimation, regime-switching, and time-varying parameters. According to Stock and Watson (1996) and Barnett et al. (2014), time-varying parameters and rolling estimation outperform other approaches. Similarly, Groenewold and Fraser (1999) found that a rolling estimate captures structural breaks better for time-varying beta applications (Inglesi-Lotz et al., 2014: 207).

In the Time-Varying Causality Test, the rolling window method is applied. For this, the researcher should decide on the sub-sample dimension. Firstly, the sub-sample dimension up to "n" is selected in the model. Then, it can analyse the data from the first observation to the nth observation with the Hacker and Hatemi-J (2006) Causality Test (Kamisli et al., 2017: 577).

The Hacker and Hatemi-J (2006) Causality Test is an approach that investigated the period as a whole. However, as Tang (2008) stated, causality relationships can switch over time with the effect of economic and political events (Ertekin & Kirca, 2017: 56). A political or an economic shock in the global economy influences many indicators related to financial markets, and the duration of this impact can vary with time. In this regard, a time-varying causality test focuses on the intertemporal change of causality relationships between variables. Further, this test provides information about the stability level of a continuous causality relationship between them (Bolukbas, 2019: 10). Hence, it is essential to use these methods to observe intertemporal changes.

In the study, the Time-Varying Causality Test and the Rolling Estimation Regression are implicated in obtaining different results from the traditional methods. Before beginning this test, some criteria must be selected, as stated above. Initially, analysts should choose the sub-sample dimension. The sub-sample dimension is meant for the number of windows. There is no precise technique for detecting it; however, not being able to decide on it correctly can sometimes induce erroneous results. Withal, selecting too large or too small a sub-sample makes it challenging to obtain beneficial effects. Thus, choosing the most optimal window number is necessary to balance the accuracy and representativeness (Acik et al., 2019: 7).

6. Empirical Results

When performing the H-H causality test, it is crucial to test the stationarity since the maximum degree of integration of the variables must be suffixed to the model. Supposing that it is known that a vulnerability such as a crisis or a phenomenal event is experienced within the period analysed in a study, choosing tests that consider breakpoints to perform the stationary of the series will allow more doubtless results. In parallel to this, the two-break LM unit root test developed by Lee and Strazicich (2003) checks whether the time series have a unit root or not. Perron (1989) states that the regression line estimated using sample data deviates from the regression line in case of a structural break. In this case, using a unit root test without a break will weaken the estimation. Similarly, Charemza and Deadman (1997) remark that despite fragility in time series, the unit root tests that do not consider a

structural break give different results. For this reason, the Breakpoint Unit Root Test results are presented in the table below.

Table: 2
The Results of the Breakpoint Unit Root Test*

Variables (β)***	Model A		
	Test Statistic	Critical Value**	Breakpoint
BTC	-2.466	-4.524	3/02/2020
Δ BTC	-11.093		0/18/2021
VIX	-3.962	-4.524	3/16/2020
Δ VIX	-12.820		11/29/2021
DXY	-2.641	-4.524	5/17/2021
Δ DXY	-16.893		8/03/2020
EXY	-2.843	-4.524	5/31/2021
Δ EXY	-16.465		12/20/2021
SPX	-4.252	-4.524	3/23/2020
Δ SPX	-13.555		3/02/2020
US10	-3.271	-4.524	4/06/2020
Δ US10	-13.178		2/22/2021
WTI	-3.193	-4.524	4/20/2020
Δ WTI	-11.068		3/02/2020
XAG	-2.865	-4.524	4/19/2021
Δ XAG	-12.731		7/27/2020
XAU	-3.778	-4.524	8/10/2020
Δ XAU	-11.670		6/24/2019

According to Table 2, " Δ " refers to the first difference forms of variables. Also, the trend specification of the models is a trend and intercept, and they allow one structural break. It represents critical values at a 5% significance level, and the null hypothesis is explained as " H_0 : " β " has a unit root with a break."

As is clear from Table 2, all variables have a unit root in level. It is due to the absolute values of their test statistics being less than the fundamental values of critical statistics. Therefore, when their stationary is controlled at the first difference level, it is seen that all variables are stationary at this level. However, all variables include intercept and trend, as seen in Figure 1. Thus, test results are confident when determining the degree of integration.

The VAR model must choose the most appropriate lag length to carry out the H-H test. The procedure suggested by Hatemi-J (2003) can be employed at this point. This procedure indicates that the HJC can be consulted to decide the most appropriate lag length. The table below reports the lag lengths (k) detected by HJC, the degree of integration (d_{max}) between VIX and others, and the H-H test results.

As seen in Table 3, the WALD statistic values are higher than the critical statistics calculated by bootstrap Monte Carlo simulation at a 5% statistical significance level for null hypotheses with numbers 1, 2, and 3. In this case, the relevant null hypotheses are rejected. It is observed that there is causality from VIX to SPX, US10, and EXY. Conversely, there is no symmetric causality relationship between VIX to DXY, WTI, BTC, XAU, and XAG.

Table: 3
The Results of the H-H Symmetric Causality Test

Rank	Null Hypotheses	WALD Statistic	WALD Critical Value**	k*	d _{max}	p+d _{max}
1	VIX ⇌ SPX	13.172 ^a	6.548	2	1	3
2	VIX ⇌ US10	11.776 ^a	3.937	1	1	2
3	VIX ⇌ EXY	6.495 ^a	6.203	2	1	3
4	VIX ⇌ XAU	1.929	3.956	1	1	2
5	VIX ⇌ XAG	0.764	3.990	1	1	2
6	VIX ⇌ WTI	0.176	3.991	1	1	2
7	VIX ⇌ BTC	0.121	3.801	1	1	2
8	VIX ⇌ DXY	0.055	3.969	1	1	2

Notes: * Optimal lag length is determined by HJC. ** Critical values are calculated with 10000 bootstrap simulations. a. It represents statistical significance at a 95% confidence interval.

When moving to intertemporal analyses, Figure 2 and Figure 3 show the causality relationship and the time-varying beta coefficients. Unlike the symmetric test, which considers the period as a whole, information about the time when the causal relationship occurred is presented here. The rolling window widths of 20-, 28- and 32-week are changed, respectively, and these outcomes are similar to the 30-week rolling window.

According to the results of the analysis, when focusing on the declaration of the pandemic and its environment (March 11, 2020), it is seen that the causality relationship increases; that is, the fear index affects the prices of the assets (see Figure 2 and 3 (left side)). Looking at the intertemporal beta coefficients around the same period in Figure 3 (right), it is seen that the betas of WTI, US10, and SPX assets are negative. This situation supports that the assets in question are far from safe havens. On the other hand, graphs showing the beta coefficient of assets in Figure 2 (right), XAU, DXY, and EXY have positive beta around the pandemic. This situation proves that they are safe-haven instruments and manage to maintain their value even in this turmoil. BTC and XAG with betas close to zero are not fully solid instruments that we would consider for the pandemic, and they are at least not as much as XAU, DXY, and EXY.

Figure: 2
The Results of the Time-Varying Causality Test and the Rolling Estimation Causality Test

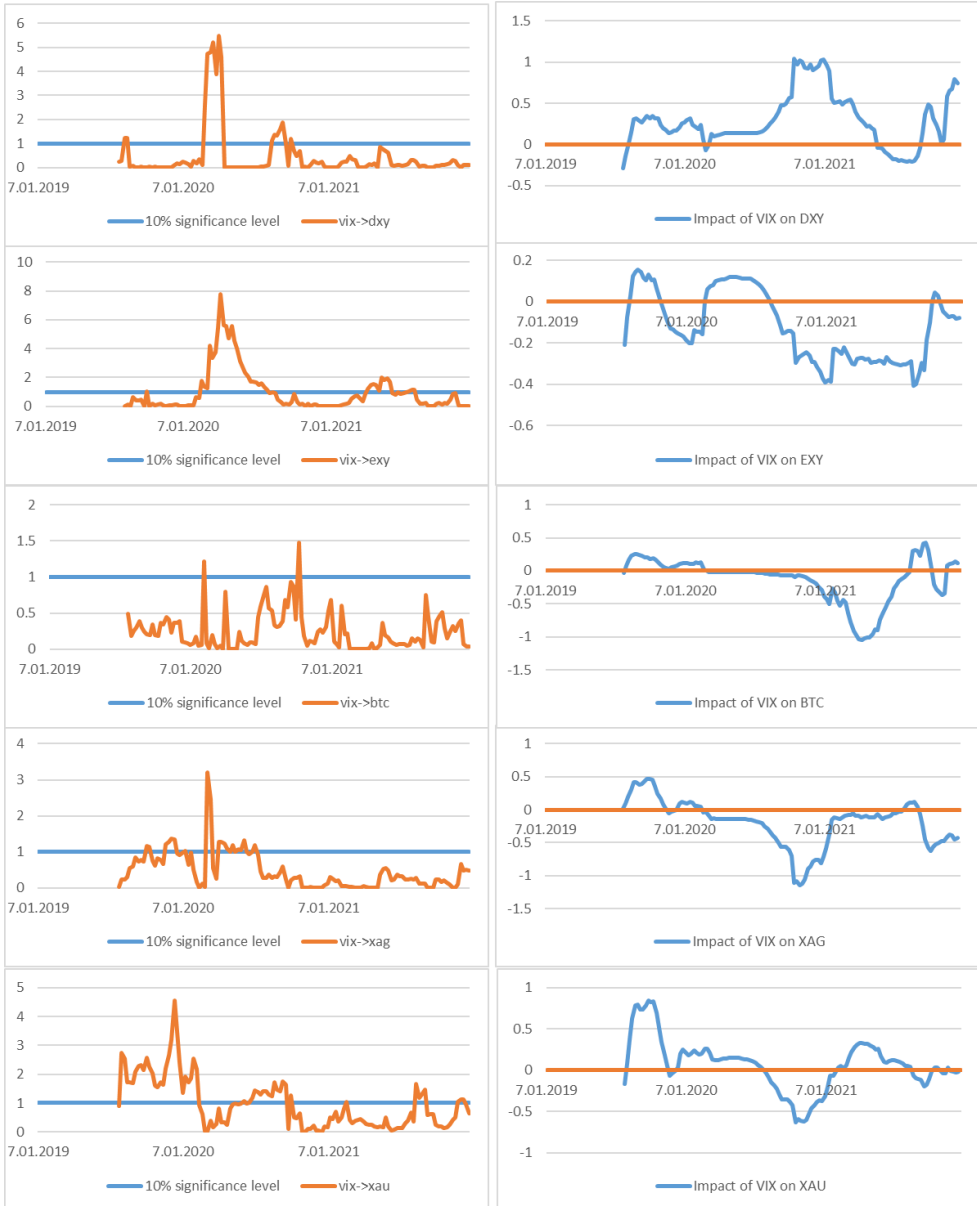
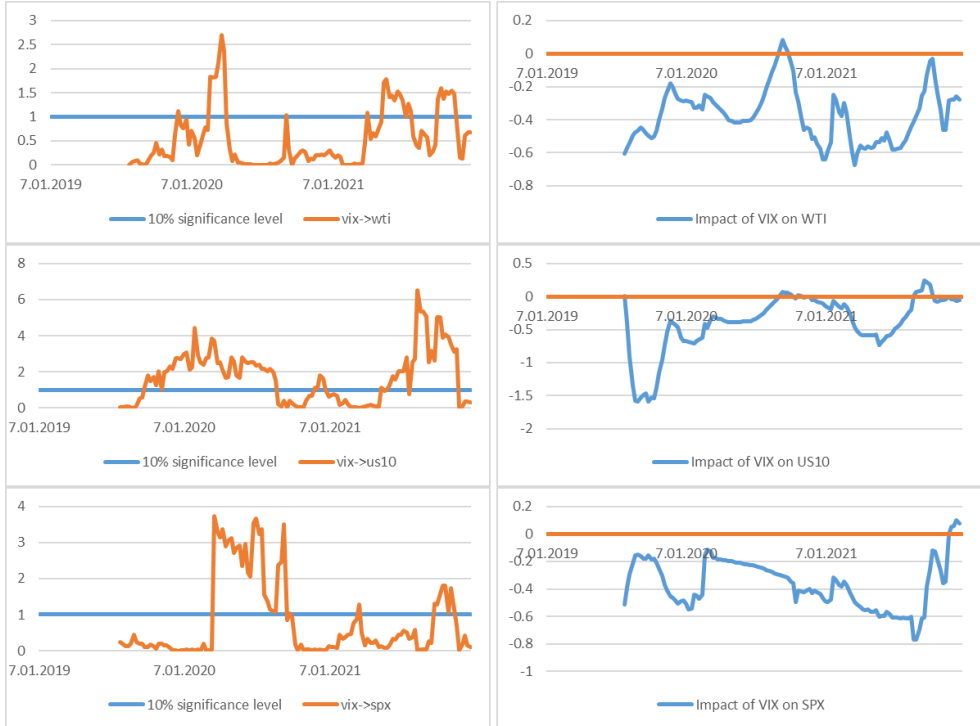


Figure: 3
The Results of the Time-Varying Causality Test and the Rolling Estimation Regression



7. Discussion and Conclusion

The literature often states that BTC cannot be a hedging tool for investors (Chen et al., 2020; Conlon & McGee, 2020; Kristoufek, 2020; Conlon et al., 2020; AlAli, 2020; Raheem, 2021; Disli et al., 2021; Chemkha et al., 2021). But it is not fully supported by the findings of this study. No causal relationship between BTC and VIX could be determined symmetrically, but they had intertemporally. The pandemic's statistical significance on Bitcoin price movements saw in only time-varying tests' results. The study findings on BTC are similar to Mariana et al. (2021). With the pandemic announcement, it can be said that BTC has been solid for a short time.

Provided commodities are discussed, three commodities (crude oil, gold, and silver) appear unaffected by the fear sentiment regarding symmetrical causality. However, there seems to be an effect intertemporally around the pandemic announcement. In parallel with the peak of the pandemic's fear sentiment, although the price war in oil started by Saudi Arabia and Russia on March 8, 2020, shook the financial markets even more deeply, major

assets hitting rock bottom started to climb immediately following days. However, crude oil futures prices declined until trade relations between oil-producing countries began to normalise. On the other hand, gold and silver spot prices displayed similar price movements during the pandemic. According to findings, gold, frequently seen as a safe haven by investors in the literature, partially proved its strength in the face of fear during the pandemic here. The study findings on gold are similar to Akhtaruzzaman et al. (2021). Although gold remained intact around the pandemic, it seems to have a negative relationship with VIX for a while in the following periods. The weaker finding is valid for silver.

To summarise the commodities, it can be said that the XAG did not fully fulfil its characteristics of being a safe haven for the pandemic period, and the findings were not symmetrically detected. XAU is intertemporally better than XAG. But WTI is a complete failure.

Furthermore, the American stock index shows high recovery potential even in very high shock periods but does not reiterate its safe-haven characteristics. Although Yarovaya et al. (2020) state that the US bonds react less negatively to the shock and reach their highest 2020 value after the Covid-19 announcement, the study's finding concerning the US bond does not promote general literature. Investors see the US dollar index more successfully as a hedging tool during the pandemic among the financial assets within the study's scope. Even if the Euro index is flourishing around the pandemic, the beta coefficients become negative in the following periods, similar to gold.

To sum up, this study evaluates the price reactions of financial assets to fear sentiment for 156 weeks during the ongoing pandemic. Whether a total of eight financial assets from four different asset groups are safe havens for investors in the relevant period, the findings can help investors make more informed portfolio decisions to control downside risk in the face of extraordinary events. Investors will likely be sensitive to local news such as domestic infected cases, deaths, and worldwide news. Herewith, intelligible and well-timed communication about the Covid-19 outbreak will give the market a rough-and-ready forecast.

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Investigation of the Studies in the Field of Banking Risk Management via the Social Network Analysis

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Bankacılık Risk Yönetimi Alanındaki Çalışmaların Sosyal Ağ Analizi ile İncelenmesi

Abstract

This study aims to examine the studies published between 2010 and 2020 in banking risk management from a bibliometric perspective and to reveal the tendencies and trends within the last decade. In this context, the bibliometric data of the studies indexed in the Web of Science Core Collection Database are obtained. The social network structure is revealed using the CiteSpace 5.5 software. According to the results of the analysis, the US-based Journal of Banking and Finance is concluded as the most frequently cited journal, where the USA has played a key role in country cooperation, and ‘management’, ‘risk’, and ‘risk management’ have been the most frequently used concepts.

Keywords : Bank, Banking Risk Management, Bibliometry, Social Network Analysis, CiteSpace.

JEL Classification Codes : G21, G32, G33.

Öz

Çalışmanın amacı, bankacılık risk yönetimi konu alanında 2010-2020 yılları arasında yayımlanan çalışmaları bibliyometrik açıdan inceleyerek konu alanında son 10 yıldaki eğilim ve trendleri ortaya koymaktır. Bu kapsamda web of science core collection veri tabanında indekslenen çalışmaların bibliyometrik verilerine ulaşılmış ve CiteSpace 5.5 programı kullanılarak sosyal ağ yapısı ortaya çıkarılmıştır. Analiz sonuçlarına göre, çalışmalarda ABD'nin ülke işbirlikliklerinde kilit rol oynadığı, ABD menşeli *the Journal of Banking and Finance* isimli derginin çok atıfta bulunulan dergi olduğu, en sık kullanılan kavramların ise ‘management’, ‘risk’ ve ‘risk management’ olduğu sonucuna ulaşılmıştır.

Anahtar Sözcükler : Banka, Bankacılık Risk Yönetimi, Bibliyometri, Sosyal Ağ Analizi, CiteSpace.

1. Introduction

The emergence of new investment alternatives, globalisation in international financial markets, and the increasing uncertainty and competitive environment with market volatility have resulted in the spread of risks throughout the financial sector. Due to the financial liberalisation and liberalisation of interest rates within the last three-four decades, the importance of banking risk management has increased even more, and studies conducted in this field have concentrated more on the extent to which risks are identified, measured, reported, and managed (Van Liebergen, 2017; Helbekkmo et al., 2013; Oliver Wyman, 2017; Deloitte University Press, 2017). McKinsey Quarterly stated that risk functions in banks should be defined differently than today by the end of 2025. It is emphasised that according to customer expectations, there will be a need for expansion and new regulations concerning risk types. This situation is expected to cause changes in risk management.

Due to the development of technologies utilised in the banking sector, the scope of risk management also expands depending on these developments. In this regard, it is crucial to analyse the content of scientific research studies in banking risk management and the overall situation in the field. In the studies conducted accordingly, the absence of studies that thoroughly analyse the general situation of the field is observed. The study is undertaken to mitigate such deficiency. The study's primary purpose is to perform a bibliometric analysis of scientific research studies conducted within the last decade in the field of banking risk management and to determine the direction of scientific development in the field. The detailed objectives of the study are to determine the social network structure of the field of banking risk management and to determine the identities of effective researchers or groups. Network structures such as word analysis, journal citation analysis, source citation analysis, and author citation analysis are revealed to determine the most researched subjects.

The study seeks responses to specific questions. The study addresses the following questions: (1) How is the distribution of the studies published in the field of banking risk management according to the country? (2) What are the word and keyword network structure, journal citation structure, and author co-citation structure? These questions are analysed with statistical data and visualised with the social network structure. The data sources of the research study are obtained through the Web of Science Core Collection database. Web of Science is the database used by the scientific world that makes significant contributions to bibliometric studies. In the study, it is tried to reveal the science map of scientific publications by examining the studies in the field of banking risk management as a whole via the Web of Science database. The study is predicted to become quite comprehensive in this respect and provide the researchers studying banking risk management with specific ideas. This circumstance constitutes the primary motivation for the study.

2. Literature Review

2.1. Risk Management in Banking and its Classification

Risk in the financial sector is described as the possibility of incurring losses or being exposed to risks in terms of returns and market value due to uncertainties (Bessis, 2002; Sirbulescu, 2016; Kupper, 2000). Financial risks mainly stem from technological, social and political changes. Besides their positive impacts, the change in existing dynamics has caused the dimensions of existing risks to change and led to risk diversification (Jorion & Khoury, 1996; Gleason, 2000).

There are many risk mitigation strategies in the banking sector. According to Santomero (1997), there are three risk management strategies; risk elimination, risk transfer, and risk reduction. Risk elimination includes suggestions for terminating the risk. Risk transfer is shifting the risk to other parties outside the organisation. Risk reduction involves conducting effective risk management activities to reduce risk within the organisation. Financial institutions should identify their risk exposure potentials and define the risk. In the next stage, appropriate evaluation and control strategies should be determined (Cumming & Hirtle, 2001).

Risk management must classify the risks to reveal, control, and render them measurable (Bessis, 2002). Basel Committee (2001) classified the risks to which banks are exposed, such as market risk, liquidity risk, credit risk, and operational risk. Market risk refers to the probability of value loss of financial instruments and positions held by banks in their current period due to fluctuations arising from market conditions other than their activities (Jorion, 2007). Market risk covers interest rate risk, exchange rate risk, stock risk, and commodity price risk. Interest risk is the risk of losing the expected rate on the return of investment due to changes in interest rates (Saunders & Connett, 2002). Exchange rate risk has an important share in market risks. The value loss might have occurred due to the fluctuations in exchange rates due to the foreign exchange short positions of the banks (Basel Committee, 2011). Stock price risk is the possibility of depreciation in stock prices due to capital market volatility. Commodity risk is the probability of loss due to price movements based on the position of the commodity and commodity-based derivative financial instruments.

Liquidity risk, considered separately from other risks, is the lack of banks to provide sufficient cash inflow to fulfil their cash outflows (Jorion, 2007). This risk is critical for banks as they need liquidity to fulfil their obligations. It emerges due to the lack of sufficient resources in banks' balance sheets to meet the increase in their assets. Credit risk, as another type of risk, involves the risk that the bank customers fail to fulfil their obligations wholly or partially by not complying with the contract. Credit risk is the type of risk most frequently encountered by banks (Apostolik et al., 2009). International studies are conducted, and standards are developed to minimise credit risk as low as possible. The World Bank's International Committee on Credit Reporting published the first standards in 2011. Since the

cause of credit risk is credit. Such risk begins with the loan application and approval from the credit department, which evaluates the client's data and provides a risk profile for the application (Brown, 1998; Richard et al., 2008). Therefore, it is crucial to establish international standards to reduce credit risk. Another type of risk that banks should consider separately is operational risk. Operational risk is defined as the loss that may be incurred due to insufficient or unsuccessful internal processes involving human resources and technological systems or even external circumstances. Human-induced risks involve staff failure and insufficiency, corporate culture, and conflicts of interest. Process-based risks involve business continuity, legal regulations, confidentiality, and strategy. Risks stemming from the information systems are pertinent to communication, information, hardware, and software. Risks arising from external circumstances originate from the state, industry, natural disasters, and society (Basel Commite, 2011). The various risk types of banks and their subclassification are illustrated in Figure 1.

Figure: 1
Risk Taxonomy



2.2. Bibliometric and Other Studies in the Field of Banking Risk Management

Bibliometric research has recently attracted a great deal of attention to evaluate the quality of research in specific fields and to reveal improvement. Upon examining the bibliometric studies conducted in the field of banking risk management, it is seen that the dimensions of the subject and the general situation of the field have not been comprehensively handled. It is observed that the studies were mostly limited to certain areas and quite a few in the literature. In one of the studies conducted on the subject, Hao and Min (2012) examined the financial risk literature by explicating 2,727 studies in the Web of Science database over the years 1970-2009. The study concluded that the financial risk literature in Asia increased between 1997-1998 due to financial fluctuations. The highest point was reached due to global financial crises between 2007-2009.

Moreover, it was emphasised that the studies in the financial risk literature were primarily written in English, and most were conducted in the USA. Prado et al. (2016) examined the studies conducted on credit risk and bank bankruptcy in the Web of Science database from 1968-2014 using the multivariate analysis method. The study concluded that the studies conducted on neural networks have been intense in measuring credit risk and bankruptcy risk since the 1990s. Carlsson et al. (2017) investigated customers' credit behaviour bibliometrically along with digitalisation. It was concluded that the research trend was intense in financial management, data management, marketing, and risk management. Scacun and Voronova (2018) performed a bibliometric analysis of financial risk for the Baltic countries. In this context, publications made in the Baltic countries from 2005-2017 obtained from Scopus and Web of Science databases were examined. The study concluded that there was an increase in the number of research studies on financial risk throughout the periods during which the bankruptcy risk of the enterprises increased.

Besides, due to the multidisciplinary nature of the subject, the wide range of scientific journals in which relevant studies were published was emphasised. Shi and Li (2019) conducted a bibliometric analysis using the methods of estimating the bankruptcy risk of institutions. The subject was examined in the Web of Science database from 1991-2018. It was determined that the number of publications on bankruptcy risk increased along with the 2008 financial crisis. It was concluded that research on bankruptcy risk modelling in finance, business management, and computer science is intense. The People's Republic of China and the USA have conducted seminal studies in the field. Bahoo (2020) conducted a bibliometric analysis on operational risk in banks. 819 articles on banking corruption were accessed from the Web of Science database and analysed over 1969-2019. As a result of the research study, it was stated that most research studies on the subject were conducted in the USA and England.

Furthermore, it was concluded that the research concentrated on the determinants of credit corruption in banks and the impact of corruption on banks' credit and operational risks. Liu (2020) conducted a bibliometric analysis of internet finance credit from 2000-2018. It was concluded that research trends such as risk, online lending, credit risk in

traditional finance, internet financial credit system, credit, and supervision of internet financial credit risk were divided into clusters.

It is also observed that studies on the identification, measurement and management of risks have been conducted in banking risk management. Some of the studies conducted in this field are as follows.

Pathan (2009) analysed the relationship between banks' board of directors and the banks' risk-taking structures. According to the results of the research, it is concluded that banks with smaller and less restrictive boards tended to take higher risks. Laeven and Levine (2009) analysed the relationship between banks' risk-taking behaviours and national bank regulations. The research results concluded that national banking regulations had different impacts on banks' risk-taking behaviours and led to changes in their capital structures. Aebi et al. (2012) analysed the corporate management of banks and their risk management performances during financial crises. The research results concluded that the banks whose risk management department reported directly to the board of directors performed significantly better during financial crises. Beltratti and Stulz (2012) analysed the impact of credit risk on the banks' performances. The research results concluded that banks financed with short-term funds exhibited more fragile features during the crisis. In their study, Ellul and Yerramilli (2013) developed a risk management index to measure the strength and independence of the risk management functions of banks. The research results concluded that strong and independent risk management enhanced the efficiency and productivity of the banks.

It is seen that studies investigating the field of banking risk management have been bibliometrically conducted in 2010 and after. It can be claimed that the main reason for this is that the studies have increased following the year 2012. The current bibliometric literature does not comprehensively analyse certain aspects of banking risk management as well as the overall situation of the field. The primary factor for this study is that bibliometric studies are very limited in the literature.

3. Data and Research Methods

3.1. Data Sources

The research dataset consists of 3,806 studies published in 2010-2020 in banking risk management and cited in the Web of Science database. The "title" option is selected as the research method in the Web of Science Core Collection database to obtain research data. The keyword search is carried out with the concept of "banking risk management". Bibliometric data were obtained, such as publication types, publication languages, titles, author names, countries, citation information, keywords, bibliography, and abstract. Research data are saved in files with ".ris" and ".txt" extensions.

3.2. Methodology

The study aims to perform a bibliometric analysis of scientific research studies conducted in banking risk management over the years 2010-2020 and to determine the direction of scientific development in the field. The bibliometric data in the survey is visualised through the CiteSpace (5.5 R2 version 64-bit) software, and a social network analysis of the data is performed. The CiteSpace software is a Java-based application used to visualise and analyse trends and patterns in the scientific literature (Chen, 2006).

Social network analysis is an interdisciplinary field of study, and interest in this approach is increasing daily with the development of analysis techniques in recent years (Bott, 1957: 60). The main reason for such an increase involves the social actors in the analysis and the developments in computer technologies that allow their social relations to be analysed and perform complex network analyses (Streeter & Gillespie, 1992: 204).

In the study, network density, modularity Q value of the network, and mean silhouette values are calculated as a result of the social network analysis. Network density indicates the ratio of all existing connections to the maximum potential connections (Gürsakal, 2009). Hence, network density suggests the social network's inclusiveness. The modularity Q of the network measures whether or not the modules of a network are divided into independent blocks. The modularity Q value usually ranges between 0 and 1. A value close to 1 indicates a well-structured network. The mean silhouette value usually ranges between -1 and 1. This value, being close to 1, is crucial for a robust clustering (Chen et al., 2010: 8-29). The mean silhouette is the value used for determining the optimal clustering number (Simovici, 2007: 212).

Publications, authors, and country productivity indicators were used as productivity criteria in the study, whereas bibliometric techniques are used as impact measurement by citation analysis. Accordingly, co-citation sources, country collaborations, journals, author, and word analyses are evaluated according to the centrality value in the network. According to Ataman and Çelik (2018), centrality is a measurement that allows the ranking of the actors in the network for comparison. The high centrality serves as a bridge connecting the nodes (Ni et al., 2017).

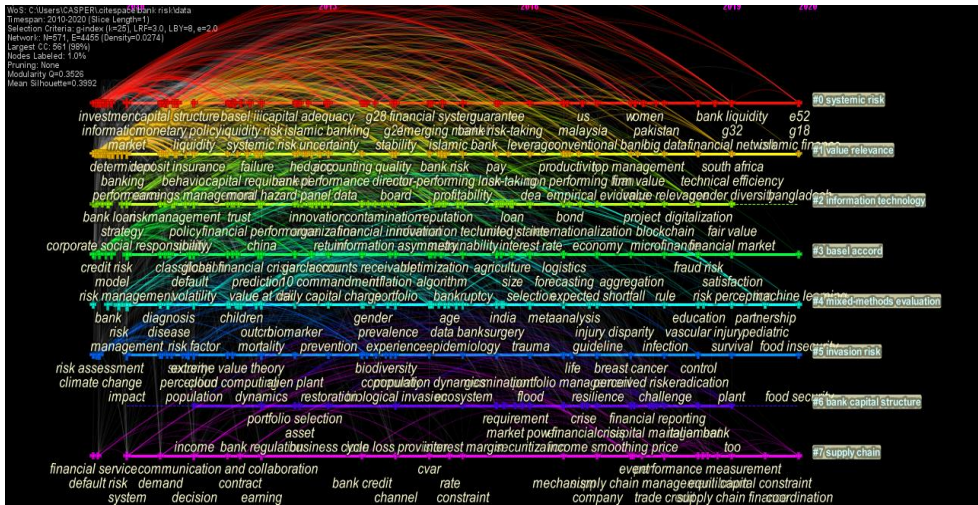
4. Results

4.1. Word Analysis

Social network analysis is conducted to identify frequently used keywords in studies published in banking risk management. As a result of the analysis, statistical values regarding the network are calculated. The publications' abstracts and keywords are considered in the calculation. As a result of the study, a network consisting of 571 nodes and 4,455 connections is obtained. The web is divided into 8 clusters, and the network density is calculated as 0.027. Each node denotes a keyword. The connection indicates the relationships among words. As the number of connections increases, the connections among

nodes become thicker, which is interpreted positively in the network relationship. The modularity Q value of the network is 0.35, and the mean silhouette value is 0.39. According to empirical studies, the modularity Q value must be higher than 0.3. It can be claimed that the network formed in the study is well structured. Statistical results along with the network are illustrated in Figure 2 in detail.

Figure: 2
Timeline of Keywords in Banking Risk Management



Upon considering the degrees of centrality in word analysis, it is seen that the concepts of competition (0.89), determinant (0.84), firm, and diversification (0.74) have the highest centrality values. The words with the highest frequency ratings include management (n = 654), risk (n = 504), risk management (n = 448), and bank (n = 290). In this context, it can be claimed that concepts have a key role in the studies conducted in the field. Table 1 presents the words with the highest frequencies and degrees of centrality.

Table: 1
Co-Citation Keyword Analysis

Citation Counts	Keywords	Centrality	Keywords
654	management	0.89	competition
504	risk	0.84	determinant
448	risk management	0.74	firm
290	bank	0.74	diversification
253	model	0.69	efficiency
236	performance	0.64	ownership
204	determinant	0.61	market
204	banking	0.61	behaviour
188	impact	0.61	deposit insurance
178	credit risk	0.61	capital structure

Citation burst determines whether or not a particular author, country, or study has statistically significant fluctuations in the number of citations in a given period (Chen et al., 2010). Upon considering the citation burst values of the words, the word with the highest citation burst (9.32) is the word "value at risk" over the years 2012-2014. Table 2 presents the citation burst values of the words by the years.

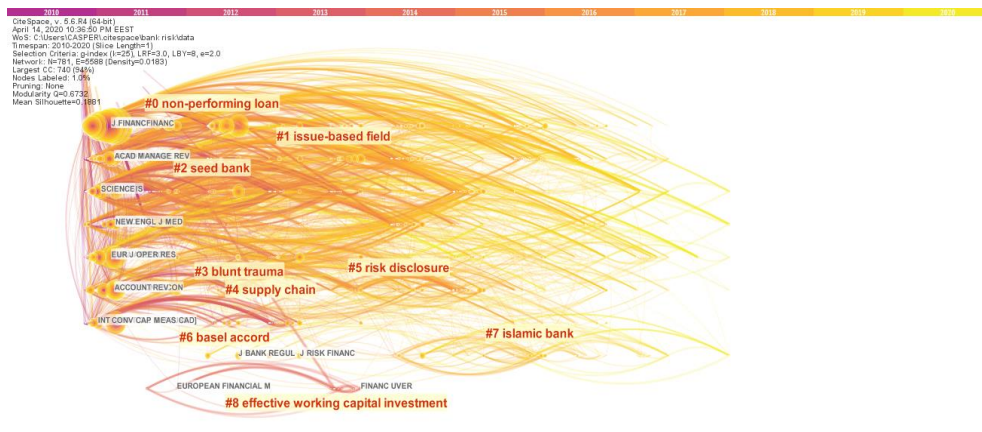
Table: 2
Citation Burst Values of the Keywords

Keywords	Strength	Begin	End	2010-2020
Value at risk	9.32	2012	2014	
Trade credit	8.31	2018	2020	
Operational risk	7.12	2010	2013	
Data bank	5.47	2015	2016	

4.2. Journal Co-Citation Network

It is aimed to determine the journals in which the studies on banking risk management have co-cited and published critical scientific studies in the field. As a result of the analysis, a network consisting of 781 nodes and 5,588 connections is obtained. The network is divided into 9 clusters, and the network density is calculated as 0.018. Each node denotes a journal, and the connections indicate journal relationships. The modularity Q value of the network is 0.67, whereas the mean silhouette value is 0.18. As a result of the modularity Q value, it can be claimed that the web is well-structured. Statistical significances of the network are illustrated in Figure 3.

Figure: 3
Timeline of Journal Co-Citation Network in Banking Risk Management



"The Journal of Banking and Finance" is the most-cited journal (n = 1,237) of the studies published in banking risk management. "The Accounting Review" is the journal with the highest degree of centrality (0.56) in the network. The fact that the web is mainly

highlighted with orange indicates that the studies have been utilising up-to-date sources. The journals with the highest frequencies and degrees of centrality are presented in Table 3.

Table: 3
Co-Citation Journal Analysis

Citation Counts	Journals	Centrality	Journals
1237	J BANK FINANC	0.56	ACCOUNT REV
1063	J FINANC	0.52	J ACCOUNT ECON
903	J FINANC ECON	0.51	J CORP FINANC
651	AM ECON REV	0.50	J BUS ETHICS
592	REV FINANC STUD	0.50	BRIT ACCOUNT REV
519	J MONEY CREDIT BANK	0.48	J FINANC SERV RES
493	J FINANC INTERMED	0.47	J BANK FINANC
475	WORKING PAPER	0.46	J MONEY CREDIT BANK
436	J POLIT ECON	0.45	J FINANC
434	ECONOMETRICA	0.45	J FINANC INTERMED

Upon considering the citation burst values of the journals, "The Journal of Business" has the highest citation burst value (13.91). Table 4 presents the citation burst values of the journals by the years.

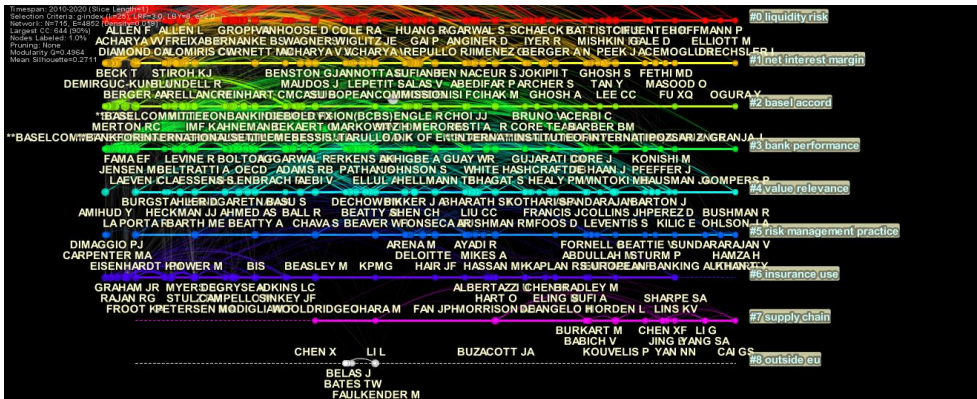
Table: 4
Citation Burst Values of the Journals

Journals	Strength	Begin	End	2010-2020
THE JOURNAL OF BUSINESS	13.91	2010	2012	██████████
VALUE RISK NEW BENCH	9.75	2010	2015	██████████
FINANCIAL ANAL J.	8.04	2010	2013	██████████
MATH FINANC	6.07	2010	2012	██████████

4.3. Author Co-Citation Network

A co-citation network is established for the authors with the highest contribution to the studies published in the field. There are 715 nodes and 4,852 connections in the network. The network is divided into 9 clusters, and the network density is 0.019. The modularity Q value of the network is 0.49; whereas the mean silhouette value is 0.27. Network results are illustrated in Figure 4.

Figure: 4
Timeline of Author Co-Citation Network in Banking Risk Management



The most cited authors in the studies included in the analysis are those whose names could not be determined under the name of Anonymous (n = 603) and Allen N. Berger (n = 411). Upon considering the degree of centrality, the author with the highest value is Laeven Luc. The authors with the highest frequencies and degrees of centrality are presented in Table 5.

Table: 5
Co-Citation Author Analysis

Citation Counts	Authors	Centrality	Authors
603	Anonymous	0.89	Laeven L.
411	Berger A.N	0.83	Jensen M.C
287	Basel Committee on Banking Supervision	0.81	Acharya V.V
241	Diamond D.W	0.72	Flannery M.J
230	Laeven L.	0.72	Fahlenbrach R.
200	Jensen M.C	0.72	John K.
195	Acharya V.V	0.71	Diamond D.W
193	Merton R.C	0.68	Barth J.R
186	Allen F.	0.65	Berger A.N
169	Demirguc-Kunt A.	0.64	Smith C.W

Upon considering the burst values of the authors, it is seen that the highest value (11.15) belongs to the author named R.A. Jarrow over the years 2010-2014. Table 6 presents the citation burst values of the authors by the years.

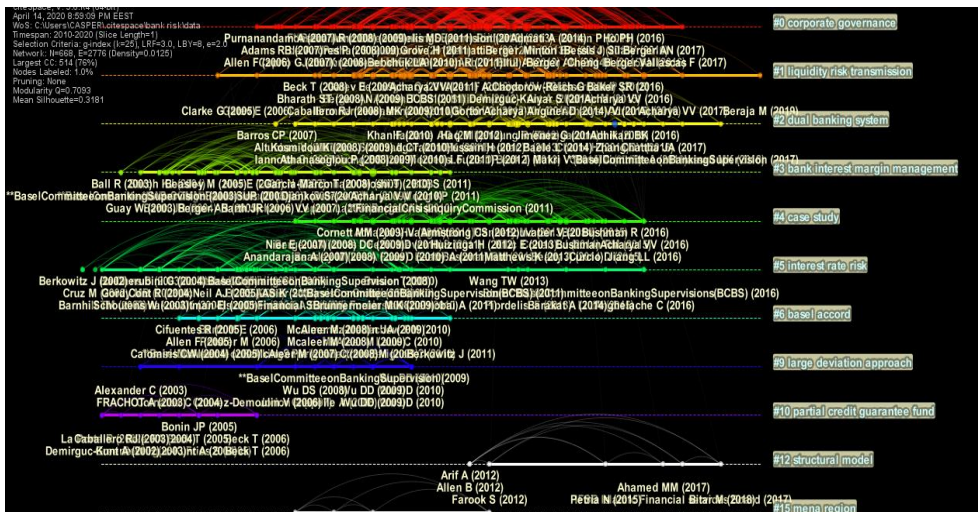
Table: 6
Citation Burst Values of the Authors

Authors	Strength	Begin	End	2010-2020
Jarrow R. A	11.15	2010	2014	██████████
Anonymous	10.03	2010	2014	██████████
Embrechts P.	8.75	2010	2013	██████████
Basel Committee on Banking Supervision	8.60	2010	2011	██████████

4.4. Source Co-Citation Network

As a result of the source co-citation network analysis, the network consists of 668 nodes and 2,776 connections. The network consists of 11 clusters, and the network density is 0.012. The modularity Q value of the network is calculated as 0.70; whereas the mean silhouette value is 0.31. Statistical information regarding the network is illustrated in Figure 5.

Figure: 5
Timeline of Source Co-Citation Network in Banking Risk Management



The article entitled “Risk management, corporate governance, and bank performance in the financial crisis” (n = 81) was published in 2012 by Vincent Aebi, Gabriele Sabota, and Markus Schmid in cluster # 0 and is the most cited source in banking risk management studies. It can be said that this study is a citation source for studies conducted on banking risk management in 2012 and later. The sources with the highest citation value are presented in Table 7.

Table: 7
Frequency Values of Citation Sources

CC	References	Year	Corresponding Author	Cluster #
81	<i>Risk management, corporate governance, and bank performance in the financial crisis</i>	2012	Vincent Aebi	0
78	<i>Bank governance, regulation, and risk-taking</i>	2009	Luc Laeven	3
70	<i>The credit crisis around the globe: Why did some banks perform better?</i>	2012	Andrea Beltratti	0
63	<i>Stronger Risk Controls, Lower Risk: Evidence from U.S. Bank Holding Companies</i>	2013	Andrew Ellul	0
61	<i>Bank CEO incentives and the credit crisis</i>	2011	Rüdiger Fahlenbrach	0

Note: CC (Citation Counts).

Upon evaluating the sources according to the citation bursts, it is seen that the source with the highest value is the article entitled "Bank governance regulation and risk-taking" (9.18), written by Luc Laeven and Ross Levine in 2009. Table 8 presents the burst values of the sources by the years.

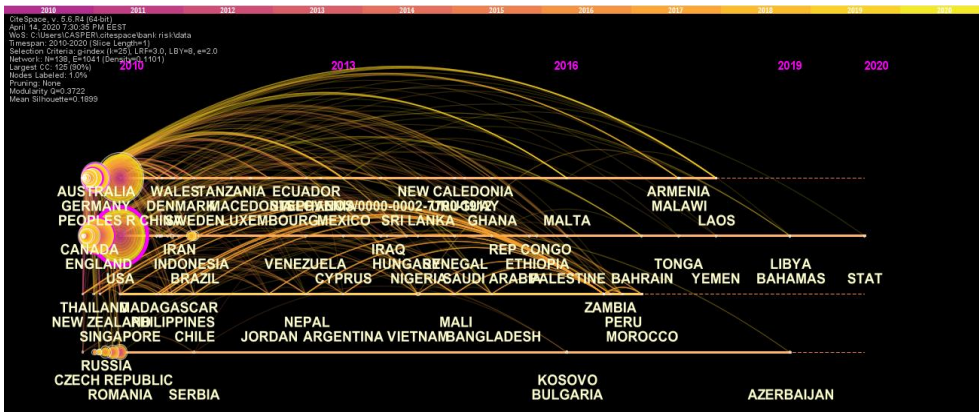
Table: 8
Citation Burst Values of Sources

Author &References	Strength	Begin	End	2010-2020
Luc Laeven, Ross Levine, <i>Bank governance, regulation and risk-taking, Journal of Financial Economics, Volume 93, Issue 2, 2009</i>	9.18	2011	2017	██████████
Markus K. Brunnermeier, Lasse Heje Pedersen, <i>Market Liquidity and Funding Liquidity, The Review of Financial Studies, Volume 22, Issue 6, 2009</i>	6.66	2015	2016	██████████
Shams Pathan, <i>Strong boards, CEO power, and bank risk-taking, Journal of Banking & Finance, Volume 33, Issue 7, 2009</i>	6.63	2014	2016	██████████

4.5. Country Collaborations

In the study, social network analysis is performed to determine the research studies conducted by researchers in different countries. The network, formed to determine the authors' countries who mainly contributed to the banking risk management field in scientific research, has 138 nodes and 1,041 connections. The network density is 0.11. Statistical values regarding the network are found as 0.37 for the modularity Q value of the web and 0.18 for the mean silhouette value. Statistical values regarding the network are illustrated in Figure 6.

Figure: 6
Timeline of Countries' Collaborations Network in Banking Risk Management



Upon analysing the countries according to their academic studies in the field of banking risk management, it is determined that the most productive countries are the USA with 798 studies, the People's Republic of China with 538 studies, and England with 327 studies. Upon evaluating the countries according to the degree of their centrality, it is seen that the major country is the USA (0.64). According to these results, the USA is the country

where the researchers who contribute the most scientifically to the field are connected. The authors with the highest frequency and degree of centrality are presented in Table 9.

Table: 9
Country Collaborations Analysis

Citation Counts	Countries	Centrality	Countries
798	The USA	0.64	The USA
538	People's Rep. China	0.54	England
327	England	0.50	Germany
197	Australia	0.50	France
197	Germany	0.47	Australia
194	Italy	0.42	Italy
155	France	0.41	Netherlands
152	Canada	0.38	Kenya
147	India	0.37	Canada
115	Malaysia	0.36	People's Rep. China

Upon examining the citation burst values of the countries, it is seen that the country with the highest citation burst value from 2012-2015 in Romania (12.03). It is seen that the current studies published in the field are cited as sources of reference to the studies conducted by Ukrainian and Russian researchers. The citation burst values of the countries by the years are presented in Table 10.

Table: 10
Citation Burst Values of the Countries

Countries	Strength	Begin	End	2010-2019
ROMANIA	12.03	2012	2015	██████████
UKRAINE	5.87	2018	2020	██████████
RUSSIA	5.32	2018	2020	██████████
TAIWAN	3.94	2011	2013	██████████

5. Conclusions and Discussions

In this study, 3,806 scientific studies published in international citation indexes between the years 2010 and 2020 in the field of banking risk management are examined in terms of their bibliometric features through social network analysis. In this direction, the scopes and trend topics of scientific research studies in the field of banking risk management are tried to be detected. It is observed that the number of citations of scientific research included in the study tends to increase rapidly, especially with the proliferation of online databases. The obtained results are as follows.

- As a result of the word-based analysis, it is seen that the most frequently used keywords and phrases (management, risk, risk management, bank, etc.) and the most centralised words and phrases (competition, determinant, firm, etc.) are comprised of field-specific general terms in the studies conducted on the field of banking risk management. The high frequency of words means that these words are frequently used in research studies published in banking risk management. It is essential to determine the appropriate keywords for the scope of the research for the research to be easily accessible and indexed. As a result of the study, since the

keywords used are composed of more general terms specific to the field, it is thought to be a factor that makes it difficult to access the publications.

- As a result of the journal analysis, it is seen that the research studies in the subject field are published primarily in journals of banking and finance. Besides, it is seen that there are journals published in the field of accounting and business. Journal of Banking and Finance is a journal of US origin, which is mainly cited in the field of banking risk management. Nonetheless, the Accounting Review, which began to be published in the USA in 1926, is the journal in which the studies that play a vital role in the field are published. The Journal of Business is the journal with the most citation burst value in the field. Most journals in the journal citation network are published in the USA. It is seen that the USA takes the lead in scientific publishing in the field of banking risk management.
- According to the author's co-citation network analysis result, it is seen that the most citations among the authors are made to the authors whose names could not be determined under the name of Anonymous and to the author named Allen N. Berger. It can be claimed that the author named R. A. Jarrow has the most citation burst value in recent years. It is seen that the authors mainly publish in the fields of financial crisis, bank performance, and risk management.
- According to the source co-citation network analysis, the study of Vincent Aebi, Gabriele Sabato, and Markus Schmid modelling the risk management and bank performances in financial crises published in 2012 is the most cited source. The study by Luc Leaven and Ross Levine, on the other hand, is the source that guided the studies conducted from 2011-2017 and has the highest citation burst value. Nevertheless, the fact that journal and source co-citation networks are highlighted mainly by orange indicates that the studies in the field utilise current sources.
- It can be claimed that the USA is pioneering in providing scientific communication in the field and plays a key role in country collaborations. England, the second country with the highest degree of centrality, also serves as a bridge in the field. According to another result obtained in the study, Romania is the country with the highest citation burst value. In contrast, it is seen that Ukraine and Russia are the sources of citation for the current studies published in the field.

There are studies in the literature that examine specific dimensions of banking risk management. In their research of bibliometric analysis on bankruptcy risk estimation methods, Shi and Li (2019) obtained findings similar to that of our study. They stated that the USA had conducted pioneering studies in the field, and reflections on bankruptcy risk intensified after 2010. Our study concluded that scientific publications have an increasing trend following 2010, and the USA has a key role in the studies. Another study with findings similar to ours, Bahoo (2020), in his research on operational risk in banks, concluded that most studies were conducted in the USA and England and focused on credit and operational risks. In our study, it is also seen that similar issues are focused on regarding the most frequently used words and phrases in the subject field.

The study concludes that the scope of scientific research studies in banking risk management within the last decade has been concentrating on the extent to which risks are identified, measured, reported, and managed. A comprehensive consideration of the risk analysis appears to be a necessity. The analysis results of different risk types should be comparable to each other to facilitate decision-making. Reporting and monitoring that follow through the risk management process are the main elements of the risk process measuring the system's effectiveness. Therefore, it is thought that the authors who wish to conduct research studies in this field should concentrate on the trend topics that emerged as a result of the research and carry out tasks to improve these topics would be beneficial for market actors in enhancing the citation and country collaborations. Besides, it is thought that the findings obtained in the study would contribute to determining the relevant keywords, journals, and reference sources for banking risk management studies to be conducted in the future.

Regarding the limitations of the research, the study is conducted based on the field of banking risk management. The data are limited to a specific period and obtained from the Web of Science database, a large-scale database used by the entire scientific world. Moreover, some of the bibliometric data obtained from the Web of Science for social network analysis are considered suitable for the comment. The data cleansing phase requires utmost attention, and time can be considered an overall limitation of these and similar studies.

Since the keywords in the studies consist of general expressions specific to the field, it may be suggested to the researchers who would review the literature in the field to benefit from both general and field-specific expressions. Furthermore, it may be recommended to examine field-specific and interdisciplinary journals due to the different fields of leading journals. In future studies, utilising bibliometric data obtained from other databases, it may be suggested to conduct a survey that includes the comparison of analysis results.

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Examining The Effects of Authentic Leadership on Information, Identity, Commitment and Job Performance

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Otantik Liderliğin Bilgi, Kimlik, Bağlılık ve İş Performansı Üzerindeki Etkilerinin İncelenmesi

Abstract

Within the scope of the study, the interactions of authentic leadership, information management, organisational identification, and emotional commitment to job performance were mentioned. Data obtained using IBM SPSS 25 and SmartPLS Package Programs were analysed. The positive effects of the factors on job performance, as well as the regression and the mediation effect analysis, were used to evaluate the factors that have mediated effect on the relationship between authentic leadership and job performance: both the relationship and mediation effect hypotheses were accepted.

Keywords : Leadership, Information, Identification, Commitment, Performance.

JEL Classification Codes : L250, L200, M100, M150.

Öz

Çalışmanın amacı örgüt yapıları içinde çalışanların kimlik, bağlılık ve bilgi yönetiminde iş performanslarının liderlik tarzıyla birlikte nasıl etkilendiğini incelemektir. Bu nedenle, araştırmanın amacı kapsamında hizmet sektöründe bulunan sigorta firmalarda çalışan 306 beyaz yakalıdan anketler toplanmıştır. IBM SPSS 25 ve IBM AMOS Paket Programları kullanılarak elde edilen veriler analiz edilmiştir. Faktörlerin iş performansı üzerinde pozitif etkileri regresyon analizleri ile aynı zamanda otantik liderlik ile iş performansı arasındaki ilişkide aracılık etkisine sahip olan faktörlerin analizinde mediatör etki analizleri kullanılmış ve hem ilişki hem mediatör etki hipotezlerinin kabul edildiği görülmüştür.

Anahtar Sözcükler : Liderlik, Bilgi, Özdeşleşme, Bağlılık, Performans.

1. Introduction

Leadership is the organisation's ability to influence and motivate its followers to succeed in line with its goals and objectives (Western, 2019). Although studies examine the relationship between organisations' performances and authentic leadership, uncertainty about the management of the process continues. This is due to the insufficient definition of the basic characteristics and the effects of the methods within the theoretical concepts. As the theory is still in the formation process, some concepts of practical approaches are not fully developed or identified yet (Jensen & Luthans, 2006). When the research is examined, authentic leaders increase their followers' social identification by raising sensitivity to high moral values and displaying a high level of honesty and integrity in their contact with their followers. The leader's values and ethical standards thus set the bar. Confidence, hope, positive emotions and optimism prevail among followers, which increases commitment, satisfaction, and other work outcomes (devotion to work, finding the task meaningful, well-being at work, etc.) (Walumbwa et al., 2008). Avolio and Gardner (2005) also point out that authentic leadership can bring radical organisational changes.

According to the authors, authentic leaders can transform these radical changes by helping employees find meaning in their work and connect with it through increased self-awareness, instilling optimism, confidence, and hope, and supporting transparent relationships and decision-making processes that will build trust and loyalty. Leaders will be able to succeed by promoting a positive ethical climate and an organisational structure that includes employees in the operations. Maier (2005) defines Information Management as a management function responsible for selecting, implementing, and evaluating information strategies, all aiming to create a supportive environment for the information from inside and outside the organisation to improve organisational performance. Current research in organisational identification emphasises that the organisational membership and commitment of the individuals are related to the identity theory (Stryker & Burke, 2000). More specifically, if the employees' values are compatible with the organisation and whether they are more willing to do what is necessary for the organisation's survival (Burke, 2017). Boswell (2006) states that emotional commitment indicates that the employees feel committed to their organisation, have solid sentimental values, and want to work for the organisation without the intention to leave. Some studies (Walumbwa et al., 2010) examine the effects of ethical and transformational leadership and determine that authentic leadership significantly impacts the employees' work, attitudes, and behaviours. In a hierarchical organisation, the leader accepts his/her responsibility for the mistakes and errors and uses his/her creative administrative potential to create flexible planning, growth and policies and be part of a broader community as a responsible person (Leroy et al., 2015). It is emphasised that subordinates expect their leaders to acknowledge responsibility for the activities, results, and mistakes in the organisational or personal sense. The assistants must be allowed to perform their particular roles without manipulation (Henderson, 2015). In this context, it aims to examine whether there are mediation variable effects on job performance and the direct impact of authentic leadership. Information management, identification, and commitment factors are becoming increasingly critical in insurance companies; the research

was conducted in insurance companies headquartered in Istanbul, Turkey. Within the scope of our study, a questionnaire was applied to 306 authorised specialist employees working in the general directorates of insurance companies. In the analysis results, it can be argued that authentic leadership and mediation variables positively affect job performance. However, it is impossible to make a general assessment for companies in all sectors, as the research was analysed only by collecting data from authorised experts working in the general directorates of insurance companies. For this reason, the results of the analysis should be evaluated by taking into account the limitations of the research. At the same time, it is recommended to contribute to the literature with comparative analysis in different sectors in similar studies to be conducted in the future.

2. Literature Review

2.1. Authentic Leadership

An authentic leader is defined with the following characteristics: one who represents the basic and essential values; which creates a vision for the future that appeals to the minds, hearts, and souls of the employees, who generates energy and a renewed sense of commitment to help his/her followers to rediscover themselves; who forms a shared spirituality; who shows empathy towards feelings, demands and needs of others; who represents the values of the organisation; who can work in a multicultural environment and pioneers global trends to contribute to his/her organisation and employees (Bhindi & Duignan, 1997). One of the essential characteristics of authentic leaders is that they attach importance to moral values and act according to them (Gatling et al., 2016). Authentic leaders discover their strengths and weaknesses by trying to understand how they affect their followers (Peus et al., 2012). Indeed, authentic leaders are important for setting potential values for the organisations in terms of creating participation, satisfaction, performance and supporting the employees' health. Authentic leaders work hard to overcome their skills and use their natural talents to direct their organisations' aims, objectives, and values. They establish permanent relationships with people, building followers through their own consistent and self-disciplined actions. In addition, Kernis (2003) noted that leaders incorporate balanced and unbiased evaluations of information, are aware of and accepting of his/her positive and negative aspects and are objective in their assessment of the information in a balanced and impartial way. At the same time, it can be said that the leader is not content with what he/she knows but also evaluates the different views of the individuals around him/her in the decision-making process. That is, authentic leaders can influence information management. Authentic leaders are committed to improving themselves because they accept that being a leader requires lifelong personal development (Azanza et al., 2015). For example, Clapp-Smith et al. (2009) found that authentic leadership in the service sector positively influences sales and department performance in organisations. Authentic leadership and other leadership styles in different industries and organisations can only be identified due to research carried out in this field. For this reason, the study aims to determine the leadership qualities of the managers of the white-collar employees in the public and private sector, their roles in information management,

organisational identification, emotional commitment, and the interaction between job performance. At the same time, the study aims to reveal significant relationships between work, authentic leadership, information management, organisational identification, emotional commitment and job performance and offer suggestions about the effects/contributions on the employees and organisations.

2.2. Information Management

The studies on information management emphasise that it is essential for organisations to develop unique information to present new services, gain an advantage in a competitive environment, and distinguish themselves from competitors (Menguc et al., 2007). Offering exceptional services also helps to increase customer satisfaction and sales volume. For this reason, companies should pay attention to the effects of information development on their performance (Bogner & Bansal, 2007). According to Laudon and Laudon (2015), the company's information-orientated vision is based on the knowledge and competence of valued employees who are unique elements of the company and who cannot be exploited by other companies. Employees' ability transforms into organisational learning and accumulates intellectual capital within the organisational system. In the studies conducted in the management literature, the primary reason for the existence of the companies was defined as the creation, integration, and use of knowledge. The aim is to contribute to developing companies with a knowledge-based theory (O'Brien & Marakas, 2011). If the information is managed correctly, it stands out as the leading strategic resource that enables the company to create value from production (Zack et al., 2009). According to this view, a company is an incarnational form of information-bearing entity that manages the information sources with its dynamic capabilities (Pereira et al., 2019). And in fact, organisations should initiate and implement various activities or initiatives to improve their organisational capacities and gain more value. In other words, they need to embrace information management applications (Dalkir, 2017).

The primary purpose of information management is to make employees aware of the information, collectively and individually, and to shape it so that the information created or acquired by the organisation is used most effectively (Shannak et al., 2017). It will likely positively impact job performance by using and correctly managing information. Alavi and Leidner (2001) note that implementing information management, mainly based on information and communication technologies, leads to positive organisational outcomes, such as improved communication, increased employee participation, and productive problem-solving. One of the study's objectives is to reveal the effect of an authentic leadership approach on information management. In addition, another aim is to examine the impact of information management on job performance. Dessler (2001) describes leadership as a factor that encourages others to work hard to fulfil important tasks. Leadership is about establishing a transparent management approach and encouraging employees to follow the leader to achieve the organisation's goals. In information-oriented organisations, leadership is related to the perception of decisions that support information and learning activities (DeTienne et al., 2004).

Furthermore, information-oriented leaders encourage the exchange of information, recognise and reward such initiatives and practices, and eliminate negative behaviours that jeopardise information sharing (Ribiera & Sitar, 2003; Lakshman, 2009). According to Ribiera and Sitar (2003), in an information-intensive organisation, the leaders should have the necessary skills to steer information in the right direction to benefit from the research and utilisation processes. In other words, the leader of an organisation should motivate his/her employees to learn and use the information, allowing the organisation to reach its information targets as a whole.

2.3. Organizational Identification

Forming organisational identification among employees is essential for the success of organisations (Brown, 2017). It is directly related to an individual's emotional commitment, satisfaction from the job, and the organisation, organisational loyalty, professional and workgroup commitment, and willingness to stay in the organisation and accept extra mile roles (Riketta & Van Dick, 2005). Current research in the field of Organizational Identification has shown that individuals put themselves into various social categories (gender, race or religious affiliations) and organisational memberships, and the theory of social identity indicates that they are members of certain groups and carry out social roles (Karanika-Murray et al., 2015). Authentic leaders attach importance to organisational identity to positively affect employees' attitudes and behaviours (Avolio et al., 2004). Organisational identification also impacts achieving organisations' missions, values, goals and objectives (Avanzi et al., 2018). Authentic leaders set an example to their subordinates, showing leadership behaviours that represent the organisation's values. If the followers identify themselves with their leaders, they may have higher organisational identification (Sluss et al., 2012). Sluss and Ashforth (2008) argue that an individual should adopt an organisational identity because the relationships between the followers and leaders exist within the scope of organisational relationships; a leader's behaviour can affect employees' personal and organisational attitudes (Sluss & Ashforth, 2007). Employees see leaders as organisation representatives (Sluss & Ashforth, 2008).

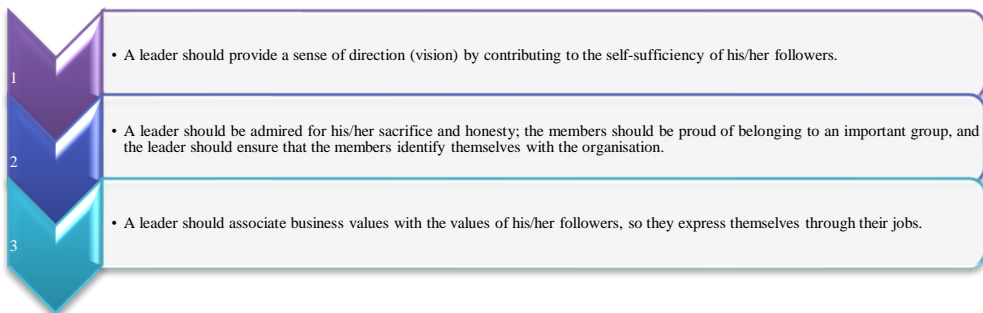
For this reason, when employees feel close to the leader, their organisational identities will also begin to form. One of the study's objectives is to reveal the effect of an authentic leadership approach on organisational identification. In addition, another aim is to examine the impact of organisational title on the company's job performance. As employees identify themselves with the organisation and add organisational interests into their core values, it is more likely that they will act in favour of the organisation (Loi et al., 2014), and studies reveal a positive relationship between employees' organisational identification and job performance (Gillet et al., 2013). The organisational identity reflects of overlap between an individual's identity and organisational identification (Van Knippenberg & Sleebos, 2006). When employees identify with the organisation, its values, goals and norms are also taken into the individual self-concept. Employees are ready to adapt to the organisational system if they see themselves as members (Carmeli et al., 2007). Moreover, they became motivated to act according to organisational goals and norms. In this context, the research

examines the effect of authentic leadership on organisational identification and the impact on job performance.

2.4. Emotional Commitment

Emotional Commitment can be defined as employees' commitment to the organisation in more of a spiritual sense than joining the organisation or being identified with the spiritual value of the organisational membership (Allen & Meyer, 1990). Emotional Commitment enhances job performance, encourages employees to help their colleagues, and reduces absenteeism (Meyer et al., 2002). Employees' values correspond with the organisational matters and motivate employees to do what is necessary for the organisation to survive (Mowday et al., 1982). It is argued that the positive attitudes of employees to the organisation are related to the concept of emotional commitment (Greenberg & Baron 2008), and the primary purpose of passionate commitment is to present a real-life perspective on the factors that influence interactions and the commitment of the employees in the organisation. The organisation must provide collective information and guide employees in prioritising potential development activities since it is important how the employees interpret their emotions regarding their interest in the job and commitment to the organisation. The emotional commitment component is the emotional attachment of employees to the organisation, identification with the organisation, and participation. Emotional commitment is the individual's psychological attachment organisation attachment links such as loyalty, love, and belonging (Walumbwa et al., 2005). Emotional commitment underlies the individuals adopting the organisation as a family and seeing himself/herself as family members. Some studies have analysed the link between leadership and organisational commitment and are interested in leadership theories and business attitudes (Epitropaki & Martin, 2005). Employees' organisational commitment arises as a result of senior management's determination. The connection between the two concepts is controversially explained by leadership behaviours (Epitropaki & Martin, 2005) and the theory based on the self-concept of motivating followers of the leaders (Bono & Judge, 2003).

Figure: 1
Leadership and Self-Concept



Individuals who see their organisations, leaders or teams working for prosperity respond with a higher emotional commitment. According to Katz (1951), if employees' psychological tendency to enter or leave a group is the function of their ability to influence decisions, a positive correlation can be established with emotional commitment. Some studies suggest that employees who are allowed to participate in the decision-making process show higher organisational commitment (Yousef, 2000), and considerate or "people-oriented" leaders are more likely to be empathic (Fleishman & Salter, 1963) and capable of sensing and satisfying followers' needs. Therefore, the employees should understand organisational decisions, core values, norms and objectives and contribute to the organisation. Empirical evidence based on the preliminary study leads to an understanding that people-oriented leadership positively affects emotional commitment (Lok & Crawford, 2004). In this context, the impact of authentic leadership on emotional commitment and the effect of emotional commitment on job performance are examined in the research.

2.5. Job Performance

Performance, the degree of activities carried out over a certain period, can also be defined as the degree of achievement of planned activity (Motowidlo & Kell, 2012). The concept of performance according to different approaches is defined in different ways. Performance, which is the degree of achievement of the goal of individuals or institutions in an activity, is the "rate of achievement of the goal" (Arshadi & Hayavi, 2013). At this point, performance, an essential issue for managers in organisations, results from the employee's work behaviour and can be expressed as "achieving a job or showing success". In addition, performance can be defined as the total measure of the qualitative and quantitative contributions of a worker or group to the objectives of the unit and organisation in which they are involved (Breevaart et al., 2015). Therefore, individual job performance is important for the organisation. The fact that the performance of employees is individually solid or weak will also affect the organisation. In addition, performance evaluation is critical in achieving organisational goals and determining individual contributions to the goals. As a result of the evaluation, personal development within organisations is provided by creating multi-directional communication and contributing to organisational development. At this point, performance evaluation criteria are used by organisations to check and evaluate whether their goals are achieved (Chiang & Hsieh, 2012). Since leaders are responsible for the organisation's performance, employees must be concerned with their performance (Yeh & Hong, 2012). Performance is the quantitative (quantity) and qualitative (quality) description of what an individual doing a job, a group or an organisation can achieve, in other words, what it can achieve with the intended goal (Bakker et al., 2012). Performing the task by the previously determined standards is the rate of approaching and achieving the goal (Choy et al., 2016). In this context, it has been understood that the employees are one of the most important sources of the organisation in ensuring individual job performance because of the understanding of the personal emotions, attitudes and behaviours of the employees, the management and leader attitudes they perceive, and the factors that affect the job performance. In this study, the concept of "authentic leadership" among these

elements was examined, and the relationship between this concept and individual job performance was evaluated.

2.6. Examining the Relationships Between Variables

In studies conducted on authentic leadership, the relationship and differences between authentic leadership understanding and other forms of leadership were determined, an authentic leadership measurement model was developed, and components of authentic leadership were revealed (Neider & Schriesheim, 2011). In addition, it is stated that authentic leadership is more meaningful and positive than other types of leadership (Walumbwa et al., 2008). In the study, it was determined that there is a positive and significant relationship between authentic leadership and "job satisfaction of employees" and "individual job performance" (Tabak et al., 2012). Although there are studies explaining that authentic leadership positively affects business performance (Peterson et al., 2012; Azanza et al., 2013; Tak & Roh, 2016), there are also studies stating that authentic leadership strengthens employee loyalty (Gatling et al., 2016; Rego et al., 2016). In a study by Knoll and van Dick (2013), it is stated that authentic leadership positively affects the organisational identification of employees; in other words, it strengthens it. First, leaders with a high level of authenticity can show the importance of helping each other and the value of open information sharing. They can play a central role in making employees more conscious. Khan (2010) found that authentic leadership had a positive effect on performance as a result of his study to determine the impact of authentic leadership on performance. Avolio and Gardner (2005) also suggested that authentic leaders will positively affect employees' commitment to work, organisation, performance, and work. In other studies, it is stated that there is a positive relationship between authentic leadership and employee commitment (Bamford et al., 2013; Liu et al., 2014) and between authentic leadership and employee engagement (Adil & Kamal, 2016; Kulophas et al., 2018). As a result of the studies carried out to determine the relationship between organisational commitment and employee performance, it has been determined that there is a positive relationship between the emotional commitment dimension of organisational commitment and the employee's performance level (Luchak & Gellatly, 2007; Khan et al., 2010). Meyer and Allen (1987) also state that personal, structural, work-related, and work experiences affect emotional commitment. Still, the most vital relationship with emotional commitment is between work experiences. Accordingly, if employees' work experiences and expectations are compatible, their emotional commitment to the organisation will increase. In line with the research, authentic leadership, Information Management, Organizational Identification, Emotional Commitment and Job Performance variables are examined in the research model. Hypothesis in this direction:

H1: Authentic leadership has a positive effect on job performance.

H2: Authentic leadership has a positive effect on information management.

H3: Authentic leadership has a positive effect on organisational identification.

H4: Authentic leadership has a positive effect on emotional commitment.

H5: Information management has a positive effect on job performance.

H6: Organizational identification has a positive effect on job performance.

H7: Emotional commitment has a positive effect on job performance.

H8: Information management has a mediation effect on the relationship between authentic leadership and job performance.

H9: There is a mediation effect of organisational identification in the relationship between authentic leadership and job performance.

H10: There is a mediation effect of emotional commitment in the relationship between authentic leadership and job performance.

3. Methodology

3.1. Sample and Population

The data used in this study were collected from insurance companies whose headquarters are located in Istanbul, Turkey, chosen because the city of Istanbul is the most economically developed in Turkey. And information management, identification and commitment factors are becoming increasingly important in insurance companies. Within the scope of our research, a questionnaire was applied to 306 authorised specialist employees working in the general directorates of insurance companies. While determining the scale expressions, a two-stage translation technique was used. The questions were prepared for both Turkish-speaking participants and English-speaking participants.

Table: 1
Profile of the Company Employees

Questions	Option	Frequency	Percentage	Mod	Compare Means Results
Gender	Female	121	39.5	Male	T-test P-value: 0.584
	Male	185	60.5		
Age	25-30	48	15.7	26-30	ANOVA P-value: 0.107
	31-35	87	28.4		
	36-40	75	24.5		
	41-45	57	18.6		
	46-50	23	7.8		
	More than 51	16	5		
Education	Associate Degree	43	14	Bachelor	ANOVA P-value: 0.222
	Bachelor	196	64		
	Master/PhD.	67	22		
Working Time	Less than 1	41	13.2	4-7	ANOVA P-value: 0.196
	1-3	98	32		
	4-7	107	35		
	8-10	39	12.7		
	More than 10	21	7		
Areas of Activity	National	83	27.1	Regional	ANOVA P-value: 0.083
	Regional	124	40.5		
	International	99	32.4		

Frequencies, percentages, and repetitions of the demographic questions asked to the participants are given in Table 1. In addition, before the analysis started, whether there was a difference between the mean scores given to the statements according to the answers given to the questions. Since the gender variable is in 2 categories, a t-test was performed. ANOVA

test has been done since other questions have more than two categories. These tests aim to determine whether there is a difference between the average scores according to the question categories. Different groups cannot be combined and evaluated together. As a result of the tests, the alternative hypothesis expressed as "the average scores are given by categories are different" was rejected (All p values more than 0.05).

The scale questions were divided into two groups questions measuring demographic characteristics and questions measuring five different dimensions. Demographic data obtained from the first group are presented with descriptive statistics. Confirmatory factor analysis was performed for the 5-dimensional structure in the second group, and the model was tested. After determining the appropriate model structure, reliability analyses and goodness of fit values were given, and hypotheses were tested. The SPSS 25 program was used to determine demographic characteristics and factor analysis processes, and the testing of hypotheses was done and presented in the SmartPLS program.

3.2. Measures

The 5-point Likert scale prepared scale expressions. Scale options have the scale of Completely Disagree (1) and Completely Agree (5). A minor pretest procedure was carried out to test the statements' clarity and determine the questions' precise structure. The participants were given a 5-dimensional scale created by a literature review. This scale consists of Authentic Leadership (AL), Information Management (IM), Organizational Identification (OI), Emotional Commitment (EO) and Job Performance (JP). CMV can impact structural results and therefore needs to be checked. The CMV may lead to erroneous conclusions about the relationships between the factors by inflating or deflating the variance (Craighead et al., 2011). (Dunn & Hult, 2011). Some internal and external operations can be done in CVM control. Some of these methods are to measure the scale questions with different dimensions and to inform the respondents that they will be anonymous; the voluntary participation was a reasonable response time. Harman's single factor method was also used to test the presence of CVM in the scale. In this test, all statements are fixed to only a one-factor structure. When the scale, which usually has a 5-factor structure, is set to the first factor with the Harman single-factor test, the first factor explains only 30.245 per cent of the total variance. If this value is below the threshold value of 0.50, it indicates that there is no CVM problem for the data set.

SPSS for Multicollinearity and Variance Inflation Factor (VIF) control performed a collinearity test. VIF values for all variables included in the analysis were obtained less than threshold 3.0. This indicates no problem with multicollinearity. At the same time, the correlation values of the variables were not too high. This ultimately means that there is no multicollinearity problem. Correlation values obtained for the data set are given in Table 3.

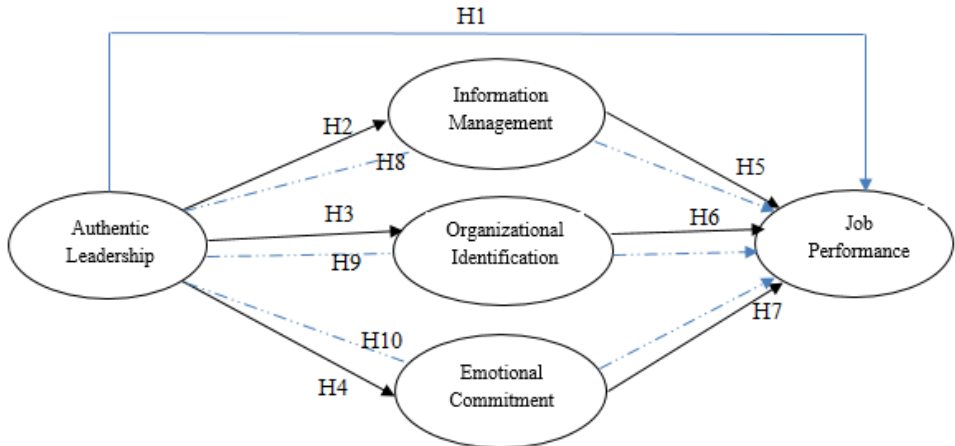
The Authentic Leadership scale was measured by the questions developed by Neider and Schriesheim (2011) (Cronbach Alpha=0.85). The information Management scale was adopted from the scales used in the studies of Yung-Lung Lai et al. in 2014 (Cronbach

Alpha=0.86). Organisational Identification scales were adapted from the scale Mael and Ashforth in their survey of 1992 (Cronbach Alpha=0.87). The Emotional Commitment scale was developed by Dağlı et al. (2018) (Cronbach Alpha=0.80). The Job Performance scale was adopted from the scales used in the studies of Obeidat and Tarhini in 2016 (Cronbach Alpha=0.81).

3.3. Research Framework

Based on the literature review, the research model was composed of three sections. The first section consists of independent variables of authentic leadership and dependent variables of information management, organisational identification, emotional commitment, and job performance. The second section consists of dependent variables of job performance and independent variables of information management, organisational identification, and emotional commitment. The third section analyses the mediation effect of information management, organisational identification, and emotional commitment variables in the relationship between authentic leadership and job performance.

Figure: 2
Research Model and Hypotheses



The study prepared a questionnaire with 44 questions on a 5-point Likert scale. Variables of authentic leadership, information management, organisational identification, emotional commitment and job performance were subjected to factor analysis. Since six questions were distributed to different factors, they were removed from the scale. The remaining 38 questions were distributed into five factors. The variables that were subjected to factor analysis are shown in the following table with their factor loads:

Table: 2
Variables KMO and Bartlett's Test and Reliability Result

Variables/Factors	N	Each Factor KMO	Cronbach Alpha	Each factor explained	KMO/Bartlett's and Explained
Authentic Leadership	10	0.941	0.946	67.428%	KMO: 0.915 Bartlett's: 0.000 Explained: 73.455% Cronbach Alpha: 0.832
Information Management	10	0.949	0.970	79.008	
Organisational Identification	5	0.865	0.921	76.021%	
Emotional Commitment	7	0.843	0.933	71.601%	
Job Performance	6	0.905	0.910	69.191%	

The study examined Kaiser Meyer Olkin (KMO) values and Bartlett Test of Sphericity values to determine whether the data fit factor analysis. All factors analysed the data set, and the mentioned values were obtained. The Kaiser-Meyer-Olkin sampling adequacy measurement of 0.915 and the significance level of Bartlett's Test of Sphericity Sig. is ($0.000 \leq 0.05$), indicating that the data is appropriate for factor analysis. The 5-factor structure has a 73.455% explanatory power. Each factor's formations were examined in the next stages, and KMO and Bartlett test results were obtained for each. Validity and reliability values of the scale are presented. The results obtained are given in Table 2. Cronbach Alpha reliability values were made for the whole data set and each factor. Cronbach's alpha coefficient of 0.50 and above is accepted as sufficient by Nunnally (1978). With CFA, all item factor loadings for each construct were significant ($p < 0.01$). The goodness-of-fit indices for the measurement model were found. $\chi^2 / df = 2.47$, the Goodness-of-Fit Index (GFI) = 0.89, the Adjusted Goodness-Of-Fit Index (AGFI) = 0.84, the Non-Normed Fit Index (NNFI-TLI) coefficient [TLI] = 0.96 and the Comparative Fit Index [CFI] = 0.96, RMSEA = 0.052). RMSEA index smaller than 0.06 would be a criterion that will suffice (Hu & Bentler, 1999). The bigger NNFI value indicated a better fit for the model. NNFI values larger than 0.95 are interpreted as acceptable fit (Cangur & Ercan 2015). The CFI value is expected to be above 0.95 for an acceptable fit.

Table: 3
Factor Loadings, AVE - CR Values and Correlations

Variables/Factors	Factor Loading	AVE	CR	Correlations			
				AL	IM	OI	EC
Authentic Leadership (AL)	0.78-0.87	0.67	0.95				
Information Management (IM)	0.72-0.88	0.71	0.96	.469**			
Organizational Identification (OI)	0.74-0.89	0.68	0.91	.297**	.346**		
Emotional Commitment (EC)	0.70-0.87	0.63	0.92	.366**	.460**	.392**	
Job Performance (JP)	0.80-0.88	0.70	0.93	.339**	.350**	.353**	.629**

***: Correlation is significant at the 0.01 level (2-tailed).*

AVE and CR values, Correlation Coefficient values and factor loadings obtained for the data set are given in Table 3. AVE and CR values were calculated for each factor. When the table is examined, it can be seen that all AVE values are above 0.50, and CR values are above 0.70. The data's convergent validity was tested this way, which shows that the scale convergent validity is good. All Alpha values are above the 0.80'n. Namely, this indicates that the scales had good reliability. The correlation was used to examine the one-to-one relationship between Authentic Leadership, Information Management, Emotional Commitment, Organizational Identification and Job Performance. It was determined that all variables have a significant relationship with other variables at the level of ($p < 0.01$). All of

the correlation values were less than 0.80. This result confirmed the absence of multicollinearity.

The SmartPLS3.4 program was used to test the hypotheses on the structural model given in Figure 2. The path results for the H1-H7 hypotheses are shown in Table 4.

Table: 4
H1-H7 Hypothesis Results

H	Model	Unstandardised Regression Weight	Standardised Regression Weight	S.E.	C.R.	P-Value	Decision
H1	AL→JP	0.293	0.339	0.047	6.234	***	Accept
H2	AL→IM	0.374	0.469	0.040	9.350	***	Accept
H3	AL→OI	0.277	0.297	0.051	5.431	***	Accept
H4	AL→EC	0.274	0.366	0.040	6.850	***	Accept
H5	IM→JP	0.380	0.350	0.058	6.552	***	Accept
H6	OI→JP	0.328	0.353	0.050	6.560	***	Accept
H7	EC→JP	0.729	0.629	0.052	14.019	***	Accept

S.E.: Approximate standard error, *C.R.:* Critical ratio.

In Table 4, the data's original path results (O) and path results (M) were obtained as a result of bootstrapping. When the table is examined, all t stat. It can be seen that the values are more significant than 1.96, and the p-value values are less than the significance level of 0.05. Accordingly, the Path Coefficient values obtained were significant at the 0.05 significance level. Since the paths given with the hypotheses are substantial, all hypotheses between H1-H7 were accepted. For the mediation effect, Indirect and Total effect values were checked. The obtained values are given in Table 5. The SmartPLS program was used again for these process results, and total, direct and indirect effect values were presented.

Figure: 3
H8-H10 Mediation Effect Path Models

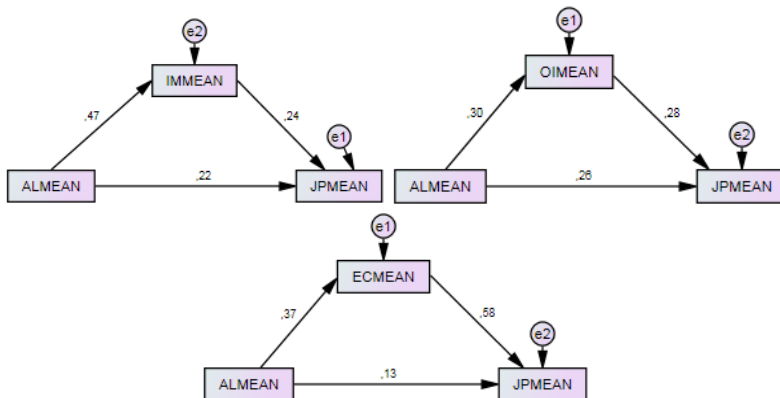


Table: 5
H8-H10 Mediation Effect Test Results

H	Path	Estimate	S.E.	C.R.	P-Value	Std. Direct E.	Std. Ind. E.	Total Effect	Ind. Effect 2 tailed
H8	AL→IM	.374	.040	9.284	***	.469	.000	.469	
	AL→JP	.194	.051	3.779	***	.224	.115	.339	.012
	IM→JP	.265	.064	4.122	***	.245	.000	.245	
H9	AL→OI	.277	.051	5.429	***	.297	.000	.297	
	AL→JP	.222	.047	4.748	***	.257	.082	.339	.004
	OI→JP	.257	.050	5.119	***	.277	.000	.277	
H10	AL→EC	.274	.040	6.875	***	.366	.000	.366	
	AL→JP	.109	.041	2.656	***	.126	.214	.339	.012
	EC→JP	.676	.055	12.341	***	.583	.000	.583	

Table 5 shows the mediation effect status of the IM, OI and EC variables between H8-H10. Indirect Effect and Total effect values taken from the SmartPLS program are presented in the table, and using these values, Variance accounted for (VAF) values are also calculated to reveal the Mediation effect size. VAF values provide information about the size of the mediation effect (Nitzl & Hirsch, 2016). If the VAF value is below 20%, no mediation is mentioned; between 20% and 80% partial mediation, and if it is greater than 80%, full mediation effect is noted. Accordingly, the IM, OI, and EC variables partially mediated the relationship between AL and JP. Here, the VAF values are found by dividing the Indirect effect values by the total effect values.

4. Discussion

The senior managers must work in harmony with their employees and show team effort in the organisation. To achieve this, leadership qualities are needed. Leaders should know the cultural values of their communities better than other people since their situation influences organisational commitment. Emotional commitment is necessary for organisational effectiveness (Erat et al., 2017). Especially the importance of passionate commitment emerges in performance, intention to leave, absenteeism, and fulfilment of organisational goals (Loui, 1995). Leaders in the top management of organisations in a highly competitive environment are positioned as decision-makers, and their characteristics can influence the sustainability of the organisations. Advancing communication techniques and technologies and removing the borders caused the emergence of new leadership styles in the 21st century. They have become important factors in determining the length of life of organisations. However, the number of studies that measure the influence of cultural diversity on people's responses to management styles and their values is pretty limited. Therefore, there is a growing need for more research about problems of leadership styles according to cultural differences. Unfortunately, only small numbers of organisations support this kind of research.

Carmeli et al. (2011) stated in their study that leaders with positive characteristics positively affect employees' personal and organisational behaviour. Leaders work with their subordinates to implement company policies, fulfil legal and financial responsibilities, and achieve their goals. Therefore, subordinates will likely generalise supervisory treatment as an organisational treatment. The leaders, as organisational representatives or regulators

(Northouse, 2018), can encourage employees to identify themselves with the organisation. For example, leaders can create a supportive working environment which makes organisational identity more attractive (Monzani et al., 2016). However, the organisations should support the studies and allow them to be carried out in the workplace for these assumptions to be substantiated.

Additionally, it should be noted that although university-industry cooperation is mentioned many times, many organisation managers do not want to support the studies in social science. In this case, there are difficulties in translating the theory into practice. If university-industry collaboration is genuinely feasible for researchers, it will be easier to test the theory in practice. In this way, it will be possible to contribute more to the theory with the research, and it will be possible to discover new leadership styles with further studies in practice. Many executives do not want the analysis to be carried out in their organisations and state that they do not allow surveys and similar studies due to company policies. This situation raises questions about how these organisations are managed and the direction of employees' attitudes and behaviours. As a result of the analysis, it can be understood how meaningful the relationship between leaders and employees is for organisations. Therefore, there is a need for studies that will help employees perform better.

5. Conclusions and Suggestions

As a result of the study, it was determined that authentic leadership positively affects both the organisation and the employees in the companies in Istanbul. In today's competitive environment, the most preferred situation is that the employees have a long-term desire to stay in the organisation and have a minimum intention to leave. They identify themselves with their organisations and are good representatives of their organisation in social life, and have a strong emotional commitment. However, incorrect leadership understanding or leadership roles can cause employees to leave the organisation. Authentic leaders can influence the employees and change their attitudes and behaviours in the organisations (Avolio et al., 2004). What is expected from the leaders is not only to unite their followers around a common vision but also to include them in the decision-making processes of the organisation by taking into account the values, expectations, and feelings of their followers and to create a positive climate in the organisation and give employees the opportunity to both improve themselves and develop the organisation. Employees who embrace the mission and values of their organisation are more likely to be able to assist them in achieving the goals and targets of the organisation (Nikpour, 2017). Although authentic leadership is not thoroughly studied in the literature, it is determined that it has a significant positive relationship with information management, emotional commitment, and organisational identification. Still, it is necessary to decide how authentic leadership is positively or negatively related to various variables in various sectors and organisations. Authentic leadership is a cohesive leadership style that makes employees more committed to their organisation (Allen & Meyer, 1990). The results of the sample surveys must be analysed thoroughly to form a base for further studies. One of the most important criteria for successful information management is the role of leadership in organisations. Organisations

become successful if they support leadership roles that encourage information and learning activities (DeTienne et al., 2004), especially as the authentic leadership role has an essential responsibility in the success of information management.

Moreover, such leaders recognise and reward employees who participate in initiatives, such as information sharing and implementation (Lakshman, 2009). Because it is impossible to talk about management and leadership without the human element, it is necessary to understand people, their behaviours, and their reasons for optimising the efficiency obtained from the workforce. At this point, if the leader wants to increase his followers' positive organisational behaviours and attitudes, such as emotional commitment, well-being, satisfaction, job dedication or performance, he/she should make the follower feel valued. Today, it is understood that the extent to which employees can establish a bond between their work and themselves, how meaningful, important, and interesting they find their work; and whether employees feel valued in the organisation might have a key role in achieving the goals of the organisation. Emotions and issues related to emotions in organisational life have always been ignored in the past, and they were not considered to be a research topic. Therefore, there is a great need to investigate the role of emotions in organisational life, how to increase the well-being of employees, develop an understanding of which factors affect well-being, and fill the gap in this area (Zineldin & Hytter, 2012). The findings of our research show that the organisational procedures in insurance companies in Istanbul benefit the employees and the organisations, and the employees do not want to leave their work concerning leadership style. To contribute more to the theory in the studies to be carried out in this field, more studies are needed regarding the attitudes and behaviours of employees and leaders. It will be possible to introduce new attitudes and behaviours that can be discovered, especially those due to cultural differences. Furthermore, it is possible to discover new concepts in management and organisation by conducting comparative analyses with researchers in different cultures. Organisational structures need to be investigated with changing direction and working arrangements, thereby making it possible to expand the research areas by examining the problems experienced in working life from different perspectives.

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Appendix: The Questionnaire

In this scale, it represents (1) Strongly Disagree, (3) Undecided, and (5) Strongly Agree. Please answer the following statements regarding your institution completely and sincerely by ticking the relevant box on the side.
Authentic Leadership
AL1. At my organisation, there is consistency between the beliefs and actions of our managers.
AL2. In the organisation I work for, our managers express their opinions in a way that supports their fundamental beliefs.
AL3. At the organisation I work for, our managers analyse the relevant data before making an objective/impartial decision.
AL4. In the organisation I work for, our managers also use their fundamental beliefs in their decisions.
AL5. In the organisation I work for, our managers listen to employees with different opinions before deciding.
AL6. Our managers encourage people to express different perspectives at the organisation I work for.
AL7. Our managers are highly resistant to doing things against their beliefs at the organisation I work for.
AL8. At the organisation I work for, our managers analyse the relevant data before making an objective/impartial decision.
AL9. My organisation's managers direct their actions/behaviours with internal moral principles.
AL10. In my organisation, our managers openly share information with the employees.
Emotional Commitment
EC1. The organisation I work for has a special meaning for me.
EC2. I feel like a part of this organisation.
EC3. I have a strong sense of belonging to the organisation I work for.
EC4. I feel emotionally connected to the organisation I work for.
EC5. I think it is an honour to be an employee of this organisation.
EC6. I feel my job at this organisation is my own private business.
EC7. I embrace the aims of this organisation.
EC8. I feel the problems of the organisation I work for as my problems.
Information Management
IM1. The organisation I work for systematises the collected information and creates an information system.
IM2. The organisation I Work for saves and organises the work information as a database of employees.
IM3. The organisation I work for develops many creative ideas in various ways.
IM4. In my organisation, Employees can disseminate and transfer personal experience and information to organisations.
IM5. My organisation has complete management mechanisms for professional techniques and information.
IM6. Employees can fully protect their professional technical information in my work organisation.
IM7. Employees in the organisation I work for can obtain the data required to work from databases or other members.
IM8. My organisation has suitable mechanisms to encourage employees to propose creative or effective developments.
IM9. The organisation I work for manages professional techniques, information and content with a computer system.
IM10. Employees at my organisation often communicate with other members to solve business problems.
Organisational Identification
OI1. I would be ashamed if the media criticised the organisation I work for.
OI2. I am very interested in what other people think of my organisation.
OI3. The success of the organisation I work for is my success.
OI4. I feel like it's a personal insult when someone criticises my organisation.
OI5. When I talk about the organisation I work for, I usually say "we" rather than "they".
Job Performance
JP1: My work efficiency is increasing in the organisation.
JP2: I am helped to solve the problems I have in the organisation.
JP3: The organisation helps me achieve my business mission.
JP4: I learn new information thanks to the cooperation among the employees in the organisation.
JP5: Organization increases my willingness to work together.
JP6: Organization increases my problem-solving skills.

The Dynamics of Household Food Insecurity in Turkey

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Türkiye’de Hanehalkı Gıda Güvensizliğinin Dinamikleri

Abstract

Fundamental needs such as adequate food, clothing, and shelter are the foundation of social well-being. With the increasing world population, the number of undernourished people is also gradually increasing. This situation triggers increased concern that groups with different socioeconomic characteristics in developing countries will not have sufficient access to the food necessary for a healthy life. Consequently, the food insecurity issue has become a global topic of interest. Identifying the determinants of household food insecurity is important to develop policies to eliminate or reduce the significant inequalities in households’ access to food. This study seeks to identify the dynamics of households’ food insecurity in Turkey through Income and Living Conditions Longitudinal Microdata applying the random effects logit model. We found that as education level, health status, and income increase, the likelihood of food insecurity significantly decreases. The probability of food insecurity for males is 4% higher than for females. Education and income are the most influential variables of food insecurity. We also measured the average increase in food insecurity over the years compared to the reference year of 2014. Food insecurity has increased by more than 1.5 over the years in Turkey.

Keywords : Food Insecurity, Demographics, Random Effect Logit Regression, Panel Data, Turkey.

JEL Classification Codes : C25, D15, Q18.

Öz

Yeterli yiyecek, giyecek ve barınma gibi temel ihtiyaçlar, sosyal refahın temelidir. Artan dünya nüfusu ile birlikte yetersiz beslenen insan sayısı da giderek artmaktadır. Bu durum, gelişmekte olan ülkelerdeki farklı sosyoekonomik özelliklere sahip grupların sağlıklı bir yaşam için gerekli gıdaya yeterli erişiminin olmayacağı endişesini artırmaktadır. Bu bağlamda gıda güvensizliği sorunu küresel bir ilgi konusu haline gelmiştir. Hanelerin gıdaya erişimi arasındaki büyük eşitsizlikleri ortadan kaldırmaya veya en azından azaltmaya yönelik politikalar geliştirmek için, hanehalkı gıda güvensizliğinin belirleyicilerini tespit etmek önemlidir. Bu çalışma, Türkiye’deki hanelerin gıda güvensizliğini dinamiğini Gelir ve Yaşam Koşulları Panel Mikro verileri aracılığıyla rassal etkiler logit modelini uygulayarak belirlemeyi amaçlamaktadır. Çalışma sonuçlarına göre, eğitim düzeyi, sağlık durumu ve gelir arttıkça gıda güvensizliği olasılığının önemli ölçüde azaldığı bulunmuştur. Erkeklerin gıda güvensizliği olasılığı kadınlara göre %4 daha fazladır. Eğitim ve gelir, gıda güvensizliği üzerinde etkili değişkenlerdir. Son olarak, 2014 referans yılına göre yıllar itibarıyla gıda güvensizliğindeki ortalama artış da ölçülmüş olup, Türkiye’de gıda güvensizliğinin yıllar içinde 1,5 kattan fazla arttığı hesaplanmıştır.

Anahtar Sözcükler : Gıda Güvensizliği, Demografi, Rassal Etkiler Logit Modeli, Panel Veri, Türkiye.

1. Introduction

Access to adequate food is essential for people's physical and psychological development and social well-being. Insufficient access to food has adverse effects on human health and triggers increased poverty by creating socioeconomic and political instabilities. Hunger, malnutrition, and food insecurity problems have increased, particularly in developing countries. A United Nations Food and Agriculture Organization (FAO) report stated that approximately 690 million people, corresponding to 9% of the world's population, were undernourished in 2019. The number of undernourished people has increased by about 60 million since 2014 (FAO et al., 2020).

Although many sources have a similar definition of food security, the FAO defines food security as "economic or physical access to safe and nutritious food sufficient to meet the nutritional needs and food preferences of all people for a healthy and active life" (FAO, 1996). This definition includes four dimensions: accessibility, sustainability, availability, and usability (FAO, 1996). Availability is related to the availability of sufficient food and is connected to the general situation of the agricultural sector in meeting household food demand. Physical availability of food is associated with efficient agriculture, efficient trade infrastructure, and efficient food aid logistics (Sen, 1981; Bouis & Hunt, 1999). Availability is influenced by all cultural and socio-economic factors that determine where and how producers respond to the market, such as in-house production and foreign market purchases, market production, technology adaptation, and input availability (Bashir & Shilizzi, 2013). Sustainability refers to the possibility of individuals experiencing temporary or permanent loss of access to the resources required to consume sufficient food in unexpected situations such as income or price shocks, health shocks, economic recession, climate change, and natural disasters (Chambers, 1989; Watts & Bohle, 1993). Food access involves individuals' access to sufficient resources to obtain suitable foods for a balanced and nutritious diet (Schmidhuber & Tubiello, 2007). High food prices, low purchasing power, and low household real income are the main factors affecting access to food (Power, 2005; Rose, 1999). Besides these economic factors, the demographic characteristics of households are also essential for accessibility. Finally, usability covers all food safety and quality aspects of nutrition and health conditions, including hygiene conditions throughout the entire food chain (Barrett, 2010; Jones et al., 2013). It is accepted that food insecurity occurs when one or more of these four components are deficient (Barret, 2010; Sassi, 2018).

In Turkey, reduction in agricultural land plays a significant role in limiting food supply, affecting food availability. Although Turkey's total population has gradually increased in recent years, the number of those in the agricultural sector has declined. The annual cultivated agricultural area also decreased by 14.63% between 2000 and 2019, with a gradually decreasing trend every year (TurkStat, 2021). Meanwhile, the population of Turkey has increased by 20%. This indicates that population growth and agricultural production do not move in parallel. This is one of the significant factors causing a decrease in households' access to farm products.

Moreover, intensive monitoring policies on imports of agricultural products and the decreasing agrarian population in Turkey have caused a decline in domestic production. These declines play a critical role in reducing food availability by increasing prices. Additionally, crises, natural disasters, epidemics, and climate change affect the sustainability of agricultural production. Like other countries, Turkey is also affected by global warming. Natural disasters such as climate change and drought pose significant threats to the sustainability of production.

The measurement and analysis of food insecurity is a significant issue for Turkey due to some reasons such as the potential to face some threats due to its geographical location (Öztürk et al., 2020), political instability, price instability in the prices of goods and services (Işık & Özbuğday, 2021), inefficiency in agricultural areas as a result of climate change (Ağacayak & Keyman, 2018) and a changing ethnic structure, especially with the significant increase in Turkey's Syrian population. Moreover, the COVID-19 epidemic has affected the entire world since March 2020 and has caused income and production to decrease and price increases. These kinds of shocks can potentially adversely affect food security and nutrition in the future. Furthermore, with a share of approximately 25%, food expenditure is the second-highest expense in Turkish household budgets, second only to housing expenditure. Meat and fish products essential for household nutrition are a significant share of food expenditure (TurkStat, 2020). Nutrition in Turkey's rural areas relies widely on grain. However, even in regions of intensive livestock farming, the consumption of meat, especially red meat, remains at limited levels (Kadioğlu et al., 2010).

Ultimately, higher food prices, income insufficiency, and unfair distribution are the main factors causing food insecurity in Turkey. Therefore, food insecurity in developing countries such as Turkey has continued to be a critical issue for researchers and policymakers. Determining the severity of food insecurity and its socio-cultural and economic factors will provide important clues for decision-makers in health, agriculture, production, logistics, and poverty policies.

Researchers have created representative variables based on different criteria in the literature because the food security variable cannot be measured directly. These measures are determined by the factors of food security or the possible consequences of food insecurity (Jones et al., 2013). One of these is the proxy variable based on self-reported household statements describing the nutritional status and whether there is a shortage of food availability in the household (Hamelin et al., 2002; Dastgiri et al., 2006; Egeland et al., 2010; Abafita & Kim, 2014; Alpizar et al., 2020). Also, food security is represented by calculating the per capita cost of calories (Iram & Butt, 2004; Amaza et al., 2006; Sultana & Kiani, 2011; Beyene & Muche, 2010; Asghar & Mohammad, 2013; Fisher & Lewin, 2013). Another proxy is food security indices generally created based on principal components analysis. These indices are intended to capture several components of household food insecurity status. It has been endeavoured to represent every dimension of food security in one indicator. However, due to the lack of data availability and data characteristics, which are generally based on cross-sectional data, some dimensions of food security were not able

to be included in the indices (Quereshi, 2007; Arene & Anyaeji, 2010; Demeke et al., 2011; Abafita & Kim, 2014). Especially in Turkey, an index that considers the complex nature of food insecurity cannot be created due to the lack of data. Therefore, in the present study, food insecurity is defined based on the self-reported statements of households. The indicator of food insecurity is created based on the survey question, "The ability to have a meal containing meat, chicken or fish for at least three days in one week when you desire or need (Equivalent food for vegetarians)". Meat, chicken, and fish are the primary protein sources having an important role in individuals' nutrition. With this question, households are defined as being food insecure in the case of a lack of one or more of the food securities dimensions: availability, sustainability, accessibility, and usability. Thus, unlike previous studies, it has been endeavoured to overcome the data-related problems regarding food insecurity in Turkey through this survey question.

In the literature, studies have generally been conducted with household cross-sectional data on low-income (Pankomera et al., 2009; Gebre, 2012; Abafita & Kim, 2014), lower-middle-income (Arene & Anyaeji, 2010; Iram & Butt, 2004; Amaza et al., 2006) and upper-middle-income countries (Sekhampu, 2013; Sultana & Kiani, 2011; Amrullah et al., 2019; Kharisma & Abe, 2020). Previous studies evaluated the problem of food insecurity at one point in time because of the use of cross-sectional data. Hence, they ignored intra-household dynamics over time. Most importantly, very few studies have been conducted in Turkey, despite the prevalence of food insecurity among households. In addition, many of them examine small sample groups due to the lack of data at the national level. Therefore, this study aims to analyse the impact of the socio-economic variables on households' food insecurity in Turkey through nationwide household survey data. We applied a random effect logit model using Income and Living Conditions Longitudinal Micro Data. Our main contribution to the literature is addressing these limitations and expanding our understanding of the dynamics of food insecurity in Turkey using recent longitudinal national data. To our knowledge, it is the first study to investigate the dynamics of food insecurity in households in Turkey. The study results are expected to provide crucial information to decision-makers, especially for long-term policies regarding agriculture, health, production, logistics, and poverty in Turkey and other middle-income countries.

The remainder of the paper is organised as follows: Section 2 provides the data sets and methodology; Section 3 provides the empirical results, and the last section presents the conclusion and discussion.

2. Data Set and Methodology

2.1. Data Set

In this study, we used the Income and Living Conditions (ILC) Longitudinal Micro Data Set to determine the impact of socio-economic variables that affect the food insecurity of households in Turkey. The data contains 4-year panel microdata, including overlapping records in 2014, 2015, 2016, and 2017. The data set clusters sampling in a two-stage. The

final sampling unit in the survey is defined as a household. The country-wide estimates can be produced from the annual panel research results. The data set used in the analysis is a four-year balanced panel and includes 11,863 households and 47,452 observations.

In many studies in the literature, empirical evidence has revealed many socio-economic variables determining food insecurity such as household income (Titus & Adetokunbo, 2007; Sidhu et al., 2008; Carter et al., 2010; Olabiyi & Mcintyre, 2014), household size (Feleke et al., 2005, Amaza, 2006; Titus & Adetokunbo, 2007; Sidhu et al., 2008; Pankomera et al., 2009; Tefera, 2009; Gebre, 2012; Fisher & Lewin, 2013; Asghar & Muhammad, 2013; Olabiyi & Mcintyre, 2014) education level (Ogundari, 2017; Rossi et al., 2017; Kidane et al., 2005; Amaza, 2006; Titus & Adetokunbo, 2007; Eneyew & Bekele, 2012; Gebre, 2012; Olabiyi & Mcintyre, 2014) , gender (Maziya et al., 2017; Amaza, 2006; Pankomera et al., 2009; Beaumier & Ford, 2010; Eneyew & Bekele, 2012; Magana-Lemus et al., 2016), marital status (Maziya et al., 2017; Carter et al., 2010; Sekhampu, 2013; Olabiyi & Mcintyre, 2014), dependent children (Magana-Lemus et al., 2016), age (Asghar & Muhammad, 2013; Magana-Lemus et al., 2016; Ogundari, 2017; Pankomera et al., 2009; Eneyew & Bekele, 2012; Carter et al., 2010; Gebre, 2012), and health (Carter et al., 2010; Olabiyi & Mcintyre, 2014; Fidler vd., 2012). The control variables used in the study are determined in parallel with the literature.

Regarding the availability, sustainability, accessibility, and usability of food, the lack of one or more components constitute food insecurity (Barret, 2010; Sassi, 2018). In the ILC survey form, the question of "The ability to meet a meal containing meat, chicken or fish for at least three days in a week when you desire or need (Equivalent food for vegetarians)" is used as the indicator of food security. If households answered yes to this question, they are considered "food secure"; if not, they are regarded as "food insecure". In the study, we have also used several categorical variables such as gender, marital status, dependent child, and educational level as demographic factors. In the survey, "The lowest monthly net income that a household should have to survive for a month" is defined as the income required for the household. We added a trend variable to the model to determine the dynamic structure of food insecurity over time. Table 1 provides the definitions and summary statistics of the variables used in the study.

Table 1 shows that almost 35% of households were subject to food insecurity in Turkey during the analysis period. Over the same period, both moderate and severe degrees of food insecurity were estimated to be 23.2%, and it was estimated to be approximately 18.9% in upper-middle-income countries, including Turkey (FAO et al., 2020). Moreover, food insecurity has tended to deepen due to the epidemic. Therefore, it must be addressed urgently and with great care.

Table: 1
Summary Statistics

Dependent Variable	Variable	Definition	Mean	S.D.	Min	Max	
Socioeconomics Characteristics of Head of Household	Food Insecurity	If insecure=1, secure=0	0.35	0.48	0	1	
	Gender	If female=1, otherwise=0	0.47	0.50	0	1	
	Marital status	If married =1, otherwise=0	0.74	0.44	0	1	
	Age	Age is numerically measured	45.25	16.46	18	103	
	Dependent child	If the family has at least one dependent child=1	0.62	0.48	0	1	
	Education	No literacy		0.11	0.31	0	1
		Literate		0.06	0.25	0	1
		Primary school		0.36	0.48	0	1
		Secondary school		0.16	0.36	0	1
		High school		0.18	0.38	0	1
	Self-Reported Health	Higher education		0.14	0.34	0	1
		(1) Very Bad		0.01	0.11	0	1
		(2) Bad		0.11	0.31	0	1
		(3) Fair		0.24	0.43	0	1
		(4) Good		0.57	0.49	0	1
	logincome	(5) Very Good		0.07	0.25	0	1
		Log of the minimum needed income		7.98	0.53	5.52	11.41

2.2. Methodology

The food insecurity used as the dependent variable in the study as binary responses. We preferred the random effect logit model in the study to take in to account the possible endogeneity of some regressors and omitted variables (Barham et al., 2004; Greene, 2003; Guilkey & Murphy, 1993; Abuhayat, 2021). Latent model of food insecurity can be specified as:

$$F_{it}^* = \beta X_{it} + v_i + \varepsilon_{it} \quad i = 1, \dots, L; \quad t = 1, \dots, T \quad (1)$$

where $Foodinsecurity_{it}^*$ is a latent dependent variable; $Foodinsecurity_{it}$ is the observed binary outcome variable defined as:

$$F_{it} = \begin{cases} 1 & \text{if } F_{it}^* > 0 \\ 0 & \text{otherwise.} \end{cases} \quad (2)$$

The subscripts t and i refer to periods and households, respectively. X_{it} represents time-varying and time-invariant exogenous variables vector that influence F_{it}^* ; β illustrates a vector of parameters to be estimated; v_i is distributed normally with a mean of zero and a variance, σ_v^2 , represents the unobserved individual heterogeneity. The term v_i , and random error term ε_{it} has a logistic distribution with a mean of zero and a variance, σ_ε^2 .

The proportion of the total variance contributed by the panel-level variance component (ρ) can be defined as:

$$\rho = \frac{\sigma_v^2}{\sigma_v^2 + \sigma_\varepsilon^2}. \quad (3)$$

Zero ρ implies that the panel-level variance component is unimportant, and the panel estimator is no different from the pooled estimator.

3. Empirical Results

Before interpreting the analysis results, we conducted tests before establishing the empirical model to obtain consistent estimators. The first one was the multicollinearity test among the explanatory variables. For this, we estimated a pooled logit model with clustered standard errors within the head of household and then calculated the variance inflation factors (VIFs). A VIFs above 4 or 10 is commonly used as the threshold to indicate multicollinearity (O'brein, 2007). Our results show that VIFs range from 1.08 to 1.92 (see Table 2). This result is well beyond the commonly used thresholds, indicating no multicollinearity problem.

We applied the Wooldridge autocorrelation test for serial correlation in the second test. Since a serial correlation exists in error terms or distributions on the panel, do not have an identical distribution clustering over the panel variable (person id) provided to obtain consistent estimators. The Wooldridge test rejected the null hypothesis at the 0.01 level, claiming no serial correlation. For this reason, by clustering the panel variable with Huber/White/Sandwich variance-covariance matrix estimators, robust standard errors were produced (Wooldridge, 2020).

The test results support that the empirical model used in this study can capture unobserved heterogeneity between the households. Since the panel-level variance component of the random effect (σ_v) is both large and significant. We also applied the LR test to determine whether the panel-level variance component of the random effect (σ_v) is statistically equal to zero or not. As a result, the null hypothesis was rejected at the 0.001 significance level. According to this result, the panel estimator is different from the pooled estimator.

Finally, we applied Wald test statistics to determine the significance of the entire model. According to the test result, the model is statistically significant at a 0.001 significance level. The goodness of fit tests indicates that the proposed model fits the data set well.

The logit model estimation coefficients in Table 2 are not suitable for direct interpretation (İpek, 2020). Therefore, we estimated the odds ratio and marginal effects. The marginal effects in Table 2 show how the marginal change in the corresponding variable affects the probability of food insecurity while other variables are constant (Selçuk et al., 2021). The probability of food insecurity is 4% higher for males than for females. The results are consistent with expectations considering that men's daily nutritional requirements are higher than women's. Food insecurity for children, as well as adults, is a critical problem. Household food insecurity has significant adverse effects on children's development and health. We found that families with dependent children are 3% more likely to experience food insecurity. As expected, the likelihood of food insecurity decreases significantly as education level, health status, and income increase. The estimation results of the year dummies indicate that the probability of food insecurity has increased over the years, while

other variables are constant. Compared to 2014, the probability of household food insecurity has increased between 3.7% and 4.8% each year. Based on these results in Turkey, where food insecurity is already high, this issue will tend to increase in the future.

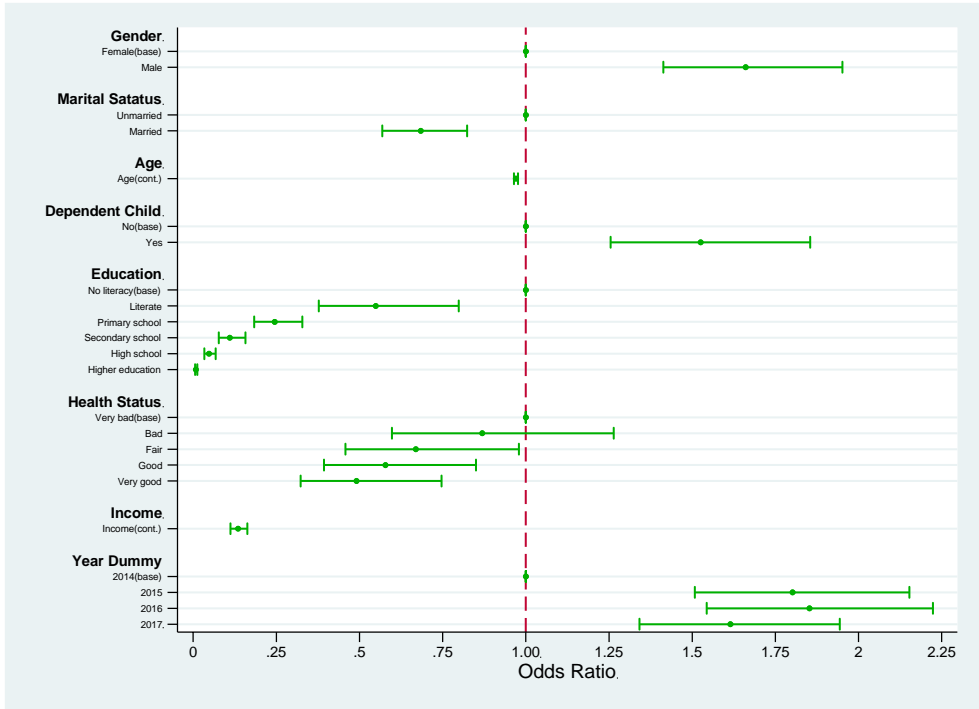
Table: 2
Random Effect Panel Logit Model Estimation Results

Variables	Coef.	Robust Std Err.	Marginal Effect	Std. Err.	VIFs
Male	-0.507***	0.082	0.040***	0.006	1.08
Married (Yes)	0.380***	0.094	-0.030***	0.008	1.13
Age	0.030***	0.003	0.002***	0.000	1.92
Dependent Child (Yes)	-0.422***	0.100	0.033***	0.008	1.37
No literacy	Base category				
Literate	0.600**	0.191	-0.053**	0.017	1.64
Primary school	1.406***	0.149	-0.123***	0.013	
Secondary school	2.205***	0.181	-0.191***	0.015	
High school	3.041***	0.178	-0.256***	0.014	
Higher education	4.761***	0.202	-0.363***	0.014	
SRH: Very Bad	Base category				
SRH: Bad	0.140	0.191	-0.011	0.015	1.42
SRH: Fair	0.401*	0.194	-0.032*	0.016	
SRH: Good	0.548**	0.197	-0.044**	0.016	
SRH: Very Good	0.711***	0.214	-0.057***	0.017	
Income	-17.309***	0.034	-0.158***	0.007	1.35
2014	Base category				
2015	-0.589***	0.091	0.046***	0.007	1.10
2016	-0.617***	0.093	0.048***	0.007	
2017	-0.479***	0.095	0.037***	0.007	
cons	-17.310***	0.769			
$\ln\sigma_v^2$	2.729***	0.035			
σ_v	3.914***	0.068			
ρ	0.823***	0.005			
Model Diagnostics			The Goodness of Fit Tests		
Number of obs	47452		BIC	12483.41	
Number of groups	11863		AIC	12475.34	
Wald $\chi^2(17)$	1720.15***		Pseudo R ²	0.290	
LR test of $\rho = 0$	16000***		Mc Fadden R ²	0.290	
Log pseudo likelihood	-19333.591		Cox-Snell R ²	0.283	
Wooldridge F(1, 11862)	24.718***		Cragg-Uhler R ²	0.415	

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 1 shows the odds ratios of the model prediction results. Here, green circles represent the estimated odds ratios, and horizontal green lines represent the confidence interval. The reference value of the odds ratio is 1, and if the estimated odds ratio is greater than 1, it indicates that the probability of food insecurity increases. If the estimated odds ratio is less than 1, the probability of food insecurity decreases. The odds ratios interpret according to the base category. The analysis shows that food insecurity increases by approximately 1.5 in households with dependent children. Over the years, the probability of food insecurity has almost doubled in 2015 and 2016 and increased by more than 1.5 in 2017, compared to 2014. In addition, as the education level increases, the probability of food insecurity decreases.

Figure: 1
Odds Ratios of the Model Estimation Results



4. Conclusion and Discussion

According to the FAO 2020 report on food insecurity and nutrition, if the previous decade's trends continue, the world will not reach Zero Hunger by 2030. It also states that most indicators will not be able to meet global nutrition targets despite some developments. (FAO et al., 2020). Moreover, the report highlights that the consequences of the COVID-19 pandemic will more severely affect food insecurity and nutritional status, especially for the most vulnerable population groups. (FAO, 2020).

While the world population has gradually increased, the rural population, agricultural areas, and the accessibility to production have diminished due to unsound agriculture policies. Moreover, the decrease in domestic production has created upward pressure on domestic prices and increased the share of food consumption expenditures in household budgets. As a result, the consumption of fundamental and nutritious nutrients such as meat, fish, and grain products is decreasing. Import-based agricultural policies, which are a short-term solution to these problems, have led to a deepening of food insecurity. This situation increases households' food insecurity and deepens the socioeconomic inequality between

households. For this reason, it is crucial to identify the determinants of household food security to understand the causes of disparities in access to food among households and develop policies to eliminate or at least reduce them.

The findings of this study show that it is crucial to develop implementations that lead to improved education levels and increase households' income-earning capacity, which are the significant determinants of food insecurity. A year dummy is used in the study to determine the effect of years. We estimated that food insecurity increased by more than 1.5 times each year compared to the reference year of 2014. Over the years, these significant increases in food insecurity indicate that the effectiveness of traditional agricultural policy and tools in Turkey is gradually decreasing. Turkey should immediately consider a new agricultural policy to ensure food security and tackle the food insecurity problem. Especially in recent years, with the increase in agricultural imports, the self-sufficiency of fundamental foods has been decreasing.

Moreover, foreign dependency has been a rising trend regarding food security. Therefore, there should be a focus on the livestock sector and meat production. The efficient use of local resources should be supported by governments as well. Likewise, to reduce the impact of food prices on food security, price stability in staple foods should be ensured, and speculative price movements should be prevented. Additionally, the migration of people engaged in agriculture from rural to urban areas also negatively affects agricultural production. Policies to avoid migration and to increase the number of qualified farm workers should be implemented by policymakers. Finally, it is a fact that socioeconomic and cultural diversity among households has increased due to a changing ethnic structure, especially with the significant increase in Turkey's Syrian population. Different dietary customs among these households can affect food availability generally. Therefore, including the ethnicity variable in the household level data set provides more information about the determinants of food insecurity. This update will contribute to future studies in Turkey.

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Customer Dissatisfaction and Responses: Moderator Roles of Blame Attribution and Negative Word of Mouth¹

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Müşteri Tatminsizlik Düzeyi ve Tepkileri: Firmayı Suçlama Düzeyi ve Olumsuz Kulaktan Kulağa İletişimin Düzenleyici Etkileri²

Abstract

The present research investigates the moderating role of blame attribution in dissatisfaction-doing nothing and negative word of mouth on the dissatisfaction-switching relationships. The proposed model is tested using data collected face-to-face from 188 airline passengers who have encountered an airline service failure by the convenience sampling method. Process analysis tests the hypotheses on the moderator roles of blame attribution and negative word of mouth. The results reveal that the dissatisfaction-doing nothing link is negatively moderated by blame attribution. The dissatisfaction-switching relationship is positively moderated by negative word of mouth. With the moderation of negative word of mouth and blame attribution, this study provides a deeper understanding of the consequences of customer dissatisfaction on customer reactions such as switching and doing nothing.

Keywords : Customer Dissatisfaction, Blame Attribution, Doing Nothing, Negative Word of Mouth, Switching.

JEL Classification Codes : M10, M19, M30, M31, M39.

Öz

Çalışmanın amacı; tatminsizlik düzeyi - hiçbir şey yapmama ilişkisinde suçlama düzeyinin ve tatminsizlik düzeyi-değiştirme arasındaki ilişkide olumsuz kulaktan kulağa iletişimin düzenleyici etkileri araştırmaktır. Araştırmanın modeli, havayollarından hizmet aldıkları süreçte hizmet hatası ile karşılaşmış 188 yolcudan kolayda örneklem yöntemiyle yüz yüze toplanan veriler kullanılarak test edilmiştir. Suçlama ve olumsuz kulaktan kulağa iletişimin düzenleyicilik rollerine ilişkin hipotezleri test etmek için süreç analizi kullanılmıştır. Araştırma sonuçları, suçlama düzeyinin, tatminsizlik düzeyi-hiçbir şey yapmama ilişkisinde olumsuz düzenleyici etkisini ortaya koymuştur. Ayrıca, tatminsizlik-değiştirme ilişkisinde de olumsuz kulaktan kulağa iletişimin olumlu düzenleyici etkisi tespit edilmiştir. Bu çalışma; müşteri tatminsizliğinin, olumsuz kulaktan kulağa iletişim ve firmayı suçlama düzeyinin düzenleyiciliğiyle müşterilerin değiştirme davranışlarına ve hiçbir şey yapmamalarına etkilerini ortaya koymaktadır.

Anahtar Sözcükler : Müşteri Tatmini, Suçlama, Hiçbir Şey Yapmama, Olumsuz Kulaktan Kulağa İletişim, Değiştirme.

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1. Introduction

After a service failure, it is now easy for customers to complain, spread negative word of mouth, and even switch service providers. It is not common for customers who experience a service failure to do nothing, especially in this social media atmosphere, websites, and many other wide-open channels. This study examines customers' complicated doing nothing or reacting dilemma after dissatisfaction by exploring the boundary condition of blame attribution and negative word of mouth in airline service failures. The airline companies need to learn when customers *do nothing* and when they do give harm to the company by *switching* and spreading *negative word of mouth*.

The airline industry is critical to the global economy due to its contribution of US\$2.7 trillion (3.6%) to global gross domestic product (GDP) (IATA, 2020: 1) and its ties to other sectors such as transportation and tourism. The airline industry is expected to employ 97.8 million people and contribute US\$5.7 trillion to the global economy by 2036 (AviationBenefits, 2020). The Airline Industry Report (IATA, 2020: 16) states that air transport providers in Turkey carried approximately 209 million domestic and international passengers in 2019 and supported almost 1 million jobs. These indicators show that Turkey's airline industry provides an intensive service, and faults are inevitable in this environment (Atalik, 2007: 410). The large transaction volume and the high probability of service failures occurring in the processes (Bejou & Palmer, 1998: 7; Schoefer & Ennew, 2004: 90) led to this study's focus on the airline industry.

These failures lead to customer dissatisfaction (Bell & Zemke, 1987) which in turn engenders negative behaviours (Daunt & Harris, 2011: 135; Tsaur et al., 2018: 34) such as switching (Schoefer et al., 2019: 250) spreading negative word of mouth (Anderson, 1998: 6; Gyung Kim et al., 2010: 976), stop purchasing (Crié, 2003: 63), and complaining (Singh, 1988: 95). There is plenty of research (Maute & Forrester, 1993: 219; Oliver, 1997; Schoefer et al., 2019: 247) in dissatisfaction-complaint relationship literature. However, most dissatisfied consumers do not complain (Stauss & Seidel, 2019); just about 5-10% of dissatisfied customers complain following a service failure (Tax & Brown, 1998: 77).

Some customers even prefer doing nothing after dissatisfaction with a service failure (Ping, 1993: 343; Zeelenberg & Pieters, 2004: 449). Doing nothing can be seen as mysterious for the service companies since this kind of response cannot provide any benefit (Folkes, 1984: 409) or feedback about the failure (Istanbuluoglu et al., 2017: 1112). Despite its importance to practice, doing nothing is often disregarded in the service failure literature (Mattila & Ro, 2008: 92; Richins, 1983: 70), creating a considerable gap to consider.

Customers need to know why service fails to act accordingly (Bejou et al., 1996: 7). Explaining the root of the problem after a service failure, especially whether it is the firm's blame or not, will help customers understand the situation better and respond respectively. Although consumers can mainly blame themselves or the company for service failure (Krishnan & Valle, 1979: 445), dissatisfied customers blame the company for their

dissatisfaction with airline services (Deloitte, n.d.). Therefore, this examination of the moderating effect of blame attribution on the dissatisfaction-doing-nothing relationship contributes to the literature and provides insight for practitioners.

Apart from being silent, dissatisfied customers may generate negative word of mouth and switch to another service provider. The switching response can be considered quite harmful for the companies (Maute & Forrester, 1993: 223). Even after switching, 25% of the lost customers spread negative word of mouth (Wangenheim, 2005: 76). Another critical customer response that companies should consider in their marketing operations is negative word of mouth (Gyung Kim et al., 2010: 975). Negative word of mouth has several risks, such as damaging goodwill, causing oneself and others to have negative emotions and opinions about the company (Sweeney et al., 2005: 334), and customers switching. However, service providers especially prefer to have this negative feedback of customers directly to themselves, not friends, relatives, or the public.

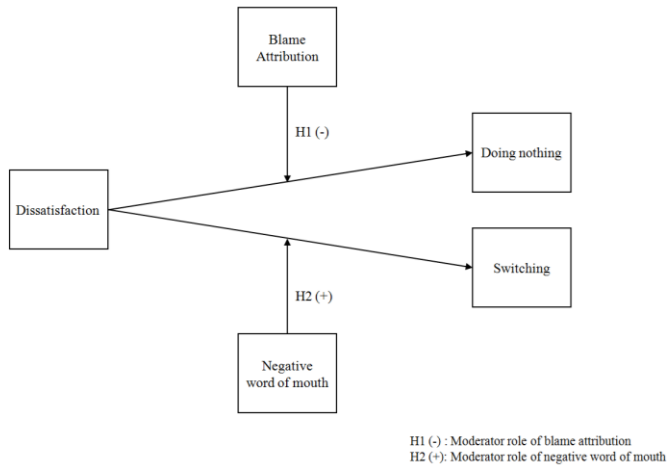
Since customers are more likely to disseminate negative word of mouth about services than they are about goods (Matos et al., 2008: 578), examining the role of negative word of mouth in the relationship between dissatisfaction and switching seems to be quite impactful in the airline service industry. To our knowledge, no study has been conducted in the literature that examines the critical role of dissatisfied customers' negative word of mouth before switching.

The following sections provide the literature review and a theoretical foundation before testing the stated hypotheses using survey data from the airline sector. The results are then discussed in detail, their implications for theory and practice, and suggestions for further research.

2. Literature Review and Hypothesis Development

Companies constantly strive to reduce dissatisfaction because, while satisfaction often results in positive outcomes such as increased customer loyalty, dissatisfaction has negative effects (Oliver, 1999: 33). Accordingly, the consequences of dissatisfaction, namely doing nothing and switching, will be investigated with the moderating roles of blame attribution and word of mouth, respectively, to understand these relationships' nature better. The proposed model is depicted in Figure 1.

Figure: 1
Research Framework



2.1. Moderating Effect of Blame Attribution on the Relationship between Dissatisfaction and Doing Nothing

Doing nothing is present when dissatisfied customers do not express their complaints in any way (Zeelenberg & Pieters, 2004: 449). Accordingly, when customers feel dissatisfied, they may prefer to do nothing (Ro & Mattila, 2015: 98). They may consider that it may be better to do nothing after examining the costs and possible consequences of alternative responses (Day, 1984: 496). Consequently, the reasons why customers stay passive are various: The thought of customer's not benefiting from taking action (Folkes, 1984: 398), the customer's scepticism regarding their rights and the obligations of the company, and their unwillingness to meet the person who is responsible for the failure, or reluctance to affirm the company's unresponsiveness (Tax & Brown, 1998).

Customers prevent the problem from being identified by ignoring it (Ro, 2015: 439). Disregarding the problem or the failure impedes companies in recovering from service failures and increasing service quality (Istanbulluoglu et al., 2017: 1110).

People naturally seek causes, especially in adverse and unexpected circumstances (Weiner, 2000: 384). Accordingly, blame attribution help to explain customer responses after a service failure (Folkes, 1984: 398). Blame attribution theory states that this response

might change based on the level of blame attributed to the external (e.g., the company) or internal factors (e.g., themselves). Dissatisfied customers are more likely to take action if they blame the company (Krishnan & Valle, 1979: 446; Zeelenberg & Pieters, 2004: 452). When dissatisfied customers blame the company for the failure, positive emotions decrease, and anger increases toward the service provider (Ortiz et al., 2017: 453). As a customer attributes blame to a firm, he/she may be willing to punish or harm the firm, and revenge may even occur (Joireman et al., 2013: 318).

On the other contrary, when customers attribute little blame to the corporation, such remarkable reactions may be an option for the customers. Consumers might even prefer to do nothing (Harris et al., 2006: 455). Therefore, when the firm's blame is high, this might weaken the impact of dissatisfaction with doing nothing. Accordingly, the following hypothesis is proposed:

H1: The effect of dissatisfaction on doing nothing is more robust (weaker) when the level of blame attributed to the company is lower (higher).

2.2. Moderating Effect of Negative Word of Mouth on the Relationship between Dissatisfaction and Switching

The term "switching" refers to customers terminating their relationship with a company due to dissatisfaction (Hirschman, 1970: 21). In other words, switching occurs when customers change their companies, reduce their purchases, or declare that they will not purchase from a company in the future. To put it simply, switching means the customer terminates the relationship with the company (Zeelenberg & Pieters, 2004: 448).

After a service failure, 85% of dissatisfied customers show switching behaviour (Keaveney, 1995: 80). Similarly, Schoefer et al. (2019: 253) and Mattila and Ro (2008: 100) found a positive relationship between dissatisfaction and switching. Dissatisfied customers are more prone to explore alternatives and be receptive to competitors' offerings (Istanbulluoglu et al., 2017: 1119). The dissatisfaction-switching link is well established in the literature. However, the critical role of word of mouth in this relationship is unknown.

Heider's Balance Theory (1958 c.f. Woodside & Chebat, 2001) mentions that ". . . if I dislike what I own, I may either begin to like it or sell it." (Woodside & Chebat, 2001: 478) that, clarifies the balance among the person, the product, and the reaction of the person about a product. In this context, dissatisfaction might balance the entities' fit by switching to another service provider. When customers are dissatisfied with a product, they want to warn and inform their friends and family (Zeelenberg & Pieters, 2004: 449) and are prone to influence their environment (Kim et al., 2016: 514). So, as dissatisfied customers disseminate negative word of mouth about a service failure, they are expected to act to maintain the balance.

Negative word of mouth is the communication about the negative situation to at least one relative or friend as the dissatisfaction occurs (Richins, 1983: 69) and includes

persuading friends/relatives to stop trading with the troubled company (Ozer et al., 2010: 123). Spreading the negative word of mouth about the company can continue after customer switching (Wangenheim, 2005: 76). Furthermore, extant research mainly focuses on the external impact of word of mouth, such as its influence on other customers' switch (Williams & Buttle, 2014: 1439), not on customers who spread negative word of mouth. In this sense, dissatisfied customers may think it is hypocritical to continue their relationship with the firm after talking about the failure. However, just a few research illustrate how negative word of mouth leads to switching (e.g., East et al., 2008). In this context, the present study proposes that negative word of mouth reinforces dissatisfied customers' likelihood to switch. Since word of mouth shapes customer attitudes, intention to purchase, and purchase behaviour (Wangenheim, 2005: 74), it would be influential immediately after dissatisfaction.

As a result, the following hypothesis is proposed:

H2: The effect of dissatisfaction on switching is more robust (weaker) when more (less) customers engage in negative word of mouth.

3. Methodology

3.1. Sampling

We studied Turkish consumers who use airlines for their domestic or international travels. Because of its geographic position, Turkey is a significant aviation partner for Europe. Besides Turkey being a global international airport hub at the intersection of Europe with emerging markets such as the Middle East and Northern Africa, air transport providers in Turkey carried approximately 209 million domestic and international passengers in 2019. They supported almost 1 million jobs (Directorate General of Civil Aviation, 2020: 16). Examining a single industry enables scholars to understand better its processes and practices (Garvin, 1988).

Since it was impossible to obtain a complete list of these passengers, we used the convenience sampling method to collect the face-to-face survey data from airline customers who live in Ankara, Turkey. Participants are the persons who confirmed the voluntary participation form. The survey started with a screening question, "Have you experienced any air transport problems while travelling from Ankara?" Only those who answered "yes" to this question proceeded to the survey and analysis. For data analysis, we received 188 final usable questionnaires. 56,4% of respondents were male, and 40,9% were between the ages of 26 and 35. Most respondents (68,1%) were university graduates, and 64,4% identified as middle-income customers. Regarding the reason for travelling, respondents travelled because of business (20,2%), education (10,6%), visiting family and friends (35,6%), holiday (31,9%), and other (1,7%).

3.2. Questionnaire Design

We designed the survey form in English and translated it into Turkish through the translation/back-translation method (Brislin et al., 1973). The pilot study with 30 respondents confirmed that the questionnaire is suitable for the preliminary test.

We operationalised customer dissatisfaction as the airline consumer's dissatisfaction and unhappiness after the airline service failure. We measured it with three items from Varela-Neira et al. (2010: 67). We operationalised blame attribution as airline consumers' level of blame toward the airline company and captured three items developed by Maxham III and Netemeyer (2002: 69). We operationalised doing nothing as taking no action, remaining passive, and measuring it with two items from Mattila and Ro (2008: 96).

We operationalised negative word of mouth as shared negative experiences and opinions of airline customers and tapped it using three items from Zeelenberg and Pieters (2004: 451). Finally, we operationalised switching as airline customers' stopping patronage and changing to other airline companies and measured it with four items we adapted (Bergel & Brock, 2018: 472).

Except for blame attribution, all variables are quantified using a 5-point Likert scale [strongly disagree (1), strongly agree (5)]. Blame attribution is measured using a 5-point scale [Item 1: not all responsible (1), totally responsible (5); Item 2: strongly disagree (1), strongly agree (5); and Item 3: not at all (1), ultimately (5)]. The summary of the variable operationalisations is presented in Table 1.

Table: 1
Operationalisation of the Constructs

Variables	Factor Loading	t value
Dissatisfaction ($\alpha = .84$; AVE = .66; CR = .85)		
D1. After the failure, I was dissatisfied with the service.	.654	Fixed
D2.	.877	9,779
D3	.886	9,818
Blame attribution ($\alpha = .92$; AVE = .79; CR = .92)		
BA1. To what extent was the airline company responsible for the problem you experienced?	.879	Fixed
BA2.	.896	16,868
BA3.	.898	16,923
Doing Nothing ($\alpha = \text{N/A}$; AVE = .70; CR = .82)		
DN1. I took no action.	.693	Fixed
DN2.	.960	5,514
Negative word of mouth ($\alpha = \text{N/A}$; AVE = .84; CR = .91)		
NWOM1. I have talked with friends about this experience.	.960	Fixed
NWOM2.	.870	12,807
NWOM3	Deleted	-
Switching ($\alpha = .78$; AVE = .55; CR = .79)		
S1. Occasionally I think about ending the business relationship with this airline company.	.605	Fixed
S2.	.810	7,812
S3.	.801	7,787
S4.	Deleted	-

Note Cronbach's Alpha (α), Average Variance Extracted (AVE), Composite Reliability (CR), N/A: Not applicable.

3.3. Analysis and Results

Confirmatory factor analysis (CFA) was conducted to assess all latent construct measures' psychometric properties, including dissatisfaction, doing nothing, blame attribution, switching, and negative word of mouth (Anderson & Gerbing, 1988). We deleted two items with low factor loadings (lower than ,50) and the CFA indices [$\chi^2 = 76,735$, d.f. = 55, $p = ,028$; root mean square error of approximation (RMSEA) = 0,046; normed fit index (NFI) = ,947; comparative fit index (CFI) = ,984; Tucker-Lewis index (TLI) = ,978] indicate a good model fit (Bentler, 1990). In addition, all standardised factor loadings are more than ,50, and the AVE values of all constructs are greater than or equal to ,50, indicating that convergent validity has been established (Fornell & Larcker, 1981). The standardised factor loadings are included in Table 1, as are the composite reliability values and the average variances extracted (AVEs) for that construct.

The descriptive statistics and correlations for all variables are presented in Table 2, including the square roots of the AVE with each variable along the diagonal, which are greater than the corresponding correlation coefficients in the off-diagonal elements, inferring that the constructs have discriminant validity (Hair et al., 2010). Cronbach's alpha values for all constructs were satisfactory (Hair et al., 2010), ranging from ,78 to ,92, verifying the reliability of the scales.

Table: 2
Descriptive Statistics and Correlation Matrix

Variables	Mean	SD	1.	2.	3.	4.	5.
1. Dissatisfaction	3,59	1,05	,81				
2. Doing nothing	2,91	1,18	-,118	,84			
3. Blame attribution	4,07	1,16	,407**	-,300	,89		
4. Switching	2,46	1,37	,531**	-,152*	,325**	,74	
5. Negative word of mouth	3,97	1,08	-,424**	-,334**	,369**	,391**	,92

* $p < ,05$; ** $p < ,01$.

Notes: Values below the diagonal refer to correlation estimates among constructs, and values on the diagonal refer to the square root of the average variance extracted from the respective construct.

Due to the cross-sectional nature of our study, the possibility of standard method bias (CMB) in our data should be investigated (Straub et al., 2004). CMB threatens the study's validity and focal relationships (Podsakoff et al., 2003). We emphasised the questionnaire design to prevent CMB in our study data. Firstly, we ordered the measures to avoid respondents' propensity to respond to items similarly. Secondly, we ensured that everything was concise and clear, so we double-barrelled or avoided abstract questions. Thirdly, we clarified to participants that there were no right /wrong responses to the questions. Finally, to reduce evaluation apprehension, we assured respondents that their responses would be strictly confidential (Podsakoff et al., 2003).

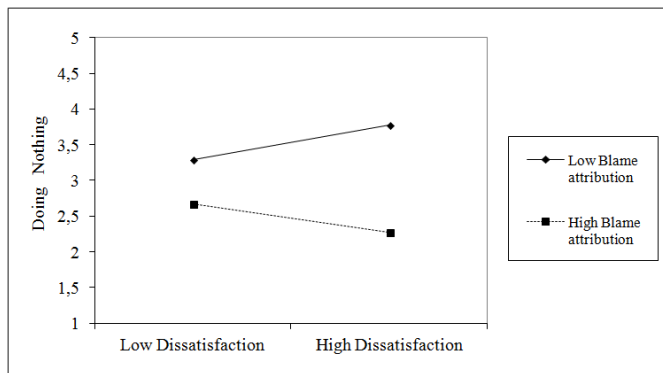
Additionally, as an ex-post statistical test, we controlled for CMB in the research questionnaire with Harman's single-factor technique. Four factors were generated from unrotated factor solutions, according to test results. The first factor accounts for only 39,69%

of the total variation, which is less than the 50% criteria. This result suggests that CMB does not threaten bias in our data.

To test the blame attribution's moderating role on the impact of dissatisfaction on doing nothing (H1), we utilised process analysis (Model 1) (Hayes, 2013). The results show that the overall model is significant [$F(3,184) = 7,69, p < 0.001, R^2 = 0,111$]. Accordingly, the interaction effect of dissatisfaction and blame for doing nothing is negative and significant ($\beta = -,18, p < ,05, S.E. = ,08; 95\% CI: -,35 \text{ to } -,01$) such that when customers blame companies for the service faults, the effect of dissatisfaction on doing nothing is lower. Therefore, H1 is supported.

Floodlight analysis identifies the Johnson-Neyman points that determine the blame attribution levels. The effect of dissatisfaction on doing nothing is significant. The analysis reveals that, for blame attribution scores below $-2,57$, the effect is positive and significant, while blame attribution has no significant influence on doing nothing for blame scores above $-2,57$. Figure 2 shows the moderating effect of blame attribution on the link between dissatisfaction and doing nothing.

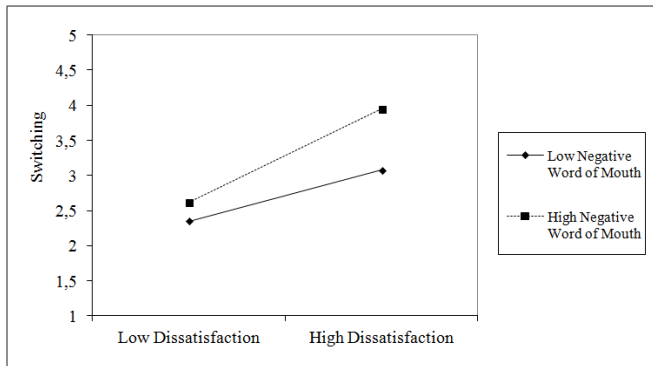
Figure: 2
The Moderating Effect of Blame Attribution on the Dissatisfaction-Doing Nothing Relationship



Our study used process analysis (Model 1) to investigate the moderating effect of negative word of mouth on the impact of dissatisfaction on switching (H2) with 5000 replications and a 95% confidence interval (Hayes, 2013). The overall model is significant ($F(3, 184) = 30,4779, p < ,001, R^2 = ,322$). The interaction effect of dissatisfaction and negative word of mouth on switching is positive and significant ($\beta = ,13, p < ,05; S.E. = ,06; 95\% CI: ,01 \text{ to } ,26$); when customers spread negative word of mouth, the effect of dissatisfaction on switching is stronger. Thus, H2 is also supported. Specifically, floodlight analysis shows that the effect is positive and significant for negative word of mouth scores

above -1.68. In contrast, for negative word of mouth scores below -1.68, dissatisfaction has no significant influence on switching. Figure 3 shows the interaction effect.

Figure: 3
The Moderating Effect of Negative Word of Mouth on The Dissatisfaction-Switching Relationship



4. Discussion and Implications

This research has two main findings. First, the findings indicate that the effect of dissatisfaction on doing nothing is negatively moderated by blame attribution. And when dissatisfied customers do not hold the company responsible for their dissatisfaction, they are more likely to do nothing. Second, the dissatisfaction-switching relationship is positively moderated by negative word of mouth. When dissatisfied consumers disseminate the negative word of mouth about their unfavourable experience, the likelihood of them switching to a different provider increases. The consequences of these discoveries for theory and practice will be discussed in further depth in the following sections.

4.1. Theoretical Implications

This research combines service failure, blame attribution theory, balance theory, and dissatisfaction responses. Our findings provide several contributions to the service failure research in marketing literature.

This study provides a better insight into doing nothing to respond to dissatisfaction. Previous empirical research has produced contradictory findings on the relationship between dissatisfaction and doing nothing. We conceptualised blaming the firm after a failure with the blame attribution theory for a broader understanding of blame in a theoretical framework. We expected that the interaction effect of dissatisfaction and blame for doing nothing would be negative and significant (H1). Our first hypothesis is supported. The blame attribution theory assumes that when people face surprising or negative situations, they make causal inferences, and their actions are influenced by these explanations (Folkes, 1984: 400;

Weiner, 2000: 382). In line with blame attribution theory, our findings indicate that when dissatisfied customers attribute failures to themselves rather than the service provider, they either do not take action or prefer to do nothing. In other words, not blaming the firm bolster the relationship between dissatisfaction and doing nothing.

Then, this article deals with a so-far unnoted aspect of customer word of mouth: pre-switching negative word of mouth. We provide evidence of how negative word of mouth influences the switching behaviours of dissatisfied customers. We expected the interaction effect of dissatisfaction and negative word of mouth on switching is positive and significant (H2). Our second hypothesis is supported. Confirmation of the first hypothesis is consistent with Heider's Balance Theory (1958 c.f. Woodside & Chebat, 2001: 478), which asserts that when a person disfavours a product, the s/he cannot continue using it unless s/he starts to like it. Consistent with this theory, this study found dissatisfied customers prefer to switch and quit their relationships with the service provider. This second hypothesis contributes to the literature by explaining how dissatisfaction and negative word of mouth interact with switching. The previous studies investigate the influence of dissatisfaction on negative word of mouth (Anderson, 1998: 5; Richins, 1983: 47; Williams & Buttle, 2014: 1423) and switching (Keaveney, 1995: 71; Mattila & Ro, 2008:89; Schoefer et al., 2019: 247) as entirely separate variables. This study deepens the understanding of the negative word of mouth and switching reactions towards dissatisfaction by examining their interaction effect.

4.2. Managerial Implications

Companies regard customer complaints as superior to the customers' doing nothing since complaining might relieve the customers by reflecting their reaction (Zeelenberg & Pieters, 2004: 449). It opens a way for the companies to notice and compensate for the service failure (Folkes, 1984: 409). Although service providers consider customers' doing nothing as a *negative* response, it might not be the case when considering the role of blame attribution after dissatisfaction.

The moderating effect of blame attribution in this relationship shows that companies should better understand how dissatisfied customers try to solve the problem. Our results clearly show that dissatisfied customers who do not blame the companies for their dissatisfaction are more prone to do nothing or not take action, which can be considered an advantage for the companies to provide high-quality services. As a result, a company can expect customers to do nothing when they do not focus on its blame. Accordingly, airline companies are advised to listen to their dissatisfied customers to ascertain the degree of blame attributed to the company, which may help them develop more effective service recovery strategies. Identifying customers who are unsatisfied but do nothing may enable companies to evaluate their communication channels' efficiency and ease of use (Istanbulluoglu et al., 2017: 1119). Farooq et al. (2018: 346) also found the crucial role of personnel services on customer satisfaction. A clear understanding of the attributed blame to the service provider would enable the service personnel to explain the situation and remind the customer's responsibilities like arrival time, baggage limits, problems with ticketing,

refunds, cancellations, etc. In this way, customers might pay attention to their responsibilities besides their rights.

In addition to the core flight service of airlines, many other support services can cause customer dissatisfaction. Therefore, to meet customers' needs and expectations, companies should also ensure the staff's communication skills training (Bejou et al., 1996: 18) and customer services. More specifically, service personnel might thank the dissatisfied customers. You, Yang, Wang & Deng (2020: 147) emphasised the consumers' appreciation by thanking is more crucial in post-recovery satisfaction than an apology that focuses on the service provider's fault.

A deeper understanding of the effect of negative word-of-mouth communication on the dissatisfaction-switching relationship would enable businesses to acknowledge the significance of service failure management and take proactive action. Customers' switching responses become more crucial as the competition grows (Jung et al., 2017: 140). Gupta (2018: 35) states that customers tend to switch to companies with better service. An airline service provider might be too late to compensate after dissatisfied customers switch in this competitive environment. Thus, negative word of mouth about a service encounter may serve as a warning sign for these businesses before dissatisfied customers change. Since acquiring new customers is more expensive than retaining existing ones (Reichheld & Sasser, 1990: 104), companies can reduce negative word of mouth by making their service recovery processes impeccable (Williams & Buttle, 2014: 1425). A deep insight into the switching response enables companies to learn how to decrease customer turnover (Rajagopal, 2020: 1) and retain their existing customers.

This result indicates that just talking about failure can affect post-dissatisfaction behaviour. Firms should be concerned about the issues behind customer dissatisfaction. However, companies' limited access to negative word of mouth prevents them from having information about their mistakes. This situation may lead to negative consequences beyond the control of the company. For this reason, increasing the complaint channels and enabling customers to access them quickly is essential. In this way, airline service providers can recover from failures, and customers can get satisfied.

Additionally, we show that firms should prevent dissatisfied customers from negative word-of-mouth actions. If they succeed, they can retain these customers. Companies need to improve their complaint management processes and procedures; they should be more straightforward, more customer-oriented, and not time-consuming (Bejou et al., 1996: 18). Besides, companies can encourage customers to return and contact the company (Istanbulluoglu et al., 2017: 1119).

5. Limitations and Future Directions for Research

While the study adds to our understanding of the consequences of customer dissatisfaction, researchers and managers must interpret the findings in light of certain

limitations. Firstly, since data were collected using a cross-sectional research design, establishing causal relationships between dissatisfaction and its consequences is a critical issue to consider. Therefore, future researchers might implement an experimental research design to make causal inferences better. Second, this study examined the proposed conceptual model in the airline industry. To increase generalisation, an enticing direction for future research would be replicating the model in other travel/hospitality industries, such as accommodation. Additional research can validate the model in a low-cost or full-service airline or a different airline travel class (Sezgen et al., 2019: 67).

Third, only switching and doing nothing were included in the model as consequences of dissatisfaction. Future research can consist of other responses of dissatisfied customers (i.e., complaining and repurchase intention). Following the justice theory, future research can investigate post-recovery satisfaction's effects on response types (Moliner-Velázquez et al., 2015: 474). Furthermore, including different service recovery types (i.e., firm, co-creation, customer) (Bagherzadeh et al., 2020: 3) in the model might help service providers manage customer dissatisfaction and their responses after a service failure.

Customers' dissatisfaction response to a failure may differ among service categories (Mattila & Ro, 2008: 103). Gures et al. (2020: 219) revealed that flight delays, customer support services, and employee behaviours are the reasons for dissatisfaction in the Turkish airline industry. Therefore, it could be a valuable contribution to empirically examine the impact of different reasons for dissatisfaction in this model's context.

Future studies can examine the blame attribution more comprehensively by considering different factors that customers may blame, such as luck, employees, advertising campaigns, and situational or external factors (Krishnan & Valle, 1979: 445).

Huang and Philp (2021: 877) found that consumers are less willing to share negative word-of-mouth following a service failure caused by an artificial intelligence (AI) recommendation system than after a service failure caused by a human employee, even though the failure, firm blame, or dissatisfaction with the failure are identical. Future studies might compare customer reactions after AI failure with human employee failure.

Finally, it would contribute to comparing pre-word-of-mouth and post-word-of-mouth behaviours. Understanding the impact of negative word of mouth on dissatisfaction responses enables businesses to monitor for undesirable behaviours following negative word of mouth.

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A Study on Consumer Animosity, Negative WOM (nWOM), and Boycott Behaviours of Rival Football Fans

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Rakip Futbol Taraftarlarının Tüketici Düşmanlığı, Negatif Ağızdan Ağıza İletişim (nWOM) ve Boykot Davranışları Üzerine Bir Araştırma

Abstract

This study aims to determine the effects of consumer animosity on boycott motivation through Negative WOM. The sample population of this study, which was carried out on rival football fans, consists of 408 people selected by a convenient sampling method. Considering the research analyses, the relationship levels between the variables were determined. Reliability and validity analyses were applied. Then, the effect and mediation levels between the variables were determined by Structural Equation Modelling. According to the results, it was found that consumer animosity had a positive and significant effect on boycott motivation through negative WOM.

Keywords : Consumer Animosity, Negative Word of Mouth (nWOM), Boycott Motivation, Rival Football Fans, Licensed Fan Products.

JEL Classification Codes : M300, M310.

Öz

Araştırma ile amaçlanan, tüketici düşmanlığının, negatif WOM aracılığı ile boykot motivasyonu üzerindeki etkileri ortaya koymaktır. Rakip futbol taraftarları üzerine gerçekleştirilen bu araştırmanın örneklem kitlesini, kolayda örnekleme yöntemi ile seçilen toplam olarak 408 kişi oluşturmaktadır. Araştırma analizleri kapsamında, öncelikle değişkenler arasındaki ilişki düzeyleri tespit edilmiştir. Ardından, güvenilirlik ve geçerlilik analizleri gerçekleştirilmiştir. Daha sonra ise, yapısal eşitlik modellemesi ile değişkenler arasındaki etki ve aracılık düzeyleri belirlenmiştir. Araştırma sonuçları neticesinde, tüketici düşmanlığının, negatif WOM aracılığı ile boykot motivasyonunu pozitif ve anlamlı bir düzeyde etkilediği bulgusuna ulaşılmıştır.

Anahtar Sözcükler : Tüketici Düşmanlığı, Negatif Ağızdan Ağıza İletişim (nWOM), Boykot Motivasyonu, Rakip Futbol Taraftarları, Lisanslı Taraftar Ürünleri.

1. Introduction

Today, consumers perform their purchasing behaviours according to their perceptions of products, brands, businesses, or countries. Therefore, it is under the control of consumers to reward or punish products, brands, businesses, and countries. So, consumers directly affect company strategies (Öztürk & Nart, 2021: 661). Many external environmental factors (political, social, etc.) and social movements influence decisions to avoid consumption. For example, resistant communities such as "hippies", used to describe a deviant and youthful audience, manipulated the dominant consumer culture in the 1950s. After the 1990s, many countries criticised the anti-globalisation movements and the economic and social mass consumption disorders caused by multinational companies (Ltifi, 2021: 358). Consumers' avoidance of consumption can also cause it, that is, boycott behaviours, and more specifically, animosity and negative WOM behaviours.

Consumer animosity is defined as "the state of dislike and antipathy towards the products of that country due to the political, economic or military events that have been experienced, finished or being experienced with a country" (Klein et al., 1998: 91). According to another definition, it refers to "the state of having negative feelings in terms of purchasing products from a hated or unlovable group or nation" (Rose et al., 2009: 330). According to another definition, Yılmaz et al. (2013) stated that consumer animosity includes emotions such as reaction, jealousy, and competition. So, consumer animosity can have long-term negative effects on consumption behaviours with the impact of feelings towards a product, brand, business, and country.

WOM is a communication-based concept consisting of the initials of the words. This concept, which has been studied more intensively in the literature by researchers since the 1960s, has important effects on consumer behaviour (Özer & Antepioğlu, 2005: 204). WOM can be defined as "the process of transferring information from one person to another, face to face" (Sun et al., 2006: 1106). WOM can be divided into "positive WOM" and "negative WOM". Positive WOM emerges as "consumer's positive thoughts, satisfaction or experiences about an institution, brand, product or service to other consumers" (Zoral-Yücebaş, 2010: 64). Negative WOM can be expressed as "a communication behaviour related to a developing complaint reaction regarding consumers' dissatisfaction with a product or service and an unhappy consumption" (Chen Lin, 2012: 7). Negative WOM is the communication method most used by consumers when they complain about the product they purchase. Charles et al. (1995), while consumers describe their satisfaction with the product to three people, they tell their dissatisfaction to eleven people.

According to the Turkish Language Association (TDK, 2021), the boycott is defined as "deciding not to do a job or behaviour" or "breaking all kinds of relations with a person, a community, or a country to achieve a goal". According to Friedman (1985), a consumer boycott is "an attempt by one or more parties to achieve certain goals by encouraging consumers to avoid certain purchases in the market". As a result, a boycott represents anti-mass consumer behaviour towards a product, brand, business, country, or idea, influenced

by some political and social external environmental factors. Consumer boycott behaviour can be affected by many factors such as animosity, negative WOM, religion, ethnocentrism, and country of origin image (Tabassi et al., 2012; Abdul-Talib et al., 2016; Dessy et al., 2017; Ali, 2021).

The research aims to measure the consumer animosity of the fans, who have close ties with any football club, to the products of the other rival football club and the boycott motivations caused by the negative WOM that it spreads. For this purpose, the fans of the three most prominent football clubs in Turkey (Fenerbahçe, Galatasaray, and Beşiktaş) were included in the study. The findings of the fans' feelings of animosity towards rival football clubs and their negative communication on the motivation of rival football clubs to boycott licensed sports products will be presented comparatively. The research it is aimed to bring a different perspective to the literature on consumer animosity and boycott behaviour, which is limited by parameters such as religion, ethnocentrism, and country of origin, and to provide a guide for businesses to measure consumer animosity, negative WOM, and Boycott motivation regarding the markets planned to be entered on a national or international scale.

2. Literature Review and Hypothesis Development

The concept of animosity, derived from the sociological literature, refers to "strong feelings of dislike based on previous and ongoing events of animosity and beliefs between nations or peoples that are considered unfair or violating social norms" (Averill, 1982). Consumer animosity considers the concept of animosity in the context of marketing. The concept of consumer animosity is defined as "not because of any negative perception of the quality or age of the foreign product but as a result of actions of a military, political or economic nature that anger or have difficulty accepting consumers" (Klein et al., 1998). Harmeling et al. (2015) and many researchers recognise consumer animosity as general. Accordingly, it is stated that it is necessary to consider cognitions and emotions when measuring anger arising from animosity. Therefore, cognitive beliefs caused by a crisis need to be evaluated separately from the feelings they cause. So, it can be said that consumer behaviours such as negative WOM and boycotts mediate consumer animosity. Klein et al. (1998) found that consumer animosity had an insignificant effect on product judgment. Also, consumer animosity has a significant negative impact on purchase intention.

Moreover, Huang et al. (2010) concluded that consumer animosity significantly impacts quality perception and purchase intention. On the other hand, Shoham et al. (2006) concluded that there is a relationship between consumer animosity and product judgment and willingness to buy. Antonetti et al. (2019) believe consumer animosity significantly affects negative WOM. According to Yong and Tseng (2014), the negative impact of consumer animosity on purchase intention can be reduced through WOM. Lee et al. (2021) found that consumer animosity affects negative WOM.

H1: Consumer animosity affects negative WOM.

Marketing communication has become multilateral and complex in how companies communicate and manage their product messages. The mutual message between consumers now plays a much more decisive role when purchasing which brand product, from which company, and in which price range. Chinese consumers talk about the features of the latest smartphone. At the same time, Koreans present their cosmetics usage experience through WOM (Yong & Tseng, 2104: 23). Negative WOM is defined as "a way of sharing emotions, aiming to damage the reputation of companies that do not behave appropriately" (Grappi et al., 2013). Williams and Buttle (2014) stated that two critical determinants of negative WOM are "dissatisfaction" and "external media comments". Therefore, it can be said that negative WOM significantly affects the boycott behaviour of consumers. Garrett (1987) defines consumer boycotts as "campaigns of activist groups that are not legally binding on an individual consumer and aim to prevent market transactions between consumers and companies". The success of the boycott behaviour depends on the participation of a large consumer group. In this respect, consumer boycott behaviour also expresses a kind of social behaviour. Consumers can support boycott campaigns by not purchasing products from boycotted companies or switching to ethical product alternatives (Trautwein & Lindenmeier, 2019: 255). In a study conducted by Öztürk and Nart (2021), it was concluded that WOM has a significant positive effect on the boycott behaviour of consumers.

H2: Negative WOM affects boycott motivation.

Research on consumer behaviour has found that due to animosity, the consumer's intention to boycott increases significantly, affecting purchasing behaviour (Klein et al., 1998). De Nisco et al. (2013) on consumers in Italy, it was found that country image is a critical aspect affected by harmful animosity towards products. Giang (2015) found that animosity affected ethnocentrism, purchase intention, and product judgment. Abosag and Farah (2014) stated that religious motivation is the primary driver of consumer animosity. Based on these findings, it has been determined that the effect of religious animosity on consumer feelings is more effective and sustainable than other animosity feelings. Smith and Li (2010) found that consumers' boycott participation was significantly affected by consumer animosity. Albayati et al. (2012) found that boycott participation and consumer animosity were significantly affected by the attitudes of Muslim consumers towards foreign branded products. Suhud (2016) analysed Indonesian consumers' evaluations of Israeli-origin products. As a result, it has been determined that consumer animosity significantly affects boycott motivation and boycott participation. According to Suhud (2018), consumer animosity significantly positively affects consumers' boycott participation. Also, according to Tian (2010), stable and situational consumer animosity has a significant positive effect on the boycott behaviour of consumers. According to Ali (2020), consumer animosity significantly affects the boycott participation levels of consumers. Moreover, Ahmed et al. (2013), Albayati et al. (2012), Ben Mrad et al. (2014), and Shah and Ibrahim (2016) found that product judgments affect consumers' boycott participation.

H3: Consumer animosity affects boycott motivation.

H4: Consumer animosity affects boycott motivation through negative WOM.

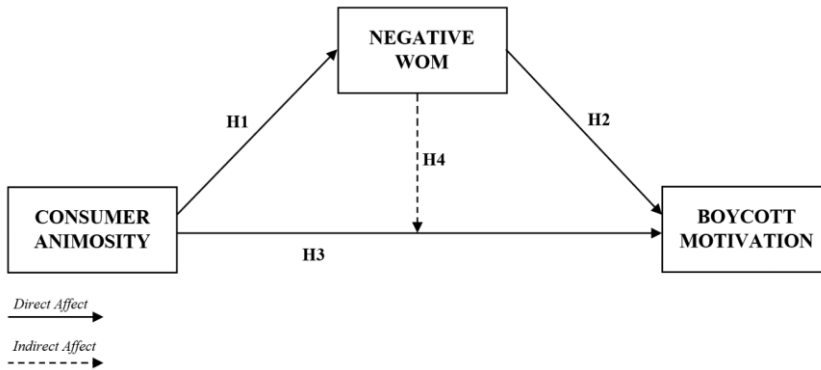
3. Research Method

The research question is whether the feelings of animosity and negative communication of the fans towards the rival football clubs affect the boycott motivation of the rival football clubs at the point of purchasing licensed sports products. Accordingly, the research aims to determine the effects of consumer animosity on boycott motivation through negative WOM. The online questionnaire method was preferred in the collection of research data. The questionnaire was designed as a five-point Likert scale. The questionnaire items were subjected to two-way translation (English-Turkish) to ensure the integrity of meaning. As a result, some analyses were carried out by transferring the data obtained online to SPSS and AMOS programs. In the first stage of the research, missing, incorrect, and miscoded data were removed, and descriptive and descriptive classifications were made. In the second stage, the correlation levels between the factors were determined by correlation analyses. Reliability, validity, and confirmatory factor analyses (CFA) were performed in the third stage. At this stage, for the reliability of the research data, Cronbach's Alpha ($C\alpha$); for validity, Average Explained Variance (AVE) and Composite Reliability (CR), Maximum Shared Variance (MSV), and Average Shared Variance (ASV) values were tested. The relationship levels between the research model variables were determined in the fourth stage. Also, the goodness of fit values, effect levels, and mediation tests regarding the variables constituting the relevant model was applied. Ethics committee approval, numbered 2021/85 and dated 03.11.2021, was obtained from Şırnak University Ethics Committee for this research.

3.1. Research Model and Scales

The research model was created to reveal the relationships between the variables in line with the literature. Models and hypotheses were created within the scope of the research; Klein and John (2001), Tian (2010), Antonetti et al. (2019), Ali (2021), Öztürk and Nart (2021). Figure 1 shows the research model.

Figure: 1
Research Model



In selecting the scales related to the research, importance was given to the fact that they were tested in different cultures and sectors. The reliability and validity values of these preferred scales were also considered. Table 1 shows the rankings used in the research.

Table: 1
Scales of the Research

Scales	Items	Source
Consumer Animosity	I am usually angry with rival football clubs.	<i>Hacıoğlu et al. (2013)</i>
	I will never forget what some rival football clubs did to the football club I support.	
	Some rival football clubs must pay for what they did to the football club I support.	
	Usually, I wouldn't say I like rival football clubs.	
Negative WOM	I have used negative expressions about the products of some rival football clubs (-).	<i>Çavuşoğlu & Demirağ (2020)</i>
	I have vilified the products of some rival football clubs to my friends.	
	I advise my friends not to shop at stores where the products of rival football clubs are sold.	
	I have tried to influence the people around me not to buy the products of some rival football clubs.	
Boycott Motivation	I would like to express my anger towards rival football clubs by avoiding buying their products.	<i>Tian (2010); Klein & John (2001)</i>
	I want to punish some rival football clubs, and that's why I don't buy their products.	
	I feel guilty if I buy products from rival football clubs (-).	
	I must boycott their products to demonstrate my attitude against rival football clubs.	

Questions marked with (-) were eliminated.

3.2. Research Population and Sample

The universe of the research consists of fan groups in Turkey. The sample consists of 422 people selected by the convenient sampling method. After corrections were made due to incomplete, incorrect, and incorrect coding, the analyses continued with the data of 408 people. According to Baş (2006), it is sufficient to reach 384 participants with a 5% margin of error for the sample size to be reliable. Accordingly, it can be said that the sample population is sufficient to represent the population with 95% reliability. Table 2 contains demographic information about the participants.

Table: 2
Demographic Information

Variables	Groups	N	%
Gender	Female	244	59,8
	Male	164	40,2
Civil Status	Married	126	30,9
	Single	282	69,1
Age	20 and below	70	17,2
	21-30	232	56,9
	31-40	93	22,8
	41-50	12	2,9
	51 and above	1	.2
Education Status	Primary-Middle School	15	3,7
	High School	112	27,5
	Associate Degree	81	19,9
	Bachelor's Degree	149	36,5
	Master	39	9,6
Income Status	PhD	12	2,9
	1000tl and below	121	29,7
	1001tl-3000tl	99	24,3
	3001tl-5000tl	80	19,6
	5001tl-7000tl	50	12,3
Profession Group	7001tl and above	58	14,2
	Public Sector Employee	112	27,5
	Private Sector Employee	111	27,2
	Industrialist and Businessman	21	5,1
	Tradesman and Craftsman	2	.5
Profession Group	Employee	13	3,2
	Student	15	3,7
	Others	134	32,8
Total		408	100

According to Table 2, the participants are classified according to gender, marital status, age, occupational group, income, and educational level. Accordingly, 244 (59.8%) of the participants were female, and 164 (40.2%) were male; it is seen that 126 (30.9%) of them were married and 282 (69.1%) of them were single. It is seen that 232 participants (56.9%) are between the ages of 21 and 30. It is seen that 149 (36.5%) of the participants received an education at the undergraduate level. It is seen that 121 (29.7%) of the participants have an income of 1000 TL or less. It is seen that 112 (27.5%) of the participants are public sector employees, and 111 (27.2%) are private-sector employees. Table 3 contains other information about the participants.

Table: 3
Other Information About Participants

Variables	Groups	N	%
Licensed Football Product Purchase Status	Yes	244	59,8
	No	164	40,2
Frequency of Following Football Matches	Once a Week	238	58,3
	Twice a Week	36	8,8
	Once a Month	60	14,7
Following Football Clubs	Once a Year	74	18,1
	Fenerbahçe	159	39,0
	Galatasaray	160	39,2
	Besiktas	73	17,9
Following Football Clubs	Others	16	3,9
	Total	408	100

According to Table 3, the participants were classified according to their purchasing status of licensed football products, the frequency of following football matches, the sports branch followed, and the status of the football club followed. Accordingly, 244 (59.8%) of the participants declared that they bought the licensed products of the football club they support. 238 (58.3%) of the participants follow the matches of the football club they help. Accordingly, 159 (39%) of participants stated that they were "Fenerbahçe" and 160 (39.2%) "Galatasaray" fans.

4. Findings

4.1. Relationships Between Variables

Before testing the research hypotheses, examining the relationships between the variables is necessary. Accordingly, correlation analyses were applied to the variables of "consumer animosity", "negative WOM", and "boycott motivation". Table 4 shows the means, standard deviations, and correlation values of the data obtained from the Pearson Correlation analyses.

Table: 4
Correlation Values of Variables

Variables	Mean	S.S.	ANM	NWOM	BYT
ANM	2,489	1,076	1		
NWOM	1,932	,965	,659**	1	
BYT	1,985	1,018	,596**	,795**	1

*ANM: Consumer Animosity; NWOM: Negative WOM; BYT: Boycott Motivation; *p<.01; **p<.001*

According to Table 4, it can be said that there are significant relationships between all the variables of the study. Therefore, it is possible to predict various effects among the variables.

4.2. Reliability and Validity Analyses

Reliability was determined by Cronbach's Alpha ($C\alpha$) values, and Convergent and Divergent values determined validity. Average Explained Variance (AVE) and Composite Reliability (CR) values for convergent validity; for divergent validity, the Square of Maximum Shared Variance (MSV) and Average Squared of Shared Variance (ASV) values were examined. Table 5 shows the reliability and validity values of the scales of the study.

Table: 5
Reliability and Validity Analyses

Scale Dimensions	Scale Items	Factor Weights	Ca	CR	AVE	MSV	ASV
Consumer Animosity	ANM1	.821	.838	.822	.560	.355	.197
	ANM2	.713					
	ANM3	.616					
	ANM4	.774					
Negative WOM	NWOM1	.677	.831	.731	.637	.632	.266
	NWOM2	.857					
	NWOM3	.849					
Boycott Motivations	BYT1	.864	.853	.746	.662	.355	.246
	BYT2	.834					
	BYT3	.739					
<i>Overall Scale Ca: .916</i>							

As a result of factor analyses, one item each from negative WOM (-.61) and boycott motivation (-.54) scales; was excluded due to low factor loadings and negative loading. According to George and Mallery (2010), the fact that loads of each factor are higher than 0.50 indicates that the relevant items are at an acceptable level. According to the findings, factor loads consisted of statistically significant values ranging from 0.616 to 0.864. So, it was concluded that the loadings of the factors were sufficient to measure the research variables. The cumulative variance explanatory power of the scale was determined as 75.268%. According to Kalaycı (2006), the relevant scale is reliable if the alpha value is 0.70 and above. According to Fornell and Larcker (1981), the AVE value should be above 0.50 and the CR value above 0.70. To talk about divergent validity, $MSV < AVE$ and $ASV < MSV$ conditions must be met (Yaşlıoğlu, 2017: 83). As can be seen in Table 1, belonging to the scale; it can be said that all of the alpha, CR, AVE, MSV, and ASV values are at a sufficient level. Accordingly, it can be said that the scales provide construct and discriminant validity.

4.3. Structural Equation Model (SEM) Analyses

Structural equation model (SEM) analyses were used to test the research hypotheses. Through SEM, direct and indirect effects between variables were determined. As seen in Figure 1, positive and significant relationships were found between "consumer animosity (ANM)", "negative WOM (WOM)", and "boycott motivation (BYT)". To determine the validity of the scales, the AMOS program was preferred, and the multivariate structure was tested with confirmatory factor analyses (CFA). Figure 2 shows the coefficients of the comments.

Figure: 2
CFA Model

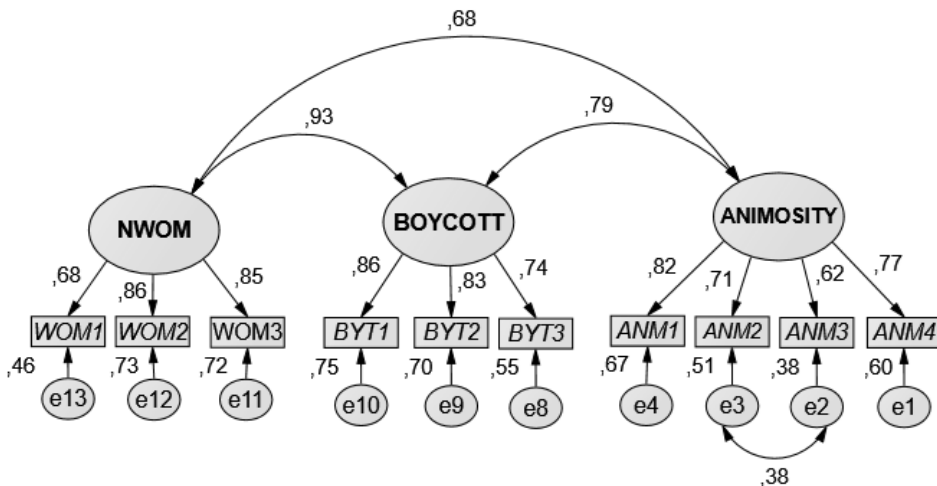


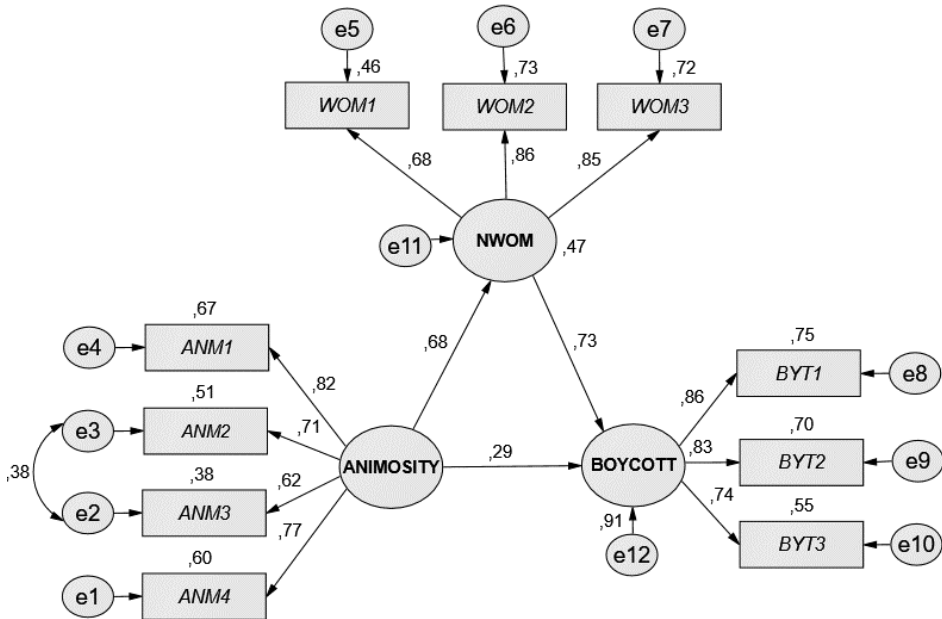
Figure 2 shows the scale dimensions and related factor loads included in the CFA. The goodness of fit values for the model subjected to CFA analyses (CMIN/d: 2.366, NFI: 0.970, CFI: 0.982, GFI: 0.965, RMSEA: 0.058) was at a $p=.000$ significance level and was at an acceptable level. It has been determined that 10 items and 3 dimensions that make up the scale are about the scale structure. Table 6 shows the regression weights for the research model.

Table: 6
Compliance Values of the CFA Model

The Goodness of Fit Measures	Model Values			Acceptable Compliance Values
	Consumer Animosity	Negative WOM	Boycott Motivations	
CMIN/d	.538	2.067	3.206	$\leq 4-5$
NFI	.999	.996	.988	1.000-0.850
CFI	1.000	.998	.992	1.000-0.850
GFI	.999	.997	.989	1.000-0.900
RMSEA	.000	.051	.074	0.060-0.080

Table 6 shows the scale dimensions included in the CFA. Goodness of fit values for “consumer animosity” (CMIN/d: .538, NFI: 0.999, CFI: 1.000, GFI: 0.999, RMSEA: 0.000); goodness of fit values for “negative WOM” (CMIN/d: 2.067, NFI: 0.996, CFI: 0.998, GFI: 0.997, RMSEA: 0.051); goodness of fit values for “boycott motivation” (CMIN/d: 3.206, NFI: 0.988, CFI: 0.992, GFI: 0.989, RMSEA: 0.074) $p=.000$ are significant and acceptable. The acceptable fit range is $RMSEA \geq .00$ (Browne & Cudeck, 1993), $NFI \geq .090$ and $CFI \geq .095$ (Schermelleh-Engel & Moosbrugger, 2003), $GFI \geq .085$, and $CMIN/d < 3$ (Kelloway, 1998). The research model is shown in Figure 3.

Figure: 3
Research Model



As seen in Figure 3, according to the results of the regression analyses, a positive (.683) and significant (.000) relationship between consumer animosity and negative WOM; a positive (.733) and marked (.000) relationship between negative WOM and boycott motivation was found. Also, it was concluded that there is a positive (.792) and significant (.000) relationship between consumer animosity and boycott motivation variables. This relationship should weaken or become statistically insignificant when the mediation variable is included to discuss a mediation relationship between the variables. In this study, when the mediating role of negative WOM is added between the consumer animosity and boycott variables, it is seen that the relationship between the two variables is still significant (.000), but the ties weaken (.291). As a result, negative WOM has a significant mediating effect between consumer animosity and boycott motivation variables. Table 7 shows the results of the analyses regarding the research model.

Table: 7
Research Model Analyses Results

Hypotheses		β	p	S.E.	C.R.	Results
H1	Consumer Animosity \rightarrow Negative WOM.	.683**	.000	.053	10,188	Accepted
H2	Negative WOM \rightarrow Boycott Motivation.	.733**	.000	.080	11,132	Accepted
H3	Consumer Animosity \rightarrow Boycott Motivation.	.792**	.000	.051	5,560	Accepted
H4	Consumer Animosity \rightarrow Negative WOM \rightarrow Boycott Motivation.	.291**	.000	-	-	Accepted

(*p<.01; **p<.001); (R² of NWOM: .47 and R² of Boycott: .91)

The questionnaire results accepted the hypothesis (β : .683) that consumer animosity affects negative WOM. Accordingly, consumer animosity significantly affects the negative WOM variable (p: .000) (H1). Also, the hypothesis (β : .733) that the negative WOM variable affects the boycott motivation was accepted. Accordingly, negative WOM significantly (p: .000) affects the boycott motivation variable (H2). Moreover, the hypotheses (β : .792) that consumer animosity affects boycott motivation was accepted. Accordingly, consumer animosity significantly (p: .000) acts as the boycott motivation variable (H3). Finally, the hypothesis (β : .291) that consumer animosity affects boycott motivation through negative WOM was accepted. Accordingly, consumer animosity affects the boycott motivation variable significantly (p: .000) through negative WOM (H4).

5. Discussion and Conclusion

Consumers show purchasing behaviour according to the perceptions of companies or brands. It is within the control of consumers to reward or punish companies or brands. Therefore, it can be stated that consumers directly affect company or brand strategies (Öztürk & Nart, 2021: 661). The boycott behaviour of consumers is affected by social, political, and economic factors. The economic conjuncture directs consumer boycott campaigns in developed countries. On the other hand, boycott behaviour is predominantly affected by religious and political factors in developing countries. In this respect, negative WOM and animosity have different effects on the boycott behaviour of consumers. For example, political or religious animosity may have a more substantial and more lasting impact on consumers' boycott behaviour against a particular country (Ali, 2020: 505).

According to the research results, consumer animosity is at a positive and significant level over negative WOM; it was determined that the negative WOM variable had a positive and significant effect on boycott motivation. Also, consumer animosity has a positive and significant impact on boycott motivation. Moreover, it has been found that consumer animosity has a positive and significant mediating effect on boycott motivation through negative WOM. Based on these results, when the literature is reviewed, Antonetti et al. (2019) found that beliefs about consumer animosity significantly positively affect negative WOM. According to Yong and Tseng (2014), the negative effect of consumer animosity on purchase intention can be reduced through WOM. These studies support H1. Öztürk and Nart (2021) found that WOM had a significant positive effect on the boycott behaviour of consumers. This research supports H2. Klein et al. (1998), Tian (2010), Smith and Li (2010), Albayati et al. (2012), Suhud (2018), and Ali (2020) have found that consumer animosity significantly affects consumers' boycott participation. These studies support H3.

The majority of the participants are fans of football clubs in Turkey (39.2% Galatasaray; 39.0% Fenerbahçe; 17.9% Beşiktaş). Most football fans follow the football matches weekly (58.3%). It should be admitted that most of these fans are not only football fans but also consumers who have developed loyalty toward the football club they support. 59.8% of the participants purchase licensed products belonging to the football clubs they are fans of, which indicates dedication. According to these results, it is concluded that the developed feelings of loyalty towards the football club that any participant is a fan positively affects the WOM and purchase intention.

On the contrary, it can be stated that a participant's feelings of animosity towards a rival football club positively affect his boycott behaviour. These inferences are based on the consumer's animosity towards opposite products, brands, or companies. In the previous studies, it is stated that the intention of consumers to drive animosity consists of factors such as historical animosity and political animosity. According to the results, it is possible to say that consumer animosity, especially in some areas, is reinforced due to competition and historical and political animosity. Therefore, especially in sports branches where competition is high when comparing clubs, the competitive factor should also be considered when measuring the animosity variable.

This research includes only the evaluations of football fans living in Turkey. In future research, comparative analyses can be presented by conducting studies in countries with different political, religious, and cultural characteristics. The sample group that constitutes the research mainly consists of women (n=244) and singles (n=282). More balanced data will be collected in further studies, and comparative studies with participants with gender, marital status, and other demographic factors will be beneficial. Consumer animosity and boycott behaviours are mass movements generally used for political purposes.

For this reason, it can be used consciously by the government from time to time to harm other countries, brands and businesses. Therefore, comparing the relationships between different variables (politics, ethnocentrism, religiosity, country of origin, product judgment, etc.) and the findings related to the same sample group at other times may be suggested. Furthermore, researchers can predict how consumer groups may engage in animosity and boycott motivation for different product categories. For example, research on halal products would be interesting.

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The Relationship between Maqasid Sharia and Profitability Ratio in Islamic Banking Industries Performance

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İslâmi Bankacılık Sektörünün Performansında Şeriat Hedefleri ve Kârlılık Oranı İlişkisi

Abstract

The study aims to analyse the moderating relationship between the return on assets (ROA) ratio with the Islamic maqasid ratio. This study uses several independent variables: financing to deposit ratio, labour cost ratio, promotions cost ratio, non-performing financing, and the ratio of financing distribution of micro, small and medium enterprises (MSMEs). The methodology used in this study is quantitative. The result of this study is that ROA significantly moderates the independent variables on ROA. Furthermore, the novelty of this research is to link the ratio of social and spiritual aspects with a balance of financial aspects.

Keywords : Maqasid Sharia Ratio, Financing to Deposit, Return on Asset, Labour Cost Ratio, Promotion Cost Ratio, Non-Performing Financing Ratio, MSMEs Financing Ratio.

JEL Classification Codes : F65, G15, G22.

Öz

Çalışmanın amacı, aktif kârlılığı (ROA) oranı ile İslami Şeriat Hedefi oranı arasındaki düzenleyici ilişkiyi analiz etmektir. Bu çalışmada birkaç bağımsız değişken kullanılmaktadır: finansmanın mevduata oranı, işgücü maliyeti oranı, promosyon maliyeti oranı, sorunlu finansman ve mikro küçük ve orta ölçekli işletmelerin (MSME) finansman dağılımının oranı. Çalışmada kullanılan metodoloji niceldir. Araştırma sonucunda, aktif kârlılığının kendi üzerindeki bağımsız değişkenleri önemli ölçüde etkilediği görülmüştür. Bankacılık sektörünün performansının belirlenmesinde konunun finansal yönünün yanı sıra sosyal ve manevi yönü de süreçle ilişkilendirilerek bilimsel alana yeni bir bakış açısı kazandırılmaya çalışılmıştır.

Anahtar Sözcükler : Şeriat Hedefi Oranı, Mevduat Finansmanı, Aktif Getirisi, İşgücü Maliyeti Oranı, Promosyon Maliyeti Oranı, Sorunlu Finansman Oranı, MKOBİ Finansman Oranı.

1. Introduction

Banking is a high regulation industry because the banking industry's principal capital is trust. Moreover, to maintain trust, the bank must be managed based on the principle of prudence (Muniarty et al., 2020; Tsionas, 2016). Therefore, the bank's good performance is one of the indicators that the bank has implemented regulations well and can maintain its business activities based on the principle of prudence (Nugroho & Malik, 2020; Talavera et al., 2018). Furthermore, the banking industry's growth in Indonesia in the last five years has been dominated by the Islamic banking industry. This is conveyed by Hastuti (2019), where the growth of Compounded Annual Growth Rate (CAGR) during 2014-2018 from the Islamic banking industry reached 15%, while the CAGR of the conventional banking industry only got 10%.

Nevertheless, the performance phenomenon of Islamic banks in 2019 still has not shown optimal performance. This is indicated by the Islamic bank industry's return on asset (ROA) as of December 2018, which only reached 1.28%, while the ROA from conventional banks was much higher at 2.55% as of December 2018. In addition, the ratio of non-performing financing (NPF) from the Islamic banking industry was higher, which was 3.44% as of March 2019. At the same time, the ratio of non-performing loans from the conventional banking industry (NPL) is better at 2.5% as of March 2019 (Hastuti, 2019b).

The Islamic banking industry has different characteristics compared to the conventional banking industry. According to Gunardi et al. (2021) and Nugroho et al. (2020), Islamic banks operate based on Sharia principles where the focus of Islamic banks is not only to achieve profit but also to realise the benefit of humanity and also the sustainability of the universe. Based on this, the performance of Islamic banks is not only measured by ROA as an indicator of profitability. However, it can use a ratio of aspects that reflect the objectives of sharia or maqasid sharia (Wan Ibrahim & Ismail, 2020). Therefore, to analyse the relationship between the achievement of performance from the aspect of Shariah maqasid with ROA, thus it takes factors that are estimated to affect the performance of Islamic banks both against ROA and the achievement of sharia maqasid performance.

The primary source of bank income is the distribution of financing, where the bank must be able to channel its funds to the community so that entrepreneurs can use the funds to increase the emic growth (Hasan et al., 2022; Labetubun et al., 2021; Metanfanuan et al., 2021). The best distribution indicator is based on regulation from the Central Bank, where the optimum financing to deposit ratio (FDR) in banking industries is 85% (Nugroho et al., 2021). Therefore, the higher or closer to FDR by 85%, the Islamic bank can generate optimal income so that the performance of Islamic banks will also increase.

The principal capital of a commercial organisation is investment money from investors, including its workforce or employees (Black & Lynch, 1996; Hidayah et al., 2020). Therefore, the role of employees has shown their ability to innovate and develop products and provide services that follow the needs and desires of the community. Moreover,

with good innovation and creativity in developing products and also the excellent quality of services to the community, the products and services of Islamic banks will be used by the community so that it will have an impact on the increasing income of Islamic banks (Hidayah et al., 2021; Prajogo & Oke, 2016). Nevertheless, the productivity indicator that efficiency indicators can mirror through the operating expense ratio of operating income (BOPO) of Islamic banks is still unable to compete with conventional banks. It is shown that the BOPO of the Islamic bank industry reached 86.87%, while the BOPO of the conventional bank was lower at 69.05% (Wiyanti, 2012). This shows that conventional banks have better productivity than Islamic banks, where the high costs incurred, namely labour costs, have not increased the profits received by Islamic banks.

Furthermore, the phenomenon related to low Islamic financial literacy in Indonesia is still a challenge to resolve by the government. Sharia literacy in Indonesia is still relatively low at 8.93%. Therefore, collaboration from all parties is needed to improve Islamic financial literacy so that people have adequate information on the products and services of Islamic banks. The better the information, the higher the opportunity for people to use Islamic bank products and services. According to Kim (2019) and Ryals (2003), promotion is an activity that can improve the information received by the public to be interested in using products and services from Islamic banks. The more precise the promotion target carried out by Islamic banks, it is expected that the majority of Indonesian people are Muslims can use the products and services of Islamic banks as their primary bank in financial transactions.

The quality of bank financing is also vital in maintaining the reputation of the Islamic bank industry to investors. The better the quality of problematic funding shows that the management of Islamic banks can control the risks in channelling financing to the community. In addition, investors become convinced that the management of Islamic banks can implement adequate governance so that the risks that will arise in the future can be estimated and appropriately mitigated (Drašković & Lojpur, 2013; Nugroho & Nezzim Bararah, 2018).

In addition, the identity of Islamic banks as banks that are pro-poverty, according to Jusoh & Shariff (2015) and Nugroho et al. (2018), should have focused on distributing financing to the micro, small and medium enterprises (MSMEs) segment. The MSMEs segment is a segment that provides large margins to the bank industry, such as Bank Rakyat Indonesia, which gets the most significant profit in Indonesia contributed by the MSMEs (Nugroho & Husnadi, 2014; Wijaya & Kesumawardhani, 2010) segment. Therefore, segmenting MSMEs as the identity of Islamic banks and the MSMEs segment can also provide large margins for Islamic banks to improve their performance.

Furthermore, based on the gap phenomenon and the above theory, the research questions in this study includes: (i) Does ROA moderate the influence of financing to deposit ratio on maqasid ratio; (ii) Does ROA moderate the influence of the labour cost ratio (LCR) to maqasid ratio (iii) Does ROA moderate the effect of the promotion cost ratio (PCR) to the

maqasid ratio; (iv) Does ROA moderate the influence of non-performing financing ratio (NPF) on maqasid ratio (v) Does ROA moderate the influence of financing ratios to the MSME segment on the maqasid ratio.

Referring to the problem formulation in this study, this research aims to analyse the relationship of the maqasid ratio with ROA through factors that have the opportunity to terminate it. Therefore, the novelty of this study is that the object of the study is maqasid sharia, which is associated with profitability ratio and analyses factors that can influence maqasid sharia variables that have never been done by researchers before. The implication of this research is to provide knowledge to practitioners and academics in the field of Islamic banking, especially related to the implementation of maqasid sharia.

2. Literature Review and Research Framework

The implementation of measurement of the performance of Islamic banks must be in harmony with the objectives and principles of sharia. Furthermore, according to Diantanti et al. (2021) and Nugroho et al. (2021), the purpose of sharia or commonly called maqasid sharia based on the theory of the Tawhid String Relationship, which Islamic banks must be able to implement as follows: (i) products and services based on agreements that are under the teachings of Islamic justice; (ii) Provide services to the community based on the needs and desires of the community to improve the benefit of the community; (iii) Develop contemporary products and services developed based on innovation and creativity; (iv) Provide financial services to all level society based on the principles of fairness, gender equality and equality of treatment; (v) Provide services and finances to the community intending to maintain the survival of their descendants; (vi) Providing services not only in financial form but also having concern for the next generation and maintaining environmental sustainability.

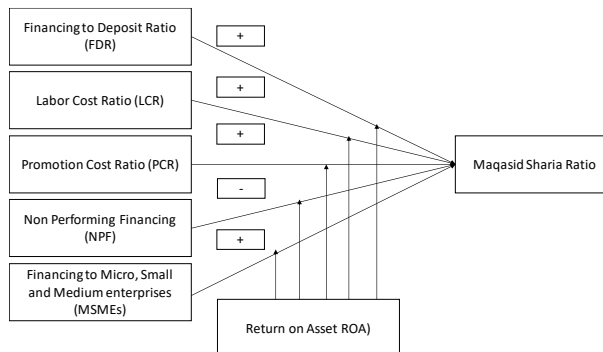
The existence of Islamic banks can be used as a solution because Islamic banking aims to improve the community's welfare. In other words, Islamic banking aims to seek profit and care for social problems. Furthermore, Islamic banks have Islamic values that conventional banks do not own. The foundation of Islamic banking is sharia maqasid which consists of six elements, according to Fitrotulloh (2013) and Masruri & Rossidy (2007), namely: (i) Maintaining Religion; (ii) Guarding the Soul; (iii) Maintain Intellect; (iv) Maintaining Assets; (v) Maintaining Descendant and (vi) Maintaining Environment. Maqasid sharia is implemented in everyday human life, namely, meeting basic, secondary, and tertiary needs. Islamic banking services supporting human life in business and financial transactions need to have the same vision and mission.

The vision and mission must be based on maqasid sharia, which aims to achieve Maslahah (beneficiaries to each other) and Falah (hereafter focus). In addition, Islamic banking, with its pillars (prophet, profit, people, and planet), is to maintain a balance between the benefits of a business that has moral and spiritual responsibilities and has an impact on reducing social problems such as poverty, unemployment, and social inequality

(Arafah & Nugroho, 2016; Cebeci, 2012). Furthermore, Islamic banks must also contribute to preserving the environment for the next generation's survival. Therefore, the entire Islamic banking ecosystem, both internal and external, is significant in realising the Sustainable Finance of Islamic Banking, such as the application of sharia principles in business activities; focus on the needs of society and the ummah; operational implementation based on Islamic values (products contract); risk management implementation; appreciation of human resources by Islamic values; application of the principle of benefit to community welfare and environmental sustainability. Therefore, Islamic banks must be able to provide benefits for all the ummah following the Qur'an Al-Anbya Verses 107: "We have sent you 'O Prophet' only as a mercy for the whole world."

Nevertheless, the conceptual research framework can be established according to the phenomenon and the literature review.

Figure: 1
Research Framework



Moreover, related to Figure 1, the hypothesis in this research is as follows:

- ROA as the moderating variable affected FDR, to the Maqasid Sharia Ratio has strengthened impact,
- ROA as the moderating variable affected LCR, to the Maqasid Sharia Ratio has strengthened impact,
- ROA as the moderating variable affected PCR, to the Maqasid Sharia Ratio has strengthened impact,
- ROA as the moderating variable affected NPF, to the Maqasid Sharia Ratio has strengthened impact,
- ROA as the moderating variable affected MSMEs, to the Maqasid Sharia Ratio has strengthened impact.

Furthermore, based on the hypotheses of this study above, the development of research hypotheses includes the following:

The Effect of Financing to Deposit Ratio (FDR) to Maqasid Sharia Ratio (MSR)

The performance indicator of the banking function in channelling funds collected to the public in the form of loans is the financing to deposit ratio (FDR). This ratio shows the bank's ability to channel loans from third-party funds or funds from the public that the bank has collected (Hakiim & Rafsanjani, 2016; Widyaningrum & Septiarini, 2015). So, the higher the ratio of the FDR reflects, the better the intermediary function of the Islamic bank. Moreover, the excellent role of Islamic banks in channelling their funds to the community will impact the excellent distribution of profit sharing from these banks to all stakeholders of Islamic banks (Bashir et al., 1993; Sukmadilaga & Nugroho, 2017). Nevertheless, the optimum allocation of profit sharing of Islamic banks to the customer will also contribute to the increase of ROA and the maqasid sharia ratio (MSR).

The Effect of the Ratio of Labour Costs Ratio (LCR) to the Maqasid Sharia Ratio (MSR)

The globalisation condition pushes Muslims to have a diligent work ethic, disciplined, and toughness but always balances Islamic values such as honesty and justice following sharia values. Therefore, the excellent work ethic, where they are also employees of an Islamic bank, can directly increase income (ROA) and improve MSR's performance. In addition, the issue of productivity is crucial for Islamic banking to compete with competitors and meet customers' needs (Fujii et al., 2014).

The Effect of Promotion Cost Ratio (PCR) on the Maqasid Sharia Ratio (MSR)

The effectiveness of promotion will increase the wider community's use of products and services from Islamic banks. Effective promotion of Islamic banks will increase the market share of Islamic banks in Indonesia (Lestari, 2009; Patriana & Nurismalatri, 2018). Promotion is vital for a company or organisation that introduces a new product and service. In addition, promotion can also be defined as costs or incentives given to customers by companies in conducting trials or introducing a product or service it has (Blattberg & Neslin, 1989; Sudirman et al., 2020). Furthermore, the effectiveness of the promotion of Islamic banks will impact increasing the performance of ROA and also align with the increasing of MSR.

The Effect of Non-Performing Financing (NPF) on Maqasid Sharia Ratio (MSR)

The quality of credit or financing ratio (NPF) is an essential financial indicator in maintaining a bank's reputation (Bernstein, 1996; Budiman, 2016). This indicator has vital significance for investors and depositors, where the higher the NPF, the more problematic financing for the bank. It informs investors and customers that the bank is at risk of bankruptcy. Thus, investors and customers can make the right decisions on the investments

and funds placed by the bank. Moreover, to maintain reputation and profitability (ROA), the bank tries to maintain a low NPF ratio, which means the assets owned by the bank can generate optimal profits and increase Islamic Bank MSR (Rahman & Rochmanika, 2012; Setiawati et al., 2017).

The Effect of Financing on Micro, Small and Medium Enterprises Segment (MSMEs) to Maqasid Sharia Ratio (MSR)

Another internal capability of Islamic banks that can improve company performance is the distribution of financing to micro, small and medium enterprises (MSMEs). The existence of MSMEs in Indonesia is the backbone of the economy, so the sustainability of MSMEs is essential. In addition, Islamic banks that develop duties as banks based on sharia principles should prioritise financing to the MSME sector. Previous researchers argued that Islamic bank financial products and services should prioritise MSMEs (Dhumale & Sapcanin, 1998; Khan, 2010; Shahinpoor, 2009). Therefore, if the distribution of financing to the MSME sector increases, it will positively impact ROA, which will also have the potential to increase MSR.

3. Methodology

The methodology used in this study is a quantitative method using a panel data moderating regression model. The mechanism for taking the number of samples of Islamic banks in this study is as follows:

Table: 1
Research Sample Method

No	Criteria	Number
1	The number of Islamic Commercial Banks in Indonesia which operated during 2012-2018	13
2	Islamic commercial banks that do not have the data needed for research during 2012-2018	(6)
	The number of Islamic Commercial Banks used as a research sample	7
	The total sample used in the 2012-2018 study (7x6 years)	42

In addition, the sample selection method is a purposive sampling method with a period from 2012 to 2018, where the cut-off in 2018 is used to avoid 2019. At the end of 2019, there has been a covid-19 pandemic that impacts all business sectors, including Islamic banks. Furthermore, the sample used is a Sharia Commercial Bank operating full-fledged. Therefore, the results of this study can be used in other countries that do not know the sharia banks window (UUS) system as in Indonesia. Furthermore, based on the research framework, there is two models' equation in this study as follows:

$$MSR = \alpha + \beta_1 FDR * ROA - \beta_2 LCR * ROA + \beta_3 PCR * ROA - \beta_4 NPF * ROA + \beta_6 MSMEs * ROA + e \quad (1)$$

Remarks:

FDR: Financing to Deposit Ratio,

LCR: Labour Cost Ratio,

PCR: Promotion Cost Ratio,

NPF: Non-Performing Financing,

MSMEs: Micro, Small, Medium Enterprises Financing Ratio,

MSR: Maqasid Sharia Ratio.

The Maqasid sharia ratio for performance measurement is carried out to test whether Islamic banks can disclose helpful information to stakeholders. Maqasid sharia ratio is a method that evaluates the performance of Islamic banks from a financial aspect and is also used to evaluate the principles of justice, halals, and purification practised by Islamic commercial banks. Furthermore, the operational variables in this study are as follows:

Table: 2
Operational Variables

Variable	Measurement	Scale	References
Return On Assets (ROA)	$\frac{\text{Net Profit}}{\text{Total Assets}}$	Ratio	(Margaretha & Letty, 2017; Nugroho & Bararah, 2018)
Maqasid Sharia Ratio (MSR)	Average (PSR + ZPR + EDR)	Ratio	(Makrufliis, 2019)
Profit-Sharing Ratio (PSR)	$\frac{\text{Mudharabah} + \text{Musyarakah}}{\text{Total Financing}}$	Ratio	(Makrufliis, 2019)
Zakat Performing Ratio (ZPR)	$\frac{\text{Zakat}}{\text{Net Assets}}$	Ratio	(Makrufliis, 2019)
Equitable Distribution Ratio (EDR)	$\frac{(\text{Qard} \& \text{Donation}) + (\text{Wages}) + (\text{dividend}) + (\text{Net Profit})}{\text{Total Revenue} - (\text{Zakat} + \text{tax})}$	Ratio	(Makrufliis, 2019; Nugroho, Nugraha, & Badawi, 2020)
Financing Deposit Ratio (FDR)	$\frac{\text{Total Financing}}{\text{Total Deposits}}$	Ratio	(Nugroho, Utami, Doktorlina, Soeharjoto, & Husnadi, 2017; Soekapdjo, Tribudhi, & Nugroho, 2019)
Labour Cost Ratio (LCR)	$\frac{\text{Labour Cost}}{\text{Total Income}}$	Ratio	(Adab & Rokhman, 2015; Farida, 2016)
Promotion Cost Ratio (PCR)	$\frac{\text{Promotion Cost}}{\text{Total Income}}$	Ratio	(Acar & Temiz, 2017; Capon et al., 1990; Hakim et al., 2011; Peterson & Jeong, 2010)
Financing to Micro, Small and Medium Enterprises (MSMEs)	$\frac{\text{MSMEs Financing Outstanding}}{\text{Total Financing Outstanding}}$	Ratio	(Dhumale & Sapcanin, 1998; Dusuki, 2008; Shahinpoor, 2009)
Non-Performing Financing (NPF)	$\frac{\text{Non Performing Financing}}{\text{Total Outstanding}}$	Ratio	(Firmansyah, 2014; Mawaddah, 2015; Soekapdjo, Nugroho, Badawi, & Utami, 2018)

4. Results and Discussion

Before conducting the hypothesis test, this study did a classical assumption test. The results of the classical assumption test found no problems related to the variables used in this study. Therefore, the next stage is to perform a regression test with the following results:

Table: 3
Regression Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.005472	0.488178	8.204942	0.0000
FDR_ROA	0.039497	0.014362	2.750102	0.0075
LCR_ROA	-0.349883	0.126735	-2.760745	0.0073
PCR_ROA	0.025011	0.009685	2.582381	0.0118
NPF_ROA	-0.593443	0.204243	-2.905568	0.0048
MSMEs_ROA	0.153998	0.033476	4.600262	0.0000
R-squared	0.643750	Mean dependent var		3.842625
Adjusted R-squared	0.619679	S.D. dependent var		1.253928
S.E. of regression	0.773300	Akaike info criterion		2.395739
Sum squared resid	44.25148	Schwarz criterion		2.574391
Log likelihood	-89.82957	Hannan-Quinn criteria.		2.467366
F-statistic	26.74382	Durbin-Watson stat		2.495213
Prob(F-statistic)	0.000000			

The F test aims to test the independent variables together or simultaneously on the dependent variable. Based on Table 3., it is known that the Prob value. (F-statistics), which is $0.000000 < 0.05$, it can be concluded that all independent variables with ROA moderation, namely FDR*ROA, LCR*ROA, PCR*ROA, NPF*ROA, MSMEs*ROA simultaneously, have a significant effect on variables MSR. Furthermore, according to Table 3, the multiple linear regression equation is obtained as follows:

$$MSR=4.005+0.039FDR*ROA-0.349LCR*ROA+0.025PCR*ROA-0.593NPF*ROA+0.153MSMEs*ROA+ e \quad (2)$$

Furthermore, based on table 3 and equation 2 above, it can be analysed the variable relationship between ROA and MSR moderation with the following independent variables:

- It is known that the regression coefficient value of FDR*ROA is 0.039 with a Prob value of 0.007, which is $<$ a significance level of 0.05, so H_0 is rejected, which means that FDR*ROA strengthens the relationship between FDR and MSR, which is positive and significant,
- It is known that the regression coefficient value of LCR*ROA is -0.349 with a Prob value of 0.007, which is $<$ 0.05 significance level, so H_0 is rejected, which means LCR*ROA strengthens the relationship between LCR and MSR, which is negative and significant,
- It is known that the regression coefficient value of PCR*ROA is 0.083 with a Prob value of 0.011, which is $<$ a significance level of 0.05, so H_0 is rejected, which means that PRO*ROA strengthens the relationship between PCR and MSR, which is positive and significant,
- It is known that the value of the regression coefficient of NPF*ROA is -0.593 with a Prob value of 0.004, which is $<$ a significance level of 0.05, so H_0 is rejected, which means that NPF*ROA strengthens the relationship between NPF and MSR, which is negative and significant,

- It is known that the regression coefficient value of MSMEs*ROA is 0.153 with a Prob value of 0.000, which is < 0.05 significance level, so H_0 is rejected, which means MSMEs*ROA strengthens the relationship between MSMEs and MSR, which is positive and significant.

Effect of FDR on MSR with ROA as Moderation Variable

According to the results of this study, it is known that ROA moderates the effect of FDR on MSR so that the direction of the impact is positive and significant. ROA as a moderating variable strengthens the effects of FDR on ROA so that the better the FDR, the better ROA will have implications for increasing the MSR. According to Nugroho et al. (2021), The distribution of financing as one of the main activities of Islamic banks will have implications for the profit of Islamic banks. Therefore, based on the results of this study, the financial performance of ROA strengthens the effect of FDR on the MSR.

Effect of LCR on MSR with ROA as a Moderation Variable

The ROA variable as a moderating variable, the effect of LCR on MSR, has a negative and significant impact. Therefore, an increase in LCR will accompany a decrease in ROA. It will also impact the reduction in MSR. Therefore, to maintain financial and social performance, a bank must maintain employee productivity and have an adequate competition to adapt innovations to market needs and desires. (Khasanah, 2016). This is also in line with previous research conducted by Faslah & Savitri (2013), which states that employee productivity impacts improving the company's financial performance, so in this study, if labour costs increase and are not accompanied by innovation and service quality, it will contribute to the decline in the performance of the Islamic bank. This is in line with the cost leadership principle that Islamic banks must carry out their business activities by having products and services of equal quality to large conventional banks and even foreign banks, but labour costs must be lower.

Furthermore, by referring to the results of this study, the higher the LCR, the lower the financial performance and social performance of Islamic banks. This is in line with previous research conducted by Waterman (2006), Das et al. (2009), and Bhatti & Qureshi (2007) stated that the company must manage the productivity of its employees so that the output produced can compete with the company's competitors. Therefore, according to the results of this study, Islamic bank employees must have better productivity than conventional banks. This is because the phenomenon of the performance of Islamic banks is still not better than conventional banks. Opportunities to improve the performance of Islamic banks can be through product innovation that is by the needs and desires of the community and products that are different from conventional banks, such as pawn financing products (Bahari et al., 2021).

Effect of PCR on MSR with ROA as Moderation Variable

The low level of Islamic financial literacy in Indonesia requires the socialisation and dissemination of information related to Islamic financial products and services to increase Islamic financial literacy, which has implications for increasing market share. Therefore, this study shows that ROA as a moderating variable strengthens the effect of PCR on MSR, where PCR has a positive and significant impact on MSR. Therefore, the higher the promotional costs, ROA strengthens, which will impact MSR. Therefore, promotional activities for Islamic banks are vital because the implication is to increase profits and the social performance of Islamic banks. This aligns with previous research that promotion effectiveness can improve performance (Ailawadi et al., 2006; Ductor & Grechyna, 2015).

Effect of NPF on MSR with ROA as Moderation Variable

The effect of financing quality (NPF) on MSR, moderated by the ROA variable, has a negative and significant impact. Therefore, the higher the level of financing quality will impact the decline in the performance of Islamic banks (MSR), which is also caused by a decrease in ROA. Furthermore, the increase in the ratio of non-performing financing impacts the increased risk of loss in the future. The riskier the Islamic bank is, the savers will feel insecure about saving or investing in the Islamic bank. Therefore, low public trust can impact the decline in the financial performance of Islamic banks, which also has implications for the decline in the social performance of Islamic banks. This study's results align with the research conducted by Nugroho et al. (2020). In contrast, the quality of Islamic bank financing is essential in determining its performance.

Effect MSMEs on MSR with ROA as Moderation Variable

The distribution of financing to MSMEs should be the identity of Islamic banks' as superior products and services. Furthermore, this study shows that the ROA variable strengthens the relationship between the MSMEs financing ratio and MSR. The effect of the ratio of MSMEs financing to MSR is positive and significant. Therefore, financial performance positively impacts the increase in the funding distribution to the MSMEs segment. The performance of Islamic banks, both in financial and social aspects, also increases. Based on this study's results, Islamic banks' financial and social aspects as performance indicators (MSR) are embedded in previous performance indicators (Return on Assets-ROA). This is in line with previous research that Islamic banks focus on four aspects: financial aspects, social aspects, environmental aspects, and spiritual aspects (Nugraha et al., 2020).

Islamic Bank Strategies Implementation Based on This Research

Islamic banks need to improve their strategies to have more advantages over conventional banks through:

- Increase the distribution of financing focused on the retail segment and MSEs (Micro and Small Enterprises),
- Increase employee productivity through the development of creativity and innovation,
- Strengthen Marketing Communication and collaborate with all stakeholders (such as government and educational institutions) in socialising Islamic financial literacy,
- Maintain the quality of financing through the implementation of portfolio guidelines and also Risk Acceptance Criteria under the focus segment.

5. Conclusion

This research was conducted to answer the research objective about the relationship between MSR and ROA. Furthermore, the results and discussion in this study, the maqasid sharia ratio (MSR), can be used as a complement to measure the performance of Islamic banks in addition to return on assets (ROA). The moderating variable ROA strengthens the relationship of all determinant's variables and significant influence MSR, namely, ROA moderates the positive and significant effect of FDR on MSR, ROA moderates the negative and significant impact of the LCR ratio, ROA moderates the positive and significant impact of PCR on MSR, ROA moderates the negative and significant effect NPF on MSR. Moreover, ROA positively and significantly moderates MSMEs on MSR.

Moreover, the Implications of this research for the Islamic banking industries are as follows:

- Islamic banks should have the advantages of conventional banks, namely the concern of Islamic banks for social aspects. Therefore, stakeholders of Islamic banks should socialise and disseminate performance ratios such as Maqasid Sharia Ratio (MSR) as a complement to the Return on Assets (ROA) ratio,
- Islamic banks must perform their intermediation functions well, especially in channelling financing, especially for products different from conventional banks, such as gold pawn financing and gold instalments. Good quality distribution of funding (financing to deposit ratio) will have implications for the increase in MSR,
- The productivity of Islamic bank employees becomes the principal capital for Islamic banks in improving their performance. Therefore, Islamic bank employees need innovation and professionalism to carry out their duties and responsibilities. Thus, to enhance the performance of Islamic banks, intellectual capital, spiritual capital, and also capital is needed,
- Limited information related to Islamic financial products and services impacts the limited number of people choosing Islamic bank products and services. Therefore, Islamic banks must improve the function of marketing or promotion to the public so that the public gets positive information about products and services from Islamic banks,

- The quality of Islamic bank financing becomes vital in maintaining the reputation of Islamic banks in the community. The results of this study state that the quality of problematic funding has a negative and significant impact on MSR. Therefore, the management of Islamic banks must be able to manage the distribution of the financing properly, following the principles of prudent policy,
- The advantage of Islamic banks over conventional banks is that Islamic banks have concern for social aspects such as poverty eradication. Therefore, based on the results of this research, the management of Islamic banks must focus on channelling financing in the MSME segment to impact the increasing performance of Islamic banks.

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Türkiye’de Gelir, Meslek ve Eğitimin Hanehalkı Sigara Tüketimi Üzerindeki Etkisi¹

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The Effects of Income, Occupation and Education on Household Cigarette Consumption in Turkey²

Abstract

This study aims to determine the variables affecting the cigarette consumption of households by employing logistic regression analysis based on the data of the Turkish Statistical Institute (TUIK) 2017 Household Budget Survey (HBA). In this model, the variables that affect cigarette consumption, namely, gender, age, education level, marital status, occupation, and the total disposable income earned by the household head in a year, are used. The results of this study indicate that variables of income, occupation and education of the household head affect cigarette consumption in Turkey. In this context, it is expected that focusing on young people, low educated and income groups in the fight against smoking will increase the success of the policies implemented.

Keywords : Cigarette Consumption, Logistic Regression Model, Türkiye.

JEL Classification Codes : L66, I18, D10.

Öz

Bu çalışmada, 2017 Türkiye İstatistik Kurumu (TÜİK) Hanehalkı Bütçe Anketi (HBA) verileri kullanılarak hanehalkının sigara tüketimini etkileyen değişkenlerin etkisinin lojistik regresyon analizi ile belirlenmesi amaçlanmıştır. Bu nedenle, sigara tüketimine etki ettiği düşünülen değişkenler olarak; hanehalkı reisinin cinsiyeti, yaşı, eğitim düzeyi, medeni durumu, mesleği ile hanenin bir yıl içinde elde ettiği toplam kullanılabilir gelir kullanılmıştır. Çalışmadan elde edilen sonuca göre, Türkiye’de hanehalkına ait meslek, gelir ve eğitim değişkenlerinin hanedeki sigara tüketimini etkilediği görülmektedir. Bu bağlamda, gençlere, düşük eğitilmiş ve gelir gruplarına odaklanılmasının sigara ile mücadelede uygulanan politikaların başarısını artıracacağı beklenmektedir.

Anahtar Sözcükler : Sigara Tüketimi, Lojistik Regresyon Modeli, Türkiye.

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² This study is derived from Candan YILMAZ UĞUR’s doctoral dissertation titled "Analysis of Cigarette Taxes in the Context of the Inverse Elasticity Rule: An Application on Turkey" presented at the Department of Finance, Institute of Social Sciences, İstanbul University.

1. Giriş

Sigara, halk sağlığını tehdit eden unsurlardan biridir ve her yıl dünyada yaklaşık 8 milyon insanın ölümüne neden olmaktadır (World Health Organization, 2019: 1). Sigaraya atfedilebilir morbidite ve mortalitenin ekonomik maliyetlerinin de 2030 yılına kadar yaklaşık 1,3 trilyon \$ olacağı tahmin edilmektedir. Bu rakam tüm ülkeler için yıllık Gayri Safi Yurtiçi Hasılanın % 1,3'üne denk gelmekte ve özellikle düşük ve orta gelirli ülkeler tarafından karşılanacağı tahmin edilmektedir (World Health Organization, 2017: 5).

Sigaraya atfedilebilir harcamaların çoğunlukla düşük ve orta gelirli ülkeler tarafından karşılanacağı varsayımının temelini sigaranın yayılma teorisi oluşturmaktadır (Wang et al., 2018: 2). Yayılma teorisinin ilk aşamasına göre; sigara, yüksek sosyoekonomik gruplar arasında yaygınlaşmaktadır. İkinci aşamada sigara, gecikmeli olarak düşük sosyoekonomik gruplar üzerinden nüfusun geri kalanına yayılmaktadır. Yayılma teorisinin son aşamasında ise yüksek sosyoekonomik gruplar arasında sigara kullanımının azalması ancak düşük sosyoekonomik grup arasında sigara kullanımının yüksek oranlarda seyretmesi ile noktalanmaktadır (Doku et al., 2010: 479). Nitekim ampirik çalışmalar incelendiğinde; ABD, Kanada, Japonya ve Güney Kore gibi yüksek gelirli ülkelerde, sigara tüketiminin gelir ile ters orantılı olduğu görülmektedir (Hosseinpour et al., 2011: 4). Bununla birlikte, Bangladeş, Hindistan, Filipinler, Tayland, Türkiye, Ukrayna, Uruguay ve Vietnam gibi düşük ve orta gelirli ülkelerde ise gelir arttıkça sigara tüketiminin de arttığı görülmektedir (Palipudi et al., 2012: 5).

Gelir, önemli bir sosyoekonomik değişken olmasına rağmen; araştırmalar, eğitim başta olmak üzere; meslek, cinsiyet, yaş, çalışma durumu, kırsal/kent, medeni durum gibi diğer değişkenlerin de sigara tüketimini etkileyebileceğini ileri sürmektedir. Bu değişkenlerin her biri, farklı mekanizmalar yoluyla sigara tercihlerini etkileyebilmektedir. Örneğin eğitim, sigaranın zararları konusunda bireylerin farkındalığını artırabilmektedir (Link & Phelan, 2009: 8). Artan gelir, sigara ve tütün kontrolü programlarına daha kolay erişim sağlayabilmektedir (Wang et al., 2018: 2).

Türkiye ise sigara ile mücadelede önemli aşama kaydetmiş ülkeler arasında yer almaktadır. Bu bağlamda Dünya Sağlık Örgütü tarafından sigara ile mücadelede temel stratejilerin yer aldığı MPOWER³ politikalarını 2008 yılı başından itibaren başarılı şekilde yürütmektedir. Ayrıca MPOWER programında yer alan tüm stratejileri benimseyen sayılı ülkeler arasında yer almaktadır (World Health Organization, 2019: 21). Ancak Türkiye'deki

³ MPOWER, Dünya Sağlık Örgütü'nün ülkelerin tütün kontrol çalışmalarına rehberlik etmesi için tüm üye ülkelere önerdiği politika paketidir. M (monitör - tütün kullanımının izlenmesi), P (protect - pasif sigara dumanından halkı koruma), O (offer - sigara ile mücadelede destek hatları ve sağlık hizmetleri), W (warn - sigaranın zararları konusunda toplumu uyarma), E (enforce - tütün ve sigaraya ilişkin her türlü reklâm sponsorluğu, tanıtım ve marka paylaşımının yasaklanması) R (raise - tütün üzerindeki vergilerin artırılması) olarak özetlenebilir.

sigara ile mücadele programları genellikle ulusal nüfusun tamamı için ve sosyoekonomik değişkenlere odaklanmaksızın uygulanmaktadır.

Bu çalışmanın amacı Türkiye'de yerleşik hanehalklarının sigara tüketimini etkileyen ekonomik ve demografik değişkenlerin 2017 güncel hanehalkı harcama verileri ile belirlemeyi amaçlamaktadır. Çalışma sonunda elde edilen bulguların Türkiye'de yerleşik hanelerin demografik ve ekonomik profillerine özgü ek politikaların oluşturulması dolayısıyla sigara ile mücadelede etkin ve somut politikaların oluşturulması konusunda yön gösterici olabileceği düşünülmektedir. Bu bağlamda 2017 yılı Türkiye İstatistik Kurumu Hanehalkı Bütçe Anketi verilerinin kullanıldığı çalışmada; 15 yaş ve üzeri 8142 hanenin sigara tüketimi ile hane reisinin cinsiyeti, yaşı, eğitim düzeyi, medeni durumu, mesleği ve gelir değişkenleri yer almaktadır. Çalışma SPSS 21 paket programı kullanılarak lojistik regresyon yöntemi ile tahmin edilmektedir.

Sigaranın yol açtığı zararların küresel ölçekte hissedildiği, sigara ile mücadelenin ulusal ve uluslararası alanda öneminin arttığı günümüzde sigara ile mücadelede uygulanacak politikaların başarısını artıracak unsurları belirlemek oldukça önemlidir. Bu amaçla Türkiye'de yerleşik hanehalklarının sigara tüketimini etkileyen ekonomik ve demografik değişkenlerin belirlenmesini amaçlayan bu çalışmanın ikinci bölümünde, sosyoekonomik değişkenlerin sigara tüketimi üzerindeki etkisini araştıran uluslararası ve ulusal çalışmaların araştırma sonuçlarına yer verilmektedir. Çalışmanın üçüncü bölümünde bu çalışmanın veri seti ve metodolojisi tanıtılmakta ve araştırma bulguları sunulmaktadır. Çalışma araştırma sonuçlarının tartışıldığı sonuç kısmı ile sonlandırılmaktadır.

2. Literatür Taraması

Sigara tüketimine ilişkin değişkenler ve yapılan ampirik çalışmalardan elde edilen bulgular özellikle eğitim ve gelir değişkenlerinin etkili olduğunu göstermektedir. Ancak bu etki ülkeler arasında farklılık göstermektedir. Literatürde sigara tüketimini etkileyen en önemli unsurun eğitim ve gelir olduğunu benimseyen çalışmalar bulunmakla birlikte sigara kullanımında yaş, medeni durum, meslek, çocukluk döneminde sigaraya maruz kalma, ebeveynlerin boşanmış olması gibi parametreleri tahmin eden çalışmalar da yer almaktadır.

Cavelaars et al. (2000) 12 Avrupa Birliği ülkesine ait 1986-1994 yılı verileri ile eğitim düzeyine bağlı olarak sigara tüketiminin uluslararası varyasyonlarını araştırmayı amaçlamışlardır. 20-74 yaş aralığında bulunan katılımcıların yer aldığı çalışmada lojistik regresyon yöntemi uygulanmıştır. Çalışmadan elde edilen bulgular; daha düşük eğitimli grupta daha yüksek sigara kullanım prevalansına işaret etmektedir. Kadınların sigara tüketme olasılığı özellikle ileri yaş grubunda yer alan erkeklere göre daha düşüktür. Genç erkeklerde sigara tüketme olasılığı Norveç, İsveç, Fransa ve Büyük Britanya'da daha fazla iken; yaşlı erkekler arasında en yüksek sigara tüketimi Büyük Britanya ve Norveç'te görülmüştür. Düşük eğitimli kadınlar arasında sigara tüketim olasılığı Büyük Britanya, Norveç ve İsveç'te yüksektir. Güney Avrupa'da yüksek eğitimli kadınların sigara tüketim olasılığının daha fazla olduğu ters bir model bulgulanmıştır. Çalışmadan elde edilen diğer

önemli bir sonuç da yüksek eğitilmiş gruplar arasında sigara bırakma yöneliminin daha yüksek olduğudur.

Delva et al. (2005) sigara tüketiminin mevcut yaygınlığının ve içilen sigara sayısının sosyoekonomik değişkenler ile ilişkisini incelemişlerdir. Çalışma 2002 ve 2003 yıllarına ait 1021 düşük gelirli Afroamerikan erkek ve kadından oluşan örnekleme ait verilerden oluşmaktadır. Regresyon yöntemi ile tahmin edilen çalışmadan elde edilen sonuçlar; lise eğitimi olmayan bireylerin, lise ve üniversite eğitimi olanlara göre sigara tüketiminin anlamlı olarak daha yüksek olduğudur. Ayrıca daha yaşlı olanlar ile lise eğitimi olmayan katılımcıların günlük sigara sayısının daha fazla olduğu görülmüştür.

Huisman et al. (2005) tarafından 11 Avrupa Birliği ülkesine ait 1998 yılı verileri ile yapılan çalışmada cinsiyet, yaş ve eğitim değişkenlerinin sigara tüketimi üzerindeki etkisi değerlendirilmiştir. Lojistik regresyon yöntemi ile tahmin edilen çalışmada 25 yaş ve üzeri kadınlarda düşük eğitim grupları arasında sigara tüketiminin daha yaygın olduğu görülmüştür. Kuzey ülkelerinde düşük eğitimli kadınlar arasında sigara tüketiminin daha yaygın olduğu bulgulanmış ancak 25 yaş ve üzeri erkeklerde sigara tüketimi ve eğitim arasında istatistiksel olarak anlamlı bir ilişki bulunamamıştır.

Lemstra et al. (2009) tarafından yapılan çalışmada sigara içme prevalansı yüksek olan Aborijinlerin kültürel statüsünün ve gelir durumunun sigara tüketimi üzerindeki etkileri araştırılmıştır. 2001, 2003 ve 2005 yılları Kanada Toplum Sağlığı Araştırması Anketi'nden elde edilen verilerle toplam 5948 katılımcının yer aldığı çalışmada lojistik regresyon yöntemi kullanılmıştır. Çalışmadan elde edilen sonuçlar Aborijin kültürel statüsü, aile geliri ve mahalle geliri değişkenlerinin günlük sigara tüketimi üzerinde etkili olduğu yönündedir. Sigara tüketimi üzerinde önem taşıyan diğer değişkenler ise eğitim düzeyi, yaş, yaşam stresi, intihar düşüncesi ve aşırı alkol tüketimidir.

Schaap et al. (2009) tarafından yapılan ve iki aşamadan oluşan çalışmanın ilk kısmında eğitim eşitsizliği ile sigara tüketimi arasındaki ilişki araştırılırken çalışmanın ikinci aşamasında Gayri Safi Yurt İçi Hasıla (GSYİH) ve Gender Empowerment Measure (GEM - Cinsiyet Eşitliği Endeksi) değişkenleri ile sigara tüketimi arasındaki ilişki ele alınmıştır. Çalışmada 19 Avrupa ülkesine ait 1995-2004 yıllarına ait 45.437 kadın ve 42.298 erkek katılımcıdan elde edilen veriler kullanılmıştır. Regresyon analizi ile tahmin edilen çalışmadan elde edilen bulgular; 25-39 yaş ile 40-59 yaş grubu yer alan daha az eğitimli kadınların sigara tüketim olasılığının yüksek eğitimli kadınlara göre daha yüksek olduğunu göstermiştir. Güney Avrupa ülkelerinde ise 40-59 yaş grubunda yer alan düşük eğitimli kadınların sigara tüketme olasılığı, yüksek eğitimli kadınlara göre daha düşüktür. 60 yaş ve üzeri daha az eğitimli kadınların, Norveç ve İngiltere hariç tüm ülkelerde sigara tüketme olasılığı daha düşüktür. Ayrıca 25-39 yaş arasında yer alan ve özellikle daha eğitimli kadınların sigara tüketme olasılığı ile GSYİH arasındaki ilişki pozitifdir. Sigara ile GEM arasındaki ilişki daha az eğitimli kadınlar ve erkekler için pozitif, daha eğitimli kadınlar ve erkekler için negatiftir.

Hosseinpoor et al. (2011) tarafından yapılan çalışmada düşük ve orta gelirli ülkelerde mevcut sigara tüketiminin demografik ve sosyoekonomik belirleyicileri değerlendirilmiştir. 2002-2004 yılları arasında 48 düşük ve orta gelirli ülkeye ait ve 18 yaş ve üzeri 213.807 katılımcının yer aldığı çalışma lojistik regresyon yöntemi ile tahmin edilmiştir. Çalışmada yaş, cinsiyet, medeni durum, eğitim düzeyi ve çalışma durumu değişkenlerine yer verilmiştir. Çalışmadan elde edilen bulgular; düşük ve orta gelirli ülkelerde yaşayan düşük eğitimli kadın ve erkek katılımcıların sigara tüketme olasılığının daha yüksek olduğu yönündedir. Yaş, sigara tüketme olasılığını etkileyen bir diğer değişkendir. 18-49 yaş aralığında yaş arttıkça sigara tüketme olasılığı artarken 50-70 yaş aralığında yaş arttıkça sigara tüketme olasılığı azalmıştır. Bu bulgulara ek olarak kişinin aktif olarak istihdam edilmesi durumunda sigara tüketme olasılığının arttığı görülmüştür. Medeni durum açısından değerlendirildiğinde boşanmış ya da dul olan katılımcıların sigara tüketme olasılığı bekâr katılımcılara göre daha yüksektir.

Leinsalu et al. (2011) tarafından Macaristan üzerinde yapılan çalışmada eğitim, gelir ve istihdam değişkenlerinin sigara tüketimi üzerindeki etkisine odaklanılmıştır. 2000 ve 2003 yıllarına ait Macaristan Ulusal Sağlık Araştırmasından elde edilen 25-64 yaş grubundaki 7218 katılımcının verilerinin yer aldığı çalışma, lojistik regresyon yöntemi ile tahmin edilmiştir. Çalışmadan elde edilen sonuçlar; erkeklerde sigaraya başlama ve sigara tüketiminin devam etmesinin düşük gelirle ilişkili olduğu yönündedir. Kadınlar arasında ise sigaraya başlama ve sigara tüketimine devam etmesi hem düşük gelir hem de düşük eğitim ile ilişkilendirilmiştir. Ayrıca 25-34 yaş arasında bulunanların sigara tüketme olasılığı tüm yaş grupları içerisinde en yüksektir.

Pampel et al. (2011) tarafından yapılan çalışma, eğitim ve gelir eşitsizliğinin sigara tüketimi üzerindeki etkisini belirlemeyi amaçlamıştır. Bu amaçla Dünya Sağlık Örgütü Sağlık Anketi'nden 50 düşük ve orta gelirli ülkelerde 223.614 katılımcıdan elde edilen veriler, çoklu lojistik yöntemi kullanılarak analiz edilmiştir. Çalışmadan elde edilen sonuçlar; milli gelirdeki artışların ve eğitim eşitsizliğinin özellikle gençler ve erkekler arasında sigara tüketimini artırdığını, yaşlılar ve kadınlar arasında ise bu etkinin daha zayıf kaldığını göstermiştir.

Bosdriesz et al. (2014) tarafından yapılan çalışmada düşük ve orta gelirli ülkelerde sosyoekonomik değişkenlerin sigara tüketimi üzerindeki etkisi hem bireysel düzeyde hem de ülke düzeyinde araştırılmıştır. Çalışmada Dünya Sağlık Örgütü veri tabanından elde edilen 49 ülkeye ait toplam 233.917 katılımcının verileri yer almıştır. Çok düzeyli lojistik regresyon yöntemi ile tahmin edilen çalışmadan elde edilen bulgular; düşük ve orta gelirli ülkelerde beyaz yakalı çalışan erkek ve kadınların sigara tüketim olasılığının diğer meslek grupları ile kıyaslandığında daha düşük olduğu yönündedir. Düşük ve orta gelirli ülkelerde hem kadınlar hem de erkekler arasındaki sigara tüketim olasılığı, eğitim düzeyi arttıkça azalma eğilimindedir. Eğitim eşitsizliği ile sigara tüketimi arasındaki ilişki farklı bölgelerde belirgin farklar vermektedir. Sahra Altı Afrika ve Latin Amerika'da eğitim düzeyi ile sigara tüketimi arasındaki fark hem erkekler hem de kadınlar arasında oldukça küçüktür. Latin Amerika ve Doğu Akdeniz'deki kadınlar arasında eğitim ile sigara tüketimi arasında pozitif

bir değişim gözlenirken, Güneydoğu Asya ve Doğu Asya'da eğitim ile sigara tüketimi arasında negatif yönlü ve güçlü bir değişim görülmüştür.

Lund (2015) tarafından Norveç için yapılan çalışmada eğitim ve gelirin sigaraya başlanması, sigara bağımlılığı ve sigarayı bırakma üzerindeki etkileri değerlendirilmiştir. Bu amaçla Norveç'te yaşları 30 ila 66 arasında değişen 1200 katılımcıdan elde edilen veriler lojistik regresyon yöntemi ile tahmin edilmiştir. Çalışmadan elde edilen bulgular; düşük eğitim düzeyinin yüksek sigara tüketimi ve yüksek sigara bağımlılığı yarattığı yönündedir. Sigara bırakma niyeti açısından bakıldığında ise düşük ve yüksek gelir düzeyleri arasında önemli bir fark gözlenmiş, düşük gelir seviyesinde yer alanların sigarayı bırakma niyetinin olmadığı görülmüştür.

Wang et al. (2016) Çin'in Hejiang ve Jiangsu bölgelerinde 2008 ve 2012 yıllarına ait toplam 45 yaş ve üzeri 4.585 katılımcının yer aldığı çalışmada işsizliğin sigara tüketimi üzerindeki etkisi ele alınmıştır. Lojistik regresyon ve iki aşamalı en küçük kareler (2SLS) yöntemi ile tahmin edilen çalışmadan elde edilen sonuçlar; işsizlik oranında meydana gelen artışın sigara tüketim olasılığını artırdığını göstermiştir. İşsizlik oranında meydana gelen artış günde 1-10 adet sigara içen katılımcıların sigara içme olasılığını %2,9; günde 10-20 adet içen katılımcıların sigara içme olasılığını %2,8 ve günde 20 adetten fazla sigara içen katılımcıların sigara içme olasılığını %3,4 oranında artırmıştır. Çalışma ayrıca iki aşamalı en küçük kareler yöntemi ile tekrar tahmin edilmiş ve benzer sonuçlar elde edilmiştir.

Villanti et al. (2017) tarafından Amerika Birleşik Devletleri için yapılan çalışmada, günlük sigara tüketimi ile sosyoekonomik değişkenler arasındaki ilişki incelenmiştir. Çalışma 2016 yılı Genç Yetişkin Kohort Çalışması'ndan elde edilen 18-34 yaş arası 3364 veri ve Poisson regresyon modeli ile tahmin edilmiştir. Çalışmada sigara, eğitim, hanehalkı geliri, yaş, cinsiyet / ırk ve ebeveynlerin boşanmış olması değişkenlerine yer verilmiştir. Çalışmadan elde edilen sonuçlar; sigara tüketiminin, ebeveynleri 18 yaşına gelmeden boşanmış olan genç yetişkinlerde en yaygın olduğu yönündedir. Ayrıca düşük eğitim ve düşük gelir ile sigara tüketimi arasında güçlü ve ters yönlü bir ilişkinin olduğu görülmüştür.

Wang et al. (2018) tarafından yapılan çalışmada sosyoekonomik değişkenler ile sigara tüketimi arasındaki ilişki ele alınmıştır. 2013 yılı Çin Sağlık ve Emeklilik Çalışmasından elde edilen 17.495 katılımcıya ait veriler ile çok değişkenli regresyon analizi yoluyla tahmin edilmiştir. Çalışmadan elde edilen sonuçlara bakıldığında yüksek gelirli erkeklerin sigara tüketim olasılığının düşük gelirli erkeklere göre daha yüksek olduğu görülmüştür. Yönetici olarak çalışan kadın / erkeklerin sigara tüketim olasılığı, çalışmayan kadın / erkeklere göre daha fazladır. Eğitim ile sigara arasında ise ters yönlü bir ilişkinin olduğu, eğitim arttıkça sigara tüketim olasılığının azaldığı görülmüştür.

Chisha et al. (2019) tarafından Namibya'da sigara tüketimindeki sosyoekonomik değişkenler incelenmiştir. Çalışmada 2013 Namibya Nüfus ve Sağlık Araştırması 18-64 yaş arası 8.586 katılımcıdan elde edilen veriler kullanılmıştır. Konsantrasyon eğrileri kullanılarak ayrıntılı olarak gözlemlenen çalışmada Namibya'da yaşayan yüksek gelirli

nüfusun, sigara tüketiminin daha yaygın olduğu ve daha sık miktarlarda sigara içtikleri sonucuna ulaşılmıştır. Medeni durum, refah ve bölge değişkenleri ile sigara tüketimi arasında güçlü ve pozitif yönlü bir ilişki görülmüştür. Eğitim ve kentte ikamet etme ile sigara tüketimi arasında ise negatif yönlü ve istatistiki olarak güçlü bir etkileşimin olduğu sonucuna ulaşılmıştır.

Kastaun et al. (2020) tarafından Almanya Sigara Kullanımı Araştırması verileri kullanılarak yapılan çalışmada sosyoekonomik değişkenlerin sigarayı bırakma isteği, sigarayı bırakmak için tedaviye başlama, sigarayı tamamen bırakma üzerindeki etkileri değerlendirilmiştir. Çalışmada 2016-2019 yılları arasında ankete katılan 12.161 katılımcının verileri, lojistik regresyon yöntemi ile tahmin edilmiştir. Çalışmadan elde edilen bulgular; yüksek gelir ile sigarayı bırakmak için tedaviye başlama istekliliği arasında güçlü bir ilişkinin olduğu yönündedir.

Bilgiç ve Yen (2015) 2010 TÜİK Hanehalkı Bütçe Anketi verilerini kullanarak Türkiye'de hanehalkı alkol ve sigara tüketiminin belirleyicilerini Örnek Seçim Modeli ile tahmin etmişlerdir. Çalışmada kentsel ve kırsal hanehalkları arasındaki alkol ve sigara tüketiminin farklı olduğu sonucuna ulaşılmıştır. Kentte yaşayan hanehalkında sigara tüketimi ile eğitim düzeyi, evli olma, zorunlu sigorta, ev sahibi olma ve 15-19 yaş aralığı değişkenleri arasında ters yönlü bir ilişkinin olduğu bulgulanmıştır. Kırsal alanda yaşayan hanehalkında ise eğitim düzeyi, evli olma ve zorunlu sigorta ile sigara tüketimi arasında ters yönlü; ev sahibi olma, 15-19 yaş aralığı, çocuklu aile, yaşlı bireyler ve çalışıyor olma durumu ile sigara tüketimi arasında doğru yönlü bir ilişki bulunmuştur.

Sahan et al. (2018) tarafından yapılan çalışmada Balçova'da yaşayan bireylerin sosyoekonomik özellikleri ile sigara tüketimi arasındaki ilişki lojistik regresyon analizi kullanılarak tahmin edilmiştir. Çalışmada ulaşılan en önemli sonuç; özellikle düşük eğitim görmüş veya işsiz erkeklerin sigara bağımlısı olma olasılığının daha yüksek ve bu gruplarda sigarayı bırakma oranının daha düşük olduğudur.

Aksoy vd. (2019) Türkiye'de 2015 TÜİK Hanehalkı Bütçe Anketi'nden elde edilen mikro verileri kullanılarak hanehalkı sosyodemografik ve ekonomik değişkenlerin sigara ve alkol tüketimine etkisini belirlemeyi amaçlamışlardır. Çalışma ilk aşamada tobit ve probit ikinci aşamada ise Heckman iki aşamalı talep modeli ile tahmin edilmiştir. Çalışmadan elde edilen bulgular; Türkiye'de tütün ve alkol tüketimini azaltmak için 50 yaş altı haneler, hane reisinin erkek olduğu haneler, bekâr haneler ve eğitim düzeyi düşük hanelerin dikkate alınması gerektiğidir.

Ergin ve İpek (2020) tarafından 2014 TÜİK Hanehalkı Bütçe Anketi (HBA) verileri kullanılarak yapılan çalışmada sigara tüketimi üzerinde etkisi olduğu düşünülen hanehalkı reisine ait eğitim seviyesi, medeni durum, cinsiyet ve yaş ile hanehalkı büyüklüğü ile gelir seviyesi değişkenleri kullanılmıştır. Çift Eşik ve Tobit yöntemleri ile tahmin edilen çalışmadan elde edilen bulgu hane büyüklüğü ve eğitim seviyesinin sigara tüketimini azaltıcı yönde etkiye sahip olduğudur.

3. Veri Seti ve Yöntem

Lojistik regresyon; iki veya daha fazla kategorik değişkenin bağımlı değişken olarak modele dahil edilmesi durumu olarak ifade edilebilir. Lojistik regresyon yöntemini diğer regresyon analizlerinden ayıran temel unsuru bağımlı değişkenin kategorik olmasıdır. Bağımsız değişkenler ise kategorik, sürekli veya hem kategorik hem de sürekli değişkenlerin bir karması olabilir. Çalışmanın birinci ekonometrik modelinde kullanılan Logit modelinde bağımlı değişken kesiklidir ve tahmin edilen olasılık değerleri 0 ile 1 arasında değişir. Kümülatif lojistik olasılık fonksiyonuna bağlı olan Logit modeli aşağıdaki gibi ifade edilmektedir (Gujarati, 2004; Govindasamy & Italia, 1999);

$$P_i = F(Z_i) = F(\alpha + \beta X_i) = \frac{1}{(1 + \exp^{-Z_i})} = \frac{1}{1 + \exp^{-(\alpha + \beta X_i)}} \quad (1)$$

Formülde; P_i : i'ninci bireyin belirli bir seçeneği seçme olasılığı,

F: Kümülatif olasılık fonksiyonu,

Z_i : $\alpha + \beta X_i$

α : Sabit katsayı,

β : Her bir açıklayıcı değişken için tahmin edilecek parametre,

X_i : i'ninci bağımsız değişken olarak ifade edilmektedir.

$$L_i = \ln \left[\frac{P_i}{1 - P_i} \right] = Z_i \alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + e^1 \quad (2)$$

Bu lojistik regresyon modelinde bağımlı değişken (Z_i), belirli bir seçeneği seçmenin, seçmemeye olan oranının doğal logaritmik değerini, e^1 ise hata terimini göstermektedir (Greene, 2012).

Çalışmada Türkiye İstatistik Kurumu (TÜİK) tarafından Türkiye'de yerleşik hanehalklarına uygulanan 2017 yılı Hanehalkı Bütçe Anketi mikro veri seti kullanılmıştır. Hanehalkı Bütçe Anketi; bireylerin ve bireylerin oluşturduğu hanehalklarının tüketim yapıları, tüketim alışkanlıkları, tüketim harcaması türleri ile mal ve hizmet harcamalarının çeşitliliği, hanehalkının sosyo-ekonomik özellikleri, hanehalkı fertlerinin çalışma durumları, hanehalkının toplam geliri, gelirin elde edildiği kaynaklar vb. konular hakkındaki bilgileri bir araya getirmektedir. Bu anketler ilgili yıl için 1 Ocak - 31 Aralık tarihleri arasında her ay, o yıl için belirlenen sabit sayıda ve belirli bölgeler içinden rastsal olarak seçilen hanehalklarına tekrarsız olarak uygulanarak derlenmektedir (TÜİK, Hanehalkı Bütçe Anketi 2017 Mikro Veri Seti).

2017 yılı Hanehalkı Bütçe Anketi'nde yer alan 8142 hanenin yer aldığı çalışmada bağımlı değişken **sigara harcamasıdır**. TÜİK Hanehalkı Bütçe Anketi'nde yer alan tüketim verisinde hanenin sigara harcamasının olması halinde 1, aksi durumda 0 olarak kodlanmıştır.

Hane sorumlusunun kadın olması durumunda 0, erkek olması durumunda ise 1 değerini almıştır. Hane sorumlusunun yaş aralığı 16-24 için 1; 25-34 için 2; 35-44 için 3; 45-54 için 4; 55-64 yaş aralığı için 5; 65 yaş ve üzeri için 6 değeri almaktadır. Hane sorumlusunun eğitim durumu hakkında bilgi vermekte ve 0 ile 7 arasında değer kullanılmaktadır. Birey; okur-yazar değil ise 0; okur-yazar olup bir okul bitirmedi veya ilköğretim mezunu ise 1; ilköğretim veya ortaokul veya ortaokul dengi meslek mezunu ise 2; lise veya mesleki veya teknik lise mezunu ise 3; herhangi bir ön lisans programından mezun ise 4; fakülte mezunu ise 5; yüksek lisans mezunu ise 6 ve doktora mezunu ise 7 değerini almaktadır. Hane sorumlusunun medeni durumu dikkate alınmıştır. Birey evli ise 1; diğer durumlar için ise 0 değerini almaktadır. Meslek kategorisinde kodlama; ferdin esas işinde yaptığı işin tanımı, görev ve sorumluluklarına göre sınıflandırılmış ve bu sınıflama "Uluslararası Standart Meslek Sınıflaması"na (ISCO 08) göre yapılmıştır. Hane sorumlusu; yönetici ise 1; profesyonel meslek mensubu ise 2; teknisyenler, teknikerler ve yardımcı meslek mensuplarından biri ise 3; büro hizmetlerinde çalışan ise 4; hizmet ve satış elemanı ise 5; nitelikli tarım, ormancılık ve su işleri çalışanı ise 6; sanatkarlar ve ilgili işlerde çalışan ise 7; tesis ve makine operatörleri, montajcıları ise 8 ve nitelik gerektirmeyen işlerde çalışan ise 9 değerini almaktadır. Çalışmada ekonomik değişken olarak da hanenin bir yıl içinde elde ettiği toplam kullanılabilir gelir alınmıştır. Hanehalkının; gelir değişkeni, Thurow (1984) ve Bigot et al. (2012)'nin çalışmaları referans alınarak orta gelirli sınıf tanımını içeren medyan gelire dayandırılmıştır. Orta gelir grubunun alt ve üst sınırları medyan gelirin %70'i ve %150'si olarak belirlenmiştir. Orta gelir grubuna ait gelirin alt ve üst sınırlarının belirlenmesinin ardından veri; 1 düşük gelir grubu, 2 orta gelir grubu ve 3 yüksek gelir grubu olarak üçe ayrılmıştır.

3.1. Örneklemin Genel Özellikleri

Tablo 1, TÜİK (Türkiye İstatistik Kurumu) 2017 yılına ait Hanehalkı Bütçe Anketi örnekleminin tanımlayıcı istatistiklerini göstermektedir.

Tablo: 1
Sosyoekonomik Değişkenlerin Sigara Tüketimine Göre Dağılımı

Değişkenler	Sigara Tüketimi Yok	Sigara Tüketimi Var
Cinsiyet		
Kadın	259	220
Erkek	3688	3975
Yaş		
16-24	36	49
25-34	684	804
35-44	1190	1404
45-54	1034	1207
55-64	640	596
65 +	363	135
Eğitim Durumu		
Okur - Yazar Değil	222	161
İlkokul	1655	1728
Ortaokul	493	725
Lise	711	914
Ön lisans	224	214
Lisans	543	389
Yüksek Lisans	73	48
Doktora	26	16

Medeni Durum		
Diğer	351	387
Evli	3596	3808
Meslek		
Yöneticiler	281	289
Profesyonel Meslek Mensupları	421	279
Teknisyenler, Teknikerler ve Yardımcı Meslek Mensupları	230	287
Büro Hizmetlerinde Çalışan Elemanlar	162	229
Hizmet ve Satış Elemanları	580	710
Nitelikli Tarım, Ormancılık ve Su İşleri Çalışanları	1030	643
Sanatkarlar ve İlgili İşlerde Çalışanlar	505	731
Tesis ve Makine Operatörleri, Montajcıları	354	555
Nitelik Gerektirmeyen İşlerde Çalışanlar	384	472
Gelir		
0-35.256 TL	1498	1312
35.256 TL - 75.548 TL	1731	2034
75.548 TL ve üzeri	718	849
Toplam		8142

Çalışmada kullanılan örneklem büyüklüğü 8.142 hanedir. Sigara tüketimi yapan hanelerin oranı %51,5; sigara tüketimi yapmayan hane oranı ise %48,5'tir. Çalışmada yer alan hanelerin %94'ünün erkek, yaş ortalamasının 35-54 yaş aralığında olduğu, eğitim seviyesinin yaklaşık olarak ilkökul düzeyi olduğu ve bunların %91'inin evli olduğu görülmektedir. Çalışmada ele alınan hanelerin yıllık gelirinin ise ortalama 52.884 TL olduğu gözlenmektedir.

3.2. Araştırma Ölçeğinin Geçerliliği ve Güvenilirliği

Tablo 2'de model katsayılarının anlamlılığı Omnibus testi ile ölçülmüştür. Omnibus testinde ki-kare istatistiğinden yararlanılmaktadır.

Model uyum iyiliğine ilişkin gösterge Ki-Kare İstatistiğidir. Bağımsız değişkenlerden hiçbirinin bağımlı üstünlük oranıyla anlamlı doğrusal bir ilişki göstermediğini ileri süren sıfır hipotezini test etmektedir.

Tablo: 2
Modelin Uyum İyiliği

Model Katsayılarının Omnibus Testleri				
Adım		Ki-Kare	df	Sig.
Step 1	Step	436,615	25	0,000***
	Block	436,615	25	0,000***
	Model	436,615	25	0,000***

Not: *** %1 düzeyinde istatistiksel anlamlılığı ifade etmektedir.

Çalışmada kurulan modelin Sig değeri $p = 0,000 < 0,001$ olduğundan ki-kare değerinin anlamlı olduğu, sabit terim dışındaki tüm lojistik regresyon katsayılarının sıfırdan farklı olduğu görülmektedir. Model katsayılarının anlamlı olması, bağımsız değişkenler ile bağımlı değişken arasında ilişki bulunduğunu göstermektedir (Karagöz, 2019: 659).

3.3. Araştırma Bulguları

Lojistik regresyon modeli ile tahmin edilen çalışmadan elde edilen bulgular Tablo 3'te yer almaktadır.

Tablo: 3
Lojistik Regresyon Analizi Sonuçları

Bağımlı Değişken: Sigara Tüketimi Hanede Sigara Tüketimi Var İse; 1 Hanede Sigara Tüketimi Yok İse; 0					
Değişkenler	B	Standart Hata	Wald	p-value	Exp (β)
Cinsiyet	-0,304	0,120	6,416	0,011**	0,738
Yaş					
16-24					
25-34	1,100	0,256	18,461	0,000***	3,005
35-44	0,959	0,127	57,445	0,000***	2,609
45-54	0,912	0,118	59,326	0,000***	2,490
55-64	0,870	0,117	55,418	0,000***	2,387
65 +	0,717	0,120	35,644	0,000***	2,049
Eğitim Durumu					
Okur - Yazar Değil					
İlkokul	0,812	0,357	5,183	0,023**	2,253
Ortaokul	0,837	0,340	6,071	0,014**	2,309
Lise	0,934	0,342	7,453	0,006**	2,545
Ön lisans	0,719	0,339	4,509	0,034**	2,053
Lisans	0,402	0,343	1,371	0,242	1,494
Yüksek Lisans	0,104	0,331	,098	0,754	1,109
Doktora	0,042	0,373	,013	0,910	1,043
Medeni Durum					
Diğer					
Evli	0,382	0,100	14,692	0,000***	1,465
Meslek					
Yöneticiler					
Profesyonel Meslek Mensupları	-0,159	0,119	1,788	0,181	0,853
Teknisyenler, Teknikerler ve Yardımcı Meslek Mensupları	-0,317	0,134	5,616	0,018**	0,729
Büro Hizmetlerinde Çalışan Elemanlar	0,058	0,123	0,221	0,638	1,059
Hizmet ve Satış Elemanları	0,227	0,132	2,931	0,087*	1,254
Nitelikli Tarım, Ormanlık ve Su İşleri Çalışanları	0,022	0,092	0,056	0,813	1,022
Sanatkarlar ve İlgili İşlerde Çalışanlar	-0,511	0,090	32,612	0,000***	0,600
Tesis ve Makine Operatörleri, Montajcılar	0,114	0,091	1,571	0,210	1,121
Nitelik Gerektirmeyen İşlerde Çalışanlar	0,175	0,099	3,148	0,076*	1,191
Yıllık Gelir					
0-35.256 TL					
35.256 TL - 75.548 TL	-0,611	0,076	65,023	0,000***	0,543
75.548 TL +	-0,279	0,067	17,456	0,000***	0,756
Sabit Terim	-0,882	0,483	3,339	0,068	0,414
Cox & Snell R²			0,052		
Nagelkerke R²			,070		
Doğru Tahmin Oranı			60,3		

Not: ***%1 **%5 ve *%10 düzeyinde istatistiksel anlamlılığı ifade etmektedir.

8.142 hanenin sigara tüketiminin ikili lojistik regresyon yöntemi ile tahmin edildiği modelde; bağımlı değişken, hanede sigara tüketimine ilişkin harcamanın olup olmaması şeklinde tanımlanmıştır. Bağımlı değişken $P_i = 1$ sigara tüketimi şeklindedir. Tablo 3'te yer alan anlamlılık düzeylerine bağlı olarak ilgili değişken kategorisinin anlamlı olup olmadığına bakılarak anlamlı olmayan kategoriler için bahis oranları (Exp β) yorumlanmamıştır.

Cinsiyet değişkeninde hane reisinin kadın olması referans kategori olarak ele alınmıştır. Hane sorumlusunun erkek olması halinde hanedeki sigara tüketimi olasılığı [(1-0,738)*100] = %26 daha düşüktür.

Yaş kategorisinde hane reisi yaşının 16-24 olması referans kategori olarak alınmıştır. Hane reisinin yaşının 16-24 yaş aralığına göre 25-34 aralığında yer alması hanedeki sigara tüketimi olasılığını [(1-3,005)*100] = %200; 35-44 aralığında yer alması %161; 45-54

aralığında yer alması %149; 55-64 yaş aralığında yer alması %138 ve 65 yaş üzerinde yer alması %104 artırmaktadır. Bu doğrultuda sigara tüketim olasılığının en yüksek olduğu grup 25-34 yaş aralığıdır. Literatürde Göksel vd. (2001); Bilgiç vd. (2010); Hosseinpoor et al. (2011); Leinsalu et al. (2011) tarafından yapılan çalışmalarda genç yaşta kilerin sigara tüketme olasılığının daha yüksek olduğunu ortaya koymaktadır.

Eğitim kategorisinde "okur-yazar değil" değişkeni referans kategori olarak belirlenmiştir. Hane reisinin okur-yazar olmaması durumuna göre hane reisinin ilkökul mezunu olması hanedeki sigara tüketme olasılığını %125; hane reisinin ortaokul mezunu olması hanedeki sigara tüketme olasılığı %130; hane reisinin lise mezunu olması hanedeki sigara tüketme olasılığını %154 artırmaktadır. Eğitim kategorisinde hane reisinin lise mezunu olması halinde sigara tüketim olasılığının en yüksek olduğu, hane reisinin ön lisans mezunu olması halinde ise bu oranın %105 olduğu görülmektedir. Hersch (2000); Lund (2015); Wang et al. (2018); Chisha et al. (2019); Aksoy vd. (2019); Alkan ve Abar (2020); Ergin ve İpek (2020) tarafından yapılan çalışmalar, eğitim seviyesi arttıkça sigara tüketimi olasılığının azaldığını göstermektedir.

Hane reisinin evli olması ile sigara tüketimi arasında istatistiksel olarak anlamlı bir ilişki olduğu görülmektedir. Hane reisinin evli olması halinde hanedeki sigara tüketme olasılığı, evli olmayanlara göre %46 artmaktadır. Nitekim Chisha et al. (2019) tarafından yapılan çalışmada da medeni durumun sigara tüketimi üzerinde anlamlı bir artış yarattığı sonucuna ulaşılmıştır.

Meslek kategorisinde "yöneticiler" kategorisi referans olarak alınmıştır. Hane reisinin teknisyenler, teknikerler ve yardımcı meslek mensupları grubunda yer alması halinde hanedeki sigara tüketimi olasılığı referans kategoriye göre %27 daha düşüktür. Hane reisinin hizmet ve satış elemanı olması durumunda ise hanedeki sigara tüketimi olasılığı %25 daha fazladır. Hane reisinin sanatkâr veya sanarla ilgili işlerde çalışan olması durumunda ise hanedeki sigara tüketimi olasılığı $[(1-1,600)*100] = \%60$ daha düşüktür. Hane reisinin nitelik gerektirmeyen işlerde çalışması durumunda ise hanedeki sigara tüketimi olasılığı referans kategoriye göre %19 daha fazladır. Nelson et al. (1995); Wang et al. (2018); Fujishiro et al. (2012) tarafından yapılan çalışmalarda da stres kaynaklı mesleklerin sigara tüketimini artırdığı yönünde bulgular söz konusudur.

Gelir değişkeninde 0 - 35.256 TL referans kategori olarak ele alınmıştır. Geliri 35.256 - 75.548 TL aralığında yer alan hanede sigara tüketimi olasılığı referans kategoriye göre $[(1 - 0,543)*100] = \%45$ daha düşük iken gelirin 75.548 TL ve üzeri olması halinde ise hanede sigara tüketimi olasılığının $[(1 - 0,756)*100] = \%24$ azaldığı görülmektedir. Leinsalu et al. (2011) ve Villanti et al. (2017) tarafından yapılan çalışmalarda da gelir ile sigara tüketimi arasında ters yönlü bir ilişkinin olduğu bulgulanmıştır.

Kurulan lojistik regresyon modeline ait model sonuçları Tablo 3'te yer almaktadır. Tahmin sonuçlarına göre, 10843, 038 olarak hesaplanan olabilirlik oran (LR) testi değeri

modele dahil edilen tüm değişkenlerin %1 düzeyinde anlamlı olduklarını, modelin doğru sınıflandırma başarısı %60,3 ve Nagelkerke R² katsayısı 0,070 olarak belirlenmiştir.

4. Sonuç

Bu çalışmada Türkiye'de yerleşik hanehalklarının yapmış olduğu sigara tüketiminin ekonomik ve demografik belirleyicileri 2017 Hanehalkı Bütçe Anketi veri seti üzerinden lojistik regresyon yöntemi ile tahmin edilmiştir. Çalışmada 25-34 yaş aralığındaki hanedeki sigara tüketimi olasılığı %200'dür ve hanedeki sigara tüketim olasılığının en yüksek olduğu gruptur. Türkiye'de sigaraya başlama yaşının erken olduğu düşünüldüğünde gençlerin sigaraya ilişkin tercihlerini değiştirmek önem kazanmaktadır. Sigaraya yeni başlayan gençlerin sigara alışkanlığı tam olarak gelişmediği için sigaraya olan arzusu yoğun değildir dolayısıyla sigaraya ilişkin tercihleri daha kolay manipüle edilebilir. Bu nedenle genç bağimlulara yönelik politikalar önem kazanmaktadır.

Hane reisinin evli olması ile sigara tüketimi arasında istatistiksel olarak anlamlı bir ilişki olduğu, hane reisinin evli olması halinde hanedeki sigara tüketme olasılığının %46 daha fazla olduğu görülmektedir.

Eğitim seviyesi arttıkça bireyin sağlık açısından bilgi ve bilinç düzeyi artmaktadır. Bu bağlamda bireyin artan eğitim seviyesinin sigara gibi zararlı alışkanlıklara olan eğilimi azalttığı literatürdeki çalışmalarda da gözlemlenmiştir. Nitekim çalışmada da hane reisinin lise mezunu olması halinde sigara tüketim olasılığının %154 arttığı görülmektedir. Hane reisinin ön lisans mezunu olması halinde ise hanedeki sigara tüketim olasılığı %105 oranında artış göstermektedir. Hane reisinin mesleği ile eğitim düzeyinin paralel olduğu göz önünde bulundurulduğunda nitelik ve belirli bir düzeyde eğitim gerektiren mesleki gruplar ile sigara tüketimi arasında negatif yönlü bir ilişki beklenmektedir. Öte yandan meslek grubunun stres kaynaklı, yoğun ve şartlarının zor olması da sigara tüketimini etkilemektedir. Bu bağlamda çalışmada sigara tüketim olasılığının referans kategoriye göre en yüksek olduğu gruplar %25 ile "hizmet ve satış elemanı" ve %19 "nitelik gerektirmeyen işlerde çalışanlar"dır.

Hanedeki gelir seviyesi ile sigara tüketim olasılığı arasında negatif yönlü bir ilişkinin olduğu gelir seviyesi arttıkça sigara tüketim olasılığının azaldığı görülmektedir. Bu bağlamda düşük gelirli hanelerin gelirlerinin bir kısmını sigara için kullandıkları düşünüldüğünde sigaraya ayıracağı payı gıda için ayırması fiziki olarak daha sağlıklı bireylerin yetişmesine ve hanedeki sağlık harcamalarının azalmasına neden olacaktır. Ayrıca düşük gelirli hanelerin geçimlerini çoğunlukla emek gücü ile karşıladıkları düşünüldüğünde azalan sigara tüketimi ile orantılı olarak verimlilik, iş gücü kaybı, sakatlık gibi riskler de azalacak ve sağlık açısından önemli kazanımlar elde edeceklerdir. Bireysel olarak elde edilen kazançların yanında hükümet açısından da sigara tüketimindeki azalmaya bağlı olarak sigaradan kaynaklanan sağlık harcamalarının azalması, daha sağlıklı beşerî sermaye ve verimli insan gücü gibi kazanımlar da söz konusu olacaktır.

Dünyada mücadele edilen alanlardan biri olan sigara, doğrudan ya da dolaylı olarak her yıl milyonlarca insanın ölümüne neden olmakla birlikte birey ve toplum açısından ekonomik bir yük de yaratmaktadır. Bireyler arasında sigaranın ekonomik maliyetleri; bireysel olarak yetersiz beslenme, eğitim harcamalarına ayrılan payın azalması nedeniyle eğitim alamama ya da eğitime devam edememe ve sağlık harcamalarına ayrılan payın azalması nedeniyle hastalıklarla mücadele edilememesi dolayısıyla işgücü kaybı, sakatlık ve erken ölüm olarak tanımlanmaktadır. Sigaradan kaynaklanan toplumsal kayıp ise sağlık, gelir, kazanç potansiyeli ve emek üretkenliği düşük olan sigara bağımlılarının sürdürülebilir ekonomik büyüme ve sosyal kalkınma için kritik olan beşerî sermaye birikimini zayıflatması şeklinde değerlendirilmektedir. Ayrıca sigaradan kaynaklanan sağlık harcamalarının artması bütçe üzerinde de önemli bir yük yaratmaktadır. Dolayısıyla sigaraya atfedilebilir hastalıklardan ve bunlarla mücadeleden kaynaklanabilecek maliyetler hem bireysel hem de toplumsal açıdan önemli bir yük oluşturmaktadır.

Sigara tüketiminin hem bireysel hem de toplumsal olarak ortaya çıkardığı olumsuzlukları minimize etmek amacıyla ulusal ve küresel düzeyde bazı politikalar uygulanmaktadır. Ancak sigara ile mücadelede uygulanacak olan politikaların, özellikle genç yaşta bireylere, düşük eğitilmiş ve düşük gelirli hanelere odaklanması sigara ile mücadelede uygulanan politikaların başarısını da artıracaktır.

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BRICS-T Ülkelerinde Makroekonomik Değişkenlerin Doğrudan Yabancı Yatırımlara Etkisi: Panel Veri Analiz Uygulaması

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The Effect of Macroeconomic Variables on Foreign Direct Investments in BRICS-T Countries: A Panel Data Analysis Application

Abstract

It is expected that foreign direct investments in the international market, especially in developing countries, will improve the R&D infrastructure, ensure technological innovation and increase productivity in production factors. This expectation stems from foreign direct investments effectively affecting real and financial market factors. In this study, the relationship between foreign direct investments and economic growth, current account balance, employment and the real effective exchange rate was examined by panel data analysis using monthly data for the period 2010:1-2021:3 within the BRICS-T countries. As a result of the examination, while China was the primary country in economic growth, employment rate and real effective exchange rate affecting foreign direct investments, Russia was the only country in the current account balance variable.

Keywords : BRICS-T Countries, Foreign Direct Investments, Macroeconomic Variables, Panel Data Analysis.

JEL Classification Codes : R10, E10, E22.

Öz

Uluslararası piyasada doğrudan yabancı yatırımların özellikle gelişmekte olan ülkelerde Ar-Ge alt yapısının iyileştirilmesi, teknolojik yeniliğin sağlanması ve üretim faktörlerinde verimliliğin artırılması beklenmektedir. Bu beklenti doğrudan yabancı yatırımların hem reel hem de finansal piyasalara ait faktörler üzerinde etkili olmasından kaynaklanmaktadır. Bu çalışmada, doğrudan yabancı yatırımlar ile ekonomik büyüme, cari denge, istihdam ve reel efektif döviz kuru arasındaki ilişki BRICS-T ülkeleri dahilinde 2010:1-2021:3 dönemine ait aylık veriler kullanılarak panel veri analiz yöntemiyle incelenmiştir. İnceleme sonucunda doğrudan yabancı yatırımları etkileyen ekonomik büyüme, istihdam oranı ve reel efektif döviz kurunda öne çıkan ülke Çin iken, cari denge değişkeninde öne çıkan ülke Rusya olmuştur.

Anahtar Sözcükler : BRICS-T Ülkeleri, Doğrudan Yabancı Yatırımlar, Makroekonomik Değişkenler, Panel Veri Analizi.

1. Giriş

Küreselleşmenin hızla yayılması ve ekonomilerin liberal politikaları uygulaması neticesinde hem gelişmiş hem de gelişmekte olan ülkeler yatırım merkezi haline gelmiştir. Özellikle 1980'li yıllarda ücretin düşük olduğu ve serbestleşme politikaları uygulayan ülkeler yabancı yatırımları çekmeye başlamışlardır. Bu bağlamda doğrudan yabancı yatırımların makroekonomik değişkenlere olan etkisi 2000'li yıllarda daha fazla dikkat çeken konuların başında gelmektedir. Bu durumda hızlanan küreselleşme ve uygulanan politikalar gelişmiş ülkelerde fazla bulunan sermayelerin avantajlı veya stratejik olan gelişmekte olan ülkelere yönlendirmesine neden olmaktadır. Gelişmiş ülkeler temelde fazla olan sermaye veya teknolojilerini emek maliyeti düşük, risk primi az ve pazar payı yüksek olan ülkelere aktarmaktadırlar. Aktarılan sermaye veya teknolojiler gelişmiş ülkelerde ekonomik büyümeye gelişmekte olan ülkelere ise kalkınmaya yol açmaktadır.

Gelişmekte olan ülkelere kaynak tahsisinin verimli olması ve kaynakların etkin bir şekilde kullanılmasının en önemli araçları arasında doğrudan yabancı yatırımlar yer almaktadır. Böylelikle global ekonomiye entegre olan ekonomilerin gerek bilgi gerekse sermaye birikimleri artmaktadır. Bu kapsamda gelişmekte olan ülkeler nitelikli emeğe sahip olmak, üretim hacmini artırmak, maliyetleri düşürerek kâr oranlarını yükseltmek, uluslararası ekonomide hem rekabet etmek hem de pazar payları büyütme için doğrudan yabancı yatırımları önemsemektedirler. Diğer bir ifadeyle gelişmiş ülke ile gelişmekte olan ülke arasındaki farkın azalmasına neden olan doğrudan yabancı yatırımlar gelişmekte olan ülkeler için ekonominin lokomotifi olma özelliğini taşımaktadır.

Özellikle ülkeler arasında dış ticaretin serbestleşmesi, mal ve hizmet dolaşımı önündeki engellerin kaldırılması doğrudan yabancı yatırımlar için fırsat sunmaktadır. Bu bağlamda doğrudan yabancı yatırımların gerek ihracatı gerekse istihdamı artırması gerekmektedir. Bu yatırımlar ülkelerin tasarruf eksikliğinin giderilmesi için sermaye piyasasına katkıda bulunmaktadırlar. Ayrıca doğrudan yabancı yatırımlar emeğin nitelik kazanması, teknolojinin transferi, üretim faktör ve süreçlerine olan katkısı sonucunda gelişmekte olan ülke ekonomilerinin hem kalkınması hem de büyümesi için önemli bir rol üstlenmektedir. Bu rolün önemi gerçekleştirilen yabancı yatırımın türüyle yakından ilişkilendirilmektedir. Doğrudan yabancı yatırımlar; satın almalar, şirket birleşmeleri ve yeni yatırımlar olmak üzere üç sınıfa ayrılmaktadır. Eğer gerçekleştirilen doğrudan yabancı yatırımlar yeni yatırımlardan meydana geliyorsa ülkelerin makroekonomik değişkenleri olumlu etkilemesi beklenmektedir. Dünya nüfusunun hemen hemen yarısını oluşturan BRICS-T ülkeleri uluslararası ekonomide önemli yükselen piyasalar arasındadır. Bu bağlamda araştırmada aşağıdaki üç soruya cevap aranmaktadır.

- Doğrudan yabancı yatırımlar BRICS-T ülkelerini ne yönde etkilemektedir?
- Doğrudan yabancı yatırımlar makroekonomik değişkenleri ne yönde etkilemektedir?
- Doğrudan yabancı yatırımlar ile makroekonomik değişkenler arasındaki ilişki ülkeler açısından farklılık arz etmekte midir?

Bu çalışmada BRICS-T ülkelerinin 2010:1-2021:3 dönemine ait veriler dahilinde doğrudan yabancı yatırımların makroekonomik değişkenler üzerine etkisi panel veri yöntemiyle analiz edilmesi hedeflenmektedir. Araştırmada giriş bölümünden sonra doğrudan yabancı yatırımlar ile makroekonomik değişkenler arasındaki ilişkiye yönelik kavramsal çerçeve ve ampirik literatür sunulmaktadır. Daha sonra araştırmada kullanılacak veriler panel analiz yöntemiyle test edilmektedir. Sonuç bölümünde de elde edilen bulgular doğrultusunda öneriler verilmektedir.

2. Kavramsal Çerçeve ve Ampirik Literatür

Yerleşik bir firmanın yabancı bir ülkede yeni bir işletme kurması, var olan işletmelere ortak olması veya şube açması şeklinde tanımlanan doğrudan yabancı yatırımlar akım ve stok olmak üzere ikiye ayrılmaktadır. Belirli bir dönemde (genellikle bir yıllık dönem) ölçülen doğrudan yabancı sermayeye akım; belirli bir dönemde birikmiş toplam varlıklarının değerinin ölçülmesine de stok doğrudan yabancı sermaye şeklinde ifade edilmektedir.

Dünya ekonomilerinin, ithal ikameci politikardan ihracata dönük politikalar benimsemesi liberalizasyon faaliyetlerini ön plana çıkarmıştır. Bu faaliyetler sonucunda 1980'li yıllardan başlayarak uluslararası piyasada büyük ölçüde mal ve sermaye akımı gerçekleşmiştir. Bu akımlar özellikle eksik sermaye birikimi ve kaynak yetersizliği bulunan gelişmekte olan ülkeler için daha önemli bir durum arz etmektedir. Bu önem doğrudan yabancı yatırımların sermaye akımları içinde ciddi bir finansman aracı olmasından kaynaklanmaktadır. Bu yatırımlar finansman aracı olmanın yanı sıra ekonomilere makro değişkenler açısından pek çok yönde katkı sunacağı düşünülmektedir. Doğrudan yabancı sermaye yatırımlarının ülkeler için teknolojik ilerlemelere, bilgi üretimine, ekonomik rekabetin artmasına, mevcut firmalarda yapısal dönüşümün gerçekleşmesine, istihdamın artmasına, ekonomik büyümenin istikrar kazanmasına ve uluslararası piyasa ile bütünleşmesinin de önemli bir rol üstlenmesi beklenmektedir (Mencinger, 2008: 3).

Ekonomi teorilerinde, ekonominin istikrarlı kalkınabilmesi üretim faktörleriyle doğrudan alakalı olduğu vurgulanmaktadır. Özellikle makroekonomik değişkenlerin teknolojik ilerlemeler vasıtasıyla artan verimlilik ekonomik kalkınmayı sürekli hale getireceği öne sürülmektedir. Dolayısıyla ekonomileri üretim kapasitelerine ilave olarak doğrudan yabancı yatırımları teşvik etmek için uygulanacak politikalar zorunlu hale gelmektedir (Mehrra et al., 2014: 1). Bu bağlamda teknolojik ilerlemeleri dışsal kabul eden neoklasik ekonomik büyüme modellerinde doğrudan yabancı yatırımların yalnızca yatırım oranlarını artırdığı belirtilmektedir. Yatırım oranlarındaki artışın da geliri sadece geçici olarak artırdığı fakat uzun dönemde ekonomik büyümeye katkı sağlamadığı ileri sürülmektedir. Ancak içsel ekonomik büyüme modellerinde ise teknolojik ilerlemeler içselleştirilerek doğrudan yabancı yatırımların ekonomik büyümeyi kalıcı olarak etkilediği öne sürülmektedir (Duman, 2018: 54-73).

Doğrudan yabancı yatırımları gerçekleştiren firmalar uluslararası piyasada daha fazla ihracat yaparak ekonomilerin ihracatlarına katkı sağlamaktadırlar. Fakat bir ülkede

doğrudan yabancı yatırımların gerçekleşmesi gerek ekonomik gerekse politik olmak üzere birçok faktöre bağlıdır. Bu faktörler arasında politik istikrar, gelir düzeyi, doğal kaynak zenginliği, emek verimliliği, ücret düzeyi, döviz kuru, fiziksel altyapı, dışa açıklık oranı ve doğrudan yabancı yatırımlara verilen destekler yer almaktadır. Bu çerçevede doğrudan yabancı yatırımların hem ekonomik hem de politik faktörleri olumlu etkileyerek başta ihracat olmak üzere makroekonomik değişkenleri olumlu yönde etkilemesi gerekmektedir (Değer & Ay, 2013: 8).

Doğrudan yabancı yatırımlar cari açık, döviz kuru, enflasyon, faiz ve vergi oranları gibi makro değişkenler üzerinde doğrudan veya dolaylı bir etki meydana getirmektedir. Bir ekonomiye sermaye girişi sağlayan doğrudan yabancı yatırımlar cari açık üzerinde dengeleyici bir etkiye sahiptir. Bu etki finans hesabına kaydedilen doğrudan yabancı yatırımların cari hesaptaki açığın finans hesabındaki fazla ile kapatılmasından kaynaklanmaktadır. Dolayısıyla finans hesapları cari açığın sürdürülebilmesi için önem arz etmektedir. Doğrudan yabancı yatırımların cari açık üzerine dolaylı etkileri arasında ithalat, ihracat ve kâr transferleri yer almaktadır. Başka bir ifadeyle bu yatırımlar dış ticaret yoluyla cari açığı dolaylı olarak etkileme gücüne sahiptirler (Göçer & Peker, 2014: 91). Farklı fiyat endekslerine, faiz oranlarına ve para birimlerine sahip olan ülkeler döviz kurlarının değişmesine yol açmaktadır. Bu durumda parası daha değerli olan yabancı yatırımcı parası daha az değerli olan ülkeye genelde portföy yatırımı gerçekleştirecektir. Kısa vadeli olan bu yatırım türü herhangi bir istikrarsızlık durumunda ekonomiden hızlıca çıkacaktır. Diğer bir ifadeyle döviz kurları genelde kısa vadeli olarak yatırımcıların kâr oranlarını belirleyen faktörler arasındadır. Bu durumda yatırımcıların satın alma gücü de artmaktadır (Narin, 2007: 52-53). Literatürde doğrudan yabancı yatırımları inceleyen pek çok ampirik araştırma olmasına rağmen makroekonomik değişkenlerin bir arada incelendiği araştırmalarının sınırlı sayıda olması çalışmayı özgün kılarak literatüre katkı sağlaması beklenmektedir.

Özcan ve Arı (2010), 27 OECD ülkesi için 1994-2006 dönemlerine ait veriler dahilinde doğrudan yabancı yatırımlar ile ekonomik büyüme, enflasyon oranları, alt yapı seviyesi, ticari açıklık ve cari denge arasındaki ilişki dinamik panel veri analizi yöntemiyle incelemişlerdir. İnceleme sonucunda doğrudan yabancı yatırımlar ile ekonomik büyüme, enflasyon ve alt yapı seviyesi arasında pozitif bir ilişki tespit edilirken, cari denge ve ticari açıklık arasında negatif bir ilişki tespit etmişlerdir.

Durairaj ve Nirmala (2012), Hindistan ekonomisi için 1996-2010 dönemine ait yıllık verileri kullanarak doğrudan yabancı yatırımlar ve döviz kuru oynaklığı arasındaki ilişki ARDL yöntemiyle analiz etmişlerdir. Analiz sonucunda döviz kuru oynaklığı ile doğrudan yabancı yatırımlar arasında ters yönlü bir ilişki tespit etmişlerdir. Araştırmalarında Hindistan ekonomisinde doğrudan yabancı yatırım girişlerini artırmak için daha esnek bir döviz kuru sistemine gereksinim duyulduğunu ifade etmişlerdir.

Sarode (2012), araştırmasında Hindistan ekonomisinin 1997-2011 dönemine ait verileri kullanarak doğrudan yabancı yatırımlar ile cari açık arasındaki ilişkiyi Granger

nedensellik ve VAR yöntemiyle analiz etmiştir. Analiz sonucunda doğrudan yabancı yatırımdaki %1'lik artışın cari açığı %1,13 azalttığı bulgusuna ulaşmıştır.

Göçer ve Peker (2014), yaptıkları çalışmalarında 1980-2011 dönemine ait Çin, Hindistan ve Türkiye ekonomileri için doğrudan yabancı yatırımlar ile cari denge arasındaki ilişkiyi çoklu yapısal kırılmalı eşbütünleşme testi ile analiz etmişlerdir. Analiz sonucunda doğrudan yabancı yatırımlardaki %10'luk artışın Hindistan'ın cari açığını %4,1 Türkiye'nin cari açığı %3 oranında düşürdüğünü ve Çin'in cari fazlasını %3,8 artırdığını tespit etmişlerdir.

Rahman ve Bristy (2015), yaptıkları araştırmada SAARC ülkelerine yönelik 2002-2012 dönemini kapsayan verileri kullanarak doğrudan yabancı yatırımların makroekonomik değişkenlere olan etkisini korelasyon ve basit regresyon yöntemiyle incelemişlerdir. Araştırma sonucunda doğrudan yabancı yatırımların; ekonomik büyümeyi, enflasyon oranını, kamu gelirlerini, yabancı rezervleri ve brüt sermaye birikimini pozitif etkilediği ancak cari işlemler dengesini negatif etkilediği bulgusuna ulaşmışlardır.

Bostan vd. (2016), 6 Avrasya ülkesine (Azerbaycan, Kazakistan, Kırgızistan, Özbekistan, Türkmenistan, Tacikistan) yönelik 1995-2015 dönemine ait verileri kullanarak doğrudan yabancı yatırımlar ve ekonomik büyüme arasındaki nedensellik ilişkisini panel veri analiz yöntemiyle araştırmışlardır. Araştırma sonucunda değişkenler arasında tek yönlü nedensellik olduğu bulgusuna ulaşmışlardır.

Yılmaz vd. (2017), BRICS ve MINT ülkelerinde yönelik 1997-2013 dönemini kapsayan araştırmalarında doğrudan yabancı yatırımların ekonomik büyüme ve karbondioksit emisyonu arasındaki eşbütünleşme ilişkisini analiz etmişlerdir. Analiz sonucunda doğrudan yabancı yatırımların ekonomik büyüme ve karbondioksit emisyonu uzun dönemde birlikte hareket ettikleri bulgusuna erişmişlerdir.

Öncü ve Çelik (2018), BRICT ülkelerine yönelik 1998-2016 yıllarına ait verileri kullanarak doğrudan yabancı yatırımlar ile ekonomik büyüme arasındaki ilişkiyi panel veri analiz yöntemiyle incelemişlerdir. İnceleme sonucunda ekonomik büyümeden doğrudan yabancı yatırımlara doğru tek yönlü nedensellik tespit etmişlerdir.

Onanuga ve Onanuga (2018) yılında yaptıkları çalışmada 23 gelişmekte olan ülke ekonomisinin 1991-2016 dönemini panel regresyon analizi ile doğrudan yabancı yatırım ve işsizlik arasındaki ilişkiyi araştırmışlar. Araştırma sonucunda doğrudan yabancı yatırımların işsizliği negatif etkilediği bulgusuna ulaşmışlardır.

Akkaya (2019), çalışmasında 12 ülkede (Brezilya, Rusya, Hindistan, Çin, Güney Afrika, Türkiye, Endonezya, Malezya, Meksika, Polonya, Şili ve Tayland) doğrudan yabancı yatırımların ekonomik büyüme ve özgürlükler üzerine etkisini panel veri analiziyle araştırmıştır. Araştırma sonucunda doğrudan yabancı yatırımlar ile ekonomik büyüme arasında ilişki tespit edilmesine rağmen ekonomik özgürlükler ile bir ilişki tespit edilememiştir. Ayrıca çalışmada nüfus yoğunluğu ve ileri teknolojik ürün ihracatının

doğrudan yabancı yatırımları etkilediği fakat işsizlik, faiz oranı, dışa açıklık ve tüketimin doğrudan yabancı yatırımları etkilemediği belirtilmiştir.

Bayar ve Özoğul (2019), araştırmalarında doğrudan yabancı yatırımlar ile istihdam arasındaki ilişkiyi 15 AB ekonomisi için 1995-2017 yıllarına ait verileri kullanarak panel eşbütünleşme ve nedensellik testleriyle incelemişlerdir. İnceleme sonucunda kısa dönemde değişkenler arasında anlamlı bir ilişki bulunurken, uzun dönemde bir ilişki bulunamamıştır.

Sağdıç vd. (2020), Brezilya, Endonezya, Hindistan, Türkiye ve Güney Afrika ekonomilerinin 1980-2018 dönemi ait yıllık verilerle vergi gelirleri, doğrudan yabancı yatırım ve ekonomik büyüme arasındaki ilişkiyi panel eşbütünleşme ve nedensellik testleriyle araştırmışlardır. Araştırma sonucunda uzun dönemde değişkenler arasında eşbütünleşme bulgusuna ulaşmışlardır. Ayrıca araştırmada uzun dönemde doğrudan yabancı yatırımlardan vergi gelirleri ve ekonomik büyümeye doğru tek yönlü nedensellik sonucuna ulaşmışlardır.

Özel ve Akaner (2020), Türkiye ekonomisinin 2005-2019 çeyrek dönemlik verilerini kullanarak doğrudan yabancı yatırımlar ile ekonomik büyüme, vergi oranları, kazanç endeksi, dolar kuru ve ticari açıklık arasındaki ilişkiyi panel veri analiziyle incelemişlerdir. İnceleme sonucunda ekonomik büyüme, kazanç endeksi ve ticari açıklık değişkenlerinin doğrudan yabancı yatırımları pozitif etkilediği ancak vergi oranları ve dolar kurunun ise negatif etkilediği tespit etmişlerdir.

Recepoglu vd. (2021), BRICS-T ülkelerine yönelik 1992-2018 verileri kullanarak doğrudan yabancı yatırımlar ile ekonomik büyüme ve ihracat arasındaki ilişkiyi bootstrap panel nedensellik testiyle analiz etmişlerdir. Analiz sonucunda değişkenler arasındaki nedensellik ilişkisinin ülkeden ülkeye farklılık gösterdiği bulgusuna erişmişlerdir.

3. Yöntem ve Veri

Araştırmanın ekonometrik kısmında, ekonomik büyüme, cari denge, istihdam oranı ve döviz kurunun doğrudan yabancı yatırımlara etkileri panel veri analiziyle incelenecektir. Çalışmanın hem seri hem de kesit boyutlarından oluşması bu analiz yönteminin tercih edilmesinin sebebidir. Gerek zaman gerekse kesit verilerinin araştırmada kullanılması gözlem sayısının artmasına neden olmaktadır (Baltağı, 2005: 1). Bu bağlamda gözlem sayısındaki artış serbestlik derecesini artırarak açıklayıcı değişkenler ile aşırı doğrusal ilişki olma ihtimalini azaltmaktadır. Ayrıca, tahmin edilen modelde serbestlik derecesi yükseldiği için daha etkin tahmin sonuçlarına ulaşılmaktadır. Panel veri analizi bağımlı değişken üzerinde hem gözlenebilen hem de gözlenemeyen etkiler incelenmektedir (Tatoğlu, 2018: 85). Böylelikle çalışmada tahmin edilen modelin sonuçları daha güvenilir ve heterojenlik kontrolü sağladığı için panel veri analizi tercih edilmiştir.

Çalışmada modelin değişkenlerinin oluşturulmasında hem teorik hem de ampirik çalışmalardan yararlanılmıştır. Modelde kullanılan bağımlı değişken doğrudan yabancı yatırımlar (FDI), bağımsız değişkenler ise ekonomik büyüme (GDP), cari denge/GSYH

(CB), istihdam oranı (EMP) ve reel efektif döviz kurundan (REER) oluşmaktadır. Analizde kullanılan veriler yüzdellik ve logaritmik olup TÜİK, Dünya Bankası, IMF ve araştırmaya konu olan ülkelerin merkez bankalarının elektronik veri tabanından temin edilmiştir. Analizin zaman boyutu, 2010:1-2021:3 dönemine ait 135 aylık bir süreci kapsamaktadır. Bu araştırmada doğrudan yabancı yatırımların makroekonomik değişkenlerin olumlu yönde etkilemesi tahmin edilmektedir. Bu bağlamda analiz için kurulan model aşağıdaki gibidir.

$$FDI_{it} = \beta_{0i} + \beta_{1i}GDP_{it} + \beta_{2i}CB_{it} + \beta_{3i}EMP_{it} + \beta_{4i}REER_{it} + \mu_{it}$$

3.1. Parametrelerin Homojenliğinin Test Edilmesi

Çalışmada değişkenlerin birimlere göre farklılık arz etmediği ve homojen olduğunu kabul etmek tutarsızlığa yol açacaktır. Bu doğrultuda araştırmada S testi yardımıyla eğim değişkenlerinin farklılığı test edilmiştir. Değişkenlerin homojen olduğunu varsaymak ve birimlere göre farklılık göstermediğini tahmin etmek tutarsızlığa neden olacaktır. Bu kapsamda eğim değişkenlerinin birimlere göre farklı olup olmadığını Swamy'nin S testi yardımıyla tespit edilmiş ve hipotezler aşağıda verilmiştir (Pesaran & Yamagata, 2007: 2).

$$H_0 = \beta_i = \beta_j ; \text{ yani değişkenler homojendir.}$$

$$H_1 = \beta_i \neq \beta_j ; \text{ yani değişkenler homojen değildir.}$$

S testine göre değişkenlerin; $\chi(2) = 2958.65$, $\text{prob} = 0.0218$ değerleri bulunmuştur. S testi sonuçlarına göre %5 anlamlılık düzeyinde değişkenlerin homojen olmadığı başka bir ifadeyle H_0 hipotezi reddedilmektedir. Ayrıca değişkenlerin homojen olup olmadıkları F testi istatistiği yardımıyla da gerçekleştirilebilmektedir. F testinin istatistik ve tablo değerlerinin formülü aşağıdaki gibidir.

$$F_{\text{istatistik değeri}} = \left[\frac{n(t-n-1)}{n(n-1)} \right] \frac{(RRSS-URSS)}{(URSS)} = \left[\frac{6(128)}{6(5)} \right] \frac{(210500.150-58100.250)}{(58100.250)} = 67.15$$

$$F_{\text{tablo değeri}} = F_{\alpha; n(n-1); n(t-n)} = F_{0,05;30;768} = 4.65$$

Formülde n; ülke sayısı, t; zaman boyutu, RSS; havuzlanmış en küçük karelerin kalıntı toplamını ve URSS; en küçük karelerin kalıntı toplamını göstermektedir. Bu sonuçlara göre değişkenler homojen değil heterojendir. Başka bir ifadeyle F istatistik değeri (67.15) > F tablo değeri (4.65) olduğu için parametreler birimlere göre heterojendir. Hem eğim hem de sabit parametrelerin heterojen olması modelin tahmin edilmesinde heterojen panel yöntemlerinin kullanılmasını zorunlu kılmaktadır.

3.2. Birimler Arasında Yatay Kesit Bağımlılığının Test Edilmesi

Paneli oluşturan birimlerin korelasyonu bağımsız bir şekilde araştırıp araştırılamaması problem olmaktadır. Bu bağlamda iki varsayım mevcuttur. Bunlar; birimlerin birbirinden bağımsız olduğu ve bağımsız olmadığı şeklindedir. Birimler arasında

yatay kesit bağımlılığının test edilmesinde CDLM (Cross-sectional Dependency Lagrange Multiplier) testi kullanılmaktadır. Bu testin hipotezleri aşağıdaki gibidir:

H_0 : Birimler arasında yatay kesit bağımlılığı yoktur.

H_1 : Birimler arasında yatay kesit bağımlılığı vardır.

CDLM test istatistiklerinin sonuçları Tablo 1’de gösterilmektedir.

Tablo: 1
CDLM Test İstatistik Sonuçları

$(H_0: Cov(\mu_t, \mu_t) = 0$ İstatistik-t Olasılık		
CDLM ₁	156.795	0.0018
CDLM ₂	35.254	0.0030
CDLM	12.146	0.0043

CDLM test istatistiklerinin üçünde de %5 anlamlılık seviyesinde H_0 hipotezi reddedilmektedir. Bu sonuç çalışmaya konu olan ülkelerin birinde ya da birkaçında ortaya çıkan doğrudan yabancı yatırımlar üzerindeki değişimlerin diğer ülkeleri de etkilediğini göstermektedir. Birimler arası yatay kesit bağımlılığının test edilmesinin ardından birimler arası korelasyon ilişkisi Breusch-Pagan Lagrange Çarpanı test edilerek Tablo 2’de verilmektedir.

Tablo: 2
Birimler Arası Korelasyon Matrisi

	Brezilya	Rusya	Hindistan	Çin	Güney Afrika	Türkiye
Brezilya	1.0000					
Rusya	0.3975	1.0000				
Hindistan	-0.4514	0.2148	1.0000			
Çin	-0.5946	-0.2846	0.3245	1.0000		
Güney Afrika	0.2542	0.2147	0.2548	0.1256	1.0000	
Türkiye	-0.3648	-0.3245	0.4621	0.2147	0.3845	1.0000

Tablo 2’de birimler arasında Breusch-Pagan Lagrange Çarpanı test istatistikleri sonucunda $\chi^2(12) = 165.159$, $Pr = 0.0000$ olarak korelasyon bulgusu tespit edilmiştir. Brezilya ile Hindistan arasında yaklaşık %45, Çin ile %59 ve Türkiye ile %36 korelasyon bulunmaktadır. Ayrıca Rusya ile Çin arasında %28 ve Rusya ile Türkiye arasında da %32 korelasyon olduğu sonucuna erişilmektedir.

3.3. Görünürde İlişkisiz Regresyon (SUR) Modelinin Tahmin Edilmesi

Korelasyon matris sonuçları birimler arası kalıntıların birbiriyle ilişkili olduğunu göstermektedir. Bu durum araştırmada Arnold Zellner’in görünürde ilişkisiz regresyon modelinin (SUR) kullanılmasına imkân vermektedir. Ayrıca araştırmaya konu olan ülkeler farklı görünümlere sahip olsa da aynı zaman diliminde ve aynı değişkenlerin etkisinde kalmaları hata terimleri ile ilişkilidir. Bu modelin tahminlerinin tutarlı olması için zaman aralığının geniş ve değişken sayısının 10’dan küçük olması gerekmektedir. Bu bağlamda

çalışmada kullanılan veriler modelin ölçütlerine uygunluk göstermekte olup, modelin sonuçları en küçük kareler yöntemiyle tahmin edilmiş ve sonuçlar Tablo 3'te verilmiştir.

Tablo: 3
SUR Modelinin Sonuçları

Modeller	R ²	Chi2	Olasılık Değerleri
Brezilya	0.7305	598.46	0.0010
Rusya	0.7645	725.50	0.0015
Hindistan	0.7418	652.85	0.0009
Çin	0.8216	1125.05	0.0000
Güney Afrika	0.6714	298.75	0.0021
Türkiye	0.7541	685.44	0.0000

SUR modeli istatistiki olarak anlamlı çıkmıştır. Modelin sonuçlarına göre, R² açıklama gücü Brezilya ekonomisi için %73, Rusya %76, Hindistan %74, Çin %82, Güney Afrika %67 ve Türkiye %75 olarak hesaplanmıştır. Elde edilen bulgulara göre doğrudan yabancı yatırımları açıklama gücü en yüksek olan model Çin ekonomisine aitken, en düşük olan modelde Güney Afrika'ya aittir. Ayrıca ülkelere ait modellerin hem değişken katsayıları hem de anlamlılık seviyeleri farklılık arz etmektedir. Bu kapsamda modele ait katsayı sonuçları Tablo 4'te sunulmaktadır.

Tablo: 4
Görünürde İlişkisiz Regresyon Modelinin Katsayı Sonuçları

Bağımlı Değişken (FDI)	GDP	CB	EMP.	REER	Sabit
Brezilya	0.2548 (0.010)	0.3012 (0.000)	0.1528 (0.615)	-0.1828 (0.000)	-105.1245 (0.512)
Rusya	0.1984 (0.005)	0.4015 (0.000)	0.4514 (0.000)	-0.2510 (0.000)	325.1243 (0.000)
Hindistan	0.0085 (0.830)	0.1512 (0.030)	0.7514 (0.545)	0.1475 (0.610)	-103.8546 (0.213)
Çin	0.2945 (0.000)	0.3507 (0.000)	0.6420 (0.000)	-0.3240 (0.000)	546.1330 (0.000)
Güney Afrika	0.1548 (0.021)	0.2080 (0.000)	0.5021 (0.754)	0.1024 (0.545)	-98.1235 (0.615)
Türkiye	0.0154 (0.685)	0.2224 (0.000)	0.2075 (0.517)	-0.1575 (0.000)	152.7540 (0.008)

Bağımsız değişkenlerden ekonomik büyüme oranlarının doğrudan yabancı yatırımlara olan etkisi, Hindistan ve Türkiye ekonomileri için istatistiksel olarak anlamsız bulunurken, Brezilya, Güney Afrika, Çin ve Rusya ekonomileri için anlamlı bulunmuştur. Doğrudan yabancı yatırımların ekonomik büyümeyi etkileme gücü ülkeden ülkeye farklılık arz etmektedir. Ekonomik büyümedeki 1 puanlık artış, doğrudan yabancı yatırımları Brezilya'da yaklaşık olarak %0,25, Rusya'da %0,20, Çin'de %0,29 ve Güney Afrika'da %0,15 oranında artırmaktadır.

Bağımsız değişkenlerden bir diğeri olan cari denge değişkeni tüm ülkelerde istatistiksel olarak anlamlı çıkmıştır. Cari dangedeki 1 puanlık artış, Brezilya ekonomisinde doğrudan yabancı yatırımları yaklaşık olarak %0,30, Rusya'da %40, Hindistan %0,15, Çin'de %35, Güney Afrika %0,20 ve Türkiye %0,22 oranında artırmıştır.

Bağımsız değişkenlerden olan istihdam oranı Rusya ve Çin ekonomilerinde istatistiki olarak anlamlı çıkmıştır. Brezilya, Hindistan, Güney Afrika ve Türkiye ekonomilerinde istatistiksel olarak istihdam oranı ile doğrudan yabancı yatırımlar arasında bir ilişki bulunamamıştır. İstihdam oranlarındaki 1 puanlık artış, Rusya ekonomisinde doğrudan yabancı yatırımları yaklaşık olarak %0,45 ve Çin ekonomisinde ise %0,65 oranında artırmaktadır.

Son bağımsız değişken olan reel efektif döviz kuru Hindistan ve Güney Afrika ekonomilerinde istatistiksel olarak anlamsız çıkmıştır. Brezilya, Rusya, Çin ve Türkiye ekonomilerinde istatistiksel olarak anlamlı ve negatif bulunmuştur. Reel efektif döviz kurundaki 1 puanlık düşüş, Brezilya ekonomisinde doğrudan yabancı yatırımları yaklaşık olarak %0,18, Rusya ekonomisinde %0,25, Çin ekonomisinde %0,32 ve Türkiye ekonomisinde de %16 oranında artırmaktadır. Analiz sonucunda elde edilen bulgular; Özcan ve Arı (2010), Sarode (2012), Göçer ve Peker (2014), Rahman ve Bristy (2015), Özer ve Akaner (2020) ve Reçepoğlu vd. (2021) çalışmalarıyla uyumlu iken; Durairaj ve Nirmala (2012), Yılmaz vd. (2017), Öncü ve Çelik (2018), Bayar ve Özoğul (2019) çalışmalarıyla uyumlu değildir.

4. Sonuç

Küreselleşen dünya ekonomilerinde ticaret, yatırım, sermaye hareketliliği ve çok uluslu şirketlerin üretim aşaması beraberinde ülkeleri yakınlaştırmıştır. Küreselleşmeye dahil olan gerek gelişmiş gerekse gelişmekte olan ülkeler büyüme süreçlerinde, başta ekonomik büyüme, cari denge, istihdam ve reel efektif döviz kuru ile doğrudan yabancı yatırımlar arasındaki ilişkileri yoğun bir şekilde araştırmışlardır. Literatürde doğrudan yabancı yatırımlar ile makroekonomik değişkenlerin herhangi birini ve ikisini araştıran çalışmalar mevcuttur. Ancak literatürde beş değişkeni ele alan çalışmaya rastlanılmamıştır. Bu nedenle çalışmanın amacı, BRICS-T ülkelerinde doğrudan yabancı yatırımlar ile ekonomik büyüme, cari denge, istihdam ve reel efektif döviz kuru arasındaki ilişkileri 2010:1-2021:3 alık verileri kullanarak panel veri analiziyle araştırmaktır.

Ekonomik büyüme, bütün ülkeler için önemli bir makroekonomik göstergedir. Ekonomik büyümenin doğrudan yabancı yatırımlar üzerindeki etkisi de ülkelerin ekonomik yapıları ve üretim imkanları ile yakından ilişkilidir. Ekonomik yapıları istikrarlı olan ve üretim faktörleri açısından avantajlı konumdaki Brezilya, Rusya, Çin ve Güney Afrika ekonomik büyümedeki artışlar doğrudan yabancı yatırımları olumlu etkilerken, Hindistan ve Türkiye ekonomileri için bunu söylemek mümkün görünmemektedir. Bu durum Hindistan ve Türkiye ekonomilerindeki risk faktörlerinin artışı, uluslararası kredi derecelendirme notlarının düşüklüğü hem ekonomik hem de politik istikrar kapsamında toplumsal sorunların varlığı ile açıklanabilir. Cari denge ekonomilerde doğrudan yabancı yatırımlar açısından önem teşkil etmektedir. Araştırmaya konu olan ülkelerin hepsinde cari dengedeki artışın doğrudan yabancı yatırımlara olan etkisi istatistiksel olarak olumlu ve anlamlı bulunmuştur. Bu etkinin olumluluk seviyesinin artması için, ülkelerin ekonomi politika yapımcılarının doğrudan yabancı sermaye girişlerini teşvik edici uygulamaları ve ekonomik reformları

artırmaları gerekmektedir. Bir diğer bağımsız değişken olan istihdam oranlarının doğrudan yabancı yatırımlara etkisi Rusya ve Çin ekonomilerinde anlamlı iken, Brezilya, Hindistan, Güney Afrika ve Türkiye ekonomileri için istatistiki olarak anlamlı çıkmamıştır. Rusya ve Çin ekonomilerinin uyguladıkları politikalar sonucunda doğrudan yabancı yatırımlar istihdam oluşturmaktadır. Örneğin yabancı teknolojilerin öğrenilip uygulanması, Ar-Ge faaliyetleri sonucunda teknolojik ilerlemenin sağlanması, yerli firmaların üretim kapasitesini artırması ve düşük emek birim maliyeti bu ülkelerde istihdam oranı ile doğrudan yabancı yatırımlarının anlamlı olması nedenleri arasında sayılabilir. Diğer taraftan Brezilya, Hindistan, Güney Afrika ve Türkiye ekonomilerinde yapısal sorunlar, üretim maliyetlerinin yüksekliği, teknolojik yetersizlik ve yatırımların yeni firmalar oluşturmaması istihdam ile doğrudan yabancı yatırımlar etkisiz kalması sebepleri arasında olabilir. Son bağımsız değişken olan reel efektif döviz kuru Hindistan ve Güney Afrika dışındaki ülkelerde istatistiki olarak anlamlı ve negatif bir etki tespit edilmiştir. Ülkelerin kendi ekonomik yapılarına bağlı olarak Brezilya, Rusya, Çin ve Türkiye ekonomilerindeki parasal genişlemeler reel efektif döviz kurunu düşürerek doğrudan yabancı yatırımları artırdığı söylenebilir.

Bu çalışmada doğrudan yabancı yatırımları etkileyen makroekonomik değişkenlerin üçünde (ekonomik büyüme, istihdam oranı ve reel efektif döviz kuru) öne çıkan ülke Çin iken diğer tek değişkende (cari denge) öne çıkan ülke Rusya olmuştur. Özellikle, 1990 yılında neredeyse hiç doğrudan yabancı yatırımını bulunmayan Çin ekonomisinin 2021 itibarıyla dünyada en fazla doğrudan yabancı yatırım alan ülke olması en önemli nedeni ekonomik politikalarında doğrudan yabancı yatırıma verdiği önem ile açıklanabilir. Analiz sonuçları kapsamında ekonomik büyüme, cari denge, istihdam oranı ve reel efektif döviz kuru ile doğrudan yabancı yatırımlar arasında etkileşim söz konusudur. Bu nedenle doğrudan yabancı yatırımların makroekonomik değişkenler açısından önemi vurgulanmıştır. Özellikle ülkeye gelen yabancı yatırımlara yönelik uygulanacak teşvikler faydalı olacaktır. Bu bağlamda siyasi ve ekonomik istikrarın sağlanması ve gerekli hukuki alt yapının oluşturulması gerekmektedir.

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OECD Ülkelerinde Mali Yerelleşmenin Belirleyenleri

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Determinants of Fiscal Decentralization in OECD Countries

Abstract

With the idea that decentralised delivery of public goods and services increases economic efficiency and social welfare, activities are carried out in many countries to increase the share of lower-level governments in the fulfilment of economic functions. In this study, the effects of income, area, population, urbanisation, ethnic fractionalisation, human development, globalisation, institutional factors, income distribution, economic stability, and participatory budgeting on fiscal decentralisation are examined empirically using the data of OECD countries between 2000-2016 and the Panel Corrected Standard Errors method.

Keywords : Fiscal Decentralisation, Human Development, Participatory Budgeting.

JEL Classification Codes : H70.

Öz

Kamusal mal ve hizmetlerin yerel düzeyde sunulmasının ekonomik etkinlik ve sosyal refah düzeyini artıracakı düşüncesiyle birlikte birçok ülkede yerel yönetimlerin ekonomik fonksiyonlarını artırmaya yönelik çalışmalar gerçekleştirilmektedir. Bu araştırmada gelir, alan büyüklüğü, nüfus, kentleşme, etnik çeşitlilik, insani gelişme, küreselleşme, kurumsal faktörler, gelir dağılımı, ekonomik istikrar ve katılımcı bütçelemenin mali yerelleşme üzerindeki etkisi OECD ülkelerinin 2000-2016 yılları arasındaki verileri kullanılarak ve Panel Düzeltilmiş Standart Hatalar yöntemi ile ampirik olarak hesaplanmaya çalışılmıştır.

Anahtar Sözcükler : Mali Yerelleşme, İnsani Gelişme, Katılımcı Bütçeleme.

1. Giriş

Kamusal işlevler yerine getirilirken sorumluluklar merkezi yönetim ile alt düzey yönetim birimleri, mesleki örgütler, sivil toplum kuruluşları, özel sektör kuruluşları gibi başka bazı aktörlerle de paylaşılmaktadır. *Yerelleşme* olarak ifade edilebilecek bu paylaşım üzerinde ülkelerin coğrafi, tarihi, politik özellikleri gibi pek çok faktörün yanı sıra ekonomik faktörler de etkili olmaktadır. Son dönemlerde kalkınma konusunda merkezden gerçekleştirilen faaliyetlerin yetersiz kalması, toplumun tüm kesimlerine ulaşamaması ve yerelleşmeden beklenen başka bazı faydalar nedeniyle yerelleşme hem ülkelerin kendi reform süreçlerinde yer almakta hem de uluslararası kuruluşlar tarafından gelişmekte olan ve az gelişmiş ülkelere önerilmekte ve bu ülkelere bu konuda destekler sağlanmaktadır. Alt düzey yönetimlerin sorumluluklarının artması bu birimlerin kaynak ihtiyacındaki artışı da beraberinde getirmektedir. Gelir ve harcama kapasitesinin/gücünün alt düzey yönetim birimlerine devri olarak tanımlanabilecek mali yerelleşme işte bu noktada önem kazanmaktadır. Mali yerelleşme birçok ülkede mali reformların önemli bir unsuru olmaya başlamıştır. Ancak bazı ülkelerde bu tür reform hareketleri tam olarak başarılı olamamakta ve yerelleşmeden beklenen faydalara bir türlü ulaşamamaktadır.

Çalışmada, orta ve üst gelir kuşağında yer alan, görece daha çok gelişmiş ve mali yerelleşme konusunda daha başarılı oldukları düşünülen, Ekonomik Kalkınma ve İş birliği Örgütü (OECD) üyesi ülkelerde mali yerelleşme üzerinde belirleyici olduğu varsayılan faktörler incelenecek; gelişmekte olan ve az gelişmiş ülkelerde mali yerelleşmeye yönelik reform hareketlerinin başarılı olabilmesi için izlenmesi gereken politikalar üzerinde durulacaktır.

2. Literatür

Musgrave (1989) kamunun yerine getirmesi gereken işlevleri tahsis, dağıtım ve istikrar olmak üzere üçe ayırmaktadır (Musgrave & Musgrave, 1989: 6). Vergileme gücü ve harcama sorumluluğunun yönetim düzeyleri arasında uygun bölüşümünün tartışılmasında Musgrave'in yönetim bütçelerinin istikrar, dağıtım ve tahsisteki rolü ile ilgili görüşlerinden hareket edilebilir (Bahl & Nath, 1986: 405-406). Buna göre kamu kaynaklarının idareler arası tahsisinde dışsallıklar, ölçek ekonomileri, mobilite ve idareler arası rekabet, kalabalıklaşma maliyeti, bireylerin zevk ve tercihleri, kapasite farklılıkları, mal ve hizmetlerin finansmanı dikkate alınabilir. Örneğin, bir mal veya hizmetin kamusal olarak sunumunda ortaya çıkabilecek dışsallıkların içselleştirilebileceği büyüklükte bir yönetim düzeyi tercih edilmelidir. Faydası ülkedeki insanların tümüne yayılan (ulusal nitelikteki) bir kamu malının merkezi yönetim tarafından sunulması daha doğrudur. Trafik lambaları gibi faydası sınırlı bir vatandaş grubuna ve buldukları yerel birime yayılan (yerel nitelikteki) malların ise daha küçük birimler tarafından sunulması gerekir (Buchanan, 1965: 418; Stiglitz & Rosengard, 2015: 733). Maliyetinin büyük sayıda insan toplulukları arasında paylaşılması sonucunda önemli maliyet tasarruflarının elde edildiği ölçek ekonomilerinin söz konusu olması durumunda yönetim/topluluk ölçek ekonomilerinin sağlayacağı ekonomik avantajların elde edileceği büyüklükte olmalıdır (Musgrave & Musgrave, 1989: 452;

Holcombe, 2006). İtfaiye istasyonu gibi bazı mallarda bu malların faydaları belli bir coğrafi alanın dışına taşmakta ve tüketimde rakip olmak mümkün olmakta, tüketen sayısındaki artış hizmet kalitesini bir noktaya kadar etkilemezken bir noktadan sonra azaltarak kalabalıklaşma maliyetine yol açmaktadır. Kalabalıklaşma maliyetinin söz konusu olduğu bu tür malların sunumunda uygun topluluk büyüklüğünün/yönetim düzeyinin belirlenmesinde, bu malın çok sayıda kişi tarafından birlikte tüketilmesi durumunda sağlanacak maliyet tasarrufları ile tüketiminde çok sayıda kişinin bir araya gelmesi nedeniyle oluşacak kalabalıklaşma maliyetleri arasında bir değerlendirme yapılması gerekecektir (Musgrave & Musgrave, 1989: 452).

Oates'in (1972) "Yerelleşme Teoremi"ne göre tüketimi toplam nüfusun coğrafi alt kümeleri üzerine tanımlanan ve malın her bir çıktı düzeyini sağlamanın maliyetinin merkezi ya da ilgili yerel yönetim birimi için aynı olduğu bir kamu malının Pareto etkin çıktı düzeyi, yerel yönetimler tarafından sorumlu oldukları bölgelerde merkezi yönetim tarafından tüm bölgelerde sunulacak herhangi belirli ya da tek tip bir çıktı düzeyi kadar etkin sunulabilecektir. Hatta bazı durumlarda bu malların yerel birimler tarafından sunulması merkezi sunumuna göre daha etkin olabilecektir. Bireysel taleplerde çeşitlilik ve her bir coğrafi tüketici grubunun daha homojen taleplere sahip olması durumunda bir kamu malının yerleşmiş sunumu tercih edilmelidir. Böyle bir durumda yerel yönetimlerin yerel tercihlere daha çok hitap ediyor olması bu birimlerdeki yerleşiklerin refahının, malın sunumunun merkezi yönetim tarafından tüm yerel birimlerde tek bir çıktı düzeyinde gerçekleştirilmesindeki kadar ve bazı bölgelerde merkezi sunumdan daha fazla olması sağlayacaktır. Bireylerin benzer tercihlere sahip olması durumunda ise malın merkezi yönetim tarafından tek tip sunumu nedeniyle ortaya çıkacak olan refah kaybı azalacaktır. Kısacası tüketimi nüfusun coğrafi alt kümeleri tarafından gerçekleştirilen bir kamu malının, özellikle taleplerde çeşitliliğin fazla olması durumunda yerleşmiş sunumu tercih edilmeli; taleplerin daha benzer olması durumunda ise merkezi sunumla yerleşmiş sunumdan sağlanacak kazanımlar karşılaştırılarak uygun yönetim düzeyi seçilmelidir (Oates, 1972: 35-37).

Merkezi düzeyde zaten belli olan tüketici seçmen tercihlerine uyum sağlamaya çalışan yönetimin yerel düzeyde kendi gelir ve harcama modelleri üzerinde az ya da çok etkili olabilmesi tüketici-seçmenlerin yerel birimlerdeki gelir ve harcama modellerinden kendi tercihlerini en iyi karşılayanın bulunduğu birime göç etmesine olanak tanıyacaktır (Tiebout, 1956: 418, 422). Bireylerin bu mobilitesi idareler arasında yerel kamu malları için özel mallara benzer bir rekabet ortamının oluşmasına yol açacak bu da yerel yönetimlerin gelir-harcama kalıplarını tüketici-seçmenlere uyarlamasını sağlayacak (Tiebout, 1956: 424) ve yerel taleple uyumlu kamu mallarının yerleşmiş sunumunun avantajından tam olarak yararlanabilecek homojen zevklere sahip bireylerin bir araya geldiği grupların oluşumunu destekleyecektir. Ancak tüketim düzeyinin tüketen sayısından bağımsız olmadığı durumlarda bireylerin mobilitesi kalabalıklaşma maliyetlerine neden olacaktır (Oates, 1972: 50-51).

Bir kamu hizmetinin finansmanı faydasının yayıldığı alan ile uyumlu olmalı; ulusal bir hizmet ise ulusal, yerel bir hizmet ise yerel düzeyde sunulmalı ve hizmetten diğer bölgelerde yaşayan bireyler de yararlanıyorsa hizmeti sunan bu bireylere de bir ücret yükleyebilmelidir. Ancak bazı durumlar vergilerin fayda temelinde uygulanmasını zorlaştırdığı için idarelerin mali yapıları faydanın yayıldığı alan ile uyumlu hale getirilememektedir (Musgrave & Musgrave, 1989: 452, 453). Yüksek gelirliilerin yaşadığı yerel yönetimlerde gelir ve refah düzeyi daha yüksek olduğu için bu idareler kamu hizmetlerini daha kolay finanse etmekte ve yerleşiklerine daha az vergi yükleyebilmekte iken gelir düzeyinin daha düşük olduğu yerlerde hem vergi yükü daha fazla olmakta hem de daha az kamu hizmeti sunulmaktadır. Bireylerin yerel yönetimler arasındaki bu kapasite farklılıklarını dikkate alarak yaşayacakları bölgeyi seçmeleri, idarelerin vergilerini fayda temelinde oluşturmaları ve vergi-harcama sisteminin tarafsız olması kaynak tahsisinde etkinliğin sağlanmasına katkıda bulunabilir. Ekonomik etkinlik sağlanmadığında merkezi yönetimin hizmetin dışısalığı, kolektivitinin kapsamının alt düzey birimlerin sınırları dışına taşıp taşmadığı gibi hususları dikkate alarak idarelerin gelir, refah ve vergilenebilir kapasitelerindeki farklılıkları ortadan kaldırmaya yönelik politikalar geliştirmesi gerekebilir (Buchanan, 1965: 512-515).

Kamusal bir karar alma biriminde bu birimin içinde bulunduğu bina ve bunun işletilmesi ile çalışanlarının ücretleri gibi maliyetleri vardır. Ayrıca seçmenlerin de buradaki yöneticileri seçmek suretiyle katlanmak durumunda oldukları zaman ve çaba şeklinde maliyetleri olacaktır. Yönetim birimleri arttıkça bu maliyetler de artacaktır. Dolayısıyla belirli bir kamu malının sunumunda yeni birimler ihdas etmek ve yerel ya da merkezden işi yürütmek suretiyle ortaya çıkacak olan maliyetler ile bu malın sunumundan elde edilecek fayda karşılaştırılmalıdır (Oates, 1972: 48, 49).

Kamunun istikrar işlevinin yönetim düzeyleri arasındaki paylaşımında alt düzey yönetim birimlerinden ziyade bunun merkezi düzeyde gerçekleştirilmesi daha doğru olacaktır (Oates, 1972: 31, 32; Musgrave & Musgrave, 1989: 455).

Gelirin yeniden dağıtımında yerel yönetimlerin kapasitesi yetersiz kalabilir ve yerel yönetimler geliri yeniden dağıtmaya çalışırken yüksek bir maliyet ödeyebilirler. Yerel düzeyde daha eşitlikçi bir gelir dağılımı sağlanırken bölgeler arasında gelir farklılıkları oluşabilir. Bu durumda tüm bölgelerde bireyler, toplum genelinde daha eşitlikçi bir gelir dağılımı talep edebilir. Bu da tüm yerel yönetimlerin istenen sonuca ulaşmak için ortak eylemde bulunmasını gerektirir. Dolayısıyla, geliri yeniden dağıtmaya yönelik faaliyetlerin yönetim düzeylerinin büyüklüğü ile aynı doğrultuda olması ve en adil gelir dağılımının gerçekleştirilmesinde birincil sorumluluğun merkezi yönetim tarafından üstlenilmesi daha doğru olacaktır (Oates, 1972: 32, 33; Musgrave & Musgrave, 1989: 454, 455).

Kuramsal olarak belirli bir kamu hizmetinin sunumu için en uygun yönetim düzeyinin belirlenmesinde yukarıda sayılan faktörler ışığında bir değerlendirme yapılabilir. Bu faktörlerin önemi toplumdan topluma değişebileceği gibi bir kamu malı bir ülkede en iyi şekilde merkezi yönetim tarafından sunulurken bir diğerinde yerel yönetimler tarafından

sunulabileceği için optimal mali yerelleşme düzeyinin de toplumdan topluma değişmesi beklenir. Uygulamada optimal yerelleşme düzeyinin belirleyenlerinden bazıları dışlanarak, ulusların gerçekte sahip oldukları mali yerelleşme düzeyindeki farklılıkların ampirik olarak açıklanmasında, bu belirleyenlerin açıklama yeteneğinden yararlanmak mümkündür (Oates, 1972: 31).

Wallis ve Oates (1988) yüz ölçümü, nüfus büyüklüğü ve nüfusun coğrafi dağılımı ile ilgili koşulların, gelir ve refah düzeyinin, kamusal çıktılarla ilgili zevklerdeki çeşitliliğin kapsamı ve nüfus içerisindeki dağılımının mali yerelleşmenin temel belirleyenleri olduğunu ileri sürmektedirler. Mali yerelleşmenin belirleyenlerinin ve mali yerelleşmeyi etkileyen faktörlerin ekonometrik olarak incelendiği çalışmalarda zamanla yaşanan gelişmelere ve yazarların görüşlerine bağlı olarak Wallis ve Oates (1988) tarafından temel belirleyenler olarak nitelendirilen bu değişkenlere harcamalar, gelirler, dışa açıklık-entegrasyon-küreselleşme ile ilgili ve makroekonomik, politik, kurumsal koşulların etkisini ölçmeyi amaçlayan değişkenlerin eklendiği ve çalışmaların bazılarında mali yerelleşmenin hesaplanmasında geleneksel hesaplamadan farklı yollara gidildiği görülmektedir.

Mali yerelleşme geleneksel olarak alt düzey yönetim harcama ya da gelirleri toplamının kamunun toplam harcama ya da gelirlerine oranı (Kee, 1977; Bahl & Nath, 1986; Garrett & Rodden, 2006; Canavire-Bacarrea & Martinez-Vazquez, 2012; Jametti & Joanis, 2016; Bhattacharyya, Conradie, & Arezki, 2017; Arzaghi & Balthrop, 2018; Armev & McNab, 2018; Treisman, 2006) ya da mali merkezileşmenin artmasının mali yerelleşmenin azalması ya da mali merkezileşmenin azalmasının mali yerelleşmenin artması anlamına geleceği şeklindeki bir bakış açısıyla merkezi yönetim harcama ya da gelirlerinin toplam kamu harcama ya da gelirlerine oranı olarak hesaplanmaktadır (Pryor, 1967; Pommerehne, 1976; Wallis & Oates, 1988; Panizza, 1999; Arzaghi & Henderson, 2005; Jametti & Joanis, 2016; Jilek, 2018). Mali yerelleşme toplam harcama ve gelirler dışında alt düzey yönetimlerin çeşitli alanlarda sahip oldukları özerklik düzeyi, gerçekleştirdikleri fonksiyonel harcamalar ya da elde ettikleri vergi gelirleri gibi başka faktörler dikkate alınarak da hesaplanmaktadır. Wasylenko (1987) gelir yerelleşmesini alt düzey yönetimlerin paylaşılan vergiler ve idareler arası yardımlar hariç öz kaynaklardan elde ettikleri gelirler ile Stegarescu (2005, 2009) ise vergi yerelleşmesini alt düzey yönetimlerin önemli ölçüde kontrol ettiği otonom vergi gelirleri üzerinden hesaplamaktadır. Bodman ve Hodge (2010) gelir yerelleşmesini geleneksel biçimde ve düzenlenmiş oranlar biçiminde hesaplamaktadır. Düzenlenmiş oranlar alt düzey yönetimlerin kendi vergilerinden oluşan öz vergi özerkliği, diğer yönetimlerle paylaştıkları vergilerinden oluşan paylaşılan vergi özerkliği ve bunların toplamından oluşan toplam vergi özerkliği; öz vergi gelirleri ile vergi dışı ve sermaye gelirlerinden oluşan öz gelirler, diğer yönetimlerle paylaştıkları vergiler ile vergi dışı ve sermaye gelirlerinden oluşan paylaşılan gelirler ve bunların toplamından oluşan toplam gelirleri kapsamaktadır. Malicka ve Martinkova (2018) geleneksel gelir yerelleşmesi ile alt düzey yönetimlerin vergi gelirleri ile hesapladıkları vergi yerelleşmesini ve aldıkları yardım ve transferler ile hesapladıkları yardım yerelleşmesini kullanmaktadır. Harcama yerelleşmesinin hesaplanmasında geleneksel yöntemden farklı olarak alt düzey yönetimlerin harcamalarını kendi kaynaklarından karşılayıp karşılamadıklarına bakılarak bir ayırım

yapılmaktadır. Bodman ve Hodge (2010) gelir yerelleşmesinde olduğu gibi harcama yerelleşmesi için de düzenlenmiş mali yerelleşme oranları hesaplanmaktadır. Düzenlenmiş oranlar alt düzey yönetimlerin diğer yönetim düzeylerine yapılan transferler hariç harcamalarından oluşan doğrudan harcamalar ve diğer yönetim düzeylerinden alınan yardımlar dışındaki kendi öz kaynakları ile finanse ettikleri öz finansmanla finanse edilen harcamalar biçimindedir.

Harcama yerelleşmesi ayrıca alt düzey yönetimlerin eğitim, sağlık gibi alanlarda gerçekleştirdikleri fonksiyonel harcamalar dikkate alınarak da hesaplanmaktadır. Letelier (2005) çalışmasında eğitim, sağlık ve konut harcamalarının, Letelier-Saavedra ve Sáez-Lozano (2015) bu harcamalarla birlikte sosyal koruma, rekreasyon, kültür ve din ve ulaşım harcamalarının yerelleşmesini kullanmaktadır. Sacchi ve Salotti (2016) toplam harcamalarla birlikte eğitim, sağlık, konut, sosyal koruma, refah ve kamu düzeni ve güvenliği alanlarında yapılan harcamalar için hesapladıkları harcama yerelleşmesine de Mello ve Jalles (2019) ise sağlık, eğitim ve sosyal koruma harcamalarının yanı sıra ekonomik işlemlerle ilgili yapılan harcamaları dikkate alarak hesapladıkları yerelleşme değerlerine yer vermektedir. Bunlardan başka De Mello ve Jalles (2019)'in çalışmasında geleneksel mali yerelleşme oranları ile alt düzey yönetimlerin politika oluşturma konusundaki ve mali-finansal yönetim alanındaki otoritelerini ölçeklendirdiği mali yerelleşme göstergeleri yer almaktadır. Bu göstergeler politika oluşturma otoritesi ile sorumlulukların yönetimin farklı düzeyleri arasındaki dağılımında, alt düzey yönetimlerin yürütme ve kanun koyma konusundaki kabiliyetlerinde ve bölgeler arası koordinasyon mekanizmasında ortaya çıkan değişiklikleri kapsamaktadır.

Mali yerelleşmenin temel belirleyenleri olarak ifade edilen ülke büyüklüğünün, gelir ve refah düzeyi ile zevk ve tercihlerdeki çeşitliliğin etkisi ekonometrik çalışmaların neredeyse tamamında ele alınmakta ve mali yerelleşme çalışmalarının büyük bir kısmında geleneksel biçimde hesaplanmaktadır. Çalışmalarda ülke büyüklüğünün etkisi çoğunlukla nüfus ve alan değişkenleri aracılığıyla ölçülmektedir. Bir ülkenin sahip olduğu nüfus başka bir ifadeyle sınırlarında yaşayan insanların sayısı, çok ya da az olması ile coğrafik olarak daha büyük ülkelerde yönetimlerin vatandaşlara ulaşmada ve kamu malı sunumunda karşılaşacağı sorunlar kamu sektörünün tasarımı ve mali yerelleşme üzerinde önemli bir etkiye sahiptir (Canavire-Bacarreza & Martinez-Vazquez, 2012). Ulaşılan sonuçlar genellikle mali yerelleşmenin ülke büyüklüğü ile birlikte arttığı yönündedir (Oates, 1972; Pommerehne, 1976; Bahl & Nath, 1986; Wallis & Oates, 1988; Arzaghi & Henderson, 2005; Panizza, 1999; Jilek, 2018; Alexeev & Mamedov, 2017; Arzaghi & Balthrop, 2018). Bununla birlikte Jametti ve Joanis (2016) nüfusun harcama merkezileşmesini tüm gelir düzeyindeki ülkelerde, gelir merkezileşmesini ise yalnızca gelişmiş ülkelerde negatif etkilediği sonucunu elde etmiştir. Bodman ve Hodge (2010) nüfusun, orta ve alt gelirli ülkelerde mali yerelleşmeyi pozitif etkilediği; karma örnekleme ise harcama ve gelir yerelleşmesini pozitif etkilerken alt düzey yönetimlerin özerk olarak elde ettikleri vergiler ve kendi gelirleri ile hesaplanan mali yerelleşme üzerinde negatif bir etkiye sahip olduğu sonucuna ulaşmıştır.

Ülke büyüklüğünün mali yerleşme üzerindeki etkisini ölçmek için Bahl ve Nath (1986) nüfusla birlikte federal yapıya; Canavire-Bacarreza ve Martinez-Vazquez (2012) de alanla birlikte limanlara uzaklık değişkenine yer vermiştir. Canavire-Bacarreza ve Martinez-Vazquez ek olarak ülkelerin sahip oldukları yükseklik (rakım), iklim gibi başka coğrafi özellikleri de mali yerleşme üzerinde etkili olabileceği için bu özellikler doğrultusunda bir coğrafi çeşitlilik endeksi oluşturmuştur. Yazarlar yerleşmenin coğrafi büyüklük ile arttığı, mali yerleşmenin özellikle de harcama yerleşmesinin en yakın limana olan uzaklıktaki artışla azaldığı coğrafi çeşitlilikle arttığı fakat coğrafi çeşitliliğin gelir yerleşmesi üzerinde harcama yerleşmesindeki kadar güçlü bir etkisinin olmadığı sonucuna ulaşmıştır.

Nüfusla ilgili en yaygın kullanılan değişkenlerden biri olan kentleşme Pommerehne (1976), Stegarescu (2005, 2009) ve Jilek (2018)'in çalışmasında nüfusun coğrafi dağılımını temsil etmek üzere kullanılmış iken bazı çalışmalarda ekonomik gelişmenin bir göstergesi olarak değerlendirilmektedir. Kee (1977)'ye göre ekonomik gelişme kentleşmeyi; kentleşme de toplu olarak tüketilen hizmetlere olan talebi hızlandıracaktır. Garrett ve Rodden (2006) kentleşmeye kentsel alanlarda yerel yönetim hizmetlerine olan talep daha fazla olabileceği için yer vermektedir. Sacchi ve Salotti (2016)'ye göre kentleşme ile kırsal kesimlerdeki nüfus büyük merkezlere yönelecek bunun sonucunda da kamu harcamaları bu merkezlerde yoğunlaşacaktır. Kentleşme ile ilgili sonuçlar çoğunlukla kentleşmenin mali yerleşmeyi pozitif etkilediği yönündedir (Pommerehne, 1976; Wasylenko, 1987; Wallis & Oates, 1988). Kee (1977) kentleşmenin mali yerleşmeyi pozitif etkilediği ve bu etkinin gelişmekte olan ülkelerde daha güçlü olduğu sonucunu elde etmiştir. Kee (1977) yerel kamu harcamalarındaki artışın nüfusun kentsel alanlarda yoğunlaşması sonucunda artan ihtiyaçların (kanalizasyon, sokak lambaları, su gibi) piyasalar yerine yerel yönetimler tarafından piyasa dışı arzıyla daha etkin karşılanabilecek olması ya da kentlerde oluşan kalabalıklaşmadan dolayı kentlerdeki kamu hizmetlerinin kişi başı maliyetinin artması nedeniyle oluşabileceğini ifade etmektedir. Gelişmekte olan ülkelerde doğrudan kentleşme sonucu ortaya çıkan yerel ihtiyaçlar (kanalizasyon, sokak lambaları, su gibi) yerel harcamaların artmasına neden olur. Gelişmiş ülkelerde kentleşme çok hızlı olmadığı için doğrudan kentleşme nedeniyle oluşmayan kamu düzeni, sağlık, eğitim ve refah gibi alanlardaki harcamaların yerel birimler tarafından gerçekleştirilmesi sonucu yerel harcamalar artabilir. Gelişmekte olan ülkelerde bu alanlardaki hizmetlerin arzı büyük ölçüde merkezi yönetimler tarafından sağlanır.

Nüfusla ilgili kullanılan bir diğer değişken nüfus yoğunluğudur. Nüfus yoğunluğuna Letelier-Saavedra ve Sáez-Lozano (2015), nüfusun belli alanlarda yoğunlaşmasının bu alanlarda yerleşmiş malların kişi başı maliyetini azaltacağı; Sacchi ve Salotti (2016) nüfus yoğunluğunun bir taraftan kamu mallarının sunumunda ortaya çıkaracağı ölçek ekonomileri öbür taraftan da bireylerin daha heterojen tercihlere sahip olmaları; Bodman ve Hodge (2010) nüfusla birlikte artan kalabalıklaşma maliyetleri yoluyla mali yerleşmeyi etkileyebileceği görüşünden hareketle yer vermektedirler. Sacchi ve Salotti (2016) nüfus yoğunluğunun eğitim harcamaları yerleşmesini pozitif, ulaşım harcamaları ve sosyal harcamaların yerleşmesini negatif; Bodman ve Hodge (2010) yönetim harcamaları yerleşmesini, farklı gelir düzeylerindeki 67 ülkede negatif etkilediği sonucuna ulaşmıştır.

Malicka ve Martinkova (2018) nüfus yoğunluğunun anlamlı etkisinin daha çok en kalabalık nüfusa sahip AB ülkelerinde ortaya çıktığı ve bu ülkelerde bu etkinin pozitif olduğu sonucunu elde etmiştir.

Nüfusla ilgili bunların dışında Arzaghi ve Henderson (2005), Arzaghi ve Balthrop (2018) en büyük şehirde yaşayan nüfus değişkenine yer vermiş ve bu değişkenin mali yerelleşmeyi negatif etkilediği sonucunu elde etmiştir. Bodman ve Hodge (2010)'ye göre nüfus artışı ile yerel düzeyde kalabalıklaşma maliyetlerinin artması alt düzey yönetim harcamalarının merkezi yönetim harcamalarından daha çok artmasına bu da yerel kamu mallarının kişi başı maliyetinin artmasından dolayı bu mallara olan talebin azalmasına neden olacaktır. Bodman ve Hodge (2010) OECD ülkeleri için yaptıkları yatay kesit analizde nüfus artışının alt düzey yönetimlerin kendi kaynakları ile finanse ettikleri harcamalardaki ve özerk olarak elde ettikleri vergilerdeki yerelleşmeyi negatif etkilediği sonucunu elde etmişlerdir. Sacchi ve Salotti (2016) nüfus artış hızı ile sağlık harcamalarındaki ve sosyal harcamalardaki yerelleşmenin arttığı konut harcamalarındaki yerelleşmenin ise azaldığı sonucunu elde etmişlerdir. Ayrıca nüfusun çalışmayan kısmı özellikle belirli harcama türlerine olan talep açısından mali yerelleşme üzerinde etkili olabileceği için üretim çağına olmayan 15 yaş altı ve 65 yaş üstü nüfusu ifade etmek üzere de bazı çalışmalarda bağımlılık oranı değişkenine yer verilmektedir (Stegarescu, 2005; de Mello & Jalles, 2019). Malicka ve Martinkova (2018) bu değişkenin etkisinin en kalabalık AB ülkelerinde daha fazla olduğu ve bu ülkelerde harcama ve gelir yerelleşmesini negatif, vergi ve yardım yerelleşmesini pozitif etkilediği; Sacchi ve Salotti (2016) 15 yaş altı ve 65 yaş üstü nüfusun refah harcamalarının merkezileşmesine olan talebi artırdığı ve yaşlı nüfustaki artışın ulaşım ve savunma harcamalarının yerelleşmesini pozitif etkilediği sonucuna ulaşmıştır.

Mali yerelleşme üzerinde doğrudan etkili faktörlerden biri de kişi başına gelir düzeyidir (Oates, 1972; Panizza, 1999; Arzaghi & Henderson, 2005; Arzaghi & Balthrop, 2018). Wallis ve Oates (1988) kişi başı gelirdeki artışla mali merkezileşmenin arttığı dolayısıyla mali yerelleşmenin azaldığı sonucunu elde etmiştir. Ülkelerin gelir düzeylerini göstermek üzere Jametti ve Joanis (2016) gelişmiş ülke kuklası, Bahl ve Nath (1986) düşük gelir kuklası, Armeş ve McNab (2018) OECD kuklasına yer vermiştir. Bahl ve Nath (1986), Pommerehne (1976), Letelier (2005) gelirin mali yerelleşme üzerindeki pozitif etkisinin yüksek gelirli ülkelerde daha güçlü olduğunu tespit etmiştir. Bodman ve Hodge (2010) gelirin mali yerelleşme üzerindeki etkisinin tüm gelir gruplarındaki ülkelerde ve OECD ülkelerinde pozitif; orta ve alt gelirli ülkelerde ise negatif olduğu sonucunu bulmuştur. Kee (1977) gelişmekte olan ülkelerde mali yerelleşme ile gelişme düzeyi arasında bir ilişki bulunmadığı ve gelirin mali yerelleşme üzerindeki etkisinin gelişmiş ve gelişmekte olan ülkelerde farklılaştığı sonucuna ulaşmıştır. Mali yerelleşmenin ülkenin geliriyle birlikte artması ve gelirin mali yerelleşme üzerindeki etkisinin yüksek ve düşük gelirli ülkelerde farklılaşmasından hareketle Tanzi (2000), mali yerelleşme talebinin kişi başı gelirdeki artışla birlikte arttığı için normal bir mal olarak nitelendirilebileceğini belirtmektedir. Pommerehne (1976) yerleşmiş bir karar alma yapısının oluşturulmasında gerçek kaynaklara ihtiyaç duyulduğunu ve daha fakir ve az gelişmiş ülkelerde gelir düzeyinin düşük olmasının bu kaynak ihtiyacının karşılanmasını zorlaştırması nedeniyle yerelleşme için önemli bir engel

oluşturduğunu ifade etmektedir. Bahl ve Nath (1986)'e göre bir ülkenin gelir, kentleşme, nüfus vb. deki artış sonucu oluşan mali yerelleşme talebini karşılayabilmek için öncelikle belirli bir gelişmişlik düzeyine ulaşması gerekmektedir; gelirin mali yerelleşme üzerindeki etkisi ile ilgili sonuçların gelişmiş ve gelişmekte olan ülkeler için farklılaşması yerelleşme için gelirin belirli bir eşik değere ulaşması gereğini akla getirmektedir. Bodman ve Hodge (2010)'ye göre ise gelir için bir eşik değer varlığı söz konusu olabilir ancak gelir ve mali yerelleşme arasındaki olası iki yönlü ilişki nedeniyle bu görüşe ihtiyatlı yaklaşılmalıdır.

Gelirin mali yerelleşmeye etkisi açısından gelir ve harcama yerelleşmesine ayrı ayrı bakıldığında Jametti ve Joanis (2016), gelirin harcama merkezileşmesini gelişmiş ülkelerde anlamlı bir biçimde etkilemediği bu etkinin daha az gelişmiş ülkelerde pozitif ve oldukça anlamlı olduğu, gelir merkezileşmesini ise yalnızca OECD dışındaki ülkelerde pozitif etkilediği sonucuna ulaşmıştır. Treisman (2006), gelirin harcama yerelleşmesini artırırken gelir yerelleşmesini daha az etkilediğini tespit etmiştir. Bu durumun yerel yönetimlerin merkezi transferlere olan bağımlılığının zengin ülkelerde daha fazla olmasından kaynaklanabileceğini savunmaktadır. Malicka ve Martinkova (2018) kişi başı gelirin harcama ve gelir yerelleşmesini negatif etkilediği sonucunu elde etmiştir.

Farklı şekillerde hesaplanan mali yerelleşme oranları ile gelir arasındaki ilişki ile ilgili olarak Bodman ve Hodge (2010), OECD ülkeleri için 1981-1998 yılları arasında, gelirin vergi özerkliği negatif etkilediği öz gelir yerelleşmesini ise istatistiksel olarak anlamlı bir biçimde etkilemediği; kişi başı gelirdeki artışın Wasylenko (1987) gelir yerelleşmesi hariç mali yerelleşmeyi artırdığı ancak bu etkinin anlamlı olmadığı ve Malicka ve Martinkova (2018) vergi ve yardım yerelleşmesini pozitif etkilediği sonucuna ulaşmıştır. Jilek (2018) gelirin yönetim harcamalarının yerelleşmesini pozitif etkilediğini tespit etmiştir. Fonksiyonel harcamalardaki yerelleşme için Letelier (2005) kişi başı gelirin sağlık ve konut harcamalarındaki yerelleşmeyi negatif etkilediği sonucuna ulaşmıştır. Letelier-Saavedra ve Sáez-Lozano (2015), kişi başı gelir arttıkça eğitim harcamalarındaki yerelleşmenin azaldığı sonucunu bulmuştur. Yazarlara göre bu sonuç daha yüksek kaliteli ve daha etkin maliyetle üretilen kamu mallarını talep eden ortanca seçmenlerin eğitim harcamaları için merkezi olarak koordine edilen kamu politikalarını tercih ettiklerinin bir göstergesi olabilir. Sacchi ve Salotti (2016) kişi başı gelirin sağlık ve kamu düzeni amaçlarıyla yapılan harcamaların yerelleşmesini negatif; eğitim harcamalarının yerelleşmesini ise pozitif etkilediği sonucunu elde etmiştir.

Refah düzeyinin bir göstergesi olarak gelir dışında Canavire-Bacarreza ve Martinez-Vazquez (2012) bebek ölüm oranına; Sacchi ve Salotti (2016) doğumda yaşam beklentisi ve yüksekokul kaydı değişkenlerine yer vermiştir. Canavire-Bacarreza ve Martinez-Vazquez (2012) bebek ölüm oranının etkisinin istatistiki olarak anlamlı olmadığı, Sacchi ve Salotti (2016) yüksekokul kaydının mali yerelleşmeyi negatif etkilediği sonucunu elde etmiştir.

Bireylerin zevklerindeki çeşitlilik kamusal hizmetlerle ilgili taleplerinin de çeşitlenmesine yol açmakta bu da alt düzey yönetimler tarafından sunulan hizmetler dolayısıyla mali yerelleşme üzerinde etkili olmaktadır. Bireylerin kamu hizmetleri ile ilgili

tercihlerinde birçok faktör etkili olmakla birlikte zevklerdeki çeşitliliği göstermek üzere nüfusun etnik kökeni, dili ya da dini yapısı gibi çeşitli açılardan homojen bir dağılıma sahip olup olmadığına bakılmaktadır. Oates (1972), bireylerin bu karakteristik özelliklerine göre oluşturulan bir homojenlik değişkeni ile bölgesel olarak gruplandırıldığı bir bölgecilik değişkenine yer vermektedir. Pommerehne (1976) zevklerdeki çeşitliliği ölçmek üzere bölgecilik ve etnik köken, dil ve dini homojenlik değişkenleri ile etnik köken, dil ve dini homojenliğin toplamından oluşan bir kültürel homojenlik değişkenine yer vermektedir. Wallis ve Oates (1988) mali yerelleşmenin, Amerika Birleşik Devletleri'nde eyalet ve yerel sektördeki kapsamını ve çeşitliliğini incelediği çalışmasında sosyoekonomik çeşitlilik ve nüfusun etnik bileşimini göstermek üzere çiftliklerde yaşayan nüfus ve beyaz nüfustan oluşan homojenlik değişkenlerini kullanmaktadır. Ayrıca güney eyaletlerde beyaz nüfus oranının az olması nedeniyle güney eyaletler için de bir kukla değişken oluşturmuştur. Letelier (2005) çalışmasında etnik köken ve dil çeşitliliğini ölçmek üzere bir sosyal homojenlik endeksi oluşturmuştur. Alexeev ve Mamedov (2017) Rusya'da bölge, ABD'de eyalet yönetimlerindeki harcama yerelleşmesinin belirleyenlerini inceledikleri çalışmalarında Rusya için etnik Ruslardan oluşan, ABD için de Hispanik olmayan beyazlardan oluşan bir homojenlik endeksine ve etnik Rus ile Hispanik olmayan beyaz nüfusun payına yer vermektedir. Stegarescu (2009) çalışmasında ekonomik ve politik entegrasyonun mali yerelleşme üzerindeki etkisini incelemekte ve tercihlerdeki heterojenliği yakalamak amacıyla dil çeşitliliği değişkenine yer vermektedir. Stegarescu (2009)'ya göre ekonomik ve politik entegrasyonun mali yerelleşme üzerindeki etkisi özellikle dil çeşitliliğinin fazla olduğu ülkelerde daha güçlü olacaktır. Bu nedenle dil çeşitliliğinin entegrasyon göstergeleri ile ilişkilendirdiği ilave değişkenlere yer vermiştir. Etnik köken, dil ya da dini çeşitlilik için kullanılan değişkenlerle ilgili sonuçlar farklılaşmaktadır. Canavire-Bacarraza ve Martinez-Vazquez (2012) çalışmalarında etnik çeşitliliğin mali yerelleşmeyi pozitif etkilediğini ve bu etkinin harcama yerelleşmesinde gelir yerelleşmesine göre daha güçlü olduğunu bulmuşlar ve bu sonucu etnik çeşitliliğin halkın harcama ihtiyaçları üzerindeki etkisinin daha fazla olmasına bağlamışlardır. Alexeev ve Mamedov (2017) etnik çeşitliliğin harcama yerelleşmesini negatif etkilediği sonucunu elde etmişlerdir. Alexeev ve Mamedov (2017)'a göre etnik çeşitliliğin daha fazla olduğu ülkeler, bölgenin bölgesel ve merkezi yönetim tarafından kontrolünün sağlanabilmesi için mali olarak merkezileşme eğiliminde olabileceklerdir.

Zevklerdeki çeşitliliği ölçmek amacıyla kullanılan değişkenlerden bir diğeri de gelir dağılımıdır. Bu amaçla Stegarescu (2005, 2009), kişi başı gelirdeki bölgesel eşitsizliğe; Bodman ve Hodge (2010) gelir dağılımına; Alexeev ve Mamedov (2017) gini katsayısına yer vermiştir. Ancak gelir dağılımı, bazı yazarlara göre, dağılımdaki eşitsizliğin giderilmesi için gelirin yeniden dağıtılmasına duyulan ihtiyacı, dolayısıyla merkezi yönetimin bu alandaki müdahalelerini artırmak yoluyla mali yerelleşme üzerinde etkili olmaktadır. Pommerehne (1976) bu amaçla gelirin hane halkı arasındaki dağılımına ve bölgesel dağılımına yer vermektedir. Alexeev ve Mamedov (2017) Gini katsayısını zevklerdeki çeşitlilikle birlikte bu etkiyi ölçmek amacıyla da kullanmaktadır. Sacchi ve Salotti (2016) bu amaçla bölgesel eşitsizliklere; Alexeev ve Mamedov (2017) gelir dağılımı ile ilgili olarak

ayrıca sosyal transferlerin kişisel gelirdeki payına yer vermektedir. Gelir eşitsizliğinin mali yerleşmeyi Pommerehne (1976), Stegarescu (2009), Sacchi ve Salotti (2016) negatif etkilediği, Kyriacou et al. (2017) etkilemediğini bulmuştur.

Bir ülkedeki yönetim yapısının federal ya da üniter olarak örgütlenmiş olması mali yerleşme üzerinde etkili olduğu için çalışmalarda federal yapıya yer verilmektedir (Pommerehne, 1976; Stegarescu, 2005; Letelier-Saavedra & Sáez-Lozano, 2015; vd.). Oates (1972)'e göre hukuk düzeni karar alma mekanizmalarına bazı kısıtlamalar getirir. Bu kısıtlamalar mali kararların yerleşmesi üzerinde önemli bir etkiye sahip olabilir. Bu etkinin ortaya çıktığı durumlardan biri de ülkelerin federal bir yapıda olup olmamasıdır. Federal bir yönetime sahip ülkelerde mali merkezleşme düzeyi görece daha düşüktür. Ulaşılan sonuçlar çoğunlukla federal ülkelerde mali yerleşmenin daha fazla olduğu yönündedir (Oates, 1972; Wasylenko, 1987; Treisman, 2006; Garrett & Rodden, 2006; Jilek, 2018; vd.). Kee (1977) federal yapının farklı gelir düzeyindeki ülkelerde mali yerleşme üzerindeki pozitif etkisinin gelişmekte olan ülkelerde önemini kaybettiği sonucunu elde etmiştir.

Kamu sektörünün işleyişinde ve dolayısıyla mali yerleşme üzerinde kurumsal faktörler de etkili olmaktadır. Kurumsal faktörlerin etkisini ölçmek amacıyla Canavire-Bacarreza ve Martinez-Vazquez (2012) politik haklar ve yolsuzluk düzeyine, Jilek (2018) yolsuzluğun kontrolü, yönetimin etkililiği, politik istikrar ve şiddet düzeyi, düzenleyici kalite, hukuk kuralları ve söz hakkı ve hesap verebilirliğe, Michael Alexeev ve Arseny Mamedov (2017) kurumsal kaliteyi göstermek üzere Rusya için saydamlık, seçimlerin adillliği, politik çoğulculuk, medya bağımsızlığı, ekonomik serbestleşme, sivil toplum, siyasi yapı, seçkinler, yolsuzluğun kontrolü ve yerel öz yönetim kategorilerine göre oluşturulan bir demokrasi endeksine ve ABD için bireylerin içinde buldukları politik sistem doğrultusunda sahip oldukları politik kültürü gösteren bir bireysel politik çevre değişkenine, Kyriacou et al. (2017) yönetim kalitesine yer vermektedir. Canavire-Bacarreza ve Martinez-Vazquez (2012) mali yerleşme üzerinde politik haklar değişkeninin anlamlı bir etkiye sahip olmadığı, yolsuzluğun ise zayıf negatif bir etkiye sahip olduğu; Jilek (2018) söz hakkı ve hesap verebilirlik, idari etkinlik ve politik istikrarın harcama yerleşmesini pozitif etkilediği ve harcama yerleşmesinin en önemli belirleyenleri olduğu; Kyriacou et al. (2017) yönetim kalitesinin daha iyi olduğu ülkelerin mali olarak daha fazla yerleşme eğiliminde oldukları sonucuna ulaşmıştır.

Ticarete dayalı ekonomilerde merkezi yönetim gelirlerinin önemli bir bölümü gümrük vergileri, ihracat vergileri ve dış ticaret ile ilgili diğer gelirlerden oluşmaktadır. Bu gelirlerin büyük ölçüde merkezi yönetimin elinde toplandığı ve merkezi yönetimin bu alanlardan kolayca gelir elde edebildiği düşünüldüğünde dışa açık ekonomilerde merkezleşme eğilimi daha yüksek olabilecektir. Çalışmalarda dışa açıklığın mali yerleşme üzerindeki etkisini ölçmek amacıyla dış ticaret değişkenine yer verilmektedir (Letelier-Saavedra, 2005; de Mello & Jalles, 2019; vd.). Çalışmaların büyük bir çoğunluğunda dışa açıklığın mali *merkezleşmeyi* artırdığı sonucu elde edilmiştir (Kee, 1977; Wasylenko, 1987; Bodman & Hodge, 2010; Maličká & Martinková, 2018). Kee (1977) dışa açıklığın gelişme düzeyi arttıkça ve vergilemedeki yerel kısıtlamalar azaldıkça mali yerleşme düzeyini

açıklamadaki anlamlılığını kaybettiğini ifade etmektedir. Ekonomik entegrasyonun özellikle AB ile politik entegrasyonun dikey yönetim yapısı üzerindeki etkisini inceleyen Stegarescu (2009) ekonomik entegrasyon göstergesi olarak dış ticaret ile birlikte diğer ekonomik entegrasyon unsurlarını da hesaba katabilmek amacıyla alternatif olarak mal ve sermaye piyasalarının serbestleşme düzeyini yansıtan Quinn/Inclan mali açıklık endeksine ayrıca AB ile entegrasyonun hem ekonomik hem politik yönlerini ele alabilmek için AB harcamalarının üye ülkelerin kamu harcamalarındaki payına, AB'ye üye olan ve olmayan ülkelerin AB ile ilişkisinin düzeyini gösteren bir politik entegrasyon endeksine, AB ülkeleriyle yapılan ticaretin ülkenin toplam dış ticaretindeki payına yer vermektedir. Stegarescu (2009) ticari açıklıktaki artışın merkezi yönetim harcamaları ve vergi özerkliği, Quinn/Inclan mali açıklık endeksinin de yerelleşme üzerinde zayıf ve pozitif bir etkisi olduğu; Avrupa entegrasyonunun harcama yerelleşmesini ve dil bakımından heterojen ülkelerdeki vergi özerkliğini ve küresel ekonomik entegrasyonun da harcama yerelleşmesini belli bir düzeyde özellikle dil bakımından heterojen ülkelerde pozitif etkilediği sonucunu elde etmiştir. Garrett ve Rodden (2006) ulusal mal ve hizmet piyasalarının uluslararası piyasalarla entegrasyonunun etkisini yakalamak amacıyla dış ticaret ile ülkelerin sermaye hesabı işlemlerine önemli kısıtlamalar getirip getirmediğini gösteren sermaye hesabı açıklığı kuklasına yer vermiş ve ticari açıklıkla birlikte sermaye hesabı açıklığının da merkezileşmeyi artırdığı sonucunu elde etmiştir. Letelier-Saavedra & Sáez-Lozano (2015) ülkelerin dünya ile entegrasyonunun ekonomik, politik ve sosyal yönlerini yansıtan bir küreselleşme endeksine yer vermiş ve ekonomik entegrasyonun fonksiyonel harcamalardan yalnızca sosyal koruma harcamalarının yerelleşmesini etkilediği ve bu etkinin negatif olduğu sonucunu elde etmiştir.

Bazı çalışmalarda makroekonomik dengenin ve iş döngülerinin mali yerelleşme üzerindeki etkisini ölçmek amacıyla işsizlik oranı (Stegarescu, 2005; Bodman & Hodge, 2010; Maličká & Martinková, 2018; de Mello & Jalles, 2019) ve enflasyon oranı (Maličká & Martinková, 2018; de Mello & Jalles, 2019) değişkenlerine yer verilmektedir. Bodman ve Hodge (2010) OECD ülkelerinde işsizlik oranının mali yerelleşmeyi negatif etkilediği, Stegarescu (2009) artan işsizlik dönemlerinde, temel olarak geniş tabanlı gelir ve kurumlar vergisinden oluşan merkezi yönetim gelirlerinde çoğunlukla kâr ve emlak vergilerine dayanan alt düzey yönetimlerin gelirleri ile kıyaslandığında görece daha güçlü bir düşüş yaşandığı sonucuna ulaşmıştır. Malicka ve Martinkova (2018) enflasyon oranının finansal kriz dönemlerinde enflasyonda artış yaşayan ülkelerde mali yerelleşmeyi pozitif etkilediği sonucunu elde etmiştir. Makroekonomik göstergelerle ilgili olarak enflasyon ve işsizlik dışında Stegarescu (2005) ile de Mello ve Jalles (2019) gelir artışına, de Mello ve Jalles (2019) ile Malicka ve Martinkova (2018) toplam kamu borcuna ve Malicka ve Martinkova (2018) ayrıca yerel borçluluk düzeyine yer vermektedir. Malicka ve Martinkova (2018) kamu borcunun harcama ve gelir yerelleşmesini negatif, vergi ve yardım yerelleşmesini pozitif; yerel borcun ise harcama ve gelir yerelleşmesini pozitif, vergi ve yardım yerelleşmesini negatif etkilediği sonucunu elde etmiştir. Yazarlar kamu borcunun gelir ve harcama yerelleşmesini negatif etkilemesinin istikrarın merkezi olarak sağlanması ihtiyacından, vergi ve yardım yerelleşmesi üzerindeki pozitif etkisinin alt düzey

yönetimlerin toplam gelirlerindeki düşüşten kaynaklanabileceğini savunmaktadır. Yerel borç ise geri ödenmesi gereken kaynaklar olmakla birlikte alt düzey yönetimlerin gelirlerini ve gelirlerdeki artışa bağlı olarak da harcamalarını artırmaları yoluyla harcama ve gelir yerelleşmesini pozitif etkileyebilecektir. Stegarescu (2005) ekonomik büyümenin alt düzey yönetim harcamaları üzerinde küçük bir etkiye sahip olduğu, güçlü ekonomik büyümenin olduğu yıllarda alt düzey yönetim harcamalarının kısmen daha düşük düzeylerde gerçekleştiği sonucunu elde etmiştir. Garrett ve Rodden (2006), merkezi yönetimlerin eyalet ve yerel yönetimlerin harcama sorumluluklarını bu sorumlulukları karşılamaya yetecek bir gelir artışını sağlamadan artırmaları bir tür borçlarını bu yönetimlere yükleme girişimi gibi olabileceği için bu durumun etkisini ölçmek amacıyla merkezi yönetimin mali dengesine yer vermiş ve bu değişkenin etkiler arası yerelleşme modelinde mali yerelleşmeyi negatif, havuzlanmış zaman serisi analizinde harcama yerelleşmesini pozitif ve gelir yerelleşmesini negatif etkilediği sonucunu elde etmiştir. Armye ve McNab (2018) de makro etkiler için brüt sermaye birikimine yer vermiş ve tutarlı bir biçimde anlamlı ve pozitif bir etkisinin olduğu sonucunu elde etmiştir. De Mello ve Jalles (2019) krizin idareler arası ilişkilerin reformunda tetikleyici ya da hızlandırıcı bir etkisinin olup olmadığını incelemek amacıyla 2008 yılında ortaya çıkan küresel mali krizin mali yerelleşme üzerindeki etkisini inceledikleri çalışmalarında krizlerin alt düzey yönetimlerin döngü karşıtı faaliyetlerdeki rolü üzerinde ani bir etkiye sahip olduğu kriz sonrası dönemde alt düzey yönetimlerin harcama ve gelirlerinin genel yönetim harcama ve borçluluk düzeyi ile uyumlu bir biçimde yerelleştiği sonucuna ulaşmışlardır. Yazarlara göre kriz sonrasında yerelleşmedeki artışın nedeni kriz nedeniyle artan genel yönetim harcamaları dolayısıyla borçları, borçların yönetimi ve bölgelerin ihtiyaç ve tercihlerini içeren politika paketlerinin güvence altına alınması gereği sonucunda yönetim düzeylerinin aralarındaki koordinasyonu güçlendirmeye çalışmaları ve/veya kriz sürecinde gerçekleştirilecek mali uyum maliyetlerinin yönetim düzeyleri arasında paylaşılması gereğinin alt düzey yönetimlere merkezi yönetimle politika ve mali-finansal yönetim alanında pazarlık gücü sağlaması olabilir.

Yönetim düzeylerinin harcama ve gelir yapısı ve kompozisyonu mali yerelleşme üzerinde etkili olabileceği için bazı çalışmalarda yönetim düzeylerinin harcama ve gelirleri ile çeşitli harcama ve gelir türlerinin etkileri incelenmektedir. Kamunun ya da idarenin büyüklüğünün mali yerelleşme üzerindeki etkisini ölçmek amacıyla Garrett ve Rodden (2006) toplam kamu harcamalarına, Sacchi ve Salotti (2016) ise idarenin gerçekleştirdiği tüketim harcamalarına yer vermiştir. Garrett ve Rodden (2006) model seçimine duyarlı olmakla birlikte kamu sektörünün daha büyük olduğu ülkelerde yerelleşmenin daha fazla olduğu, Sacchi ve Salotti (2016) ise yönetimin ekonomideki öneminin artmasının toplam harcamaların ve sağlık gibi belirli harcama araçlarının yerelleşmesi yönündeki baskıyı azalttığı sonucuna ulaşmıştır. Bahl ve Nath (1986), merkezi yönetimin gelirlerini artırmak için gösterdiği çabanın yerel yönetimlere yapılan yardımların ve bu yönetimlerle paylaşılan vergilerin artmasını sağlayabileceği gibi; merkezi yönetimin yardımları ihtiyari olarak vermesi nedeniyle merkezi vergilerin alt düzey yönetimlerle her zaman paylaşılmayabileceği için bu etkiyi ölçmek amacıyla merkezi yönetim gelir gayretine yer vermişler ve merkezi yönetim gelir gayretinin etkisinin negatif ve anlamsız olduğunu

bulmuşlardır. Maličká ve Martinková (2018) bütçe yaklaşımına dayalı mali değişkenlerden biri olarak toplam gelirlere yer vermiştir. Alexeev ve Mamedov (2017) gelirlerin merkezi yönetimde toplanmasının ve alt düzey yönetimlerin bu yönetimlerden yapılacak transferlere olan bağımlılığının merkezileşmeyi artıracığı, Kee (1977) merkezi yönetimin gelirlerin toplanmasındaki rolünün artmasının geleneksel olarak yerel nitelikli bazı harcama fonksiyonlarının merkezi yönetime geçmesiyle sonuçlanacağı görüşüyle idareler arası transferlere yer vermektedir. Kee (1977)'ye göre türü ve miktarı genellikle merkezi yönetime bağlı olan idareler arası transferler, bir ülkedeki mali sorumlulukların optimal bölüşümünde önemli rol oynamaktadır. Mali yerelleşme ya da daha genel anlamda yerel yönetimlerin bağımsızlığı, bu yönetimlerin merkezi yönetimden sağladıkları fonlara olan bağımlılığının bir fonksiyonudur. Kee (1977) idareler arası transferlerin harcama yerelleşmesi ve yerel yönetimlerin GSYH'deki payı üzerindeki etkisinin pozitif olduğu; yerel yönetimlerin vergi gayretini ise etkilemediği sonucunu elde etmiştir. Letelier (2005), etkisi alt düzey yönetimlerin hâlihazırda yapmakta oldukları harcamaların finansmanında bu gelirleri kendi gelirlerine ikame edip etmediklerine bağlı olduğu; Bodman ve Hodge (2010) alt düzey yönetimlerin özerkliğini ve harcamalarını etkileyebileceği, Sacchi ve Salotti (2016) yerel yönetimlerin harcamalarını ortak havuz ya da öz kaynaklar yoluyla finanse etmelerinin harcamalar üzerinde etkili olabileceği görüşüyle yardımlara yer vermişlerdir. Yardımlarla ilgili sonuçlar ülke gruplarına ve mali yerelleşmenin hesaplanma biçimine göre değişmektedir. Bunun dışında Sacchi ve Salotti (2016) alt düzey yönetimlerin diğer yönetim düzeylerinden aldıkları yardımlar haricindeki gelirlerinden oluşan ve Stegarescu (2005, 2009) alt düzey yönetimlerin önemli ölçüde kontrol ettiği otonom vergi gelirlerinden oluşan vergi yerelleşmesine yer vermektedir. Sacchi ve Salotti (2016) vergi yerelleşmesinin sağlık, eğitim, konut ve ulaşım harcamalarının yerelleşmesini pozitif etkilediği, sosyal harcamalardaki ve refah harcamalarındaki yerelleşmeyi ise etkilemediği sonucunu elde etmiştir. Sosyal karışıklık ya da savaş tehdidi alt düzey yönetimlere daha az takdir yetkisi verilmesine bu da mali yerelleşmenin de azalmasına neden olabileceği için bu durumun etkisini ölçmek amacıyla Bahl ve Nath (1986), Letelier-Saavedra (2005) ile Bodman ve Hodge (2010) savunma harcamalarına, Stegarescu (2005, 2009) komünist bloğun batı ülkelerine karşı oluşturduğu tehdidin bir temsilcisi olarak *Soğuk Savaş* değişkenine yer vermiş ve bu değişkenlerin etkisi negatif bulunmuştur.

Politik yapının ve işleyişin mali yerelleşme üzerindeki etkisini ölçmek amacıyla yer verilen değişkenlerden biri olan demokrasi (Pommerehne, 1976; Arzaghi & Henderson, 2005; Bodman & Hodge, 2010; Armye & McNab, 2018; vd.) açısından rant arayışındaki otoriter bir yönetim aldığı kararlarda vatandaşların taleplerinden ziyade kendi çıkarları doğrultusunda hareket ederek yerelleşmeye olan talebi baskılamak isteyebilecek ve bunu da rızaya gerek duymadan gerçekleştirebilecek (Garrett & Rodden, 2006), demokratik bir yönetim ise gündem belirleme gücünü kötüye kullanmaya çalışmayacaktır (Panizza, 1999). Bu nedenle gücü ve kaynakları elinde tutmaya çalışan otoriter bir rejimde yerelleşme demokratik rejimlerdekine göre daha az olacaktır. Demokratikleşme ile ilgili sonuçlar farklılaşmakla beraber mali yerelleşme üzerinde Treisman (2006) demokrasi düzeyi ve

süresinin açık bir etkiye sahip olmadığı ve Garret ve Rodden (2006) demokratikleşmenin zamanla oluşan ya da değişen bir etkisinin olmadığı sonucuna ulaşmışlardır.

Politik yapı ve işleyişle ilgili olarak, Jametti ve Joanis (2016) ile Stegarescu (2005) yönetimin harcama ve gelir davranışlarını etkileyeceği için seçim döngülerinin etkisini ölçmek amacıyla ulusal düzeyde seçim yapılan ve yapılmayan yıllar için oluşturulmuş bir seçim değişkenine yer vermiştir. Parlamentoda çoğunluğun egemen olup olmadığını, partilerin meclisteki dağılımını temsil etmek üzere Stegarescu (2005) seçim sistemi değişkenine, Jametti ve Joanis (2016) hükümetin ve muhalefetin meclisteki payına, Sacchi ve Salotti (2016) politik çoğulculuğu ifade eden bir çoğulculuk değişkenine, Letelier-Saavedra ve Sáez-Lozano (2015) hükümetin meclisteki çoğunluğu ve parlamentoda etkili olan parti sayısına, De Mello ve Jalles (2019) ise denetim ve denge ile istikrar değişkenine yer vermektedir. Stegarescu (2005) seçilmiş yöneticilerin mecliste güvenoyuna tabi olup olmadığını gösteren bir başkanlık rejimi kuklasına, Letelier-Saavedra ve Sáez-Lozano (2015) yürütmenin türünü (parlamentar, başkanlık, karma ya da diktatörlük) gösteren bir değişkene yer vermiştir. İdeolojik olarak karşıt görüşlere sahip partiler belirli politika alanlarında farklı mali davranışlar sergileyebileceği için (örneğin sol hükümetler genişletici politikalara daha yatkın olabilecektir) (Sacchi & Salotti, 2016) bazı çalışmalarda hükümetin ve/veya muhalefetin ideolojisini gösteren değişkenlere yer verilmektedir (Jametti & Joanis, 2016; vd.). Bu değişkenlerle ilgili olarak Stegarescu (2005) sol partilerin egemen olduğu merkezî yönetimlerde harcama yerleşmesinin daha fazla olduğu, Sacchi ve Salotti (2016) kabinede sol partinin egemen olması durumunda eğitim ve kamu düzeni harcamalarındaki yerleşmenin azaldığı ve sağ parti egemenliğinde konut ve kamu düzeni gibi belirli fonksiyonların yerleşmesinin arttığı toplam harcama yerleşmesinin ise azaldığı, Letelier-Saavedra ve Sáez-Lozano (2015) sağ parti koalisyonlarının ulaşım harcamaları dışında yerleşmeyi azalttığı sonucuna ulaşmıştır.

Alt düzey yönetimlerin ulusal düzeyde alınan kararlara etkisi ve parlamentoda temsili ile ilgili olarak Treisman (2006) politik yerleşmeye yer vermektedir. Stegarescu (2005,2009) alt düzey yönetimlerin alınan kararlara katılım biçimi, ulusal parlamentodaki temsilcilerinin nasıl seçildiği ve bu temsilin düzeyi, temsil türü ve karar alma gücü, ulusal düzeyde merkezî olarak alınan kararlar üzerindeki etkisi ile ilgili değişkenlere yer vermiş ve üniter devletlerdeki bölgesel temsilin ve alt düzey yönetimlerin merkezî karar alma sürecine katılımının ve parlamentodaki genel temsilin, biçiminden bağımsız olarak, yerleşmeyi, bölgesel seçmenlerin ya da bölgesel meclislerin vergileme gücü ya da diğer politika alanlarındaki kararlara doğrudan katılımlarının alt düzey yönetimlerin öz vergi gelirlerinin yerleşmesini artırdığı, ulusal düzeyde daha güçlü bir alt düzey temsilin vergi yerleşmesi üzerinde anlamsız olmakla birlikte negatif bir etkiye sahip olduğu sonucuna ulaşmıştır. Vergileme konusunda merkezî yönetimin nihai yetkiye sahip ve bölgesel yönetimler tarafından delegelendirilen temsilcilerden oluşan parlamentoların, doğrudan demokrasinin, dünya ekonomisi ve daha az düzeyde Avrupa ile entegre olan ve dolaylı olarak seçilmiş bölgesel temsilcilerin olduğu ülkelerde merkezileşmenin daha yüksek olduğu özellikle küresel ekonomi ile entegre olan ülkelerde alt düzey yönetim ya da meclislerin daha üst düzeylerde temsiline vergi yerleşmesini önemli ölçüde azalttığı sonucuna ulaşmıştır. Alt

düzyer yönetimlerim kendi bölgelerinde alınan kararlar üzerindeki etkisi ile ilgili olarak Sacchi ve Salotti (2016) yerel yönetimlerin doğrudan yönettikleri yerel nüfus tarafından seçilip seçilmediğini, Arzaghi ve Balthrop (2018) ülkenin 1975'de bölgesel ya da yerel bir seçime sahip olup olmadığını, Bodman ve Hodge (2010) alt düzey yönetimlerde seçim yapıp yapılmadığını, Pommerehne (1976) bölgesel yönetimlerin kendi bölgelerinde bağımsız ya da merkezi yönetimle koordineli hareket edip etmediklerini gösteren bir değışkene ve Armev ve McNab (2018) bölgesel yönetimlerin kurumsal derinlik, politika kapsamı, mali özerklik, borçlanma özerkliği, temsil, kanun koyma, yürütme kontrolü, mali kontrol, borçlanma kontrolü ve anayasal reform alanlarındaki otoritesini gösteren bir endekse yer vermektedir. Bodman ve Hodge (2010) alt yönetim düzeylerinde daha fazla yönetim düzeyinde seçim yapılmasının vergi yerleşmesini pozitif etkilemekle birlikte öz kaynaklardan elde edilen vergi yerleşmesi üzerinde anlamlı bir etkiye sahip olmadığı, Pommerehne (1976) dikey güç dağılımının mali *merkezileşmeyi* negatif etkilediği sonucunu elde etmiştir.

Kamu sektörünün işleyişi ile ilgili olarak Bodman ve Hodge (2010) yönetimin orta ve alt kademelerinde yer alan alt düzey yönetim sayısına ve alt düzey yönetim çalışanlarının merkezi yönetim çalışanlarına oranına yer vermiş ve OECD ülkelerinde alt düzey yönetim sayısının paylaşılan vergi özerkliği ve toplam vergi özerkliğini negatif; alt düzey çalışan sayısının merkezi çalışanlara oranının ise otonom olmayan vergi ve gelir yerleşmesini pozitif etkilediği, harcama yerleşmesini anlamlı bir biçimde etkilemediği sonucunu elde etmişlerdir.

Tarihi ve kültürel faktörlerin mali yerleşme üzerindeki etkisini ölçmek üzere Jilek (2018) federal yapıya ve ülkenin yasal kökenine (İngiliz, Alman, İskandinav ya da Sosyalist); Treisman (2006) geçmişte kolonisi oldukları ülkelerden hareketle ülkelerin koloni geçmişlerine (Alman, Rus, Türk, diğer, koloni olmayan), Arzaghi ve Henderson (2005) ile Arzaghi ve Balthrop (2018) ülkedeki hukuk sisteminin Fransız hukukuna göre düzenlenmiş olup olmadığına, Stegarescu (2005) ülkenin yasal kökeninin İngiliz Hukukuna dayanıp dayanmadığına ve dinin merkezileşme ile ve güçlü bir merkezi yönetimle ilgili tercihlerdeki etkisinin bir temsilcisi olarak Katolik nüfus yüzdesine yer vermiştir. Jilek (2018) yasal kökeni sosyalist ya da Alman temeline dayanan ülkelerde yerleşmenin, yasal kökeni İngiliz temelli ülkelerde ise merkezileşmenin daha fazla olduğu, Treisman (2006) İspanya veya Portekiz'in eski sömürgelerinde merkezileşmenin, eski Sovyet ülkelerinde ise yerleşmenin daha fazla olduğu, Arzaghi ve Henderson (2005) ile Arzaghi ve Balthrop (2018) Fransız Hukukunun ve Stegarescu (2005) sivil hukuk geleneğinin mali *merkezileşmeyi* artırdığı sonucunu elde etmiştir.

Bunların dışında son dönemde yapılan çalışmalarda etkisi incelenen değışkenlerden biri doğal kaynaklardır. Bir ülke doğal kaynaklara sahip olduğunda bir taraftan bu kaynaklardan sağlanan gelirler idarelerin finansmanına katkı yapacak diğer taraftan da doğal kaynak zenginliği yolsuzluk, otoriter yönetim, Hollanda sendromu ve sivil çatışma gibi birçok potansiyel tehlikeyi beraberinde getirecek ve dolayısıyla yönetim düzeylerinin birbirleri ile ilişkilerini etkileyecektir (Arzaghi & Balthrop, 2018). Alexeev ve Mamedov

(2017)'a göre bir ülkenin doğal kaynaklara olan bağımlılığı doğal kaynaklardan sağlanan rantlar daha çok merkezi yönetimde toplandığı ve doğal kaynak rantlarına sahip bir yönetim vatandaşlarına hesap verme yükümlülüğüne ve yerleşmenin yerleşmeyi teşvik eden potansiyel yararlarına karşı daha az hassas olacağı için mali merkezleşmeyi artıracaktır. Bhattacharyya et al. (2017)'ya göre kaynak keşfi bir taraftan gelirlerini maksimize etmeye çalışan bir merkezi yönetimi güçlendirerek mali merkezleşmeyi artırabilirken öte yandan merkezi yönetimin yönetimde kalmak ve gücünü artırmak ya da kamu harcamalarındaki etkinliği artırmak için yerleşmeyi artırmasına da neden olabilir. Arzaghi ve Balthrop (2018)'a göre ülkenin MENA (Ortadoğu ve Kuzey Afrika) bölgesinde oluşu bu bölgede petrol zengini ve oldukça merkezleşmiş ülkelerin bulunması nedeniyle mali yerleşme üzerinde etkili olacaktır. Çalışmalarda doğal kaynak zenginliğinin merkezleşmeyi artırdığı sonucuna ulaşılmıştır. Bhattacharyya et al. (2017) doğal kaynak keşfinin (hem petrol hem mineral) gelir yerleşmesi üzerindeki keşiften önceki 10 yıldaki ve keşiften sonraki 10 yıldaki etkisi arasında çok küçük bir fark olduğu ancak keşiften sonraki altı yılda harcamalardaki merkezleşmenin arttığı ve dev petrol keşiflerinin bu etkiyi güçlendirdiği sonucunu elde etmiştir. Yazarlara göre kaynak keşfinin olduğu kalıcı olarak demokratikleşmiş ülkelerde daha fazla alt düzey mali özerklik hoş görülebilmekte, diğer ülkelerde ise eğilim ezici bir biçimde merkezleşme lehine olmaktadır. Yazarlar genel beklentilerin aksine, mülk ya da refah harcamalarında (merkezi yönetim tarafından fonlanan okul ve hastaneler) keşif kaynaklı bir patlama yaşandığına dair bir bulguya rastlamadıklarını belirtmektedirler.

3. Yöntem ve Veri

Bu çalışmada mali yerleşmenin temel belirleyenleri olarak; yüz ölçümü, nüfus büyüklüğü, gelir ve zevklerdeki/tercihlerdeki çeşitliliğin kapsamı ve nüfus içerisindeki coğrafi dağılımı ile ilgili değişkenlere yer verilmiştir. Ayrıca bir ülkenin mali açıdan daha merkezleşmiş ya da yerleşmiş olması üzerinde etkili olan küreselleşme, kurumsal faktörler, istikrar ve gelir dağılımı ile ilgili değişkenler ile olan ilişkiler de ampirik olarak incelenmektedir. Bunların dışında bu çalışmaya özgü olarak ülkenin kalkınma düzeyinin mali yerleşme üzerindeki etkisini ölçmek üzere İnsani Gelişim Endeksi (İGE) ile son yıllarda mali yerleşmeyi, yerel yönetimlerde gerçekleştirilen faaliyetlere halkın katılımını ve mali yerleşmeden beklenen faydaları artırmak ve yerel yönetimleri güçlendirmek amacıyla giderek yaygınlaşan katılımcı bütçeleme uygulamasının mali yerleşme üzerindeki etkisini ölçmek üzere katılımcı bütçeleme değişkeni dâhil edilmiştir.

Çalışmada mali yerleşme: harcamalar için alt düzey yönetim birimlerinin giderlerinin genel yönetim giderlerine; gelirler için ise alt düzey yönetim birimlerinin gelirlerinin genel yönetim gelirlerine oranı olarak hesaplanmıştır. Alt düzey yönetim birimi kavramı ile merkezi yönetim dışındaki; merkezi yönetimle yerel yönetimler arasında, merkezi yönetime göre daha küçük fakat yerel yönetimlere göre daha büyük ölçekteki eyalet (ülkelere göre örneğin kanton, lander gibi farklı isimler alabilmektedir) yönetimleri ve yerel yönetimler kastedilmektedir. Mali yerleşmenin hesaplanması konusunda literatürde bir görüş birliği bulunmamakta ve mali yerleşme farklı bakış açılarıyla farklı biçimlerde

hesaplanmaktadır. Yaygın ve geleneksel olarak kullanılan oran olması ve yerel yönetimlerin harcama ve gelirlerinin tümünün hesaba katılarak ekonomideki etkilerinin olabildiğince geniş bir biçimde dikkate alınmasını sağlayacağı düşüncesiyle mali yerelleşmenin hesaplanmasında bu oran tercih edilmiştir.

Siyasi yönetim yapısı olarak ülkeler federal ve üniter olmak üzere ikiye ayrılmaktadır. Üniter yapıli devletlerde merkezi yönetim ve yerel yönetimlerden oluşan iki düzeyli bir yapılanma söz konusu iken federal yapıli devletlerde merkezi yönetimler ile yerel yönetimler arasında yer alan, yetki ve sorumlulukları yerel yönetimlere göre daha fazla fakat merkezi yönetime göre daha az olan eyalet düzeyinde yönetimlerin de yer aldığı üç düzeyli bir yapılanma söz konusu olmaktadır. Ülkenin federal ya da üniter olarak yapılanmış olması kamusal alandaki tüm faaliyetlerde olduğu gibi mali yerelleşme üzerinde de etkili olmaktadır. Ancak ülkedeki yönetim yapısının şekillenmesi ülkeye özgü koşullar sonucunda ortaya çıkmakta ve aynı yapılanma biçimine sahip ülkeler arasında bile uygulamada farklılıklar oluşmaktadır. Bu koşul ve farklılıkların belirlenmesi ve temsilindeki zorluklardan dolayı çalışmada ülkenin federal ya da üniter yapısına açıklayıcı değişken olarak yer verilmemiştir. Mali yerelleşmeyi etkileyen faktörlerin farklı büyüklükteki yönetim düzeyleri üzerindeki etkilerinin de farklı olması nedeniyle eyaletler ve yerel yönetimler düzeyinde mali yerelleşme ayrıca ele alınmıştır. Mali yerelleşme eyaletler düzeyinde, bu düzeyde yönetim birimlerine sahip OECD ülkeleri için, bu yönetimlerin; yerel düzeyde de yerel yönetim birimlerinin gelir ve harcamaları dikkate alınarak hesaplanmıştır.

Türkiye dışındaki ülkeler için mali yerelleşmenin hesaplanmasında kullanılan genel yönetim, eyalet yönetimleri ve yerel yönetim gelir ve giderleri ile ilgili veriler Uluslararası Para Fonu'nun (IMF) Devlet Maliyesi İstatistikleri (GFS) veri tabanından alınmıştır. Türkiye için mali yerelleşmenin hesaplanmasında ise T.C. Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığının Kamu Kesimi İstatistiklerinin Kamu Kesimi Genel Dengesi ve Mahalli İdareler Genel Dengesi verilerinden yararlanılmıştır.

3.1. Ülke Büyüklüğü

Ülkenin nüfus ve coğrafi alan anlamında büyüklüğünün mali yerelleşme üzerindeki etkisi üç açıdan değerlendirilebilir. İlk olarak alan olarak daha büyük ülkelerde mal ve hizmetlerin sunumunda ortaya çıkacak dışsallıkların ve yayılma etkilerinin içselleştirilmesi (Stegarescu, 2005) ve nüfus olarak daha büyük ülkelerde ölçek ekonomilerinden yararlanmak (Oates, 1972; Wallis & Oates, 1988) daha küçük yönetim birimlerinde de mümkün olabilecektir. Dolayısıyla bu açıdan nüfus ve alan olarak daha büyük ülkelerde yerelleşmenin daha fazla olması beklenebilir. İkincisi çok sayıda yönetim biriminin olması her bir yönetimin idari faaliyetlerini gerçekleştirmesi için gereken ekipman, personel gibi ihtiyaçları nedeniyle idari maliyetlerin artmasına yol açacak bu durumda faaliyetlerin mümkünse tek bir yönetim birimi tarafından gerçekleştirilmesi tercih edilecektir. Ancak daha büyük ülkelerde merkezi yönetimin denetim gibi bazı faaliyetlerinin negatif ölçek ekonomileri nedeniyle çok büyük birimlerde gerçekleştirilmesi (Treisman, 2006) ve ülkenin tamamının ya da en azından uzak bölgelerinin merkezden idaresi zorlaşacak ve kamu

sektöründe kaynakların verimsiz kullanımı söz konusu olacaktır (Oates, 1972). Merkezileşmiş bilginin, idarenin ve karar almanın maliyetleri ülke büyüklüğü ile artma eğiliminde olduğu için (Stegarescu, 2005) idari maliyetler açısından mali yerleşmenin ülke büyüklüğü ile artması beklenebilir. Üçüncü olarak ise daha büyük boyutlardaki ülkelere çeşitlilik daha fazla olacağı için kamu mal ve hizmetleri konusundaki zevk ve tercihler de daha heterojen olacaktır (Treisman, 2006). Bu durumda da mali yerleşme artma eğiliminde olacaktır.

Çalışmada ülke büyüklüğü için kullanılan nüfus ve yüz ölçümü değişkenleri ile ilgili veriler Dünya Bankası'nın Dünya Kalkınma Göstergeleri veri tabanından alınmıştır¹.

3.2. Ekonomik Büyüme ve Gelişmişlik Düzeyi

Büyüme süreci kamu harcamaları ile ilgili sorumluluğu üst düzey yönetim birimlerinin üstlenmesi için baskı oluşturacaktır. Bu baskı farklı şekillerde ortaya çıkabilir. İlk olarak ulaşım ve iletişimdeki gelişmeler belirli grupların toplumun herhangi bir yerindeki yaşam tarzı ve kamu hizmetlerinin standartları ile ilgili bilgilerini artırarak kamu hizmetlerinin iyileştirilmiş ve tek tip standartlarda sunulmasına yönelik taleplerin ve baskıların artmasına bu da kamu harcamalarının büyüklüğü ve niteliği üzerindeki kontrolün merkezileşmesine yol açabilecektir. İkincisi ulaşım ve iletişimdeki gelişmeler hem daha büyük alanların kontrolünü mümkün kılarak hem de bu alanları ekonomik olarak verimli hale getirerek ekonomik gelişme sürecinde ölçek ekonomilerinden faydalanılmasını sağlayabilecektir (Peacock & Wiseman, 1961). Üçüncüsü gelir düzeyinin daha yüksek olduğu bir ülke kamu sektörünün yeniden dağıtıcı programlarının düzeyindeki artış sebebiyle daha fazla merkezileşmiş olabilecektir (Wallis & Oates, 1988). Sorumlulukların daha üst düzey bir yönetimde yoğunlaşmasıyla gerçekleşen konsantrasyon süreci farklı yerel işlevleri farklı biçimlerde etkilemektedir. Konsantrasyon sürecinde yönetim harcama türlerinin genişlemesi sonucu ortaya çıkan sorumlulukların daha büyük bir kısmı ile belirli hizmetlerin sorumluluğu üst düzey yönetimler tarafından üstlenilebilir. Gelir kaynaklarından biri daha yüksek otoritelerden sağladıkları gelirler olduğu için bu süreçte alt düzey yönetimler üst yönetimlere daha bağımlı hale gelerek etkili otonomilerini kaybedebilir. Kent düzenlemeleri veya su temini gibi özel hizmetlerin sağlanması biçimindeki sorunların çözümü için merkezi yönetimin geniş kontrolü altında yeni otoriteler oluşturulabilir. Ekonomik büyümenin standartların tek tipleştirilmesi için oluşturduğu baskıların yanı sıra tersi eğilimde baskılar da bulunmaktadır. Yönetimin alt düzeyleri bir tarih ve geleneğe sahip birimler oldukları için bu birimlerin otoritelerinden kolayca vazgeçmeleri beklenemeyebilir. Yerel otonomiye koruma baskısı hem merkezi hem yerel yönetim düzeyinde politik olarak önemlidir. Yerel yönetimler tarihsel gelişimleri ile birlikte değişken nitelikli geniş sorumlulukları üstlenmektedir ve bu farklı faaliyetlerdeki değişikliklerin de tek tip olması beklenemeyecektir (Peacock & Wiseman, 1961).

¹ <<https://databank.worldbank.org/source/world-development-indicators>>, 02.03.2021.

Ekonomik gelişme yerel hizmet sunumuna olan talebi hızlandırmakta ve yönetimlerin gelir yaratma kapasitelerini artırarak yerelleşmeyi ekonomik hale getirmektedir (Bodman & Hodge, 2010). Daha yüksek düzeyde bir ekonomik gelişme söz konusu olduğunda yerel yönetimler daha fazla sayıda yetenekli personele sahip olabileceklerdir. Bununla birlikte ekonomik gelişmedeki artışla nüfus da daha gelişmiş daha kültürlü bir nüfusa dönüşecek ve yerel kamu mallarının daha çeşitli bir karışımını talep eder hale gelecektir (Wasylenko, 1987).

Çalışmada ekonomik büyüme ile ilgili olarak GSYH değerleri kullanılmaktadır². GSYH verileri Dünya Bankası'nın Dünya Kalkınma Göstergeleri veri tabanından alınmış sabit yerel para birimi cinsinden ifade edilen verilerdir³. Ülkenin gelişmişlik düzeyinin etkisi için kullanılan İnsani Gelişme Endeksi insani gelişmenin doğumda beklenen yaşam süresi ile değerlendirilen sağlık boyutu, 25 yaş ve üzeri yetişkinlerin ortalama eğitim süresi ve okula başlama yaşındaki çocuklar için beklenen eğitim süresi ile ölçülen eğitim boyutu ve kişi başı gayri safi milli gelir ile ölçülen yaşam standardı boyutunun ortalamasından oluşan bir bileşik endekstir (UNDP, 2019) ve endekisle ilgili veriler Birleşmiş Milletler Kalkınma Programı (UNDP) İnsani Gelişme Raporlarından alınmıştır⁴.

3.3. Kentleşme

Kentleşmenin mali yerelleşme üzerindeki etkisi iki şekilde ortaya çıkabilir. Birincisi kentleşme ve kentsel nüfustaki artış sonucu yerel yönetimlerin üstlendikleri ya da yerel toplulukların talep ettikleri hizmetler sayı ve tür olarak artmakta ve bu hizmetlerin teknik içerikleri de değişmektedir (Ulusoy & Akdemir, 2013). Kırsal topluluklarda ekonomik kalkınmanın erken aşamalarında, bazı yerel kamu hizmetleri, nakit akışına gerek kalmaksızın sağlanabilir. Ancak şehir yaşamında sosyal parçalanmanın daha fazla olması hukuk ve düzen hizmetine olan ihtiyacı artırmaktadır. Kentsel alanlarda kırsal alanlara göre kişi başına daha yüksek maliyetli olan kamu hizmetleri, yerel olarak sağlanan kamu hizmetlerinde yani yerel harcamalarda merkezi harcamalardan daha hızlı bir artışa neden olabilir (Kee, 1977). Nüfusun kentsel alanlarda yoğunlaşması durumunda yerel kamu mallarına olan talep muhtemelen artacak bu da merkezi yönetimin yerel yönetimlere daha fazla mali sorumluluk devretmesine sebep olacaktır. Bu durumda mali yerelleşmedeki değişimin bir kısmının kentleşme ile açıklanması mümkündür (Wallis & Oates, 1988; Wasylenko, 1987; Garrett & Rodden, 2006). İkincisi kentleşme sonucu kentsel alanlarda hizmet ihtiyacının artması ya da hizmetlerin karşılanmasında merkezi yönetimin kontrol ve sorumluluğunun artmasını gerektirebilir (Peacock & Wiseman, 1961). Daha iyi bir kentsel altyapı ya merkezi hükümet özerk bir şekilde kamu kentsel tesislerini iyileştirmeye karar verdiği için ya da böyle gelişmiş bir altyapı ülkenin kırsal alanından daha fazla nüfus

² İGE kişi başı gelirle hesaplandığı için olası korelasyon nedeniyle toplam GSYH tercih edilmştir.

³ <<https://databank.worldbank.org/source/world-development-indicators>>, 02.03.2021.

⁴ <<http://hdr.undp.org/en/content/human-development-index-hdi>>, 02.03.2021.

çekebileceği ve bu da kamu harcamalarının daha da artmasına neden olacağı için merkezileşmeye sebep olacaktır (Letelier-Saavedra, 2005).

Çalışmada kullanılan kentleşme değişkeni için Dünya Bankası'nın Dünya Kalkınma Göstergeleri'nde toplam nüfusun yüzdesi olarak verilen kentsel nüfus verileri kullanılmıştır⁵.

3.4. Zevk ve Tercihler

Yerleşmiş bir sistemin temel cazibesi kamusal çıktıların her bölgenin talebine uygun bir birleşimini sağlayabilme potansiyeline sahip olmasıdır. Kamu mallarına olan talebin tüm bölgelerde benzer olması durumunda kapsamlı bir yerleşmeden küçük bir kazanç sağlanabilecektir. Oates (1972) yerleşme teoreminden hareketle nüfusun coğrafi gruplar halinde bireysel taleplerin her bir grupta benzer fakat gruplar arasında önemli ölçüde farklılık gösterecek biçimde düzenlenmesi durumunda kamu malının yerleşmiş sunumundan sağlanacak potansiyel refah kazanımlarının daha büyük olma eğiliminde olacağını ifade etmektedir. Kamu hizmetlerine olan talep bölgeler arasında farklılık gösteriyorsa yerleşmenin artması yönünde bir beklenti oluşacaktır (Oates, 1972). Kamu hizmetleri talebindeki çeşitlilik ya da tek tiplik bazı araçlarla belirlenebilir. Bireysel tercihlerin ve gelir seviyelerinin büyük ölçüde farklılaştığı durumlarda, kamu hizmetlerine olan talepte çeşitliliğin artması beklenebilir (Oates, 1972). Bireylerin gelirlerindeki farklılığın yanı sıra gelirdeki ve refahtaki artış kamu hizmetleri ile ilgili tercihlerin çeşitlenmesini sağlayabilir. Nüfus ya da alan anlamında daha büyük bir ülkede tercihlerdeki çeşitliliğin daha fazla olması beklenebilir. Ancak bunlarla birlikte bir ülke sınırları içerisinde yaşayan vatandaşların etnik, dil ve dini anlamda sahip oldukları kültürel özellikleri de kamu hizmetleri ile ilgili tercihlerdeki çeşitlilik üzerinde etkili olmaktadır. Sosyoekonomik göstergelere göre daha fazla çeşitlilik gösteren devletlerin kamu sektörleri, diğer şeyler eşitken, daha fazla yerleşmiş olacaktır (Wallis & Oates, 1988).

Çalışmada zevk ve tercihlerle ilgili çeşitliliği göstermek üzere bir popülasyondan rasgele seçilen iki kişiden birinin farklı gruplara ait olma olasılığını yansıtan Etnik Farklılaşma Endeksi (EFE)'ne yer verilmiştir. EFE Zürih Federal Teknoloji Enstitüsü'nün (ETH Zürih) "Ethnic Power Relations Dataset Family 2018" veri setindeki etnik grup verileri⁶ kullanılarak şu formülle hesaplanmıştır:

$$EFE_j = 1 - \sum_{i=1}^N s_{ij}^2$$

⁵ <<https://databank.worldbank.org/source/world-development-indicators>>, 02.03.2021.

⁶ <<https://icr.ethz.ch/data/epr>>, 02.03.2021; bkz. Vogt et al., 2015.

Burada s_{ij}^2 grup i 'nin ($i=1\dots N$) j ülkesindeki payını göstermektedir. EFE'nin 0 sıfır olması tam homojenlik, bir olması tam heterojenliği göstermekte; sıfır değerini alması ülkenin tek bir etnik gruptan oluştuğu anlamına gelmektedir⁷.

3.5. Küreselleşme

Çalışmada küreselleşmenin, bir ülkenin dünya ülkeleriyle entegrasyonunun mali yerelleşme üzerindeki etkisi hem ekonomik hem sosyal hem de politik entegrasyon açısından ele alınmaktadır. Ekonomik entegrasyon açısından mali yerelleşme üzerinde iki yönlü bir etki ortaya çıkabilir. İlk olarak, teknolojik gelişmeler sonucunda ulaşım ve taşımacılık maliyetlerinin azalması, artan üretimle yeni pazarlara açılma gereği duyulması gibi faktörlerin ortaya çıkardığı küreselleşme ile dünya ekonomisi bir bütünleşme sürecine girmiş ve sermaye ile işgücü eskisi ile kıyaslanamayacak düzeyde mobil hale gelmiştir (Benk & Akdemir, 2004). Mobil faaliyetleri çekmek üzere tasarlanan vergi rejimlerinin artması vergi kaynaklı çarpıklıkların dünya genelinde oluşturabileceği refah azalışından kaçınabilmek ve vergi tabanlarının korunabilmesi için hükümetlerin özellikle uluslararası işbirliğini artırmaya yönelik önlemler almasını gerektirebilir (Yereli, 2005). Dışa açık ekonomilerde gümrük vergilerinden önemli ölçüde gelir elde edilmesi durumunda merkezi yönetimin gümrük vergilerinin toplanması ve idaresinde daha fazla sorumluluk üstlenmesi gerekebilir ya da merkezi yönetim daha kolay gelir elde edebileceği için bu vergileri toplayabilmek adına merkezileşmeyi tercih edebilir (Letelier, 2005; Wasylenko, 1987). Genel kabule göre dünya ile daha bütünleşmiş ekonomilerde hükümet müdahalelerinin etkililiği daha az, ticaret hacmi ile idarenin kapsamı arasında negatif bir ilişki olmalı iken dışardan gelen risklerin varlığı durumu değiştirmekte, bağımlılıklarda ve emtiada ve finansal akışta artışla egemen devletlerin düzenleyici kapasiteleri aşmakta ve ulusal hükümet politikalarının merkezileştirilmesi ya da koordinasyonu gerekmekte ve toplumlar da dış şokların getirdiği risklerden korunmanın bedeli olarak hükümetin rolünün ve harcamalarının artmasını kabul ve talep edebilmektedirler (Rodrik, 1998; Stegarescu, 2005). İkincisi, ticaretin tamamen serbest olduğu bir ekonomide her bir ülke kendi yerleşmiş endüstri setini bu endüstrilerin sahip olduğu ürünleri ihraç edip sahip olmadıklarını ithal ederek geliştirebilir (Krugman, 1993). Entegrasyon küçük yerel işletmelerin bile doğrudan uluslararası işlemlere katılmak ve merkezi pazarlardaki mobil insan gücü, şirketler ve yatırımcılar için rekabet etmek için merkezi otoriteleri bertaraf etmesine izin vermektedir. Yerel yönetimler, mobil faktörler için rekabet edebilmek amacıyla yerel kamu malları ve vergilerinin sağlanmasında daha fazla özerklik talep ederek bu avantajlardan yararlanabilirler. Entegrasyon bölgesel düzeyde yığılma ve uzmanlaşma etkileri oluşturarak ölçek ekonomileri yoluyla ülke büyüklüğünün ekonomik büyümeye sağladığı faydaları, küçüklüğün ekonomik maliyetlerini dolayısıyla merkezi otoritenin daha küçük birimlerle paylaşılmasının önündeki engelleri azaltabilecektir (Stegarescu, 2005; Ermini & Santolini, 2014).

⁷ *Etnik, dil ve dini farklılıkları hesaplamada örneğin Alesina et al. (2003), Easterly & Levine (1997), Stegarescu, (2005) ve diğer birçok çalışmada yaygın olarak kullanılan formüldür.*

Küreselleşmenin bir diğer boyutu olan politik entegrasyon açısından politik entegrasyonla ticaretteki ve faktör hareketlerindeki engellerin ortadan kalkması ekonomik entegrasyon düzeyini artırarak ekonomik entegrasyonun yerleşme üzerindeki olumlu etkisini destekleyecektir. Entegrasyonun uluslarüstü bir kuruluşla üyelik biçiminde gerçekleşmesi durumunda eskiden merkezi yönetim tarafından yerine getirilen hizmetlerin belirli bir kısmı artık daha çok uluslarüstü kuruluş tarafından yerine getirilecek, bu da ulusal hükümetlerin sigorta fonksiyonu yerine geçen yapısal politikalar ve uyum politikaları gibi faaliyetlerini de içeren daha yüksek vergi anlamındaki yerleşme maliyetlerini azaltarak yerleşmeye katkıda bulunabilecektir. (Stegarescu, 2009).

Küreselleşmenin sosyal entegrasyon boyutu açısından ise, küreselleşme ile sermaye piyasaları ve nitelikli insanlar uluslararası bir özellik kazanmakta; bilgi teknolojisindeki gelişmelerle üretim artan bir oranda bilgi yoğun hale gelmekte ve serbestleşmekte, değişimin yaşanma ve yayılma hızı artmakta ve işgücü piyasaları daha yıkıcı ve istihdam daha istikrarsız olmaktadır. Uzmanlaşmanın uluslararası kalıpları ve nitelikli insanların mobilitesi sonucunda uluslar arasındaki eşitsizlik artmaktadır. Küreselleşmiş piyasalar, hesap vermeye yükümlü oldukları vatandaşlar için mümkün olan anlık bilgi akışı, nüfusun büyük kentler alanlarına hareketi ve bilgiye dayalı üretimin öneminin artması ulusal ekonomiler ve hükümetleri; sermaye, ürün ve yüksek nitelikli işgücü piyasalarının açıklığı yönetimin tüm düzeylerini zorlamaktadır. Ekonomik faaliyetleri çekmek amacıyla yaptıkları rekabet yönetim düzeylerinin, vergi tabanları ve oranları üzerindeki kontrolünü sınırlandırmakta ve yenilikçilik, girişimcilik ve fiziki, maddi olmayan ve beşerî sermaye yatırımlarını hızlandırmaya zorlamaktadır. Yerel yönetimlerin vergi tabanını kendi sınırlarına çekmek için rekabet etmeleri daha fazla mali özerklik talebi yönünde baskı oluşturmaktadır. Yeni bilgi teknolojisi formlarının vatandaşların yönetimlerden hesap sorma yeteneklerini artırması ve vatandaş aktivizminin yeni biçimlerini etkinleştirerek onları güçlendirmesi aşağıdan yukarıya hesap verebilirliği, hizmet sunumunda duyarlık ve etkinliği artırma ve vatandaşların kendi hükümetleriyle, özellikle de yerel yönetimlerle olan işlemlerinin maliyetlerini azaltma potansiyeline sahiptir. Bilgi teknolojisi hükümet dışı kuruluşların etkinliğini artırma ve yerel hizmet sunumuna onların da dâhil olması imkânı sunmakla birlikte yerel performansın komşu bölgelerle kıyaslanarak farkındalığın ve dolayısıyla rekabet ve yeniliğin artmasını sağlayabilecektir. Sosyal entegrasyon yerel kültürel kimliğin uluslararası homologasyon tehdidinden korunmasına olan talepleri güçlendirebilir. Sonuçta, küreselleşme sonucu oluşan baskılarla ilgili sorumlulukların bir kısmını özellikle merkezi yönetimler üstleneceği için, yerel yönetimlerin rolü merkezi hükümetler pahasına artacak, yerel yönetim, bölgesel ve toplumsal sınırlarda politikalar uygulayabilmek için gücün merkezi otoriteden devredilmesini savunacaktır (Boadway & Dougherty, 2018; Ermini & Santolini, 2014).

Küreselleşme sürecinde devletin yerini kentler ve örgütlenmiş kurumlar almakta, kentlerin ekonomik ve sosyal yaşamdaki yeri ve önemi artmakla birlikte geniş yetkilere sahip yerel yönetim alanında bir daralma da yaşanmaktadır. Bazı gelişmiş ülkelerde yerel yönetimlerin görev ve yetkilerinin merkezileştirilmesi bu yönetimlerin harcama ve gelirlerini kısıtlamakta iken gelişmekte olan ülkelerde yerleşme olgusu ile yerel

yönetimlerin öneminin arttığı, küçültülmeye çalışan merkezi devletin fonksiyonlarının yerel yönetimlere devredildiği görülmektedir (Bülbül, 2013).

Çalışmada bir ülkenin dünya ülkeleri ile entegrasyonunun mali yerelleşme üzerindeki etkisini ölçmek amacıyla ekonomik küreselleşme (KOFecGI), sosyal küreselleşme (KOFSoGI) ve politik küreselleşme (KOFPoGI) için hesaplanan KOF Küreselleşme Endeksi (KOFGI) kullanılmıştır⁸ (Gygli et al., 2019).

3.6. Kurumsal Faktörler

Yerel yönetimlerde politikacılar kendi yararlarına da harcama yapabilmekte ve borçlarından dolayı temerrüde düşmeleri durumunda merkezi yönetim tarafından kurtarılarak davranışlarının maliyetini ulusun tümüne yüklemektedirler. Yerel yönetimlerin temerrüde düşmeleri kamu hizmetlerinin, yatırım ve istihdamın azalmasına neden olmakta ve bu tür hizmetlerin çoğunun ortaklaşa finanse edilmesinden dolayı seçmenlerin sorumlunun belirlenmesinde net bir ayrıma varamaması ve iflas eden belediyeyi kurtarmaya çalışırken merkezi yönetimin de temerrüde düşebilecek olması nedeniyle bu durumdan merkezi yönetim politikacılarının da sorumlu tutulabilmesine rağmen merkezi yönetim seçmenler tarafından cezalandırılabileceği için gelecekte kurtarma olmayacağına garantisini verememektedir (Faguet, 2014: 8). Mali yerelleşme açısından uygun bir ortamın oluşturulmasında alt düzey yönetimler için asgari düzeyde otonominin, haklar ve sorumlulukların belirlenmesine ve şeffaflığın, hesap verebilirliğin ve finansal disiplinin sağlanmasına yardımcı olan temel kurumsal yapılara ve uygulama prosedürlerine ve bunlar için de anayasal veya yasal düzenlemelere gerek duyulmaktadır (Smoke, 2004).

Ülkelerin kurumsal yapıları/özellikleri yönetim düzeylerinin birbirleri ile olan ilişkilerini ve alt düzey yönetimlerin faaliyetlerini etkilemekte daha kaliteli kurumsal yapıya sahip ülkelerde tüm yönetim düzeylerinde dolayısıyla alt düzey yönetimlerde de kamu hizmetlerinin sunumunda etkinliğin artması ve böylece yönetimlerin daha fazla hizmet sunma olanağına kavuşması, vatandaşların vergiye gönüllü uyumunun artması ve yönetimin gelir toplama maliyetlerinin azalmasıyla tüm yönetim düzeylerinde gelirlerin artması mümkün olabilmektedir.

Çalışmada kurumsal faktörlerin mali yerelleşme üzerindeki etkisini ölçmek üzere Dünya Bankası'nın Dünya Çapında Yönetişim Göstergeleri (WGI) verileri kullanılmıştır⁹. WGI yönetimin Söz Hakkı ve Hesap Verebilirlik, Politik İstikrar ve Şiddet/ Terörizm, İdari Etkinlik, Düzenleyici Kalite, Hukuk Kuralı ve Yolsuzluğun Kontrolü olmak üzere altı boyutunun göstergelerinden oluşmaktadır. WGI veri tahminleri yönetim performansında zayıftan güçlüye -2,5 ile +2,5 arasında değerler almaktadır (Kaufmann et al., 2010). Çalışmada WGI'yi oluşturan altı bileşenin ortalaması alınmıştır.

⁸ ETH Zürich, KOF Swiss Economic Institute, <<https://www.kof.ethz.ch/en/data/kof-time-series-database.html>>, 02.03.2021.

⁹ <www.govindicators.org>, 02.03.2021.

3.7. İstikrar

İş döngüleri temelde daha çok merkezi yönetimin bütçesini etkilemekte, harcamalarına olan talebin artmasına neden olmakta iken yerelleşmeye ve belirli kamu mallarına olan talebi de etkileyebilmektedir (Stegarescu, 2009; Bodman & Hodge, 2010). Ekonomik istikrarsızlık dönemlerinde ekonominin küçülmesi alt düzey yönetimlerin mali faaliyetlerinin de kısıtlanmasına neden olacaktır. Örneğin işsizliğin daha yüksek olduğu dönemlerde alt düzey yönetim harcamalarının payı da daha düşük olmaktadır. Diğer yandan istikrarlı fiyatlarla yüksek istihdam hedefine ulaşmada birincil rolü genellikle merkezi yönetimler üstlenmekte alt düzey yönetimler konjonktür karşısı bütçe politikalarının uygulanmasında çok daha az aktif rol oynamaktadır (Oates, 1972; Stegarescu, 2009).

Çalışmada ekonomik istikrarın mali yerelleşme üzerindeki etkisini ölçmek amacıyla kullanılan işsizlik ve enflasyon (sabit fiyatlarla, TÜFE Tüketici Fiyat Endeksi) değişkenleri ile ilgili veriler Dünya Bankası'nın Dünya Kalkınma Göstergeleri veri tabanından alınmıştır¹⁰.

3.8. Gelir Dağılımı

Gelir dağılımında adaletin sağlanmasına yönelik yeniden dağıtıcı politika ve faaliyetler ağırlıklı olarak merkezi yönetimler tarafından gerçekleştirilmekte alt düzey yönetimlerin bu alandaki faaliyetleri daha sınırlı düzeyde kalmaktadır. Dolayısıyla gelir dağılımı eşitsizliğinin mali yerelleşmeyi sınırlı düzeyde etkilemesi beklenmektedir.

Gelir dağılımı eşitsizliğinin etkisini ölçmek üzere Harvard Üniversitesi "Dataverse" veri tabanındaki hane halkının vergi ve transferler sonrası harcanabilir gelirleri ile hesaplanan (Solt, 2020) GINI endeksi kullanılmıştır.

3.9. Katılımcı Bütçeleme

Katılımcı bütçeleme vatandaşların kamu kaynaklarının tahsisi ile ilgili görüşmelere ve müzakerelere dahil edilmeleri yoluyla gerçekleştirilen bir süreçtir (Wampler, 2007). Katılımcı bütçeleme anlayışı ile vatandaşların bütçe harcamaları ve öncelikleri ile ilgili kararlara özgür iradeleriyle doğrudan katılımı mümkün olabilmekte (Çobanoğulları & Yereli, 2017), bireyler kendi yerel bölgelerinde tanımlı bir kamu bütçesi için harcama öncelikleri ile ilgili alınan kararlara dahil olmaktadır. Bu, vatandaşların ve toplumsal grupların harcama önceliklerini tartışması, harcama teklifleri sunması ve bunlara oy vermesinin yanı sıra yerel halkın sürecin incelenmesinde ve izlenmesinde rol almasına anlamına gelmektedir (CLG, 2008). Katılımcı bütçeleme ile belediye düzeyinde finansal kaynakların dağılımında halkın katılımı öngörülmekte, bölgede katılımcı kültürün gelişimi teşvik edilmekte (Krenjova & Raudla, 2013) ve katılımcı bütçeleme programları ile karar alma sürecinin yerelleşmesine katkıda bulunmaktadır (Wampler, 2007). Katılımcı bütçeleme merkezi ve yerel yönetimlerin daha demokratik bir yapıya sahip olmasını,

¹⁰ <<https://databank.worldbank.org/source/world-development-indicators>>, 02.03.2021.

demokrasinin gelişmesi de ulusal ve bölgesel kalkınmanın artmasını sağlamaktadır (Çobanoğulları & Yereli, 2017). Katılımcı bütçeleme son yıllarda uygulanan en başarılı katılım araçlarından biridir ve ilk uygulanmaya başlandığından bu yana tüm dünyada giderek yaygınlaşmaktadır (Sintomer et al., 2008).

Çalışmada katılımcı bütçeleme mali yerelleşme üzerindeki etkisini incelemek üzere, katılımcı bütçe uygulamasına sahip olan ülkelerin katılımcı bütçelemeyi uyguladığı yıllar için 1, uygulamadığı yıllar için 0 değerini alan bir kukla değişken oluşturulmuştur¹¹.

4. Yöntem ve Model

Çalışmada kullanılan ekonometrik analizde mali yerelleşme üzerinde etkili olabilecek faktörlerin alt düzey yönetimlerde yönetim düzeylerine göre etkilerinin farklılaşabilecek olması nedeniyle yerel yönetim düzeyinde gerçekleşen mali yerelleşme ile merkezi yönetim ile yerel yönetimler arasında yer alan eyalet düzeyindeki¹² yönetim birimleri için ayrı ayrı tahmin yapılmıştır. Buna göre eyalet düzeyinde mali yerelleşme için 8 OECD ülkesinin, yerel yönetimler düzeyinde ise 32 OECD ülkesinin verileri ile tahmin yapılmıştır. Bunun dışında mali yerelleşme üzerinde etkili olabilecek faktörler arasında yer alan katılımcı bütçeleme mali yerelleşme üzerindeki etkisi de dikkate alınmıştır. Ancak, katılımcı bütçe analize konu ülkelerin tümünde yer alan bir uygulama değildir. Ayrıca uygulandığı ülkelerle ilgili verilere ulaşmada zorluklar bulunmaktadır. Bu nedenle katılımcı bütçe uygulamasının başlangıç verilerine ulaşılabilen 23 OECD ülkesinin verileri kullanılarak ve katılımcı bütçeleme özellikle yerel yönetimleri kapsayan bir uygulama olduğu için yalnızca yerel düzeydeki harcama ve gelirler dikkate alınarak ayrı bir tahmin yapılmıştır^{13, 14}.

Çalışmada OECD ülkelerinin 2000-2016 yılları için dengeli panel verileri ile analiz yapılmıştır¹⁵. Kullanılacak modelin belirlenebilmesi için klasik doğrusal regresyon modelinin varsayımlarından sapmaların tespiti amacıyla bağımsız değişkenler arasında çoklu doğrusal bağlantı bulunup bulunmadığının anlaşılabilmesi için Varyans Enflasyon

¹¹ Ülkelerin katılımcı bütçe uygulamasına başladığı yıllar ile ilgili veriler çeşitli kaynaklardan derlenmiştir.

¹² IMF GFS'de eyalet yönetimlerinin merkezi yönetimlere göre alt, yerel düzeydeki kurumsal yönetim birimlerine göre üst düzeydeki yönetim birimleri olduğu ifade edilmektedir (International Monetary Fund, 2014).

¹³ Ülke sayıları değişkenler-özellikle mali yerelleşme- ile ilgili 2000-2016 yılları arasındaki verilerin mevcudiyetine bağlı olarak ve veri kaynaklarının ülkeler için mümkün olduğu ölçüde aynı olması amacı gözetilerek belirlenmiştir. 2000-2016 yılları da yine özellikle mali yerelleşme verilerinin daha fazla ülkeyi kapsamını sağlayacak biçimde mevcudiyeti gözetilerek belirlenmiştir.

¹⁴ Ülkeler ekte verilmiştir.

¹⁵ Çalışmada kullanılan değişkenlerden WGI değişkeninin tüm ülkeler için 2001 yılı verileri, GINI değişkeninin de Japonya ve İzlanda için 2016 verileri bulunmamaktadır. Dengesiz bir panel kavramsal olarak büyük sorunlara neden olmamakla birlikte bilgisayarda veri işleme sürecini karmaşıktırabilmektedir (Asteriou & Hall, 2011). Bu nedenle eksik gözlemler, WGI ve GINI değişkenlerindeki genel trendi etkilemeyecek biçimde, WGI değişkeninde 2001 yılı verileri bir önceki ve bir sonraki yıl değerlerinin ortalamasının alınması; GINI değişkeninde de Japonya ve İzlanda'nın 2016 yılı GINI değerleri için 2015 yılında gerçekleşen değerlerin aynen alınması yoluyla tamamlanarak veri setine dengeli panel niteliği kazandırılmıştır.

Faktörü (VIF) testi¹⁶; kalıntıların sabit bir varyansa sahip olup olmadığını göstermek üzere Heteroskedastinin varlığının belirlenmesi amacıyla White Testi¹⁷; hata terimleri arasında otokorelasyon ya da seri korelasyon olup olmadığını belirlenmesi amacıyla Bhargava, Franzini ve Narendranathan'ın Durbin Watson testi ile Baltagi-Wu'nun yerel en iyi değişmez testleri uygulanmıştır¹⁸. Testlerde elde edilen sonuçlara göre modelde heteroskedaste ve otokorelasyon bulunmaktadır. Bu nedenle tahminde Beck-Katz tarafından önerilen Panel Düzeltilmiş Standart Hatalar (PCSE) yöntemi¹⁹ kullanılmıştır. PCSE ile birimler arası korelasyon, heteroskedaste ve otokorelasyona karşı düzeltilmiş standart hatalar elde edilebilmektedir²⁰ (Baltagi, 2005; Gujarati & Porter, 2009; Asteriou & Hall, 2011).

Çalışmada aşağıdaki eşitlikler Panel Düzeltilmiş Standart Hatalar (PCSE) tahmincisi ile tahmin edilmiştir²¹:

$$MYEH_{it} = x_{it}\beta + \epsilon_{it} \quad (E.1)$$

$$MYEG_{it} = x_{it}\beta + \epsilon_{it} \quad (E.2)$$

$$MYYH_{it} = x_{it}\beta + \epsilon_{it} \quad (E.3)$$

$$MYYG_{it} = x_{it}\beta + \epsilon_{it} \quad (E.4)$$

$$MYYH_{it} = x_{it}\beta + \epsilon_{it} \quad (E.5)$$

$$MYYG_{it} = x_{it}\beta + \epsilon_{it} \quad (E.6)$$

$i = 1, \dots, m$ birim sayısını; $t = 1, \dots, T_i$; T_i panel i 'deki periyod sayısını ve ϵ_{it} de t boyunca otokorelasyonlu ya da i boyunca eş zamanlı olarak korelasyonlu olabilen kalıntıyı ifade etmektedir. $x_{it}\beta$ potansiyel olarak mali yerleşmeyi açıklayan bağımsız değişkenler setidir ve sabit terimi de içermektedir.

x_{it} ; etnik farklılaşma endeksi (EFE), yüz ölçümü, nüfus, kentleşme, ekonomik küreselleşme endeksi (KOFecGI), sosyal küreselleşme endeksi (KOFSoGI), politik küreselleşme endeksi (KOFPoGI), İnsani Gelişim Endeksi (İGE), Dünya Çapında Yönetişim Göstergeleri (WGI), enflasyon, işsizlik, GSYH ve GINI ve katılımcı bütçeleme uygulandığı yıllar için 1, uygulanmadığı yıllar için 0 değerini alan gösterge değişkenden (KBI) oluşmaktadır.

¹⁶ Sonuçlar ekte yer almaktadır.

¹⁷ Bkz. White (1980). Test sonuçlarına ekte yer verilmiştir.

¹⁸ Bkz. Franzini & Narendranathan (1982); Baltagi & Wu (1999). Sonuçlar ekte yer almaktadır.

¹⁹ Bkz. Beck & Katz (1995).

²⁰ Bkz. Beck & Katz (1995).

²¹ Stata'da `xtpcse` komutu ile parametrelerin OLS ya da Prais-Winsten regresyonu ile tahmin edildiği doğrusal yatay kesit zaman serisi modelleri için Panel Düzeltilmiş Standart Hata (PCSE) tahminleri hesaplanmaktadır. Burada yapılan tahminlerde parametreler Prais-Winsten regresyonu ile tahmin edilmiştir.

Modelin bağımlı değişkeni mali yerelleşme için ise MYEH ve MYEG sırasıyla eyalet harcamaları ve eyalet gelirleri ile hesaplanan; MYYH ve MYYG sırasıyla yerel yönetim harcamaları ve yerel yönetim gelirleri ile hesaplanan mali yerelleşmeyi ifade etmektedir.

E.1'de eyalet düzeyinde yapılanmaya sahip 8 OECD ülkesinde eyalet harcamaları ve E.2'de bu ülkelerin eyalet gelirleri; E.3'te 32 OECD ülkesinin yerel yönetimlerinin harcamaları ve E.4'te bu ülkelerin yerel yönetimlerinin gelirleri ile hesaplanan mali yerelleşme verileri; E.5'te yerel düzeyde harcama yerelleşmesi ve E.6'da yerel düzeyde gelir yerelleşmesi için açıklayıcı değişkenlere katılımcı bütçeleme kuklası eklenerek 23 OECD ülkesinin mali yerelleşme verileri ile tahmin yapılmaktadır²².

Seçilen modelin belirli bir veri setine uygunluğunun genel bir ölçütü olan belirginlik katsayısı (R^2)²³, bağımlı değişken olarak kullanılan tüm mali yerelleşme değerleri için oldukça yüksektir, buna göre modeldeki bağımsız değişkenler mali yerelleşmedeki değişkenliği önemli ölçüde açıklamaktadır. Gözlemlenen ya da tahmin edilen regresyonun genel anlamlılığını ifade eden Wald Testi²⁴ mali yerelleşme değerlerinin tümü için anlamlıdır. Buna göre de modeldeki bağımsız değişkenler mali yerelleşmeyi açıklamakta birlikte anlamlıdır²⁵.

5. Bulgular ve Değerlendirme

Modelde elde edilen ve Tablo 1'de verilen sonuçlara göre mali yerelleşmeyi eyaletler düzeyinde etnik çeşitlilik, yüz ölçümü ve insani gelişme pozitif; kurumsal faktörler ve politik küreselleşme negatif yönde etkilemektedir. Ayrıca kentleşme eyaletlerde gelir yerelleşmesini negatif etkilemektedir. Yerel yönetimler düzeyinde ise etnik farklılaşma endeksi ve yüz ölçümü negatif, kentleşme ve GSYH pozitif yönde etkilemektedir. Yerel düzeyde harcama yerelleşmesini işsizlik, politik küreselleşme ve GINI negatif; ekonomik küreselleşme pozitif ve gelir yerelleşmesini ise kurumsal faktörler (WGI) pozitif yönde etkilemektedir. Katılımcı bütçeleminin dâhil edildiği tahminde elde edilen sonuçlara göre katılımcı bütçeleme kuklası ile mali yerelleşme arasında istatistiksel olarak anlamlı bir ilişki bulunmamaktadır²⁶.

Ülke büyüklüğünün eyaletler düzeyindeki yerelleşmeyi pozitif yönde etkilerken yerel düzeydeki yerelleşmeyi negatif yönde etkiliyor olmasının ölçek ekonomileri ve dışsallıkların içselleştirilmesinden sağlanacak faydaların daha büyük yönetim birimleri olan eyaletlerde yerel yönetimlere göre daha belirgin olmasından kaynaklandığı ifade edilebilir. Yerel yönetimlerde bu faydalar daha belirsiz olduğu için ya da ülke büyüklüğüne rağmen bu yönetimlerin bu faydaların sağlanacağı büyüklükte olmaması nedeniyle bu tür özelliklere

²² Ülkeler ekte verilmiştir.

²³ Bkz. Gujarati & Porter (2009).

²⁴ Bkz. Arellano (1993); White (1980).

²⁵ R^2 ve Wald Testi sonuçları ile ayrıntılı tahmin sonuçları ekte verilmiştir.

²⁶ $R^2 = 0.82$ 'dir ve Wald Testi anlamlıdır.

sahip mal ve hizmetlerin sunumunun üst düzey yönetim birimlerince sağlanması tercih ediliyor olabilir.

Tablo: 1
Eyalet ve Yerel Yönetim Harcama ve Gelir Yerleşmesi Regresyon Sonuçları

Değişken	Eyaletler için Sonuçlar		Yerel Yönetimler için Sonuçlar		Katılımcı Bütçeleme için Sonuçlar	
	MYEH	MYEG	MYYH	MYYG	MYYH	MYYG
EFE	0.177***	0.1897***	-0.1401***	-0.1087***	-0.0857*	-0.0698
YüzÖlçümü	1.221***	1.627***	-8.805***	-9.935***	-8.360***	-9.652***
Nüfus	1.026	7.696	1.736	3.615	-7.877	2.280
Kentleşme	-0.0012	-0.0016*	0.0017***	0.0013*	0.0014	0.0009
İGE	0.74**	0.97***	0.0116	-0.036	-0.046	-0.1517
WGI	-0.0766**	-0.1050**	0.014	0.02838*	0.0009	-0.0096
Enf	-0.0004	-0.0027	-0.0002	-0.0003	-0.0002	-0.0007
İşs	-0.0022	0.0011	-0.0018*	0.0008	-0.002*	0.0005
GSYH	-2.241	-1.180	2.232***	3.744***	2.816***	3.735***
KOFECGI	-0.0001	-0.0014	0.0009*	0.0005	0.0005	8.545
KOFSoGI	0.0013	0.0016	-0.0011	-0.0007	0.0003	0.0002
KOFFoGI	-0.005***	-0.0045***	-0.0009*	-0.0009	-0.0004	-0.0002
GINI	0.0016	-0.008	-0.005**	-0.0038	-0.0048***	-0.002
KB12					-0.0042	-0.0038
_sabit	0.1042	0.2542	0.365**	0.3518*	0.325**	0.3885*

*P<0.05
**P<0.01
***P<0.001

GSYH'nin yerel düzeydeki pozitif etkisinin nedeni temel olarak ekonomik gelişme ile birlikte yerel hizmet sunumuna olan talepteki ve yönetimlerin gelir yaratma kapasitelerindeki artış (Bodman & Hodge, 2010) olarak görülebilir. Gelişmişlik düzeyinin eyaletlerde mali yerleşmeyi artırması öncelikli olarak eyalet biçiminde yapılanmaya sahip ülkelerde bu alanlardaki hizmetlerin merkezi yönetimle birlikte bu yönetim düzeyinde de sunuluyor olmasından kaynaklandığı düşünülebilir. Bunun dışında ülkenin gelirle birlikte kalkınma ve refah düzeyinin de artırılabilmesi üst düzeyde politikalar geliştirilmesi gereğini ortaya çıkarabileceği; eyaletlerin gelir, karar alma, alan ya da nüfus büyüklüğü, personel niteliği gibi açılardan yerel yönetimlere göre daha geniş olanaklara sahip oldukları ve merkezi yönetimlere daha benzer nitelik taşıdıkları için bu tüp hizmetleri yerine getirmeleri de bu sonucun bir nedeni olarak kabul edilebilir.

Kentleşme sonucunda yerel düzeyde mali yerleşmenin artması bu birimlerde kentlerin artan hizmet ihtiyacı nedeniyle yerel düzeyde sunulan mal ve hizmet talebinin artmasından kaynaklanmış olabilir. Eyalet düzeyinde ise bu birimlerde daha büyük, metropol niteliğinde kentlerin bulunması buralardaki daha maliyetli ya da kamu düzeni ile ilgili hizmetler gibi hizmetlerin karşılanmasında merkezi yönetimin kontrol ve sorumluluğunun artmasını gerektirmiş bu da eyalet gelir payının azalmasına yol açmıştır şeklinde yorumlanabilir.

Literatürde farklı etnik grupların kamu mal ve hizmetleri ile ilgili tercihlerinin de farklılaşacağı ve bu mal ve hizmetlerin yerleşmiş sunumunun sosyal refahı artıracığı ifade edilmekte ve etnik çeşitliliğin artmasının mali yerleşmeyi artırması beklenmektedir (Oates, 1972; Wallis & Oates, 1988). Ancak etnik çeşitlilik yerel düzeyde mali yerleşmeyi azaltmakla birlikte eyalet düzeyinde artırmaktadır. Bu sonuç etnik gruplara hitap edecek

hizmetlerin, eğitim gibi, çoğunlukla daha büyük yönetim birimleri tarafından sunuluyor olmasından kaynaklı olabilir. Yerel yönetimlerde ise etnik grupların birbirine daha yakın olmasının hizmet setinin farklılaşması durumunda ortaya çıkarabileceği sınırlar ya da yerel yönetimlerin kapasite olarak bu gruplara hitap edebilecek hizmetlerin sunumunda yetersiz kalmaları gibi nedenlerle bu tür hizmetler yerel yönetimler tarafından daha az sunulan hizmetler şeklinde olabilir.

Ekonomik küreselleşmenin yerel harcama yerelleşmesi üzerindeki pozitif etkisi mali yerelleşme üzerinde ölçek ekonomilerinden daha küçük birimlerde de yararlanılabilmesi sonucunda artan yerel büyüme beklentileri ile ilgili pozitif etki beklentisini (Ermini & Santolini, 2014) destekler niteliktedir. Bununla birlikte küreselleşme ile ekonomik anlamda artan rekabette yerel birimlerin yarışabilir nitelik kazanmaları gereği de yerel harcama payının artmasının bir nedeni olabilir. Politik küreselleşme yerel gelir dışında mali yerelleşmeyi negatif etkilemektedir. Küreselleşmeye genel olarak bakıldığında, yerel yönetimlerin ekonomik entegrasyonun getirilerinden yararlanma konusunda aktif rol aldıkları ancak özellikle politik entegrasyonun ülke için ortaya çıkarabileceği risklerin ortadan kaldırılmasına yönelik faaliyetlerin gerçekleştirilmesinde sorumluluğun üst düzey yönetimler tarafından üstlenildiği sonucuna ulaşılabilir.

Kurumsal göstergelerin mali yerelleşmeyi eyalet düzeyinde negatif, yerel düzeyde ise gelir yerelleşmesini pozitif etkilediği görülmektedir. Kurumsal açıdan daha iyi performans sergileyen ülkelerde eyalet düzeyinde mali yerelleşmenin azalması bu birimlerde daha fazla denetim, hesap verme sorumluluğunun daha fazla olması, yolsuzluğun daha az olması, idarenin daha etkin olması gibi nedenlerle mali faaliyetlerin daha etkin yerine getirilmesinden kaynaklı olabilir.

Ekonomik istikrar ve gelir dağılımı ile ilgili sonuçlara göre enflasyon ve işsizlik genel olarak mali yerelleşmeyi istatistiksel olarak anlamlı bir biçimde etkilememekte iken işsizlik ve GINI katsayısı yerel harcama payını negatif etkilemektedir. Buradan hareketle istikrarın ve gelir dağılımında adaletin sağlanmasına yönelik politikaların daha çok merkezi yönetimler tarafından üstlenildiği söylenebilir ancak bu faktörlerden yerel harcamaların etkilendiği görülmektedir. Yerel harcama payı üzerindeki bu negatif etkinin merkezi yönetimlerin konjonktür karşıtı faaliyetler nedeniyle harcamalarındaki artış ve yine merkezi yönetimin gelirin yeniden dağıtılması faaliyetleri nedeniyle artan harcamaları sonucu ortaya çıkması olasıdır.

Katılımcı bütçeleme ile ilgili sonuçlarda ise katılımcı bütçelemenin mali yerelleşme üzerinde istatistiki olarak anlamlı bir etkisinin bulunmadığı görülmüştür. Bu sonuç katılımcı bütçeleme uygulamasının henüz sonuçlara yansiyacak büyüklüğe ve yaygınlığa ulaşmamış olmasından ya da katılımcı bütçeleme ile ilgili gerçekleşen bütçe değerleri yerine bir gösterge değişken kullanılmış olmasından kaynaklanmıştır.

6. Sonuç

Çalışmada, gerçekleştirilecek olan mali yerleşme reformlarının daha başarılı olabilmesi için bu reformlarda hangi hususların göz önünde bulundurulması gerektiği sorusuna bir cevap bulunabilmesi amacıyla görece daha gelişmiş ülkelerden oluşan OECD ülkelerinin verileri ile mali yerleşme üzerinde belirleyici etkisi olabilecek faktörlerin mali yerleşme ile ilişkisi ekonometrik olarak incelenmiştir.

Analizde elde edilen sonuçlara göre mali yerleşme üzerinde hem eyaletler düzeyinde hem yerel düzeyde etnik çeşitlilik ve yüz ölçümü etkilidir ancak etnik çeşitlilik ve yüz ölçümü arttıkça mali yerleşme eyaletler düzeyinde artmakta yerel düzeyde azalmaktadır. Yalnızca eyaletler düzeyinde mali yerleşmeyi insani gelişmedeki artış artırmakta; kurumsal göstergeler ve politik küreselleşme ise azaltmaktadır. Yerel düzeyde ise mali yerleşme kentleşme ve gelir ile birlikte artmaktadır. Bunun dışında yerel düzeyde harcama yerleşmesini işsizlik, politik küreselleşme ve gelir dağılımındaki eşitsizlik azaltmakta; ekonomik küreselleşme artırmaktadır. Kurumsal göstergeler ise yerel düzeyde gelir yerleşmesini artırmaktadır. Eyalet düzeyinde ise kentleşme gelir yerleşmesini azaltmaktadır. Buradan hareketle mali yerleşme reformuna yönelik politikalarda öncelikle mali yerleşmeyi etkileyen faktörlerin etkilerinin alt düzey yönetim birimlerinin büyüklüğüne göre farklılaşıyor olmasına dikkat edilmelidir.

Sonuçlara genel olarak bakıldığında mali yerleşmeyi belirleyen faktörlerin etnik çeşitlilik, alan büyüklüğü, kentleşme, kurumsal kalite ve politik küreselleşme olduğu söylenebilir. Ülkenin kurumsal yapısının sağlamlığı çalışmada yolsuzluk düzeyi, hukuk kurallarının işleyişi, yönetimin etkililiği, politik istikrar, şiddet düzeyi ve hesap verebilirlik göstergeleri ile ölçülmektedir. Ülkelerin bu göstergeler açısından performansları ülkenin tüm alanlardaki politikaları ile mali yerleşme politikaları üzerinde de önemli bir etkiye sahiptir. Etnik yapı anlamında bünyelerinde farklı etnik grupların bulunduğu ülkelerde bu grupların etnik özelliklerine göre çeşitlenen mal ve hizmet talebine yanıt vermede eyalet düzeyinde daha başarılı olduğu ifade edilebilir. Yönetimin daha üst düzeylerinde etnik grupların bu yönetim düzeylerinden taleplerinin farklılaşması, bu grupların özellikle belirli bölgelerde toplanmaları durumunda bölünmeye kadar gidebilecek biçimde daha fazla söz hakkına sahip olma istekleri, kamusal mal ve hizmet sunumunun büyük ölçüde etnik özellikler doğrultusunda şekillendirilmesi durumunda tüm grupların aynı standartlarda hizmet alamayabileceği ya da ulusal kimliğin ve kültürel birliğin sağlanamayacağı gibi gerekçelerle harcama ve gelir sorumluluğu daha üst düzey yönetimler tarafından yerine getiriliyor olabilir. Dolayısıyla az gelişmiş ve gelişmekte olan ülkeler için mali yerleşme politikaları geliştirilirken etnik yapı hem etnik grupların mal ve hizmet taleplerini hem de ülke bütünlüğünü ve ülke genelinde belirli bir hizmet standardının teminini sağlayacak şekilde dikkate alınmalıdır. Gelişmişlik açısından gelir düzeyindeki artış yerel yönetimlerin harcama ve gelir paylarına, insani gelişme düzeyi ise eyaletlerin harcama ve gelir paylarına olumlu bir biçimde yansımaktadır. Kentleşme ve gelirin etkisi birlikte düşünüldüğünde ise gelir düzeyi arttıkça yerel düzeyde mali yerleşme talebinin arttığı sonucuna ulaşılmaktadır. Dolayısıyla az gelişmiş ve gelişmekte olan ülkelerin mali yerleşme reformlarının

öncesinde belirli bir düzeyde gelire sahip olmaları önem arz etmektedir. Ancak kalkınma konusunda daha bütüncül politikalara duyulan ihtiyaç bu konuda üst düzey yönetimlerin daha fazla sorumluluk üstlenmesiyle sonuçlanmaktadır. İnsani gelişimin farklı yönetim düzeylerindeki farklı etkisi de daha eğitilmiş ve sağlıklı dolayısıyla daha gelişmiş ve kültürlü bir toplumun yerel hizmetlerin aksine merkezi hizmetlere talebinin artmasının bir göstergesi olmaktadır. Son dönemlerde ekonomik büyümenin sağlanmasında yerel birimlerin rolü artırılmaya çalışılmakta, özellikle küreselleşmeyle artan rekabette dezavantajlı konumda olup bu rekabetten olumsuz etkilenebilecek birimlerin desteklenmesi, avantajlı konumda olan birim ya da bölgelerin bu avantajlarının değerlendirilmesi amacıyla yerel yönetimlere bu yönetimlerin ekonomik büyümeye katkılarını artıracak görev ve yetki aktarımı yapılmakta ve yerel yönetimlerden bu katkıyı sağlayacak faaliyetlerde bulunması beklenmektedir. Küreselleşme açısından az gelişmiş ve gelişmekte olan ülkelerin mali yerleşme alanında politikalarını oluştururken ekonomik entegrasyonun olası getirisi ile politik anlamda entegrasyonun risklerini göz önünde bulundurarak bir değerlendirme yapmaları gerekmektedir.

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EKLER:

Ek: 1 Ülkeler

Eyalet Harcama ve Gelirlerinin Yerleşmesi ile Yapılan Tahminde Yer Alan Ülkeler	Yerel Yönetim Harcama ve Gelirleri ile Yapılan Tahminde Yer Alan Ülkeler	Katılımcı Bütçeleme ile Yapılan Tahminde Yer Alan Ülkeler
Almanya Amerika Birleşik Devletleri Avustralya Avusturya Belçika Kanada İspanya İsviçre	Almanya Avustralya Avusturya Belçika Birleşik Krallık Danimarka Estonya Finlandiya Fransa Hollanda Japonya Kanada Letonya Litvanya Lüksemburg Macaristan Norveç Polonya Portekiz Slovak Cumhuriyeti Slovenya Türkiye Yunanistan Çek Cumhuriyeti İrlanda İspanya İsrail İsveç İsviçre İtalya İzlanda Şili	Almanya Avustralya Belçika Birleşik Krallık Estonya Finlandiya Fransa Japonya Kanada Letonya Litvanya Norveç Polonya Portekiz Slovak Cumhuriyeti Slovenya Çek Cumhuriyeti İrlanda İspanya İsveç İtalya İzlanda Şili

Ek: 2 Çoklu Doğrusal Bağlantı için VIF Testi

Eyalet Düzeyinde Mali Yerleşme İçin			Yerel Düzeyde Mali Yerleşme İçin			Katılımcı Bütçeleme Tahmini İçin		
Variable	VIF	1/VIF	Variable	VIF	1/VIF	Variable	VIF	1/VIF
GSYH	347.06	0.002881	WGI	3.61	0.277244	IGE	8.50	0.117662
Nüfus	308.32	0.003243	IGE	3.56	0.280886	KOFSoGI	8.48	0.117867
GINI	40.46	0.024715	KOFSoGI	2.40	0.416315	WGI	4.23	0.236552
Yüzölçümü	33.99	0.029424	Kentleşme	2.29	0.436060	Nüfus	3.38	0.295759
KOFSoGI	22.73	0.043998	KOFecGI	2.27	0.440533	KOFecGI	3.23	0.310035
KOPPoGI	12.93	0.077369	GINI	2.25	0.444220	GSYH	3.05	0.327934
EFE	12.19	0.082048	Nüfus	1.98	0.504222	Yüzölçümü	2.94	0.339637
WGI	12.09	0.082744	GSYH	1.91	0.523935	Kentleşme	2.25	0.444887
KOFecGI	9.35	0.106954	İşs	1.82	0.550373	EFE	2.17	0.460395
IGE	8.84	0.113104	Enf	1.61	0.622030	KOPPoGI	2.09	0.477975
Kentleşme	7.00	0.142827	KOPPoGI	1.57	0.636462	GINI	1.99	0.503600
İşs	5.70	0.175435	EFE	1.56	0.640257	İşs	1.86	0.538685
Enf	1.96	0.509612	Yüzölçümü	1.53	0.654412	KBİ2	1.52	0.659691
Mean VIF	63.28		Mean VIF	2.18		Enf	1.48	0.674733
						Mean VIF	3.37	

Not: Kural olarak bir değişken için VIF değerinin 10'u aşması durumunda bu değişkenin oldukça kolineer olduğu söylenmektedir (Gujarati & Porter, 2009).

Ek: 3 Heteroskedasitenin Varlığının Sınanması İçin White Testi Sonuçları

MYEH	MYEG	MYYH	MYYG	MYYH (KBI)	MYYG (KBI)
0.0602	0.0551	0.0000	0.0000	0.0000	0.0000
H ₀ : Homoskedasite					
Not: Olasılığın sıfıra eşit olması durumunda homoskedasiteyi ifade eden H ₀ hipotezi reddedilmektedir. (Gujarati & Porter, 2009)					

Ek: 4 Otokorelasyonun Varlığının Bhargava, Franzini ve Narendranathan'ın Durbin-Watson ve Baltagi-Wu'nun Yerel En İyi Değişmez Testleri ile Sınanması

	MYEH	MYEG	MYYH	MYYG	MYYH (KBI)	MYYG (KBI)
Bhargava et al. Durbin-Watson Testi	1.1490334	1.1126073	0.39575703	0.42673145	0.47462471	0.46705449
Baltagi-Wu Yerel En İyi Değişmez Testi	1.5908728	1.4662719	0.56653998	0.59693439	0.64217968	0.63497012
Not: Değerlerin 2'den küçük olması durumunda otokorelasyonun önemli olduğu belirtilmektedir. (Bhargava, Franzini, & Narendranathan (1982); Baltagi & Wu (1999))						

Ek: 5 Özet İstatistikler

Eyaletler					Yerel Yönetimler					Katılımcı Bütçeleme				
Variable	Obs	Mean	Std. Dev.	Min	Variable	Obs	Mean	Std. Dev.	Min	Variable	Obs	Mean	Std. Dev.	Min
Ülke	136	4.5	2.299758	1	Ülke	544	16.5	9.241591	1	Ülke	391	12	6.641748	1
Yıl	136	2008	4.91709	2000	Yıl	544	2008	4.903488	2000	Yıl	391	2008	4.905256	2000
MYEH	136	.3631325	.1072828	.1666361	MYH	544	.2329409	.1231929	.0564264	GINI	391	30.24373	4.835341	23.5
MYEG	136	.3696976	.1106777	.1766206	MYG	544	.2444	.122037	.0631696	MYH	391	.2371955	.1033421	.057164
EFE	136	.3790938	.2022488	0	EFE	544	.2147622	.2195225	0	MYG	391	.2491177	.1056901	.0631696
Yüzölçümü	136	3366327	4126662	30280	Yüzölçümü	544	719233.5	2000405	2590	EFE	391	.2070773	.2001834	0
Nüfus	136	6.39e+07	9.39e+07	7184250	Nüfus	544	2.36e+07	2.97e+07	281205	Yüzölçümü	391	948023.2	2316157	20140
Kentleşme	136	79.81689	9.137925	65.8	Kentleşme	544	75.85663	11.70342	49.627	Nüfus	391	2.69e+07	3.21e+07	281205
İGE	136	.8970515	.0270263	.825	İGE	544	.8652831	.0506952	.655	Kentleşme	391	74.97559	12.39675	49.627
WGI	136	1.458176	.2442279	.7882555	WGI	544	1.200803	.4916156	-.4631676	İGE	391	.8672558	.0448904	.728
Enf	136	1.863707	1.18518	-1.143901	Enf	544	2.738071	4.410339	-4.478103	WGI	391	1.21879	.39413	.3935737
İşs	136	7.379191	4.227444	2.49	İşs	544	8.117408	4.215928	1.8	HB	0			
GSYH	136	2.82e+12	4.61e+12	2.54e+11	GSYH	544	2.09e+13	8.84e+13	1.07e+10	Enf	391	2.366797	2.275087	-4.478103
KOPFcGI	136	75.64669	10.01894	49.18671	KOPFcGI	544	75.921	9.1176714	49.18671	İşs	391	8.45532	4.100907	1.87
KOPSoGI	136	83.1387	4.538842	67.02956	KOPSoGI	544	81.7683	7.094188	51.46174	GSYH	391	2.77e+13	1.03e+14	1.07e+10
KOPPoGI	136	90.01528	7.497552	71.38408	KOPPoGI	544	87.48049	10.22021	52.78398	KOPFcGI	391	75.01869	8.112279	49.18671
GINI	136	30.32847	3.362213	25.9	GINI	544	30.21746	4.347776	22.4	KOPSoGI	391	81.71433	6.077952	61.95308
										KOPPoGI	391	86.94404	10.69148	52.78398
										KB11	391	.4398977	.4970105	0
										KB12	391	.5601023	.4970105	0

Ek: 6 R² ve Wald Testi Sonuçları

Eyalet Harcamaları ile Hesaplanan Mali Yerleşme İçin Sonuçlar R ² = 0,9761 Wald testi = anlamlı
Eyalet Gelirleri ile Hesaplanan Mali Yerleşme İçin Sonuçlar R ² = 0,9615 Wald testi = anlamlı
Yerel Yönetim Harcamaları ile Hesaplanan Mali Yerleşme İçin Sonuçlar R ² = 0,6786 Wald testi = anlamlı
Yerel Yönetim Gelirleri ile Hesaplanan Mali Yerleşme İçin Sonuçlar R ² = 0,7629 Wald testi = anlamlı
Katılımcı Bütçeleme ile İlgili Sonuçlar: MYYH R ² = 0,8216 Wald testi = anlamlı
Katılımcı Bütçeleme ile İlgili Sonuçlar: MYYG R ² = 0,8280 Wald testi = anlamlı

Yeni Ekonomi Sosyolojisinde Sosyal Yapı: Eleştirel Gerçekçi Bir Kritik

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Social Structure in New Economic Sociology: An Evaluation Through a Critical Realist Approach

Abstract

This study argues that New Economy Sociology is insufficient in conceptualising social structure. In the new economic sociology, the social structure is defined through social networks, which are perceived as interpersonal relations. Since this explanation ignores the layered and stratified nature of social reality, its analysis is limited to the empirical level and remains a reductionist analysis. In The Critical Realist approach, social structures constitute a profound dimension of reality where there are mechanisms that produce social phenomena. Social structures generate social relations and norms but cannot be reduced to what it has created. This non-reductionism proves that social structures are not identical to interpersonal social ties or social networks. Social structures make individual actions possible, and these individual actions can transform the social structures. The study argues that the Critical Realist approach conceptualises the social structure necessary for economic and social theory.

Keywords : New Economic Sociology, Critical Realism, Social Structure, Networks.

JEL Classification Codes : B41, B50, Z13.

Öz

Bu çalışmanın amacı; iktisat bilimini toplumla olan bağı kopardığı gerekçesiyle eleştiren ve bu bağı tekrar kurduğunu iddia eden Yeni Ekonomi Sosyolojisinin, sosyal yapı ontolojisinin yetersiz olduğunu ileri sürmektir. Yeni Ekonomi Sosyolojisinin, sosyal yapı kavramsallaştırması, kişiler arası ilişkiler olarak algılanan “sosyal ağlar” aracılığıyla açıklanmaktadır. Bu açıklama biçimi, sosyal gerçekliğin katmanlı ve tabakalaşmış yapısını göz ardı etmesi nedeniyle, analiz ampirik düzeyle sınırlanmış, indirgemeci bir analizdir. Çünkü sosyal gerçeklik yalnızca ampirik düzeyi değil reel ve aktüel düzeyleri de içermektedir. Eleştirel Gerçekçilik yaklaşımında ise sosyal yapılar, toplumda görülen olguları üreten mekanizmaların bulunduğu, sosyal gerçekliğin derin boyutunu oluşturur. Sosyal yapılar, sosyal ilişkileri ve pratikleri üreten ve ürettiklerine indirgenemeyen bir yapıdır. Bu indirgenemezlik, sosyal yapının, kişiler arası sosyal ilişkilerle veya sosyal ağlarla özdeş olmadığını gösterir. Sosyal yapılar, kişilerin eylemlerini mümkün kılan ve yine kişilerin eylemleriyle dönüştürme imkanına sahip olduğu ve ontolojik olarak kişilerden ve aralarındaki ilişkilerden/pratiklerden önce var olan yapılardır. Çalışma, iktisadi ve sosyal teori için gerekli sosyal yapı kavramsallaştırmanın, Eleştirel Gerçekçilik yaklaşımı tarafından sunulduğunu ileri sürmektedir.

Anahtar Sözcükler : Yeni Ekonomi Sosyolojisi, Eleştirel Gerçekçilik, Sosyal Yapı, Ağlar.

1. Giriş

İktisat biliminin, özellikle de ana akım iktisadın eleştiri aldığı, en önemli kurucu varsayımlarından biri, atomistik birey anlayışıdır. Birbirinden bağımsız, etkileşimsiz ve temsili olan bu birey, iktisadın bir “bilim” olma serüveninde, ona en çok yardımcı olan dayanağı olmuştur. Bilim olduğunu iddia eden ana akım iktisat, bir anlamda “insan”sızlaşmıştır da. İnsan, iktisat ve sosyoloji ayrışmasında, sosyolojinin vesayetinde kalmıştır. Bu iki bilim arasında 1970’lere kadar süren bir iş bölümü mevcuttur. İktisat, bireylerin verili amaçlar karşısında rasyonel seçimlerle optimizasyon eylemine odaklanmışken, sosyoloji bu amaçların toplumsal kökenleriyle meşguldür. İktisat bireysel rasyonaliteyi vurgularken, sosyoloji yapılar, kültür ve değerleri öne çıkarır (Yılmaz, 2012: 3). 1970’lerde sonra ise bu iki bilimin dirsek temasları başlamış ve her iki bilim dalı içinden diğnerinin alanına müdahale başlamıştır. Bu gelişmelerden Yeni Ekonomi Sosyolojisi bu çalışmanın konusudur.

İktisat menşeiili isimlerin sosyoloji alanına müdahalesi bir yandan ilerlerken, iktisadın emperyalizmine karşı çıkan sosyoloji alanından da iktisadi alana yönelim başlamıştır. İktisadın sosyal alana doğru ilerleyişini Yeni Kurumsal İktisat temsil ederken, 1980’lerde ortaya çıkan Yeni Ekonomi Sosyolojisi, iktisadi alanın analizinde sosyolojiyi iş başına çağırın yaklaşım olmuştur. Yeni Ekonomi Sosyolojisi bir Kuzey Amerika olgusudur ve Avrupa’da destekçisi azdır (Swedberg, 1997: 164). Granovetter’i takip eden ve kurumsal kaleleri Kuzey Amerika Üniversiteleri olan bir grup isim bu yaklaşımın gelişmesine katkıda bulunmuşlardır. Bu isimler arasında Neil Fligstein, Viviane, Zelizer, Frank Dobbin, Paul DiMaggio, Brian Uzzi, Harrison White gibi birçok isim yer almaktadır (Swedberg, 1997: 166).

Richard Swedberg, modern sosyal bilimlerdeki en önemli gelişmenin, ana akım iktisadın kurumları ihmal eden yaklaşımlarını eleştiren ve bu boşluğu doldurmaya çalışan teoriler olduğunu dile getirmektedir. Kurumları dahil eden analizlerin çeşitliliğinden bahseden Swedberg, sosyal bilimlerdeki bu yarışta Yeni Ekonomi Sosyolojisi’nin önemli bir yarışçı olduğunu ve öyle de kalacağını düşünmektedir (Swedberg, 1997: 161). Yeni Ekonomi Sosyolojisi’nin doğuşu, Mark Granovetter’in 1985 tarihli “Economic Action and Social Structure: The Problem of Embeddedness” isimli makalesiyle ilişkilendirmektedir. Bu makale Swedberg’e göre oldukça önemli bir makaledir ve hatta Yeni Kurumsal İktisat’ın şimdiye kadar yapılmış en iyi eleştirisini içermektedir.

Granovetter’in en büyük başarısı, Swedberg’e göre, ana akım iktisada yöneltilen eleştiri odağını değiştirmesidir. Bu bağlamda, Granovetter, iktisadın -özellikle de ana akımın- gerçekçi olmayan varsayımlarından olan rasyonalite eleştirisine odaklanmaktan ziyade, sosyal yapının ihmal edilmesine rotayı çevirmiştir (Swedberg, 1997: 162). Granovetter, yeni ekonomi sosyolojisinin kurucu metni olarak bilinen makalesinde, neoklasik iktisada eleştiri yöneltilecek temel alanın, iktisadi aktörlerin birbirinden izole biçimde karar almaları yaklaşımı olduğunu dile getirmiştir. Başka bir deyişle, iktisadi eylemi gerçekleştiren aktörler, birbirinden bağımsız etkileşimsiz ve asosyal değillerdir.

Sosyoloji bilimi içerisinde çıkan, Yeni Ekonomi Sosyolojisi’nin eleştirisi “gömülü olma” (embeddedness) ve “ekonominin sosyal yapılanışı” olarak iki başlık altında toplanır (Swedberg, 1997: 161). Granovetter’de anlam değiştiren gömülü olma kavramı, ilk defa Karl Polanyi tarafından kullanılmıştır. Polanyi’ye göre, ekonomi, kapitalist öncesi toplumlarda sosyal/toplumun organik bir parçasıdır, yani ekonomi topluma yerleşiktir. Kapitalist toplumlarda ise bu durum tersine dönmüştür. Polanyi’ye göre, modern kapitalist toplumlarda, ekonominin toplumsal ilişkiler içinde yerleşik olması gerekirken, toplumsal ilişkiler ekonomi içinde yerleşiktir. Polanyi gömülü olma/yerleşiklik kavramını, kapitalizm öncesi toplumlar için ekonominin toplumsal ilişkiler içine yerleşmesi durumu için kullanmıştır. Günümüz kapitalist dünyasında yerleşiklik/gömülü olma kavramı değil, yerleşik olmama (*disembeddedness*) hakimdir (Polanyi, 2009: 101).

Granovetter’in sözü geçen makalesinde ise gömülülük, iktisadi davranışın ve kurumların, süregelen sosyal ilişkiler ağı içerisinde gömülü olduğunu, başka bir deyişle iktisadi alanın sosyal alandan bağımsız olmadığını vurgulamak için kullanılmıştır (Swedberg, 1997: 165). Granovetter’e göre iktisadi eylemler tamamıyla sosyal eylemlerdir ve bu eylemler sosyal ilişkiler sistemi içerisinde gömülüdür ve sosyal ilişkiler, ağlar terimleriyle anlaşılmalıdır. 1985 tarihli makalesinde insanların, ne toplumsal bağlamın dışında bir atom gibi, ne de verili senaryoya uyan köle gibi davrandıklarını ileri sürer. Granovetter’e göre insanların eylemleri toplumsal ilişkilerin somut süregelen sistemlerinde saklıdır. İktisadi hayatta güvenin üretilmesinden, esas olarak kurumsal düzenlemeler veya ortak inançlar veya normlar gibi genel ahlaktan ziyade, toplumsal ilişkiler sorumludur (Granovetter, 1985: 487)¹.

Yeni Ekonomi Sosyolojisi’nin, sosyolojiyi iş başına çağırmasına vesile olan, bireyin, iktisatta eksik sosyalleşmiş (*under-socialized*) olarak ele alınmasıdır. Yeni Ekonomi Sosyolojisi aynı zamanda sosyolojiyi de bireyi aşırı sosyalleşmiş (*over-socialized*) olması sebebiyle eleştirir. Eksik sosyalleşmiş yani atomize birey, iktisadi eylemi yalnızca faydacı kişisel çıkarı indirger. Aşırı sosyalleşmiş birey yaklaşımı ise insanı tamamen toplum tarafından şekillendirilmiş bir varlık olarak ele almaktadır (Granovetter, 1985: 485). Yeni Ekonomi Sosyolojisi’ne göre ana akım teori, sosyal yapının ve sosyal ilişkilerin, üretim, tüketim ve bölüşüm üzerindeki etkilerini ihmal eder. Sosyolojide olan ise iktisadi etkilerin, sosyal davranıştan dışlanmasıdır. Sonuç olarak iktisadi analizde “atomistik birey” yaklaşımı terkedilmeli, yerine sosyal yapı ve ilişkiler içerisinde güdümlenen birey yer almalıdır. Atomizasyonun karşıt savı ise Granovetter’de gömülülüktür (Swedberg, 1997: 164).

Yeni Ekonomi Sosyolojisi’nde ikinci temel kavram, ekonominin sosyal yapılanışdır. Bu yaklaşım Peter Berger ve Thomas Luckmann’ın ünlü kitabı “Social Construction of Reality” (1966) kitabından gelmektedir. Bu kavram Granovetter’in 1985 çalışmasında yer

¹ Buradaki eleştiri aslında Yeni Kurumsalcılığa yapılmıştır. Yeni Kurumsalcılık yaklaşımına göre kurumlar, anayasalar, kanunlar, mülkiyet hakları gibi formel ve yaptırımlar, tabular, adetler, gelenekler gibi enformel unsurlardan meydana gelir. Ayrıca Granovetter Yeni Kurumsalcılığı, somut ilişkilere ve ağ yapılarına referansını eksik olmasıyla da eleştirir (Nee, 2013: 64-66).

almasa da daha sonraki çalışmalarında yer alır. Granovetter'in, Berger ve Luckmann'a eklediği şey ağ perspektifidir. Ağların, bir kurumun oluşmasının erken aşamalarında nasıl önemli bir role sahip olduğu argümanı üzerinde durur (Swedberg, 1997: 165). Gündelik hayatta işlerin yürüme şekli, bazı durumlarda spesifik bir gerçeklik kazanmakta ve sosyal aktörler tarafından bağımsız bir varlık olarak görülmektedir. Granovetter, 1992 tarihli makalesinde bunu somut terimlerle ifade eder. İnsanlar arasındaki etkileşim ağlar üzerindedir. Bu ağlar belirli koşullarda yoğunlaşırlar ve kararlı yapılara dönüşürlürler. İşte bu kararlı yapılar, yeni iktisadi kurumlardır. Swedberg (2019: 269), sosyal yapının, Yeni Ekonomi Sosyolojisi'nde belirsiz bir kullanımı olduğuna dikkat çekmiştir ve ama bu alanda yapılan çalışmalarda iktisadi davranışın ve iktisadi kurumların bir tür sosyal etkileşimle oluştuğuna işaret edildiğini de eklemektedir. Etkileşime giren insanlar bir din üretebileceği gibi ekonomi de oluşturabilirler.

Bu çalışmada amaçlanan, Yeni Ekonomi Sosyolojisinin iş başına çağırıldığı sosyal yapı ve sosyal ilişkiler yaklaşımının kısıtlılığına dikkat çekmektir. Bu amaç doğrultusunda ilerleyen bölümde, Yeni Ekonomi Sosyolojisi'nin yaklaşımına yöneltilen eleştirinin inşasından önce, iktisat biliminde benimsenen çeşitli sosyal yapı kavramsallaştırmalarına değinilecektir. Ayrıca sosyal ve iktisadi teorinin benimsemesi gereken yaklaşım olarak, Eleştirel Gerçekçilik yaklaşımının, sosyal yapı ve ilişkisellik kavramlarına değinilecektir.

2. İktisat Bilimi İçin Sosyal Yapı

Sosyal yapı kavramı birçok sosyal bilim disiplini için önemli bir kavram olmasına rağmen, iktisat bilimi için aynı şeyi söylemek mümkün değildir. Çoğu iktisat teorisi, özellikle de Ortodoks teori, yapısal yöntemlerden uzak durur ve sosyal yapıya çok az atıfta bulunur veya hiç atıfta bulunmaz. Özellikle marjinalist devrimle birlikte yerleşen Neoklasik paradigma sonrası, sosyal yapıyla ilişkisini kesmiştir. Tüm iktisadi analizi, piyasaya ve onun denge analizine indirgeyen iktisat bilimi, insanı da yalnızca kişisel çıkar peşinde, etkileşimsiz ve makine benzeri biçimde ele alarak, aslında analiz dışı bırakmıştır.

Metodolojik bireyciliğe dayalı Ortodoks iktisadın, denge analizleri için gerekli olan iktisadi davranış modelinde, sosyal yapı fikri her zaman tehlike oluşturmuştur. İnsanların daha büyük bir bütün oluşturmak için bir araya getiren herhangi bir yapı, Neoklasik iktisadın çekirdek fikri olan atomistik ve rasyonel birey yaklaşımı ile çelişir. Atomistik ve rasyonel bireyin, sosyal yapının analize dahil edilmesi uğruna terkedilmesi ise yalnızca bu iki yaklaşımın değil, piyasanın kendiliğinden düzeni ve dengesi fikrinin de yıkılması anlamına gelecektir. Bu sebeple Neoklasik ekolün sosyal olanla işi kalmamıştır. Başka bir deyişle, kendi kendini düzenleyen piyasa ideali uğruna, iktisat insansızlaştırılmıştır.

Eleştirel Gerçekçilik, özellikle ana akım iktisadın tutarsızlıklarına ve başarısızlıklarına dair detaylı bir sorgulama yürütmüş ve uygun bir yöntem önermiş önemli

bir araştırma programıdır². Eleştirel Gerçekçilik araştırma programının amacı, iktisatı indirgemeci olmayan bir teorik çerçeve içine yerleştirmektir (Lawson, 1997; Jackson, 1995). İndirgemecilikten kasıt, ana akım iktisadın incelediği iktisadi gerçekliğin kapalı bir sistem olarak kabul edilmesidir. Ana akım iktisadın kullandığı matematiksel ve tümdengelimci metod, yalnızca kapalı sistemlerde var olan ampirik düzenlilikleri keşfetme amacındadır. Bir sistemin kapanması için gerekli koşullar, atomistik birey yaklaşımı ve izolasyondur. Matematiksel tümdengelimci metodun ampirik düzenlilikleri keşfedilmesi için, sosyal gerçeklik birbirinden izole atomlardan oluşan bir yapıya dönüşmüştür (Lawson, 2003: 16).

Eleştirel Gerçekçilik yaklaşımı çalışmanın amacı için de oldukça önemli bir uğraktır. Çalışmada Yeni Ekonomi Sosyolojisinin, Neoklasik iktisada yönelttiği eleştirilerının odağı olan atomistik birey varsayımı yerine önerdiği sosyal yapıya gömülü iktisadi eylem yaklaşımının yetersizliği gösterilmek istenmektedir. Bu yaklaşımın, sosyal alana dair kısıtlı kavrayışının nedenlerini ortaya koymak, ancak benimsenmesi gereken sosyal yapı kavrayışını önden betimlemekle mümkün olacaktır. Dolayısıyla Yeni Ekonomi Sosyolojisinin sosyal ilişkiler ağı olarak sosyal yapı kavramsallaştırmasına geçmeden önce, ana akım iktisadın başarılı bir eleştirisini yürütmüş olan Eleştirel Gerçekçilik yaklaşımında yer alan sosyal yapı ve sosyal ilişkiler yaklaşımına değinmek gerekmektedir.

İnsanlar ve sosyal yapılar arasındaki ilişkilere dair önemli sorular ve sorunlar bulunmaktadır. Sosyal yapıların, insanların toplamından mı oluştuğu ya da bu yapının insanlardan ayrı ve insanların işgal ettiği farklı roller ve pozisyonlar içeren bir varlık mı olduğu konusunda bir fikir birliği yoktur. Eleştirel Gerçekçilik yaklaşımının kurucusu Roy Bhaskar, toplum birey arasındaki ilişkiye dair temel üç yaklaşımdan bahseder. İlki Max Weber'in temsil ettiği, sosyal nesnelere, yönelimsel ve anlamlı insan davranışı sonuçları olarak gören yaklaşım. İkincisi Emile Durkheim'in temsil ettiği, sosyal olguları bireye dışsal ve zorlayıcı gören yaklaşım. Üçüncüsü ise Peter Berger'in temsil ettiği, toplumun, kendini yeniden üreten bireyler ürettiği yaklaşım. Bhaskar bu üç yaklaşımın da eksik ve yanlış

² *Ana akım iktisadi, sosyal gerçekliğin doğasını yanlış belirlediği gerekçesiyle eleştiren Heterodoks okullardan biri de Post Keynesyen iktisattır. Post Keynesyen iktisatçılar arasında, iktisat biliminde gerçekçi (realist) bir uyumlanma (orientation) gerekliliğine vurgu yapan ve sosyal/iktisadi gerçekliğin doğasına dair dikkatli bir sorgulama ihtiyacını ortaya koyan isimlerden en önemlisi Tony Lawson'dur. Lawson, 1980'lere kadar çalışmalarını felsefi realizm çerçevesinde yürütmüş ve 1980'lerde Roy Bhaskar'ın fikirleriyle tanışmıştır. Lawson, sosyal bilimcilerin özellikle sosyoloji olmak üzere diğer sosyal bilim dallarında Eleştirel Gerçekçiliğin felsefi terminolojisinin kullanılmaya başlandığını gördükten sonra, iktisat bilimi içinde aynısını yapma kararı almıştır (Dunn, 2009: 485). Lawson, sosyal gerçekliği, sosyal ilişkileri de içeren dinamik bir alan olarak tanımlamaktadır. Sosyal gerçeklik, içsel ilişkilerden oluşan, dinamik, organik ve aynı zamanda tabakalaşmış (structured) bir alandır. Bu ifadenin ima ettiği ise, sosyal yapının, insan pratiğine indigenemesi ve altta yatan mekanizma ve süreçlerden oluştuğudur (Lawson, 2003: 17). Ana akım iktisadın benimsediği yöntemin gerektirdiği gerçeklik, başka bir deyişle önvarsaydığı ontoloji, gerçeklikle bağdaşmaz. Gerçek dünya, izole atomlardan oluşan kapalı bir sistem değil, organik, içsel olarak ilişkili, değer ve anlam içeren, tabakalaşmış açık bir sistemdir. Lawson'ın gerçekçi uyumlanma olarak tanımladığı ise kapalı bir sistem olarak tahayyül edilen iktisadi gerçekliğin, açık bir sistem olduğunun kabul edilmesi ve kullanılacak yöntemin de bu ontolojiyle ilişkili olarak güncellenmesidir.*

olduğunu düşünür. İlk yaklaşımda, iradecilik, ikinci yaklaşımda şeyleştirme vardır. Üçüncü yaklaşım ise her iki sorunu aşmak yerine aslında ikisini birleştirmiştir (Bhaskar, 2013: 57).

Bhaskar bu üç modelin yerine “*dönüşümsel sosyal etkinlik modeli*”ni önerir. Bu modele göre sosyal formlar, bireylerin faaliyetlerinin zorunlu bir koşuludur. Bireyler, etkinlikte bulunabilmek için bir sosyal forma gereksinirler. Sosyal formların sahip oldukları nedensel güç ise *insan failliği* olarak belirlemiştir. Böylece sosyal formların, bu önceden var olmaları *dönüşümsel bir sosyal etkinlik modeli* gerektirmektedir. Bu model, sosyal bilimin inceleme nesnesine dair *ilişkisel* bir kavrayış gerektirir. Bu kavrayışa göre, toplum bireylerden oluşmaz, bireylerin içinde yer aldığı ilişkilerin toplamını ifade eder. Bilimsel teori, sosyal hayatın olgularından, bunları zorunlu kılan *ilişkilere* doğru bir seyir izlemektedir. Fakat bu olguların failleri, bu ilişkilerin farkında bile olmayabilirler (Bhaskar, 2013: 48).

Bhaskar’a göre toplum, yönelimsel insan eylemi için zorunlu koşulları sağlar ve yönelimsel insan eylemi de onun için zorunlu bir koşuldur. Toplum, yalnızca insan eyleminde mevcuttur ama insan eylemi de daima şu veya bu sosyal formu ifade eder ve kullanır. Fakat bunlardan hiçbiri bir diğeriyle özdeşleştirilemez, bir diğere indirgenemez ve bir diğeri aracılığıyla açıklanamaz. Toplum ve bireyler arasında ontolojik bir yarıklık bulunmaktadır ve toplum ve bireyler arasındaki ilişkiye dair yaklaşımlar, bu yarıklı görmezden gelmektedir. Weber’in yaklaşımında insanın failliği, yani eylemleri vardır, fakat koşullara yer yoktur. Durkheim’in yaklaşımında, koşullar kabul edilir, fakat insan eylemlerine yer yoktur. Berger’in yaklaşımında ise hem koşullar hem de insan eylemleri yer alsa da ontolojik yarıklık yoktur, yani bu iki düzey arasında yapılması gereken ayrıma yer verilmemiştir (Bhaskar, 2013: 61). Kişiler ve toplumlar arasına ve bunu takiben, insan eylemleri ile sosyal yapıdaki değişimler arasına kategorik bir ayrım çizmek çok önemlidir. Bhaskar, toplumu insan eylemlerinden bağımsız var olduğu şeklindeki yaklaşımı şeyleştirme hatası olarak ve yine toplumu insan eylemlerinin ürünü olarak okumayı da iradeciliğin hatası olarak tanımlar (Bhaskar, 2013).

Bhaskar, sosyal yapıyı geçmişten miras alınmış ve insan failliği perspektifinden veri olarak görmektedir. Failler önceden var olan sosyal yapıyı, bu yapı sanki onlara dışsal bir şeymiş gibi deneyimlerler ve bu yapıyı ya pasif kalarak ya da eylemde bulunarak yeniden üretirler. Rol temelli sosyal yapı, bireye dışsal olan yapının kimliğini korur, ancak faillerin onu yeniden üretmesine izin de verir (Jackson, 2003: 732).

Bhaskar’a göre toplumlar kişilere indirgenemez. Toplum ve kişiler arasındaki bağlantı dönüşümsel sosyal etkinlik modeli tarafından kurulur. Sosyal formlar her türlü yönelimsel edimin zorunlu koşuludur. Bu formların önceden var olmaları, bu formların bilimsel araştırmanın olası nesnelere olmasını sağlar. Bu formların sahip oldukları nedensel güçler de onların gerçekliğini tesis eder. Sosyal formların taşıdığı nedensel güç, insan failliği tarafından dolayımlanır (Bhaskar, 2013: 47). Bhaskar natüralizmin olanaklılığını göstermeye çalışırken, olası bir sosyolojinin özerkliğini ve bu şekilde tasarlanmış her türlü

nesnenin gerçekliğini tesis etmeye çalışır. Bu da şu anlama gelir, toplumlar kişiler gibi daha basit nesnelere indirgenemez, karmaşık ve gerçek nesnelere (Bhaskar, 2013: 49).

Bhaskar’ın ‘sosyal’ tanımı metodolojik bireycilerden farklıdır. Sosyoloji özü itibarıyla geniş ölçekli kitlesel ya da grupsal davranışla ilgilenmez. Daha ziyade sosyoloji, “bireyler (ve gruplar) arasındaki istikrarlı ilişkilerle ve bu ilişkilerin arasındaki ilişkilerle (ve bu türden ilişkiler, doğa ve bu türden ilişkilerin ürünleri arasındaki ilişkilerle)” ilgilenir. Sosyolojinin inceleme konusu, en kaba haliyle kapitalist işçi, milletvekili seçmen, öğrenci ve öğretmen arasındaki ilişkilerdir. Bhaskar’a göre bu ilişkiler göreceli olarak genel ve süreklidir. Grev gibi veya bir gösteri gibi toplumsal bir olayda sergilenebilecek tarzda kitle davranışını incelemeyi içermez (Bhaskar, 2013: 51). Bhaskar, kolektif olguların kalıcı ilişkiler olarak ele alındığı gerçekçi ve ilişkisel bir görüşe sahiptir ve bu sebeple sosyoloji gruplarla ve de davranışla ilgilenmez (Bhaskar, 2013: 53). Bhaskar’ın ifadesiyle toplumla ilgilenirken “çok özgün bir kendilikler uğraştığımızı fark etmek gerekir; kendi etkilerine indirgenemez ama sadece etkileri bakımından mevcut bir yapı” (Bhaskar, 2013: 65).

Bhaskar (2020: 116), yapı ve fail arasındaki çatışmanın çözümüne, dönüşümsel sosyal etkinlik modeli aracılığıyla yaklaşır. Toplumsal biçimler/formlar her zaman önceden vardır ve insan failliği tarafından yeniden üretilir ve dönüştürülür. Bhaskar’a göre sosyal bilimlerin inceleme nesnesi, insan davranışları değil, insan davranışlarını yöneten, koşullandıran ve sınırlayan sürekli (istikrarlı) ilişkiler ve bu ilişkilerin dönüşümüdür. Yapı ve faillik arasındaki çatışma da ancak böyle bir sosyal bilim anlayışıyla çözümlenebilir (Bhaskar, 2020: 116).

Bhaskar, Natürallizmin Olanaklılığı (*Possibility of Naturalism*) ve Bilimsel Realizm ve İnsan Özgürleşmesi (*Scientific Realism and Human Emancipation*) eserlerinde geliştirdiği dönüşümsel sosyal etkinlik modelini, daha sonraki eserlerinde geliştirmiştir. Dialektik (*Dialectic: The Pulse of Freedom*, 1993) ve Plato (*Plato Etc. Problems of Philosophy and Their Resolution*, 1994) isimli eserlerinde bu model “sosyal küp” şeklinde ele alınmıştır. Sosyal küp aynı zamanda, “dört düzlemli sosyal varlık” (*four planar social being*) olarak da bilinmektedir. Bhaskar (2010:72), dönüşümsel sosyal etkinlik modelini bu yeni yaklaşımla daha da derinleştirir. Bu anlayışa göre, her sosyal olay aşağıdaki düzlemlerin veya boyutların her biri boyunca gerçekleşir (Bhaskar, 2010: 72):

- (a) doğa ile maddi işlemlerin düzlemi (*the plane of material transactions with nature*);
- (b) insanlar arasındaki sosyal etkileşimler düzlemi (*the plane of inter-/intra-subjective (personal) actions*);
- (c) sosyal ilişkiler düzlemi (*the plane of social relations*);
- (d) bireyin öznelliği (*the plane of the subjectivity of the agent*).

Bhaskar’a göre, bu dört düzlem sosyal yaşamı oluşturur. Doğa ile maddi işlemler düzlemi, geçim sağlamak için harcanan ortaklaşa çabayı ifade eder. Failler arasındaki sosyal ilişkiler, sosyal sistemin yapılandırılmış konum ve pratiklerinin yürütülmesi biçiminde ele

alınmalıdır. Failler arası ilişkiler ise konumların veya pratikleri yürüten aktif görevli olarak bireylerden ziyade özneler olarak bireyler arasındaki etkileşimler olarak düşünülmelidir. Son olarak, bireyin öznelliği, kişisel ve kurumsal kimliklerin kendi kendini inşa etmesi gibi algılanmalıdır. Bir bütünlük olarak sosyal yaşam, diyalektik olarak birbirine bağlı bu dört düzlemden oluşur. Bhaskar’ın sosyal küp olarak adlandırdığı bu dört düzlemlili varoluş biçimi, yapı pratik ve fail topluluğunun karmaşık bir eklemelenmesini ifade etmektedir. Bu sosyal yaşam, karmaşık ve açık bir sistemdeki kısmi bütünlükler içinde, birlik-çesitlilik, içsel-dışsal, parça-bütün diyalektiklerini içermektedir (Creaven, 2002: 101).

Sosyal küp yaklaşımı, yapı ve failik ikiliğinde, Durkheim’in analizinde yer alan şeyleştirme ve Weber’in analizinde yer alan iradecilik gibi hatalardan kaçınır. Aynı zamanda hem bireyciliğin hem de kolektivizmin hatalarından kaçınan bir ilişkiel sosyal yaşam anlayışına sahiptir. Bhaskar’ın “ikilik” ile kastı, ‘varoluşsal karşılıklı bağımlılık ile esaslı bir farklılık/ayrılık (distinction) bileşimi’ anlamına gelir. Yani yapı ve fail karşılıklı bağımlıdır, fakat ontolojik olarak kesinlikle birbirlerinden ayrıdır ve birbirlerine indirgenemezler. Toplum ve doğa gibi, insan özneleri de tabakalaşmış ve ilişkiel varlıklar olarak kavranır. İnsan özneleri, çevrelerinden soyutlanmış ve sabit olarak algılanamazlar. Bu öznelerin varoluşları, diğer şeylerle ilişkilerinin bütünselliği ve onların ritimleri/jeo-tarihleri tarafından belirlenmiştir (Creaven, 2002: 101).

Bhaskar, bu eserlerinde dönüşümsel sosyal etkinlik modelini diyalektik, nedensellik, uzay ve zamanın üçlü birliği anlamına gelen “ritmik” kavramı aracılığıyla somutlaştırmaya çalışmıştır. Sosyal küp, sosyal yaşamın tek bir gerçeklik düzeyi (düzlem) tarafından belirlenmediğini göstermektedir. Sosyal yaşam, senkronizasyon mekanizmaları aracılığıyla ortak ritmik süreçlerle ilişkiel, çeşitli maddi ve sosyal düzlemlerin bir kompleksi tarafından etkinleştirilir ve kısıtlanır. Bütün bu bileşenler birlikte toplumsal yaşamı oluşturmaktadır (Piiparinen, 2006: 426). Her bir düzlemden yer alan öğeler, “çoklu ve çelişkili belirlemelere ve dolayılara tabidir ve az ya da çok ölçüde (az ya da çok çelişkili) karşılıklı ilişki ve bütünlük sergiliyor olarak kavranmalıdır” (Bhaskar, 1993: 149).

Bhaskar’ın, geçmiş çalışmalarında yer alan dönüşümsel sosyal etkinlik modeline, doğa ile maddi işlemler ve bireyin öznelliği düzlemlerini ekleyerek geliştirdiği sosyal küp yaklaşımı, analizin zenginleşmesi olarak ele alınmalıdır. Wight, (2006: 175) farklı faaliyet düzlemlerinin sosyal sonuçlar/çıktılar üzerindeki etkisinin zaman ve mekâna göre değişebileceğini, fakat tüm sosyal olguların bu dört düzlemden de yer aldığını ifade etmiştir. Sosyal küp yaklaşımı oldukça değerlidir, çünkü bu yaklaşım, indirgemeci ve insan merkezli olmayan kapsamlı bir sosyal varlık ontolojisi sunmaktadır (Buch-Hansen, 2014: 87). Piiparinen (2006: 429) bu yaklaşımın, insan yaşamının, fiziksel, zihinsel, maddi, insani ve sosyal gerçeklik düzeylerinden ortaya çıkan çeşitli mekanizmaların sürekli gelişen karmaşıklığı tarafından düzenlendiğini ve dönüştürüldüğünü vurgulamıştır. Toplumsal etkinliğin dönüştürücü modelinin “sosyal küp” olarak yeniden modellenmesi, toplumsal varlığın çok boyutlu dokusunu ve açık uçlu dinamizmini ortaya çıkarır. Bu sosyal küp modeliyle, soyut yapı ve fail modeli, “birçok belirlenim ve ilişkiel oluşan zengin bir bütünlük” olarak yeniden biçimlendirilmiştir (Creaven, 2002: 105).

Sosyal yapılar, Bhaskar'ın analizinde soyut, aktüel³ olmayan ve aşkın varlıklardır (*entities*) ve sosyal yapı, bireyler arası sosyal etkileşimle bir tutulamaz ve algılanamayan aşkın bir varoluş alanıdır (Kaidesoja, 2007: 79). Eleştirel Gerçekçiliğin yapmaya çalıştığı şey de bu aşkın varoluş alanını ve bu alanın ilişkiselliğini ortaya çıkarmaktır. Başka bir deyişle, sosyal gerçekliğin tabakalı yapısında, görünür düzeydeki olguları üreten ve görünenin alt düzeylerinde bulunan yapı ve mekanizmaları ortaya çıkarmaktır. İlişkisellik ve kişiler arası ilişkiler arasındaki ayrım, gerçekliğin katmanlı/tabakalı yapısından kaynaklanmaktadır. Kişiler arası ilişkiler, gerçekliğin aktüel düzeyinde yer alırken, bu kişiler arası ilişkileri üreten ve faillerinin farkında bile olamayabileceği ilişkisellik, yani toplumsal ilişkiler daha derin bir düzey olan reel düzeyde yer alır. Bilimsel teori, sosyal hayatın olgularından, bunları zorunlu kılan *ilişkilere* doğru bir seyir izlemektedir.

Eleştirel Gerçekçiliğin yapısal analizleri, ilişkilerin ve yapıların doğasını inceleme üzerine kuruludur. Yapısal analizin amacına uygun yapılabilmesi için, parçalar, bütün için gerekli olacak şekilde içsel olarak ilişkilendirilmelidir ve her bir parça diğerleri olmadan var olmamalıdır. Parçaların birbirine bağımlılığı yoksa ve yalnızca dış ilişkileri varsa, o zaman bütün en fazla bir toplam (*aggregate*) olabilir ve yapısal analiz geçerliliğini yitirir. Dışsal ilişkiler olumsuzdur ve ilişkideki tarafların bu ilişkide olmaları ne zorunludur ne de olanaksızdır. Aynı zamanda dışsal ilişkideki tarafların biri, diğeri olmadan da varlığını sürdürebilir. İçsel ilişkiler ise zorunludur. Bir tarafın ne olduğu diğeri ile olan ilişkisine bağlıdır ve bir tarafın yokluğu diğeri de ortadan kaldırır. Köle efendi, ev sahibi kiracı ilişkilerinde olduğu gibi (Sayer, 2017: 123).

Eleştirel Gerçekçilik yaklaşımını benimseyenlerden Sayer'e göre (2017: 25-131) Marksist sınıf kavramı da iç ilişkilere dayanır, kapitalist toplum söz konusu olduğunda, öncelikle ücretli emek ve sermaye arasındaki ilişkiye dayanır. Soyutlama, özellikle yapıların tanımlanması için önemlidir. Yapılar, içsel olarak bağlantılı nesnelere ya da pratiklerin kümeleri olarak tanımlanabilir. Ev sahibi-kiracı ilişkisinin kendisi, özel mülkiyeti, kirayı, iktisadi artı değer üretimini vb. gerektirir. Toplumsal yapılar içinde belli rollerle ilişkili belli konumlar vardır. Yapılar belli dönüşümler altında değişmez olsa da genellikle yerinden edilmeleri zor olsa da bu onların içeriden, zaman içinde dönüştürülemeyeceği anlamına gelmez (Sayer, 2017).

Sosyal gerçeklik, birbiriyle ilişkili dinamik bir bütünlüktür. Bu dinamik bütünlüğün anlaşılması için gerekli çerçeve ise ancak Bhaskar'ın dönüşümcü sosyal etkinlik modeli

³ Bhaskar, nedensel yasaların gerçekliği doktrini için 'aktüalizm' (*actualism*) terimi kullanır. Buna göre olaylar arasındaki ilişkiler, yasalardır. Bu fikrin arkasında, yalnızca aktüel düzeyde olanın 'gerçek' kabul edilmesi yatmaktadır. Gerçek dünya, bizim onun hakkında bilgi edindiğimizden fazlasıdır. Bu sebeple bu gerçek dünya, tamamı erişime açık olmayan farklı seviyelerdedir. Üç ayrı düzey vardır: Direkt erişimimizin olmadığı ve yapılar ve mekanizmaların bulunduğu reel düzey, direkt olarak tecrübe edilen ve olayların (*events*) bulunduğu aktüel düzey, duyu deneyimlerinin yer aldığı ampirik düzey. Reel düzey, yaratıcı mekanizmaların çalıştığı düzeydir. Gerçekçi bilimin amacı, bu yaratıcı mekanizmaları ortaya çıkarmaktır. Fakat gerçeğe ancak ampirik ve aktüel düzeylerde erişim sağlayabiliriz. Ampirik düzeyde gerçek hakkında söyleyebileceğimiz, reel düzeydeki yaratıcı mekanizmaların doğasına bağlıdır (Özel, 2012: 15-6).

tarafından sağlanmaktadır. Bu modelde toplumlar, tarihsel olarak belirlenmişlerdir ve tarihsel bir uzam ve bağlamda yer alan insanlar arasındaki toplumsal/sosyal ilişkiler olarak tanımlanmaktadır. Fakat bu ilişkisellik, bireyler veya gruplar arası ikili ilişkiler düzeyinde bir ilişkiselliği ifade etmemektedir. Bu yaklaşımda, atomistik birey yaklaşımının terki ve bireyin varoluşunun ancak diğer bireylerin varlığında anlam kazanması söz konusudur. İşçi ancak işverenle, koca ancak eşi var olduğunda kocadır. İlişkisel bir bakış açısı, yalnız insanlar arası ilişkiye değil, insan ve doğa arasındaki olanları da ilişkisel bir çerçevede analiz eder (Ercan, 2015: 32). Sonuç olarak, kapitalist üretim sisteminde yaşayan bireylerin analizi, kapitalist üretimin tarihsel olarak verilmiş sosyal ilişkilerinin bir analizini gerektirir (Calnitsky, 2014: 578).

3. Kişilerarası İlişkiler Ağı Olarak Sosyal Yapı Kavramsallaştırması

Neoklasik paradigma, iktisadi analizi piyasaya ve denge analizine indirgemek adına, aslında temel birimi olan insanı analiz dışı bırakmıştır. Mark Granovetter öncülüğündeki Yeni Ekonomi Sosyolojisinin, iktisada ve özellikle de Neoklasik iktisada en temel eleştirisi odağı da bu çerçevede şekillenmiştir. Yalnızca kişisel çıkar peşinde, etkileşimsiz ve makine benzeri atomistik birey yaklaşımı iktisat bilimi için en büyük yanıltıcıdır. Neoklasik iktisadın bireyini sosyal, sosyolojinin bireyini ise aşırı sosyal bulan sosyologlar, sosyal ilişkiler şeklinde anlaşılan sosyal yapının merkeze alındığı yeni bir yaklaşım geliştirmişlerdir ve iktisadi eylemlerin sosyal yapıda içerildiğini ve süregiden ilişkiler sistemine gömülü olduğunu ileri sürmüşlerdir. Granovetter (1985: 481), Neoklasik iktisadın en önemli eksikliğini, bireyler arasındaki kişisel ilişkiler ve ilişki ağlarının -yani sosyal ilişkiler ağlarının-, iktisadi kararlar ve kurumlar üzerindeki etkisinin yok sayılması şeklinde açıklamaktadır. Sosyal ilişkiler ağı olarak kavramsallaştırılan sosyal yapı, bu bölümün içeriğini oluşturmaktadır.

Granovetter, (1985: 485) hem iktisat hem de sosyolojideki bireylere işaret ederek, eksik sosyalleşmiş birey ve aşırı sosyalleşmiş birey yaklaşımlarının her ikisinde de karıştırmış gibi gözükmelerine rağmen, atomize aktörler tarafından yürütülen eylem ve karar teorisi bulunduğunu düşünmektedir. Eksik sosyalleşme durumunda, kişisel çıkar peşinde koşma biçimindeki dar faydacılıktan doğan bir atomizasyon varken, aşırı sosyalleşme durumunda ise davranış paternleri içselleştirilmiş ve süregiden sosyal ilişkilerin davranış üzerinde yüzeysel etkisi vardır. Granovetter (1985: 486), aşırı sosyalleşmiş birey yaklaşımı için, Samuel Bowles ve Herbert Gintis gibi isimlerin, farklı sosyal sınıfların farklı bilişsel süreçler gösterdiği yaklaşımına bakar ve atomizasyon tuzağının burada da olduğunu ileri sürer. Bireyin sosyal sınıfı veya iş sektörü bilindiğinde, bu etkilerin bireyin zihninde sosyal etki halinde olduğu bilinir, fakat gerçek bir karar durumunda, kişi yine *homo economicus* gibi atomize kalabilir Sosyal ilişkileri ciddiye alan Harvey Leibenstein ve Gary Becker gibi isimlerin yaklaşımlarında da Granovetter'e göre atomize birey yaklaşımına düşülmür. Aktörlerin davranışları belirli meslekler altında tanımlanır. Atomizasyon birey bazında değil, fakat grup bazında hala devam etmektedir (Granovetter, 1985).

Granovetter, insan davranışının verimli bir analizi için, aşırı ve eksik sosyalleşmiş kavramlaştırmaların ikisinde de örtülü olarak bulunan atomizasyon yaklaşımı terk edilmesi gerektiğini ileri sürer. Bireyler, ne sosyal bağlamın dışındaki atomlar gibi hareket ederler, ne de bir sosyal kategori için tasarlanmış bir senaryoya köle gibi uyarlar. Bireylerin niyetli davranışı, süregiden sosyal ilişkiler sistemi içerisinde gömülüdür (Granovetter, 1985: 487). Tüm davranışlar, insanlar arası ilişkiler ağında gömülüdür ve böyle bir yaklaşım aşırı ve eksik sosyalleşme kavramsallaştırmalarının köşelerini törpüler (Granovetter, 1985: 504).

Yeni Ekonomi Sosyolojisi, sosyal yapıyı, “kişiler arası ilişkiler ağı” olarak dar bir çerçeveye indirgemektedir. Sosyal ağ kuramları, bireylerin sosyal çevrelerinin nasıl hem o bireyin davranışını ve hem de temel kimliğini biçimlendirdiğine dair fikirler üzerine kurulmuştur. Bireyler arası sosyal ağlar, normlar oluşturur ve bu normlara uymayanları yaptırım aracılığıyla normlara uymaya zorlar. İktisadi davranış, sosyal rollerle ilgili normlar tarafından yönlendirilir. Yani iktisadi davranış tamamen rol yönelimli bir davranıştır. Sosyal ağlar, yeni iktisadi geleneklerin yayılmasını ve gücün kullanılmasını sağlayan iletim kanallarıdır. Ağlar, iktisadi yaşamda neyin mümkün olduğunu ve olmadığını belirlemektedir. Sosyal ağlar olarak sosyal yapı, işe alma, fiyatlandırma üretkenlik ve yenilikler gibi iktisadi çıktılarını etkiler.

Başta iktisadi olmak üzere tüm davranışlar, sosyal ilişkiler ağı içerisinde gömülü olduğundan toplumsal çıktı, bu ilişkiler ağından etkilenir. Sosyal ağlar şeklinde anlaşılan sosyal yapı, iktisadi çıktıyı üç temel sebeple etkiler. Birincisi sosyal ağlar, bilginin akışını ve kalitesini etkiler. Yani insanlar bildikleri, tanışık oldukları insanların bilgilerine daha çok güvenir. İkincisi sosyal ağlar, ödül ve ceza için önemli kaynaklardır. Üçüncüsü ise sosyal ağlarda bir tür güven ilişkisi doğar. Granovetter’in analizinde, bireyler, güvenli iş yapmak için, somut kişiler arası ilişkilere ve bu ilişki ağlarına bakar (Granovetter, 2005: 33). Birbirini tanımayan yabancılar arasındaki işlemlere nazaran, devam edegelen ilişkilerde güvenilirlik daha yaygındır, çünkü toplumsal ilişkilerde işbirlikçi davranışı geliştiren ve koruyan, ödül ve ceza şeklindeki toplumsal mekanizmalar yer almaktadır (Nee, 2013: 76).

Granovetter (2005: 34-5), sosyal ağların ve sosyal yapının, iktisadi çıktıyı nasıl etkilediğine dair bazı çekirdek ilkelerden bahseder. Bunlardan ilkinde (normlar ve ağ yoğunluğu) göre, sosyal ağların yoğunluğu, bilginin ve fikirlerin iletimini kuvvetlendirir ve doğru davranış biçimlerinin ortaya çıkmasına yardımcı olur. Ayrıca normlardan sapmaların da kolay teşhis edilmesine ve bu sapmaların cezalandırılmasında katkıda bulunur. İkinci ilke, zayıf bağların, daha geniş bir dünyayla bağ kurmayı kolaylaştırdığı ve güçlü bağlardan daha çok yeni bağlantıya sahip olduğunu ve bu sebeple bu bağların da dikkate alınması gerektiğini ifade eder. Granovetter’e göre bu bağlar, geniş ölçekteki bir sosyal yapının içinde bilginin yayılım alanını temsil etmektedir. Sosyal ağlarda, güçlü bağlardan daha çok zayıf bağ vardır. Üçüncü ilke ise iktisadi ve iktisadi olmayan eylemlerin iç içeliğine vurgu yapar. Granovetter’e göre sosyal yaşam, iktisadi olmayan bir odağa sahiptir. Bu iç içelik dolayısıyla, iktisadi eylemin, iktisadi olmayan tarafından etkilendiğini, yani ekonominin sosyal gömülülüğünü ifade eder.

Granovetter (2005) aynı makalede, sosyal ağların işe alma, fiyatlama ve üretkenlik üzerinde de etkili olduğunu ileri sürmektedir. İş piyasasında yani işe almada sosyal ağlar, yani sosyal sermaye kilit rol oynar. Tüm sosyal etkileşim, kaçınılmaz olarak bilgi ilettiği için, çalışan, işveren veya işler hakkındaki detaylar, insanların iktisadi olmayan sebeplerle içinde buldukları sosyal ağlar yoluyla sürekli olarak aktarılır. İnsanlar, herhangi bir iş arama zahmetine katılmadan, sosyal ortamlar aracılığıyla yeni işlerle tanışır. İnsanlar tanıdıkları insanlarla ticaret yaptıklarında, bu tanışıklık sebebiyle fiyatlar da etkilenebilir. Bu tip bir durumda tam rekabetten sapma meydana gelmiştir demektir ve bu durum hem sosyoloji hem de iktisadi işe davet etmeyi gerektirir. Çünkü Granovetter’e göre, eşanlı olarak hem iktisadi olan hem de olmayan bir güdüye sahip aktörün nasıl eylemde bulunacağını çözmek konusunda, her iki bilim de tek başına yetersiz kalır. Sosyal ilişkiler, üretkenlikle de yakından ilişkilidir. İnsanların sosyal gruptaki pozisyonları, üretkenliklerinin altında yatan temel etkidir. İşlerin çoğunun iş birliği olmadan yapılamayacağı ve bazı işlerin de karmaşık olması ve güç olması ve örtük bilgi gerektirmesi sebebiyle, insanlar arası ilişki ağları, üretkenlikte önem kazanır. İnsanlar arasındaki iyi ilişkiler kilit rol oynadığından, bir firmaya kişisel kontaklarla işe girmek, üretkenliği artırır ve hatalardan kaçınmaya yardımcı olur (Granovetter, 2005: 36-41).

Granovetter’in bu çalışmalarında ortaya konmak istenen, kişiler arası ilişkiler ağı olarak anlaşılan sosyal yapının, iktisadi alanı etkilediğidir. Yeni Ekonomi Sosyolojisi yaklaşımın en zayıf halkasını da aslında bu kişiler arası ilişkiler ağı olarak sosyal yapı kavramsallaştırması oluşturmaktadır. Granovetter’in düştüğü tuzak, piyasanın ve bu piyasadaki aktörlerin arasındaki ilişkilerin veri olarak kabul edilmesi ve piyasa ilişkilerini ortaya çıkaran toplumsal ilişkiselliği göz ardı etmesidir (Baş-Dinar, 2015: 40). Başka bir deyişle, Yeni Ekonomi Sosyolojisi, sosyal yapıyı, piyasa ilişkileri ile eşleyerek oldukça indirgemeci bir bakış açısı benimsemiştir. Piyasa ve piyasanın aktörleri arasındaki kişiler arası ilişkiler, gerçekliğin yalnızca yüzeyini oluşturmaktadır. Bilimsel etkinlik, bir önceki bölümde aktarıldığı üzere, bu yüzeydeki ilişkileri üreten yapı ve mekanizmaları keşfetmek üzerine olmalıdır. Sosyal yapıları, kişiler arası ilişkiler ağı olarak nitelemek, bu kişilerin eylemlerini şekillendiren derin bir gerçeklik düzeyi olarak yapı kavramının, bu derin anlamının kaybedilmesine neden olacaktır ve pratiklerin yüzeysel seviyesinde kalacaktır (Kolasi, 2018: 16). Başka bir deyişle, ilişkiler, gerçekliğin yalnızca yüzeyinde (görüngüler düzeyinde) yer alan kişiler arası ilişkiler olarak değil, insanların eylemlerini mümkün kılan ve insanların eylemleriyle dönüştürebildiği toplumsal ilişkisellik olarak ele alınmalıdır. Bhaskar’a göre (2015: 25) toplumsal ilişkiler, bu ilişkileri üreten veya dönüştüren bireylerden önce vardılar ve yapılar olarak kavranması gereken bu toplumsal ilişkiler, kişilerin pratiğine indirgenemeyen bir gerçekliğe sahiptir.

Sosyal yapının, insanlar arasındaki ikili ilişkiler olarak kavramsallaştırılması yerine, tarihsel bir süreç olan kapitalist sistemin işleyiş mekanizması keşfedilmelidir. Calnitsky’yi takiben (2014: 579) denebilir ki, belirli bir toplumda kimin neye sahip olduğu, kimin kim için ve hangi koşullarda çalıştığı ve kimin sosyal ürün üzerindeki haklara sahip olduğu gibi temel yapısal soru, yeni ekonomi sosyolojisinde vurgulanan ikili sosyal ilişkiler sorularının analitik olarak önündedir. Bu nedenle, dev bir süpermarket zincirinin yöneticisi ve küçük

bağımsız bir bakkalın sahibi, çeşitli güçlü veya zayıf bağlara sahip olabirse de bu kişilerin üretim araçlarıyla ilişkileri ve farklı sosyokültürel rolleri, bu kişilerin çıkarlarını ve sosyal ilişkilerinin doğasını, ciddi bir şekilde etkilemektedir (Calnitsky, 2014: 579).

Victor Nee (2013: 67) Granovetter’in gömülülük yaklaşımının, iktisadi analize sosyal olanı dahil etme anlamında önemli bir girişim olduğunu, fakat kişiler arası bağlar ve ağların yapısı üzerine yaptığı vurguların, iktisat sosyolojisinin kurucuları tarafından genişletilen kurumsal alanın daraltılmasına neden olduğunu ileri sürmüştür. Max Weber, Joseph Schumpeter ve Karl Polanyi’nin yazıları, daha derin nedensel güçlerin geniş bir kurumsal incelemesini yaparken, Granovetter’in başını çektiği Yeni Ekonomi Sosyolojisi yaklaşımı daha yüzeysel kalır. Swedberg’e göre (2019: 276), Yeni İktisat Sosyolojisi çalışmaları ise kapitalizm gibi makro fenomenlerden kaçınmakta ve daha ziyade orta ölçekli yaklaşımları daha konforlu bulmaktadır. Denebilir ki Yeni Ekonomi Sosyolojisi, iktisat biliminin sosyal olmayan insanlar analizini genişletme çabasıyla çıktığı yolda, ana akım yaklaşımından çok uzağa gidememiştir. Bireyler veya gruplar arası ikili ilişkiler, ağlar ve bağlantılar şeklinde analize eklenen sosyal yapı, yalnızca verili piyasa ilişkileri sınırında kalmaktadır ve aslında görünen gerçekliği üreten sosyal yapıların tarihselliğini göz ardı etmektedir.

Sosyal ağlarla ilgili yapılan çalışmalara verilecek önemli bir örnek, Ronald Burt’ın (1992, 2004) çalışmalarıdır. Yapısal deliklerle (*structural holes*) ilgili çalışan Ronald Burt (1992), “zayıf bağlar” argümanını genişletmiş ve yeniden formüle etmiştir. Yapısal delikler kavramı, belirli ağların çeşitli parçalarının köprülenme şekline odaklanır. Yapısal delik, özellikle farklı ağlar arasındaki birkaç bağlantıdan birini oluşturan kişi veya kişilere atıfta bulunur. Ağlarda bu pozisyonları işgal eden kişiler, her iki ağdaki diğer aktörler için mevcut olmayan bilgi veya diğer ayrıcalıklara sahip olabilmektedir. Bu ayrıcalık daha sonra diğer temsilcilerle pazarlık gücüne dönüştürülebilir. Burt (1992: 1-2), bu deliklere, “bilgiye erişim, zamanlama ve girişimcilik fırsatları” olarak atıfta bulunmaktadır. Yapısal bir delik, bu nedenle yararlanılması için bir fırsattır, Burt’un dilinde bu fırsattan yararlanan “yapısal girişimci”dir.

Sosyal ağlar ve iktisadi çıktı üzerine etkilerine dair başka bir örnek Brian Uzzi’nin 1996 ve 1999 yıllarında yaptığı çalışmalarıdır. Uzzi (1999: 482), finansman arayan firmaların “gömülü bağlar”dan nasıl fayda görebileceğine dair çalışma yapmıştır. Firmaların, borç veren kurumlarla, sıkı bağlar kurduğunda hem kredilerini güvence altına aldığından hem de düşük faiz oranlarını garantilediklerinden bahsetmektedir. Uzzi ve Lancaster’ın (2004) bir diğer çalışması da hukuk firmalarıyla güven ve karşılıklılık normları geliştiren kurumsal müsterilerin, daha düşük fiyatlar elde edebildiklerini göstermiştir.

Ağlar yaklaşımı, Yeni Ekonomi Sosyolojisi için temel bir yaklaşımdır. Granovetter, Burt, Uzzi ve Lancaster’ın kişilerarası ilişkiler olarak sosyal yapı yaklaşımlarına dair çalışmalarının yanlarına daha birçok çalışma eklenebilir, fakat çalışmanın kapsamı gereği mümkün değildir. Arrighi’ye göre (2001: 108), ağ teorisi ve gömülülük yaklaşımı, Yeni Ekonomi Sosyolojisi’ni eskisinden ayıran en temel özelliktir. İktisadın tek gerçek sosyal bilim olduğu ve diğer bilimleri de istila ettiği yaklaşımına dayanan İktisadi Emperyalizme

tepki olarak ortaya çıkan Yeni Ekonomi Sosyolojisi, benimsediği bu bulanık kavramsallaştırmalar nedeniyle, Eski İktisat Sosyolojisi geleneğinin yakaladığı başarının çok gerisinde kalmıştır. Eski İktisat Sosyolojisi geleneği daha makro ve sosyal sistemlere dayalı bir analiz yürütürken, Yeni Ekonomi Sosyolojisi, daha mikro ve sosyal etkileşimciliğe dayanan bir analiz yürütmektedir. Yeni Ekonomi Sosyolojisi’nin ilgilendiği ağlar, bireyler veya sosyal gruplar arasında, zamanın çok kısa bir kısmı için var olan bağlantılar şeklindedir. Büyük yapılar veya uzun/ geniş süreçler için analizler, Yeni Ekonomi Sosyolojisi’nde yer almaz. Eski İktisat Sosyolojisi’nin merkezinde yer alan, kapitalizmin tarihsel bir sosyal sistem olduğu fikri, Yeni Ekonomi Sosyolojisi’nde tamamen kaybolmuştur. Yeni Ekonomi Sosyolojisi’nin kapitalizm tarihsel bir sosyal sistem olduğu fikrine yabancılığı, mikro ve sosyal etkileşimciliğe dayalı analizindeki ısrarı sebebiyledir (Arrighi, 2001: 110).

Yeni Ekonomi Sosyolojisi, Neoklasik iktisada eleştirilerini yönlendirirken maalesef, aynı çerçeve içinde kalmıştır. Ana akım iktisadın atomistik birey yaklaşımını eleştirip, sosyal alana gömülü iktisadi davranış modeli önermesi, metodolojik bir yenilikten ziyade, yalnızca analiz çıktısında bir dönüşüme neden olmuş gibi görünmektedir. Calnitsky’ye göre (2014: 566), Yeni Ekonomi Sosyolojisi aslında bir dengesizlik analizi yapmaktadır. Toplumsal ilişkileri ve ilişkiler ağlarını analize dahil ederek, Neoklasik “denge” varsayımının düşmesini sağlamış ve bu ilişkiler ağları çoğaldıkça, piyasaların temizlenmesi de bir o kadar zorlaşmıştır. Gömülü olma, insanın iktisadi faaliyetini anlamının bir yolu değil, dengesizliğe neden olan bağımsız bir değişken haline gelmiştir. Gömülü olma ne kadar büyükse, dengesizlik de o kadar büyük olacaktır.

Yine Calnitsky (2014: 567) aynı makalesinde, Yeni Ekonomi Sosyolojisi ile ilgili problemin, gömülülük kavramından değil, belirsiz bir biçimde kullanılan sosyal ilişkiler kavramından kaynaklandığını ileri sürmektedir. Yeni Ekonomi Sosyolojisi’nde sosyal ilişkiler, direk olarak kişiler arası ilişkiler olarak karakterize edilmiş biçimdedir. Yeni Ekonomi Sosyolojisi, kapitalist üretim sürecindeki toplumsal ilişkileri, kimin hangi kaynaklara sahip olduğu, emeğin faaliyetini ve dağıtımını kimin kontrol ettiği ve üretilenler üzerindeki mülkiyet haklarını kimin koruduğu gibi temel sosyal soru olarak anlamak yerine, sosyal ilişkiler kavramını kişisel, genellikle ikili ilişkiler, özellikle arkadaşlıklar, bağlantılar ve diğer sosyal bağlar şeklinde ele almaktadır. Tarihsel bir üretim sistemi olan kapitalist üretim sisteminde yer alan katmanlı bir ilişkisellik analizi yerine, mevcut piyasa ilişkilerinin veri alındığı ve bu piyasa ilişkilerini üreten mekanizmalara hiç değinilmediği indirgemeci bir yaklaşım benimsenmiştir.

Yeni Ekonomi Sosyolojisi, seviyelerin farklılaşmış ve beliriveren özelliklerini dikkate almamıştır. Bu sebeple sosyal (ve de iktisadi) gerçekliğin yalnızca görünen düzeyine yani özneler arası düzeyine odaklanılmıştır. Sosyal alan, iktisadi analize dahil edilecekse, sosyal gerçekliğin katmanlı ve tabakalaşmış yapısının varlığı göz önünde bulundurulmalıdır. Sosyal bilimin görevi ise görünürde yatan olgu ve olayları üreten yapı ve mekanizmaların keşfi olmalıdır.

4. Sonuç

Her bilimsel teori, bir ontolojiyi önden varsayar. Bilimsel teorilerin önden varsaydığı ontoloji ise analizin etkinliğini belirleyecektir. İktisadi düşünce içerisinde Neoklasik iktisada yöneltilen eleştirilerin temelinde de sıklıkla, ön varsaydığı ontoloji yatmaktadır. Neoklasik okulun benimsediği ontoloji, atomistik ve izole bireylerden müteşekkil kapalı bir sistem şeklinde kabul edilen gerçekliktir. Benimsenen bu ontoloji aynı zamanda bu yaklaşımın tutarsızlıklarının ve gerçekliği analiz etmede yetersizliğinin de altında yatan nedendir. Sosyal ve de iktisadi gerçeklik, ana akım teorilerin önden varsaydığı biçimde, izole ve atom benzeri bireylerinden oluşan kapalı bir sistem değil, aksine beliriveren süreçlerin yer aldığı karmaşık, dinamik ve organik bir bütünlüktür. İktisat biliminin potansiyelini gerçekleştirebilmesi için, ilk önce uğraştığı sosyal gerçekliğin doğasının doğru tespit edilmesi gereklidir.

Mark Granovetter’in başını çektiği Yeni Ekonomi Sosyolojisi yaklaşımı, tam bu gereklilikten hareketle iktisat biliminin atomistik ve izole birey yaklaşımının yanlışlığına dikkat çekerek, yeni bir ontoloji önermiş bir yaklaşımdır. Bu yeni ontolojide, süregelen sosyal ilişkiler ağına gömülü aktörler ve bu ilişkiler ağının etkisinde şekillenen ve yalnızca iktisadi olamayan aktör davranışları yer almaktadır. Neoklasik iktisadın gerçeklikten uzak ön varsayımları etrafında şekillenen Yeni Ekonomi Sosyolojisinin bu gömülülük ve ilişki ağları biçimindeki yaklaşımı, her ne kadar gerçekçi bir çağrı gibi gözükse de Neoklasik ekolde yer alan indirgemecilik, bu yaklaşımda da varlığını sürdürmektedir.

Yeni Ekonomi Sosyolojisi, gerçekliğin katmanlı ve tabakalaşmış yapısını göz ardı ederek, sosyal yapıyı, kişiler arası ilişkiler ağı olarak analize dahil etmiştir. Fakat kişiler arası ilişkiler düzeyi, Bhaskar’ı takiben, gerçekliğin yalnızca ampirik düzeyine tekabül etmektedir. Ampirik düzeydeki olgular, gerçekliğin reel düzeyinde, yani derin tabakalarında yer alan yapı ve mekanizmalar tarafından üretilir. Bu sebeple, bilimsel etkinlik bu yüzeydeki ilişkileri üreten yapı ve mekanizmaları keşfetmek şeklinde olmalıdır. Sosyal ilişkiler, kişiler arası ikili ilişkiler, arkadaşlıklar, bağlar şeklinde değil, toplumsal ilişkiler olarak ele alınmalıdır. Yine Bhaskar’ı takiben toplumsal ilişkiler, bu ilişkilere giren ve eylemleri ile bunları yeniden üreten veya dönüştüren kişilerden önce gelirler ve dolayısıyla bunların kendileri de yapıdır. Bu yapılar, kişilerin pratiğine indirgenemeyen bir gerçekliğe sahiptir. Yeni Ekonomi Sosyolojisinde yer almayan bu gerçekliğin katmanlı yapısına dair yaklaşım, piyasa ve ilişkilerinin veri olarak alınması ile sonuçlanmıştır. Tarihsel bir sistem olarak kapitalist sistemin analiz edilmesi, ancak Bhaskar’ın ele aldığı biçimdeki bir ilişkisellik analizi ile mümkündür.

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Mali Konsolidasyon Programlarının Özel Tüketim Harcamaları Üzerindeki Etkisi: PIIGS Ülkelerine Yönelik Panel Veri Analizi

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The Impact of Fiscal Consolidation Programs on Private Consumption Expenditures: Panel Data Analysis for PIIGS Countries

Abstract

As a result of the deterioration of the budget balance for various reasons, fiscal consolidation programs are implemented to restore the balance. Fiscal consolidation is a contractionary fiscal policy applied to reduce public deficits and debt stock. This study revealed the effect of fiscal consolidation programs on private consumption expenditures by panel data analysis including PIIGS (Portugal, Italy, Ireland, Greece, Spain) countries based on the 1995-2020 data. In the light of the findings, it has been seen that fiscal consolidation programs have different effects between countries. While Ireland and Italy supported the expansionary fiscal contraction hypothesis and revealed findings, results supporting Keynesian effects were reached in Greece. It has been observed that the government programs implemented due to the Covid-19 epidemic, which was experienced in 2019-2020, one of the exemplary years and included in the study as a dummy variable, positively affected private consumption expenditures in Portugal, Italy and Ireland. In this case, the expansionary fiscal contraction hypothesis in fiscal consolidation periods; shows that the Traditional Keynesian model is valid during the expansion periods.

Keywords : Fiscal Consolidation, Public Debt Stock, Budget Deficit, Private Consumption Expenditures.

JEL Classification Codes : E60, E62, H60.

Öz

Bütçe dengesinin çeşitli nedenlerle bozulması sonucunda dengenin tekrar kurulması amacıyla mali konsolidasyon programları uygulanmaktadır. Mali konsolidasyon, kamu açıklarını ve borç stokunu azaltmaya yönelik uygulanan daraltıcı maliye politikaları olarak tanımlanmaktadır. Çalışmada, mali konsolidasyon programlarının özel tüketim harcamaları üzerindeki etkisi 1995-2020 yılı verilerine dayalı olarak PIIGS (Portekiz, İtalya, İrlanda, Yunanistan, İspanya) ülkelerini içeren panel veri analizi ile ortaya koyulmuştur. Elde edilen bulgular ışığında mali konsolidasyon programlarının ülkeler arasında farklı etkiler oluşturduğu görülmüştür. İrlanda ve İtalya'da genişletici mali daralma hipotezini destekleyici bulgular elde edilmiştir. Yunanistan'da ise Keynesyen etkileri destekleyen sonuçlara ulaşılmıştır. Örneklem yıllarından olan 2019-2020 yıllarında yaşanmış olan ve çalışmaya dahil edilen Covid-19 salgını nedeniyle uygulanan hükümet programlarının ise Portekiz, İtalya ve İrlanda'da özel tüketim harcamalarını olumlu etkilediği görülmüştür. Bu durum mali konsolidasyon dönemlerinde genişletici mali daralma hipotezinin; genişleme dönemlerinde ise Geleneksel Keynesyen modelin geçerli olabileceğini göstermektedir.

Anahtar Sözcükler : Mali Konsolidasyon, Kamu Borç Stoku, Bütçe Açığı, Özel Tüketim Harcamaları.

1. Giriş

Kamu harcamalarında kesinti yapılması ve/veya vergilerin artırılması yoluyla bütçe açıklarını ve kamu borç stokunu azaltmayı hedefleyen iradi daraltıcı maliye politikalarına *mali konsolidasyon* adı verilmektedir. Mali konsolidasyonlar ile mali disiplin tesis edilerek büyüme oranının artırılması amaçlanmaktadır. Özellikle 2008 Krizinden sonra *genişletici mali daralma* olarak adlandırılan bu anlayışa olan ilgi artmıştır.

Geleneksel Keynesyen teorinin kamu harcamalarındaki azalmanın toplam talebi azaltarak kısa ve orta vadede ekonomik büyümenin hızını yavaşlatacağına ilişkin yaklaşımı daraltıcı maliye politikalarının Keynesyen etkileri olarak ifade edilmektedir. Ancak Giavazzi ve Pagano'nun (1990) bu geleneksel anlayışa karşı çıkan katkısı mali konsolidasyon programlarının niteliği hakkındaki tartışmaları artırmıştır.

Maliye politikasına ilişkin beklentiler ve güven ortamının olumlu etkilerinin, olumsuz Keynesyen etkiyi dengeleyebileceği ve hatta ortadan kaldıracabileceğine yönelik bu anlayışa göre, bütçe açığını ve kamu borçlarını azaltmaya yönelik adımlar uzun dönemde talep ve büyüme üzerinde olumlu etkiler meydana getirecektir.

Çalışma, olumlu beklentiler etkisine bağlı olarak mali konsolidasyonun tüketim kararları üzerindeki etkisinin genişletici olabileceği ancak bu durumun ülkeden ülkeye, mali konsolidasyonun bileşenlerine ve süresine bağlı olarak farklılık gösterebileceği hipotezine dayanmaktadır. Bu hipotezi sınamak üzere PIIGS ülkeleri 1995-2020 yıllarını kapsayacak şekilde panel veri analizi ile ele alınmıştır.

Çalışmada, ilk olarak mali konsolidasyon programları ve özel tüketim harcamaları arasındaki ilişkiyle ilgili teorik çerçeve ele alınarak, ulusal ve uluslararası bilimsel ve akademik çalışmalar taranmıştır. Son bölümde ise yapılan ampirik çalışma ile elde edilen bulgular ve değerlendirme yer almaktadır.

Maliye politikalarında yapılan değişikliklerin/ayarlamaların ekonomi üzerinde ne tür etkileri olacağı uzun yıllardır tartışılan bir konudur. Daraltıcı maliye politikalarının özellikle kısa vadede ekonomide talebi ve üretimi kısacağı ve bu sebeple mali ayarlamaların en azından konjonktürün genişleme dönemlerine ertelenmesi gerektiği görüşlerini savunan Keynesyen anlayışa karşın mali ayarlamaların zamanlaması ve bileşiminin önemli olduğunu vurgulayan çalışmalar yapılmıştır. Bütçe açıkları ve kamu borçlarının sürdürülemez bir seviyeye ulaştığı mali stres dönemlerinde uygulanan daraltıcı maliye politikalarının genişletici etkileri olabileceğine ilişkin Keynesyen olmayan görüşlerle beraber mali konsolidasyon kavramı önem kazanmıştır.

Temel motivasyonu bütçe açıklarının azaltılması ve farklı konjonktür dönemlerinde, iç talebin kontrol altına alınması olan daraltıcı iradi mali politikaları *mali konsolidasyon programları* olarak ifade edilmektedir (Devries et al., 2011: 4).

Kavramsal olarak 1980 sonrasında literatürde sıkça görülmeye başlanan mali konsolidasyona ilişkin farklı tanımlamalar söz konusudur. OECD (2011: 2) bütçe açıklarını ve borç stokunu azaltmaya yönelik somut politikalar olarak tanımlarken; Alesina ve Perotti (1995: 209) ise mali konsolidasyonu belli bir zaman aralığı içinde mali kontrolün sağlanması olarak ifade etmiştir. IMF (2010: 6) mali konsolidasyonu "*öngörülen brüt kamu borç stoku hedefinin başarılması için konjonktüre göre düzenlenmiş bütçe dengesindeki iyileşme*" şeklinde tanımlamaktadır.

Şen ve Kaya (2017: 108) bir daraltıcı maliye politikası olarak mali konsolidasyonun amaçlarını "*Harcama kesintileri ve/veya vergi artışları yoluyla bütçe açıklarını ve kamu borç yükünü hızlı bir biçimde düşürmeyi ve böylece mali sürdürülebilirliği tesis ederek büyüme ve istihdamı hem kısa hem de orta ve uzun dönemde normal trendine sokmak*" şeklinde ifade etmektedir.

Ekonomilerin mali duruşunda bir değişiklik yaratmak amacıyla uygulanan ve döngüsel olarak ayarlanmış faiz dışı dengenin potansiyel GSYH'ye oranında belirli bir iyileşme yaşanmasını sağlayan politikaları mali konsolidasyon olarak tanımlanmak mümkündür (Amo-Yarte et al., 2012).

Mali konsolidasyon dönemlerinin belirlenmesinde ekonomik göstergelerdeki iyileşmeler temel alınmaktadır. Buna ilişkin olarak Alesina ve Ardagna (1998: 496) mali konsolidasyon dönemini üç şekilde tanımlamıştır:

- Döngüsel olarak düzeltilmiş faiz dışı dengenin GSYH'ye oranının en az %2 kadar iyileştiği bir yıl veya döngüsel olarak düzeltilmiş faiz dışı dengenin yılda en az %1,5 oranında iyileştiği ardışık iki yıllık bir dönemdir.
- Sıkılaştırıcı maliye politikaları uygulandıktan sonraki üç yıl içinde, konjonktürel olarak düzeltilmiş faiz dışı açığın GSYH'ye oranı, sıkılaştırma yılındaki değerinin ortalama olarak en az %2 altında ise veya sıkılaştırma döneminden üç yıl sonra, borcun GSYH'ye oranı, sıkılaştırma yılındaki seviyesinin %5 altında ise bu dönem "sıkı maliye politikası" dönemi olarak ifade edilir.
- Sıkı maliye politikası dönemi ve sonrasındaki iki yıl içinde G7 ülkeleri ortalamasından farklı olarak (GSYH ağırlıkları ile ağırlıklandırılmış) GSYH'nin ortalama büyüme oranı, sıkı maliye politikası döneminin ortalama değerinden büyükse mali konsolidasyon genişleticidir.

Yazarlar keskin ve büyük dönüşümler sağlayan politikalara odaklanmak amacıyla birinci tanımı esas alarak hareket etmişlerdir. Bir mali konsolidasyon dönemi ikinci tanımı sağlıyorsa başarılı ve üçüncü Tanımı sağlıyorsa genişletici olarak tanımlanmaktadır (Alesina & Ardagna, 1998: 496).

Mali konsolidasyon dönemlerinin belirlenmesine ilişkin farklı yaklaşımlar Tablo 1'de yer almaktadır.

Tablo: 1
Mali Konsolidasyon Dönemlerinin Belirlenmesi

Çalışma	Mali konsolidasyonların belirlenmesi
Alesina ve Perotti (1995)	Mali uyum dönemi, döngüsel olarak düzeltilmiş faiz dışı dengenin GSYH'ye oranının en az %2 kadar iyileştiği bir yıl veya döngüsel olarak düzeltilmiş faiz dışı dengenin yılda en az %1,5 oranında iyileştiği ardışık iki yıllık bir dönemdir. Sıkı maliye politikası dönemi, uygulama döneminden sonraki üç yıl içinde, konjonktürel olarak düzeltilmiş faiz dışı açığın GSYH'ye oranının, sıkı politika yılındaki değerinin ortalama olarak GSYH'nin en az %2'sinin altındadır veya sıkılaşma döneminden üç yıl sonra, borcun GSYH'ye oranı, sıkı dönem yılındaki seviyesinin %5'inin altındadır.
McDermott ve Wescott (1996)	Döngüsel olarak düzeltilmiş faiz dışı denge iki yıl içinde potansiyel GSYH'nin en az %1,5'i oranında artmalı ve iki yılın hiçbirinde azalmamalıdır.
Cour et al. (1996)	Faiz dışı yapısal bütçe dengesinde GSYH'nin en az %3'ü oranında bir değişikliğinin olduğu üç yıllık dönemdir.
OECD (1996)	Yapısal bütçe dengesinde birbirini izleyen yıllarda GSYH'nin en az %3'ü oranında bir değişim söz konusudur.
IMF (1993, 1995)	Yapısal bütçe dengesinde GSYH'de en az %1,5 oranında değişikliğinin olduğu iki yıllık dönemdir.
Giavazzi ve Pagano (1996)	Döngüsellikten arındırılmış faiz dışı bütçe dengesindeki kümülatif değişim, GSYH'nin 4, 3 veya 2 ardışık yılda en az yüzde 5, 4 veya 3 puan veya bir yılda 3 puan şeklindedir.
Alesina ve Perotti (1997)	Birincil yapısal dengenin GSYH'nin en az %1,5'i kadar azaldığı bir yıllık dönem veya birincil yapısal dengenin GSYH'nin en az %1,25'i oranında azaldığı iki yıllık bir dönemdir.
Alesina ve Ardagna (1998)	Birincil yapısal dengenin GSYH'ye oranı bir yılda en az %2 veya iki yıl üst üste ortalama %1,5 artmaktadır.
Giavazzi, Jappelli ve Pagano (2000)	Büyük ve kalıcı bir mali genişleme veya daralma, tam istihdam fazlasının potansiyel çıkıtıya oranının iki yıllık bir süre boyunca yılda %1,5'ten fazla değiştiği bir dönem olarak tanımlanmaktadır.

Literatürde kabul edilen kriterler ışığında belirlenmiş mali konsolidasyon dönemlerinin uygulama sonuçlarının başarısını değerlendirmek üzere faiz dışı denge, borç ve büyüme kriterleri de dahil olmak üzere farklı göstergeler benimsenmiştir.

Faiz dışı denge yaklaşımı, belli bir eşik seviyesinde kaldıktan birkaç yıl sonra döngüsel olarak ayarlanmış birincil dangedeki iyileşmenin veya birincil dengenin sağlanmasına yardımcı olarak mali konsolidasyonu kalıcı kılınmasını esas almaktadır. Borç yaklaşımında ise kamu borçlarının GSYH'ye oranının 3-5 yıllık dönemde yaklaşık 5 puanlık bir düşüşü başarı kabul edilmektedir. Buna göre başarılı bir mali konsolidasyon 3-5 yıllık bir süre boyunca borç seviyesini düşüren bir programdır. Genişletici kriter olarak adlandırılan üçüncü yaklaşımda, mali konsolidasyon sonrasında GSYH'nin artması gerektiği ifade edilmektedir (Amo-Yarte et al., 2012).

2. Literatür İncelemesi

Kamu harcamalarının azaltılması ve vergilerin artırılmasına dayalı olan daraltıcı maliye politikalarının daraltıcı sonuçları *Keynesyen etkiler* olarak ifade edilmektedir. Buna karşın genişletici etkiler *Keynesyen olmayan etkiler* olarak ifade edilmektedir. Keynesyen yaklaşımda kamu harcamalarını azaltmaya yönelik daraltıcı maliye politikalarının kısa vadede talebi kısarak büyümeyi yavaşlattığı ve daraltıcı bir etki yarattığı kabul edilmektedir. Tartışmanın diğer tarafında ise daraltıcı maliye politikalarının özellikle beklenti etkileri nedeniyle ortaya çıkan Keynesyen olmayan etkilerini vurgulayan ve kurumsal faktörlere yer veren çalışmalar bulunmaktadır.

Mali konsolidasyonların genişletici olabileceğine ilişkin bulgular ilk olarak Giavazzi ve Pagano (1990) tarafından öne sürülmüş ve ardından geniş bir literatüre konu olmuştur.

Bu literatür veri analizi yanında vaka çalışmalarına da başvurmaktadır. Vaka çalışmaları, hükümet tarafından verilen demeçleri, gazetelerde yer alan gelişmeleri, hazırlanan raporları da göz önünde bulundurarak konsolidasyon sürecinde yer verilen ayarlama ve düzeltmeleri incelemeyi amaçlamaktadır.

Mali konsolidasyon ölçülmesiyle ilgili olarak, ampirik literatür temelde Blanchard'ı (1993) takip etmektedir. Bu tanımda mali konsolidasyonlar döngüsel olarak ayarlanmış birincil dengede (DABD) gözlenen büyük düşüşleri ifade etmektedir. Ancak, bu kriteri göz önünde bulunduran çalışmaların sadece başarılı konsolidasyonları analiz ettiği, başarısız girişimleri ise göz ardı ettiği görülmektedir. Bu sebeple Devries et al. (2011) ile Romer ve Romer (2007) DABD'ye dayalı tanımın yanında politik demeçlere, gazete haberlerine vs. dayalı anlatı bazı tanıma da yer vererek çalışmalarını genişletmişlerdir.

Mali konsolidasyonun genişletici etkilerini ortaya koyan çalışmalar bu durumun iki kanal ile ortaya çıkabileceğini savunmaktadır. Talep yönünden bakıldığında ilk kanal faiz oranlarının düşürülmesidir. Kamu harcamalarının ve bütçe açığının azalmasıyla gelecekteki maliye politikalarına ilişkin endişeleri azalan iktisadi karar alıcılar devlet tahvillerine daha düşük bir risk primi uygulayacaklardır. Bu anlamda düşen faiz oranları, özel sektördeki pozitif refah etkisi nedeniyle hem özel yatırımları hem de tüketim yoluyla toplam talebi canlandıracaktır (Giavazzi & Pagano, 1990).

Vergiler ise bir diğer kanaldır. Mevcut kamu harcamalarının kesilmesi gelecekteki vergilerin daha düşük olacağına veya artırılmayacağına dair bir *şinyal* verecektir. Bu durum özel tüketim harcamaları ve yatırımı artırmaya teşvik edecektir (Bertola & Drazen 1993; Sutherland, 1997).

Arz yönünden bakıldığında ülkenin para biriminin mali konsolidasyon sonrasında değer kaybetmesi ülkenin ihracatta rekabet gücünün artmasına sebep olabilecektir. Ayrıca yatırıma yönelik olumlu bir güven ortamının sağlanması mümkün olabilir. Çünkü bir ülkenin maliye politikalarına yönelik güven ortamı yatırımcılar için cezbedici olacaktır (Jo Jeong, 2017: 55; Alesina & Ardagna 2010, 2012).

Mali konsolidasyon kavramı ile mali disiplin kavramı sıkı bir ilişki içindedir. Schick (1998) mali disiplini kamu gelirleri, kamu finansmanında denge, kamu borçları ve kamu harcamaları gibi mali performansın tüm anahtar unsurlarını içeren bir çerçeve olarak ifade etmiştir. Temelde bir daraltıcı maliye politikası olan mali konsolidasyon uygulamaları, harcama kesintileri ve/veya vergi artışları yoluyla bütçe açıklarını ve kamu borç stokunu düşürmeyi ve mali disiplini tesis ederek büyüme ve istihdamı hem kısa hem de orta ve uzun dönemde normal trendine sokmayı amaçlamaktadır (Bozkurt, 2019: 10). Bunların yanında yapılan mali ayarlamaların tüketim harcamaları üzerindeki etkileri göz önüne alınarak toplam talep yönetimi aracı olarak yaklaşılmaktadır.

Alesina, Favero ve Giavazzi (2014: 1) mali konsolidasyonların ekonomideki etkilerini incelemek için makroekonomik değişkenlerin tekil değişimlerinin incelenmesi

yerine bütüncül bir yaklaşımla uygulama planlarının incelenmesi gerektiğini belirtmiştir. Uygulaması yıllara yaygın olarak gerçekleşen bu planların pek çok kez gözden geçirildiğini ve değiştirildiğini vurgulamışlardır. Bu sebeple, tek yönlü statik bir bakış açısından ziyade dinamik bir çerçeveye bağlı kalınması gerekmektedir. Ayrıca mali konsolidasyon uygulamalarının ekonomilerde meydana getireceği etkiler pek çok unsur tarafından belirlenmektedir. Mali konsolidasyonun uygulama süresi, kapsamının genişliği, başvuru araçlarının seçimi bu unsurların başında gelmektedir.

2008 yılında yaşanan küresel mali krizin neden olduğu kamu açıkları beraberinde devlet borcunda artış da getirmiştir. Yüksek kamu borcu ve bütçe açığıyla yüz yüze gelen devletlerin genişletici mali konsolidasyon hipotezinin sonuçlarına güvenerek bir ekonomik toparlanma dönemine girmesi yolunda görüşler söz konusu olsa da ani ve sert önlemlerin zararları olabileceğine ilişkin görüşler de ortaya konmuştur.

Mali kemer sıkma yönündeki fikirleri endişeyle izlediğini dile getiren Krugman (2010) mali konsolidasyonun Keynesyen olmayan etkilerine ilişkin beklentilerin bilimsel analizlerden ziyade spekülasyona dayandığını ifade ettiği "Myths of Austerity" adlı yazısında, mali konsolidasyon programlarının hane halkı ve işletmeler nezdinde hükümete olan güveni yükseltmek yerine düşürdüğünü vurgulayarak, depresyon dönemlerinde daraltıcı politikalardan uzak durulması gerektiğini vurgulamıştır. Mali konsolidasyon programlarının Keynesyen olmayan etkilerine ilişkin görüşlerin ekonomideki olumlu beklenti ortamına vurgu yaptığı görülmektedir. Krugman ise bunu *güven masalı* olarak nitelendirmektedir.

Krugman'ın yazısına karşın Perotti (2011) "The 'Austerity Myth': Gain without Pain?" adlı çalışmasında 2008 yılından itibaren pek çok ülkede banka destekleri ve durgunluk sebebiyle yükselen bütçe açıklarının bir *intikamla* dönerek kamu maliyesinde olumsuz etkiler yarattığını dile getirerek, vergileri artırmak yerine kamu harcamalarını azaltmaya dayanan mali konsolidasyon programlarının GSYH'de artışa neden olabileceğini vurgulamıştır. Kısa vadede dahi bunun üç şekilde gerçekleşebileceğini ifade etmektedir: nominal faiz oranını düşürmekte etkilidir; enflasyon beklentilerini azaltan bir rejim değişikliği sinyali vererek ücretlerin düşürülmesini mümkün kılabilir; nominal değer kaybının yararlarını koruyarak bir ihracat patlaması yaratmada etkilidir (Perotti, 2011: 351).

Tablo 2'de mali konsolidasyon programlarının yarattığı etkilere ilişkin seçilmiş çalışmalar yer almaktadır.

Tablo: 2
Mali Konsolidasyon Programları ile Özel Tüketim Harcamaları İlişkisi

Feldstein (1982)		Vergi yükünde bir azalış olacağı yönündeki beklentilerin ortaya çıkarttığı "mali konsolidasyonun refah etkisi" sebebiyle tüketim harcamalarında artış olacaktır
Giavazzi ve Pagano (1990)	10 OECD ülkesi (1973-1989) İrlanda (1961-1987) Danimarka (1971-1987)	Kamu harcamalarının azaltılmasına ya da vergilerin azaltılmasına yönelik politikalarla özel tüketim harcamalarındaki artış arasında pozitif bir ilişki vardır. Bunun için temelde kalıcı ve güvenilir politikalar ve yüksek borç/GSYH oranının mevcut olması gerekir.
Afonso (2001)	AB-15 (1970-1999)	Mali uyum dönemlerinde maliye politikaları Keynesyen etkiler gösterirken; uygulanmayan dönemlerde Keynesyen etkiler ortaya çıkmamaktadır. Mali ayarlamaların yokluğunda, kamu harcamalarındaki artışın özel tüketim reel büyüme oranı üzerinde olumlu bir etkisi vardır ve bu nedenle Keynesyen teori tarafından öne sürüldüğü gibi toplam talep artışına katkıda bulunur. Ayrıca, kamu vergilerinin artırılmasıyla örneklenen daraltıcı bir maliye politikası, mali düzenleme olmadığı özel tüketimin azalmasına neden olur.
McDermott ve Westcott (1996)	OECD ülkeleri (1960-1994)	Kamu harcamalarını azaltma esasına dayanan bir mali konsolidasyon programının borç/GSYH oranını düşürme olasılığı, vergileri artırma esasına dayanan programlardan daha yüksektir.
Perroti (1999)	19 OECD ülkesi (1965-1994)	Mali konsolidasyon programının uygulanmaya başlandığı dönemde borç/GSYH oranı ne kadar büyük olursa, mali konsolidasyonun genişletici olması o kadar olasıdır. Mali stresin olmadığı normal durumlarda Keynesyen etkiler görülecektir.
Giavazzi ve Pagano (1996)	19 OECD ülkesi (1976-1992)	Daralmaya ya da genişlemeye yönelik maliye politikası değişiklikleri yeterince büyük ve kalıcı olursa Keynesyen olmayan etkilere sahip olabilecektir.
Giavazzi, Jappelli ve Pagano (2000)	OECD ülkeleri (1973-1996); Gelişmekte olan ülkeler (1960-1995)	Harcama kesintileri yerine vergi artışlarına dayalı olan mali daralmalar genişleticidir.
İlgün (2010)	Türkiye (1987-2009)	Kamu tüketim harcamaları uzun ve kısa dönemde özel tüketim harcamaları üzerinde Keynesyen etkiler göstermektedir.
Perroti (2011)		Büyük çaplı bir mali konsolidasyon, durgunluğun ortasında olan bir ülkede politika değişikliğine işaret edebilir ve bu kanal aracılığıyla yatırımları artırabilir. Buna "güven kanalı" denilebilir.

3. Mali Konsolidasyon Programlarının Özel Tüketim Harcamaları Üzerindeki Etkisi

Mali konsolidasyon programlarının ekonomi üzerindeki etkileri konusundaki tartışmaların temeli daraltıcı maliye politikalarının ekonomi üzerinde daraltıcı bir etkiye sahip olduğunu ileri süren Geleneksel Keynesyen anlayışa dayanmaktadır. Buna göre, kamu harcamalarındaki azalış ve vergilerdeki artış yoluyla hayata geçirilecek olan daraltıcı maliye politikaları, toplam talebi ve mali çarpan mekanizması yoluyla milli geliri olumsuz etkileyecektir. Geleneksel Keynesyen görüşte mali konsolidasyonun kısa vadede toplam talebi azalttığı ve buna bağlı olarak büyüme ve istihdam üzerinde olumsuz bir etki yarattığı kabul edilmektedir. Çarpan etkisi, ekonomiye yönelik ilk talep dalgasını daha da kötüleştirilmektedir (Arestis et al., 2018).

Daraltıcı maliye politikalarına ilişkin Keynesyen görüşler toplam talep kavramıyla yakından ilişkilidir. Keynesyen teoriye göre toplam talep, bir ekonomideki çıktı ve istihdam seviyesini belirlemektedir. Toplam talebin bileşenlerinden olan özel tüketim harcamaları bu noktada önem arz etmektedir.

Keynes makro ekonomi teorisini Mutlak Gelir Hipotezi temelinde geliştirmiştir. Buna göre; tüketim, cari gelirden vergilerin çıkartılmasıyla elde edilen cari harcanabilir gelire bağlıdır. Tüketimin gelirden meydana gelen değişikliğe olan duyarlılığını ifade eden Marjinal Tüketim Eğilimi (Marginal Propensity to Consume - MPC) ise kamu harcamalarının ve vergilerin ekonomiye etkisinin büyüklüğünü belirlemektedir. Vergi ve kamu harcamalarındaki değişikliklerin çıktı ve istihdamda yaratacağı dalgalanmaların bu

çarpanlara bağlı olduğu kabul edilirse tüketim fonksiyonunun belirlenmesi önem arz edecektir.

Keynes, MPC'nin pozitif ve birden küçük bir değer aldığını; Ortalama Tüketim Eğiliminin (Average Propensity to Consume - APC) ise gelir arttıkça azalacağını ifade etmiştir. Mutlak gelir hipotezinde kabul edilen tüketim fonksiyonu doğrusal olduğu için MPC sabittir. Bu noktadan hareket eden Keynes MPC'ye bağlı olarak maliye politikalarının etkilerinin belirlenebileceğini ifade etmiştir. MPC ne kadar büyükse çarpan etkisi de o kadar büyük olacaktır. Bunun yanında, toplum zenginleştikçe kişiler gelirlerinden azalan bir payı tüketim harcamalarına ayıracaklardır. Bu durumda tam istihdam gelir düzeylerini korumak için daha büyük oranda kamu harcaması gerekecektir (Drakopoulos, 2021: 14). Keynes, tüketim fonksiyonundan yola çıkarak normatif nitelikli sayılabilecek argümanlarına müspet bir taraf kazandırmıştır: Gelir arttıkça MPC düştüğü için yüksek gelirli kişilerden düşük gelirli kişilere artan oranlı vergilendirme yoluyla gelir transferi yapılması toplam talebi yükseltecektir. Maliye politikalarının aktif olarak kullanılarak ekonomi üzerinde tesirler yaratması gerektiğini kabul eden Keynesyen görüşte mali konsolidasyonlar her koşulda toplam talebi doğrudan etkilerken; negatif çarpan etkisi yoluyla da çıktı düzeyini dolaylı olarak etkileyecektir (Şen & Kaya, 2017: 115).

Mali konsolidasyon programlarının Keynesyen olmayan etkilerini vurgulayan yaklaşımlar farklı mekanizmaları ön plana çıkartmaktadır. Bunlar; güven yaklaşımı, refah etkisi ve beklentiler yaklaşımı ile işgücü piyasası yaklaşımıdır (Alesina et al., 1998: 207).

Keynes'in toplam tüketim dinamiklerini ayakta tutmak amacıyla kamu harcamalarına verdiği öneme karşın kamu harcamalarında yapılacak kısıtlamaların tüketim üzerindeki olumlu etkilerine odaklanan çalışmalardan ilki Feldstein (1982) tarafından yapılmıştır. Feldstein, mali konsolidasyon uygulamalarının gelecekteki vergi yükünde azalış olacağı yönündeki beklentileri artırdığını ve beklenti etkilerinin marjinal tüketim eğilimine bağlı olarak özel tüketim harcamalarını teşvik ettiği bulgularına ulaşmış, bu durumu mali konsolidasyonun refah etkisi olarak nitelendirmiş ve mali konsolidasyon ile tüketici rantı arasında pozitif bir ilişki bulunduğunu ifade etmiştir (Şen & Kaya, 2017: 118).

Giavazzi ve Pagano (1990) tarafından geliştirilen genişletici mali daralma hipotezi, mali konsolidasyondan kaynaklanan negatif toplam talep etkilerinin çeşitli kanalları aracılığıyla ortaya çıkan Keynesyen olmayan etkiler ile telafi edilebileceğini vurgulamaktadır. Borçların sürdürülebilirliğine ilişkin olumlu beklentilerin hükümete olan güvenliliği artırarak reel faiz oranlarını düşürmesi; düşen faiz oranlarının ise özel yatırımları artırması söz konusu olabilecektir (Bozkurt, 2019: 14; Arestis et al., 2018). Yazarlar, Danimarka ve İrlanda'da 1980'li yıllarda uygulanan mali konsolidasyon programları sonucunda özel tüketim harcamalarının azalmadığını ve hatta arttığını ortaya koymuştur. Tüketim bulmacası olarak adlandırılan bu durumu, büyük çaptaki daraltıcı maliye politikalarının gelecekteki vergi yüklerini azaltabileceği ve beklenen ömür boyu harcanabilir gelirden artış yaratarak tüketim harcamalarının artması şeklinde açıklamışlardır. Beklenti etkilerinin özel tüketim harcamalarını artırdığına ilişkin bulgular ortaya konan bu

çalışmada, kurumlar vergisinin gelecekte daha düşük olacağına ilişkin beklentilerin yatırım harcamalarını destekleyebileceğinin de altı çizilmiştir.

Giavazzi ve Pagano (1995), 19 OECD ülkesi için ülkeler arası verileri ve 1990'lar başındaki İsveç mali genişlemesine ilişkin analizlerinde hem daraltıcı hem de genişletici maliye politikası değişikliklerinin yeterince büyük ve kalıcı olması durumunda Keynesyen olmayan etkilere sahip olabileceğini ileri sürmüşlerdir. Yalnızca kamu harcamalarında değil, vergilerdeki artışların da Keynesyen olmayan etkileri olabileceğini vurgulamışlardır.

Alesina ve Perotti (1995a) mali konsolidasyonların kompozisyonuna dikkat çekmiştir. Harcama kesintilerine ve vergi artışlarına dayanan konsolidasyonlar arasında bir ayırım yaparak son 25 yıldaki mali konsolidasyonların vergi artışlarına dayandığını ancak genişletici etkiler ortaya çıkaran konsolidasyon programlarının esas olarak harcama kesintilerine dayandığını vurgulamışlardır. Giavazzi ve Pagano'nun (1995) mali konsolidasyon uygulamalarının başarısının büyüklüğü ile ilişkili olduğu iddialarının aksine asıl önemli olanın konsolidasyonun bileşimi olduğunu vurgulamışlardır. Özellikle transfer harcamalarında ve personel harcamalarında yapılan kesintinin başarılı sonuçlar verirken, başarısız ülke uygulamalarında bu kesintilere yer verilmediğinin altı çizilmiştir.

Mali konsolidasyonların makroekonomik etkileri üzerinde yoğunlaştıkları başka bir çalışmada Alesina ve Perotti (1995b) kamu borcunun GSYH'ye oranında düşüş yaşandığında reel GSYH'nin hızlanma eğiliminde olduğunu ve işsizlik oranında düşüş yaşandığını vurgulamıştır. Ancak borç oranında düşüş yaşanmadığında büyüme yavaşlama eğiliminde ve işsizlik oranı yükselme eğiliminde olmaktadır.

Alesina et al. (1998: 207) mali durum ne kadar kötüyse konsolidasyonun başarılı olma olasılığının da o kadar yüksek olduğunu vurgulamakta ve başarılı sonuçlar vermiş olan mali konsolidasyon uygulamalarının başındaki borç birikiminin başarısız uygulamalardan önceki birikimden daha yüksek olduğunu ifade etmektedir. Kamu borcunun GSYH'ye oranı görece yüksek olduğunda mali ayarlamalar daha başarılı olma eğilimindedir. Bu durum yazarlar tarafından *mali stres* olarak adlandırılmakta ve maliye politikalarının potansiyel etkisinin önemli bir belirleyicisi olduğu vurgulanmaktadır.

Maliye politikalarının tüketim üzerindeki etkilerine yoğunlaşan Blanchard (1990), Sutherland (1997) ve Perotti (1999), ortaya çıkacak etkilerin kamu borcuna bağlı olduğunu öne sürmüştür. Buna göre borç/GSMH oranı yüksek ise genişletici maliye politikalarının tüketimi artıracaklarını, aksi halde tüketimi azaltacağı sonucunu elde etmişlerdir (Erdoğan, 2007: 119). Bu durum mali stres dönemlerinin hanehalkı ve işletmeler nezdinde yarattığı beklentilere ilişkindir.

McDermott ve Wescott (1996: 751), başarılı mali konsolidasyon uygulamaları esnasında kısa vadeli faiz oranlarının düştüğünü ileri sürerek güven yaklaşımını ön plana çıkartmıştır. Alesina, Perotti ve Tavares (1998: 209) de maliye politikasındaki belirleyici bir değişikliğin faiz oranları üzerinde büyük etkileri olabileceğini vurgulamaktadır. Bütçe açığı

ve risk priminin yüksek olması durumunda faiz yükü mali dengeyi sağlamayı zorlaştıracaktır. Bu durumda yüksek risk primi talep edilecektir. Aksi durum ise düşük risk primi, faiz yükünün daha düşük olduğu ve bütçenin dengelenmesinin kolay olduğu anlamına gelmektedir. Bütçe açığını azaltmaya yönelik politikalar yüksek risk primi ve yüksek temerrüt olasılığına sahip bir dengeden daha az risk ve daha düşük faiz oranlarına sahip bir dengeye geçişi sağlayabilecektir (Alesina & Ardagna, 1998: 492).

Başarılı mali konsolidasyon uygulamaları ile faiz arasındaki ilişkiye bakıldığında daraltıcı maliye politikaları borçlanma gereğini azaltacağından faiz harcamalarının da azalacağı söylenebilir. Bunun yanında düşen faiz oranları sayesinde kamunun daha düşük faizlerle borçlanması mümkün olacaktır. Ancak bu sonuçların elde edilebilmesi için Merkez Bankası politikaları ile maliye politikaları arasında koordinasyon bulunması gerektiği vurgulanmalıdır (Şen & Kaya, 2017: 119).

McDermott ve Wescott (1996:729) ise mali dengenin oldukça bozuk olduğu ülkelerde hükümetin borçlarını ödeme konusunda atacağı sağlam adımlar neticesinde bütçe açığının azaltılmasının faiz oranlarındaki temerrüt riski primlerini düşürmek suretiyle özel sektör servetinin değerini artırarak toplam talebi artırabileceğini ifade etmiştir.

Bertola ve Drazen (1993) gelecekteki maliye politikaları hakkındaki beklentilerin, mevcut maliye politikasının etkilerini açıklamaya yardımcı olabileceğini ifade ederek beklenti etkisini vurgulamaktadır. Daraltıcı bir politika yeniliği, gelecekteki politika değişiklikleri konusunda yeterince güçlü beklentilere neden oluyorsa genişletici olabilir. Hükümet harcamalarındaki bir kesinti, gelecekteki harcamaların ve dolayısıyla vergilerin önemli ölçüde daha düşük olacağı beklentisini uyandırır, mevcut özel harcamalarda bir genişlemeye neden olabilir. (Bertoli & Drazen, 1993: 12). Kamu harcamalarındaki kesinti gelecekteki vergilerin iskonto edilmiş değerini düşüreceğinden genişletici olabilecektir. Ancak bütçe açığındaki azalma vergi artışları yoluyla yapılırsa, bir harcama kesintisi olasılığı azalır ve gelecekteki vergilerin mevcut iskonto edilmiş değeri yükselir; bu da ekonomik büyümeyi yavaşlatabilir (Bertoli & Drazen, 1993: 12).

Alesina ve Perotti (1997), OECD ülkelerinin ekonomik göstergeleri yanında Danimarka, İrlanda ve İtalya üzerindeki vaka çalışmalarına dayalı olarak mali konsolidasyon programlarının başarı ihtimalini ve makroekonomik etkilerini araştırdıkları çalışmada, vergi artışlarına dayanan ve kamu harcamalarına dayanan konsolidasyon programları arasındaki ayrımı vurgulayarak harcama kesintilerine dayalı düzenlemelerin başarı şansının daha yüksek olduğunu ve genişletici etkiler yarattığını ortaya koymuşlardır. Bunun aksine temelde vergi artışlarına ve kamu yatırımlarındaki kesintilere dayanan mali düzenlemelerin kısa ömürlü olup daraltıcı etkiler yaratabileceğini vurgulamışlardır.

Alesina ve Ardagna (1998: 491) mali konsolidasyonların ekonomiye hem arz hem de talep yönünden etki edebileceğini ifade etmiştir. Buna göre kamu harcamalarındaki kesintilerin tüketiciler tarafından kalıcı bir durum olarak algılanması halinde vergilerin düşeceğine ve ömür boyu gelirmede artış yaşanacağına ilişkin beklentiler doğacaktır. Refah

değişiminin tüketim üzerindeki etkisini ifade eden bu anlayış Keynesyen durumun aksine kamu harcamaları azaldığında tüketimin artacağını ifade etmektedir. Aynı şekilde vergi artışlarının da genişletici olması mümkündür. Bugün yaşanan vergi artışlarının gelecekte yaşanmayacağına ilişkin güçlü beklentiler söz konusu olursa genişletici olabilecektir.

Blanchard (1990), Bertola ve Drazen (1993) daraltıcı olabilecek bir politikaların gelecekteki politika değişikliklerine ilişkin güçlü beklentileri teşvik etmesinin önemini vurgulamışlardır. Burada önemini vurgulanması gereken bir diğer husus ise mali konsolidasyonların uygulanma zamanının seçimidir. Mali stres durumu olarak adlandırılan yüksek orandaki kamu borç/GSYH oranları söz konusuken uygulanan politikaların pozitif refah etkisi daha güçlü olacaktır. Perotti (1999) "Fiscal Policy in Good Times and Bad" adlı çalışmasında mali ayarlamaların Keynesyen olmayan genişletici etkilerinin özellikle yüksek borç seviyelerinin olduğu mali stres dönemlerimde ortaya çıkacağını ifade etmektedir. Ekonominin normal dönemlerinde ise Keynesyen etkiler görülecektir. Bir harcama şoku normal zamanlarda özel tüketim ile pozitif bir ilişki -Keynesyen- sergileyecek; kötü zamanlarda ise negatif -Keynesyen olmayan- bir ilişki görülecektir (Perotti, 1999:1400). Genişletici mali daralma hipotezi, mali konsolidasyonların başlangıç koşullarının başarısı için çok önemli olduğunu vurgulamaktadır.

Vergi şoklarına dayanan mali konsolidasyon programlarının etkilerine yoğunlaşan Sutherland (1997) de benzer sonuçlara ulaşmıştır. Maliye politikalarının tüketim harcamalarını etkileme gücünün kamu borç stokunun düzeyi olduğunu ve borç stoku ılımlı seviyelerdeyken maliye politikalarının Keynesyen etkileri bulunduğunu ifade etmektedir. Çünkü mevcut tüketici kuşakları, borçlara yönelik istikrar programı zamanında hayatta olmayabileceklerini düşünecektir. Ancak borç stoku aşırı değerlere yükseldiğinde kendileri hayattayken bir istikrar programının uygulanacağını düşünürler. Bu sebeple yüksek borç seviyelerindeki mali açıklar daraltıcı bir etki gösterecektir (Sutherland, 1997: 160). Tüketicilerin sınırlı yaşama sahip olduğu bu modelde, özel tüketim kararlarını etkileyen unsur vergilemenin dönemler arası dağılımındaki değişimlerdir. Modelin çözümü ise kamu borcu arttıkça Keynesyen etkilerden Keynesyen olmayan etkilere yumuşak bir geçiş göstermektedir (Sutherland, 1997: 160).

4. PIIGS Ülkeleri Üzerine Panel Veri Analizi

Çalışmanın bu kısmında mali konsolidasyon programlarının özel tüketim harcamaları üzerindeki etkisi incelenmek üzere panel veri analizi yapılarak elde edilen bulgular yorumlanacaktır. Bu amaçla öncelikle çalışmanın amaç, kapsam ve metodolojisi açıklanacaktır. Ardından ampirik analizin ögeleri ile ulaşılan sonuçlara yer verilecektir. Elde edilen bulguların yorumlanmasıyla çalışma sonlanacaktır.

4.1. Amaç, Kapsam ve Metodoloji

Bu çalışmanın konusu mali konsolidasyon programlarının özel tüketim harcamaları üzerindeki etkisinin incelenmesidir. Bu bağlamda, çalışmanın araştırma soruları şunlardır:

(i) Mali konsolidasyon uygulamalarının özel tüketim harcamaları üzerinde istatistiki olarak anlamlı bir etkisi mevcut mudur? (ii) Bu tür bir etkinin mevcudiyeti halinde bu etkinin yönü (pozitif/negatif) nedir? (iii) Söz konusu etkinin mevcudiyeti halinde bu etki ülkeler bazında farklılık arz etmekte midir?

Bu soruların cevaplanabilmesi amacıyla PIIGS (Portekiz, İrlanda, İtalya, Yunanistan ve İspanya) ülkeleri örnek ülke grubu olarak seçilmiştir. Bu seçimin sebebi ise 2008 Krizinde Avrupa Birliği içinde ekonomileri en ağır darbe alan ve buna yönelik ciddi istikrar tedbirleri uygulayan ülkeler olmalarıdır. Borç krizinden önce de Avrupa Birliği'nin en kırılgan ekonomileri olarak görülen PIIGS ülkeleri yüksek kamu borç stoku, yüksek işsizlik oranları ve bütçe açıkları sebebiyle pek çok kurtarma paketi açıklanmış ve maliye politikası önlemlerine başvurulmuştur. Çalışmada PIIGS ülkelerinde uygulanan daraltıcı maliye politikalarına dayalı mali konsolidasyon programlarının özel tüketim harcamalarıyla olan ilişkisi ortaya konulmuştur.

Çalışmada mali konsolidasyon uygulamalarının gerçekleştiği yıl ve bu yılı takip eden ilk iki yıl içerisindeki etkileri incelenmiştir. Veriler 1995 - 2020 yıllarını kapsamaktadır ve kullanılan verilerin frekansı yıllık olarak belirlenmiştir. Örneklem yıllarında Covid-19 küresel salgınının yaşandığı 2019 ve 2020 yılları da yer aldığından salgınının özel tüketim harcamaları üzerindeki etkisinin görülmesi için analize Covid-19 kukla değişkeni de dahil edilmiştir.

4.2. Veri Seti

Çalışmada örnek ülke grubu olan PIIGS ülkelerine ait veriler panel veri şeklinde ele alınmıştır. Kurulan ekonometrik model aşağıdaki gibidir:

$$CNS = \alpha + \beta_1 GEXP + \beta_2 STR + \beta_3 Y + \beta_4 INF + \beta_5 \lambda + \beta_6 COVID + \epsilon_t \quad (1)$$

Modelde bağımlı değişken olan CNS değişkeni hanehalkı nihai tüketim (kişi başı nihai özel tüketim) harcamasıdır ve 2010 yılı sabit ABD doları cinsinden olup modele logaritması alınarak dahil edilmiştir. Bu veri seti Dünya Bankası'nın veri tabanından elde edilmiştir ve yıllıktır. Kişi başı hanehalkı nihai tüketim harcaması¹ (kişi başı özel tüketim harcaması) sabit 2010 fiyatları ve Dünya Bankası nüfus tahminleri üzerinden özel tüketim kullanılarak ABD doları cinsinden hesaplanmıştır (Dünya Bankası, 2021a).

Ekonometrik model dahilinde mali konsolidasyon uygulamalarının kişi başı özel tüketim harcamaları üzerindeki etkisi ise kukla değişken yardımı ile ölçülmüştür. λ ile temsil edilen bu kukla değişken mali konsolidasyon yılları ve bu yılları takip eden ilk iki yıl için 1,

¹ Haneler tarafından satın alınan dayanıklı ürünler (araba, çamaşır makinesi ve ev bilgisayarı gibi) dahil olmak üzere tüm mal ve hizmetlerin piyasa değeri olarak hesaplanır. Konut satın alımlarını içermez, ancak konutun kendi sahibi tarafından kullanılan konutlar açısından emsal kirayı içerir. Ayrıca, izin ve lisans almak için devlete yapılan ödemeleri ve ücretleri de içerir. Burada kişi başı hanehalkı tüketim harcamaları, ülke bazında ayrı rapor edilse dahi, hanelere hizmet veren ve kâr amacı gütmeyen kuruluşların harcamalarını da içermektedir (Dünya Bankası, 2021a).

aksi durumda 0 değerini almaktadır. Böylece, Carriere-Swallow et al. (2018) çalışmasındakine paralel olarak mali konsolidasyon uygulamalarının yalnızca uygulandığı yıldaki etkisinin değil hem uygulandığı sene içerisindeki hem de takip eden iki yıl içerisindeki etkilerinin tespit edilmesi amaçlanmıştır.

Bununla birlikte, dışlanan değişken yanlışlığı hatasının² önlenmesi amacı ile çalışmaya diğer değişkenler (GEXP, STR, Y, INF, COVID) de eklenmiştir.

GEXP, kamu sektörünün nihai tüketim harcaması (hükümet harcamaları) olup gayrisafi yurt içi hasılanın yüzdesi şeklinde yıllık olarak alınmıştır. Hükümet harcamaları, mal ve hizmet alımları (çalışanların tazminatı dahil) için tüm kamu cari harcamalarını içermektedir. Aynı zamanda, ulusal savunma ve güvenlik harcamalarını içermektedir. Ancak devlete ait sermaye oluşumunun bir parçası niteliğinde olan askeri harcamalar hariç tutulmaktadır. (Dünya Bankası, 2021b).

STR, hanelere yapılan nakdi sosyal yardımları temsil etmektedir. GSYH'nin yüzde oranı şeklinde yıllık bazda alınmıştır ve OECD'nin veri tabanından elde edilmiştir. Ulusal hesaplarda hanehalklarına sağlanan sosyal yardımlar iki ayrı kategoriye ayrılmaktadır: (i) aynı sosyal transferler dışındaki sosyal yardımlar ve (ii) aynı sosyal transferler. Birincisi prensipte nakittir ve bu nedenle hanelerin nakdi diğer gelirlerden ayırt edilemez bir şekilde kullanmalarına izin verirken, aynı transferler her zaman belirli mal veya hizmetin (ağırlıklı olarak sağlık ve eğitim) sağlanmasıyla ilgilidir ve bu nedenle hanelerin bunların tüketimine ilişkin herhangi bir takdir yetkisi yoktur (OECD, 2021a).

Y değişkeni GSYH'deki yıllık reel değişmeyi temsil etmektedir. Bu veri IMF'nin veri tabanından elde edilmiştir ve bir önceki yıla göre büyüme oranlarıyla ölçülmektedir.

INF, tüketici fiyatları ile enflasyondaki (TÜFE) yıllık yüzde değişim oranıdır.

COVID kukla değişkeni ise 2020 yılı için 1 diğer yıllar için 0 değerini alan ve Covid-19 salgınının etkisinin ölçülmesi amacı ile modele dahil edilen değişkendir.

Ekonometrik modelde α sabit (otonom) değişken iken ϵ ise sıfır ortalama ve sabit varyansa sahip hata terimidir.

4.3. Değişkenlere Ait Tanımlayıcı İstatistikler

Ampirik analiz dahilinde öncelikle her ülke için bu ekonometrik modeldeki serilerin betimsel istatistikleri ve grafikleri sunulmuştur.

Serilerin betimleyici istatistikleri ve görsel sunumları, araştırmacılara değişkenler hakkında genel bir fikir vermektedir. Bu kapsamda serilerin betimsel istatistikleri için

² *İhmal edilen değişken terimi, bağımlı değişkeni etkileyebilecek regresyona bağımsız değişken olarak dahil edilmeyen herhangi bir değişkeni ifade etmektedir (Barreto & Howland, 2005: 490).*

oluşturulan aşağıdaki Tablo 3'te serilerin gözlem sayıları, standart sapmaları, minimum değerleri, maksimum değerleri ve ortalamaları belirtilmiştir.

Tablo: 3
Değişkenlere Ait Tanımlayıcı İstatistikler

Değişken	Gözlem Sayısı	Ortalama	St. Sapma	Minimum Değer	Maksimum Değer
CNS	125	9.77	0.19	9.34	1.01
STR	125	1.42	3.58	6.78	2.06
GEXP	125	1.83	2.04	1.18	2.33
Y	125	2.26	4.05	-10.1	25.3
INF	125	2.18	1.86	-4.47	8.93

Kaynak: Yazarlar tarafından oluşturulmuştur.

Aşağıda yer alan Tablo 4'te serilere (değişkenlere) ait korelasyon matrisi yer almaktadır. Seriler arasındaki korelasyon çoklu doğrusal bağıntı olup olmadığı hakkında veri sağlamaktadır.

Tablo: 4
Değişkenlere Ait Korelasyon Matrisi

	CNS	STR	GEXP	Y	INF
CNS	1.00				
STR	-0.0661	1.00			
GEXP	-0.2752	0.7320	1.00		
Y	0.0938	-0.6569	-0.7409	1.00	
INF	-0.1687	-0.4097	-0.1037	0.0964	1.00

Kaynak: Yazarlar tarafından hesaplanmıştır.

Değişkenler arasındaki doğrusal ilişkinin ölçüsü olarak korelasyon katsayısı kullanılmaktadır. İki değişken arasındaki korelasyon katsayısı, bu değişkenlerin birlikte değişim derecesini yansıtmaktadır. Diğer bir ifadeyle, iki değişken arasında hesaplanan korelasyon katsayısı yüksek ise bu iki değişkenin birlikte değiştiği söylenebilir. +1 ile -1 arasında değişen korelasyon değerinin 0.80'den yüksek olması çok yüksek düzeyde bir ilişki olduğu yönünde yorumlanmaktadır (Düzgüneş & Akman, 1985). Tablo 4'te de görüldüğü üzere seriler arasında yüksek oranda bir korelasyon bulunmamaktadır. Bağımsız değişkenler arasındaki ilişkinin zayıf olduğu görülmektedir.

Çalışmanın EK kısmında serilere ait grafiklere yer verilmiştir. PIIGS ülkelerinin tümünde enflasyonda keskin bir düşüşün, sosyal transferler ile diğer hükümet harcamalarında ise hızlı bir yükselişin yaşandığı 2009 yılında ülkelerin büyüme oranlarının negatif düzeylerde seyrettiği görülmektedir.

CNS bağımlı değişkeni olarak ifade edilen özel tüketim harcamalarının ise tüm ülkelerde 2007 yılına kadar artış eğiliminde ve 2013 yılına kadar azalış eğiliminde olduğu görülmektedir. Özel tüketim harcamaları 2013 yılından sonra tüm ülkelerde istikrarlı bir şekilde artmıştır.

Grafiklerde istisnai bir vaka olarak yorumlanabilecek İrlanda diğer ülkelerden daha hızlı büyümüştür. 2013 yılına kadar azalma eğiliminin görüldüğü büyüme oranında bu yıldan sonra yükselme eğilimi görülmektedir. İrlanda'da 2015 yılında hükümet harcamaları

ile sosyal transferler büyük ölçüde azalmıştır. Bunun yanında büyüme oranında yüksek bir artış görülmektedir. Ayrıca özel tüketim harcamalarının da bu dönemden itibaren artış eğiliminde olduğu görülmektedir.

Aşağıdaki bölümde, yapılan analizden elde edilen bulgulara yer verilmiş ve bunlar değerlendirilmiştir.

4.4. Ampirik Bulgular ve Değerlendirme

Öncelikle kurulan ampirik modelin çift yönlü mü yoksa tek yönlü mü olduğunun test edilmesi için LR testi gerçekleştirilmiştir. Testin hipotezleri aşağıdaki gibidir:

H_0 : Birim ve/veya zaman etkileri yoktur.

H_1 : Birim ve/veya zaman etkileri vardır.

LR testi sonuçları ise aşağıda yer alan Tablo 5'te verilmiştir.

Tablo: 5
LR Test Sonuçları

Ki-Kare	234
Olasılık değeri	0.00

Kaynak: Yazarlar tarafından hesaplanmıştır.

Tablo 5'te yer alan sonuçlara göre olasılık değeri 0.05'ten küçük olduğu için H_0 reddedilir. Dolayısıyla birim ve/veya zaman etkileri bulunmaktadır. Zaman etkisinin mevcudiyeti de LR testi ile incelenmiştir. Bu testin hipotezleri aşağıdaki gibidir:

H_0 : Zaman etkisi yoktur.

H_1 : Zaman etkisi vardır.

Zaman etkisi için gerçekleştirilen LR testi sonuçları aşağıdaki Tablo 6'da verilmiştir:

Tablo: 6
Zaman Etkisi Test Sonuçları

Ki-Kare	19.72
Olasılık değeri	0.00

Kaynak: Yazarlar tarafından hesaplanmıştır.

Tablo 6'da yer alan sonuçlara göre olasılık değeri 0.05'ten küçük olduğu için H_0 reddedilir. Dolayısıyla zaman etkisi bulunmaktadır.

Birim etkisinin mevcudiyetinin test edilmesi için ise beş ayrı test bulunmaktadır. Bunlar; (i) LR testi, (ii) En Çok Olabilirlik Tahmin Edicisi, (iii) SKOR testi, (iv) F testi ve (v) LM testidir. Tüm bu testlerin hipotezleri aşağıdaki şekildedir:

H_0 : Zaman etkisi yoktur.

H₁: Zaman etkisi vardır.

Birim etkisi için gerçekleştirilen bu testlerin sonuçları aşağıda yer alan Tablo 7’de verilmiştir:

Tablo: 7
Birim Etkisi Test Sonuçları

LR Testi	
Ki-Kare	133.05
Olasılık değeri	0.00
En Çok Olabilirlik Tahmin Edicisi	
Ki-Kare	133.05
Olasılık değeri	0.00
SKOR testi	
Ki-Kare	17239.28
Olasılık değeri	0.00
F testi	
F testi	72.20
Olasılık değeri	0.00
LM testi	
Ki-Kare	0.00
Olasılık değeri	1.00

Kaynak: Yazarlar tarafından hesaplanmıştır.

Tablo 7’de yer alan sonuçlara göre LM testi dışındaki testlerde H₀ reddedilemez. Dolayısıyla birim etkisi bulunmaktadır. Genel birim etki testi sonucu ise birim etkinin mevcut olduğu yönündedir. Nitekim dört teste birim etkinin varlığı tespit edilmiştir. Yukarıdaki diyagnostik testleri takiben model tercihi için Hausman testi gerçekleştirilmiştir. Bu test sabit etkiler modelinin mi yoksa tutarlı etkiler modelinin mi kullanılacağına karar vermek için yapılmaktadır.

Hausman testinin hipotezleri aşağıdaki gibidir:

H₀: Hata terimleri ile bağımsız değişkenler arasında ilişki yoktur.

H₁: Hata terimleri ile bağımsız değişkenler arasında ilişki vardır.

Tablo: 8
Hausman Testi Sonuçları

Ki-Kare	82.19
Olasılık değeri	0.00

Kaynak: Yazarlar tarafından hesaplanmıştır.

Yukarıdaki Tablo 8’de yer alan sonuçlara göre H₀ reddedilir. Dolayısıyla sabit etkiler modeli tutarlı, tesadüfi etkiler modeli ise tutarsızdır. Tutarlı model olan sabit etkiler modeli tercih edilir. Değişen varyans probleminin sınanması için Wald test uygulanmıştır. Değişen varyans testinin hipotezleri aşağıdaki gibidir:

H₀: Değişen varyans yoktur.

H₁: Değişen varyans vardır.

Test sonuçları aşağıda Tablo 9’da yer almaktadır:

Tablo: 9
Wald Testi Sonuçları

Ki-Kare	398.71
Olasılık değeri	0.00

Kaynak: Yazarlar tarafından hesaplanmıştır.

Elde edilen sonuçlara göre H_0 reddedilir. Dolayısıyla değişen varyans bulunmaktadır. Otokorelasyon sorununun tespit edilmesi için ise Bhargava et al. (1982) testi ile Baltagi-Wu LBI testleri kullanılmıştır. Bhargava et al. (1982) testi Durbin-Watson istatistiğinin sabit etkiler panel modeline genelleştirir. Otokorelasyon testlerinin hipotezleri aşağıdaki gibi kurulmaktadır:

H_0 : Otokorelasyon yoktur.

H_1 : Otokorelasyon vardır.

Uygulanan otokorelasyon testlerinin sonuçları Tablo 10'da yer almaktadır:

Tablo: 10
Otokorelasyon Test Sonuçları

Durbin-Watson	0.38
Baltagi-Wu LBI	0.52

Kaynak: Yazarlar tarafından hesaplanmıştır.

Uygulanan testlerden elde edilen sonuçlara göre DW ve LBI <2 olduğu için otokorelasyon vardır. Otokorelasyon ve değişen varyans sorununu ortadan kaldırmak üzere otokorelasyon ve değişen varyansa karşı dirençli olan HAC (Newey-West) yöntemi kullanılmıştır. Tüm bu diyagnostik testleri takiben model tahmini gerçekleştirilmiştir. Aşağıda yer alan Tablo 11'de nihai model tahminine ilişkin veriler yansıtılmıştır:

Tablo: 11
Nihai Model Tahmin Sonuçları

Değişken	Katsayı	t-testi	Olasılık değeri
C	10.13787	125.2001	0.0000*
GEXP	-0.025689	-4.080277	0.0001*
STR	0.008228	1.650143	0.10***
Y	-0.004903	-2.125733	0.03**
INF	0.000314	0.063334	0.9496
Yunanistan	-0.086917	-2.757564	0.0071*
İrlanda	0.089519	3.550309	0.0006*
İtalya	0.059316	2.195519	0.0308**
İspanya	-0.032861	-1.329304	0.1872
Portekiz	0.022232	1.549922	0.1248
COVID1	0.075123	0.973634	1.1285
COVID2	0.032746	3.747227	0.0648
COVID3	0.074635	4.548506	0.0371
COVID4	0.017635	1.174635	0.2297
COVID5	0.064537	2.824685	0.0937

$R^2 = 0.98$
F-statistic = 77.65
Prob (F-statistic) = 0.000000*

Kaynak: Yazarlar tarafından hesaplanmıştır.

Not: *, ** ve *** test istatistiklerinin sırasıyla %1, %5 ve %10 anlamlılık düzeyini göstermektedir.

Öncelikle F istatistiği modelin bir bütün olarak anlamlı olduğunu göstermektedir. Bununla birlikte, modelde R2 değeri 0.98 gibi görece yüksek bir rakam almıştır. Bu ise modelin açıklayıcılığının yüksek olduğunu göstermektedir. Bağımsız değişkenler bağımlı değişkendeki değişimin %98'ini açıklamaktadır.

Kukla değişkenler dışındaki bağımsız değişkenlerden hükümet harcamaları, reel GSYH'deki büyüme oranı ve sosyal transferler sırasıyla %1, %5 ve %10 düzeylerinde anlamlıdır. Bu durum bahsi geçen değişkenlerin özel tüketim harcamaları üzerinde istatistiki olarak anlamlı bir etkisinin bulunduğunu göstermektedir. Bunlardan hükümet harcamaları ve reel GSYH büyüme oranı özel tüketim harcamalarını negatif etkilerken sosyal transferler ise pozitif etkilemiştir. Enflasyonun ise tüketim harcamaları üzerinde istatistiki olarak anlamlı bir etkisi tespit edilememiştir.

Kukla değişkenler mali konsolidasyon uygulamalarının özel tüketim harcamaları üzerindeki etkisini yansıtmaktadır. Sonuçlara göre Yunanistan, İrlanda ve İtalya'da mali konsolidasyon uygulamalarının özel tüketim harcamaları üzerinde istatistiki olarak anlamlı bir etkisi mevcuttur. Bu etki Yunanistan'da negatif iken İrlanda ve İtalya'da ise pozitif olarak gözlemlenmiştir. Bununla birlikte Portekiz ve İspanya'da ise mali konsolidasyon uygulamalarının özel tüketim harcamaları üzerinde istatistiki olarak anlamlı bir etkisi mevcut değildir.

Covid-19 kukla değişkeninin özel tüketim harcamaları üzerindeki etkisine ilişkin olarak Yunanistan ve İspanya'da anlamlı bir sonuca ulaşılmaz iken İrlanda, İtalya ve Portekiz'de anlamlı ve pozitif etkisi olduğu saptanmıştır.

5. Sonuç

Kavramsal olarak 1980 sonrasında literatürde sıkça görülmeye başlanan mali konsolidasyon, mali disiplini sağlamak üzere döngüsel olarak ayarlanmış faiz dışı dengenin potansiyel GSYH'ye oranında belirli bir iyileşme yaşanması şeklinde ifade edilmektedir.

Mali konsolidasyon programları ekonomiye hem arz hem de talep yönünden etki edebilmektedir. Kamu harcamalarındaki kesintilerin tüketiciler tarafından kalıcı bir durum olarak algılanması halinde vergilerin düşeceğine ve ömür boyu gelirden artış yaşanacağına ilişkin beklentilerin meydana geleceğini ve refah değişiminin tüketim üzerindeki olumlu etkisini ifade eden bu durumu vurgulayan çalışmalar Keynesyen anlayışın aksine kamu harcamaları azaldığında özel tüketim harcamalarının artacağını ifade etmektedir. Aynı şekilde vergi artışlarının da genişletici olması mümkündür. Bugün yaşanan vergi artışlarının gelecekte yaşanmayacağına ilişkin güçlü beklentiler söz konusu olursa uygulanan daraltıcı politikaların sonuçları genişletici olabilecektir. Bu noktada hanehalkları ve işletmelerin, hükümetlerin yürüttüğü maliye politikalarına olan güveni ve beklentilerinin yönü önem taşımaktadır.

Çalışmada elde edilen bulgular, mali konsolidasyon uygulamalarının ülkeler arasında farklı etkileri olduğunu göstermektedir. Bu durum, maliye politikalarının ekonomiyi

etkileme kanallarının çeşitliliği ve toplumsal beklentilerin farklılığı ile açıklanabilir. Covid-19 salgını ise maliye politikalarının etkisine ilişkin ikili bir durumu göstermesi açısından çalışmanın yönünü genişleten bir unsur olmuştur.

PIIGS ülkelerinden olan Yunanistan'da daraltıcı maliye politikalarının Keynesyen etkileri olduğu görülmektedir. 2009 ve 2010 yıllarında uygulanan harcama temelli konsolidasyon programları Yunanistan GSYH'nin büyük bir çöküş yaşamasına sebep olmuş ve Avrupa Birliği'nin zorlayıcı ekonomik reçeteler sunmasına sebep olmuştur. Yunanistan hükümetinin mali duruma ilişkin hesap ve tablolarda yanıltıcı bilgiler sunmuş olması hem Birlik ülkelerinden hem de ülke vatandaşları tarafından tepkiyle karşılanmıştır. Bu noktada şeffaflık ve hesap verebilirlik kriterlerinin politika sonuçları açısından anahtar bir rol oynadığı görülmektedir.

Yunanistan örneğinde, halkın hükümete ilişkin güvensiz bakış açısı sebebiyle daraltıcı maliye politikalarının daraltıcı etkileri ortaya çıkmıştır. Bu durum uygulanan mali konsolidasyon programlarının genişletici etkilerinin ortaya çıkabilmesi için olumlu beklentiler etkisini vurgulayan çalışmalarını destekler niteliktedir.

İrlanda ve İtalya'ya ilişkin sonuçlar ise Covid-19 salgını öncesi ve sonrası için ayrı ayrı yorumlamayı gerektirmektedir. 2019 yılı öncesinde, Giavazzi ve Pagano (1990) tarafından büyük çaptaki daraltıcı maliye politikalarının gelecekteki vergi yüklerinin azalacağı ve beklenen ömür boyu harcanabilir gelirden artış olacağı algısının tüketim harcamalarını artıracak şekilde iddialarını doğrular şekilde mali konsolidasyon programlarının tüketim harcamalarını pozitif etkilediği görülmüştür. Bunun yanında daraltıcı maliye politikalarından uzaklaşıldığı 2019 ve 2020 yıllarında da hanehalkı tüketiminde artış görülmüştür.

2019 yılında tüm dünyada görülen Covid-19 salgınının ekonomiler üzerinde çok çarpıcı etkileri olmuştur. Turizm ve hizmet sektörlerinde yaşanan olağanüstü daralma özellikle milli gelirinin büyük bir kısmını bu sektörlerden elde eden Akdeniz ülkeleri için bir gelir kaybını da beraberinde getirmiştir. Ancak bu dönemde hanehalklarının tüketim alışkanlıklarında ve bileşenlerinde de değişimler yaşanmıştır. Çalışmaya Covid-19 değişkeni de eklenerek mali konsolidasyon dönemleriyle beraber bu dönemde yaşanan maliye politikası değişikliklerinin de özel tüketim harcamaları üzerindeki etkilerinin gözlenmesi amaçlanmıştır.

Covid-19 salgınının 2019 ve 2020 yıllarında Portekiz, İrlanda ve İtalya'da özel tüketim harcamalarını olumlu etkilediği saptanmıştır. 2019 ve 2020 yılları, örneklem dönemi (1995-2020) içinde çok radikal değişikliklerin olduğu ve diğer dünya devletleri gibi PIIGS ülkelerinin de hanehalklarına doğrudan gelir yardımı, gıda yardımı, işveren destek programları, kira yardımı gibi kamu harcamalarına ağırlık verdiği ve istisna, muafiyet ve indirim müesseseleriyle birlikte vergi harcamalarının arttığı yıllardır. Özel tüketim harcamalarının psikolojik, sosyolojik ve ekonomik pek çok farklı unsurdan etkileniyor olması, hükümet harcamaları ile vergilerin hanehalkı tercihleri üzerinde farklı etkiler

yaratmasına sebep olmaktadır. Covid-19 salgınının yaşandığı yılların olağanüstü tedbirleri beraberinde getirdiği ve kişilerin yaşam biçimini doğrudan etkileyen ayrıksı özellikleri olduğu vurgulanmalıdır.

Çalışmada Portekiz, İrlanda ve İtalya'da Covid-19 salgını döneminde hanehalkı tüketim harcamalarının artmasına yönelik bulgulara rastlanması Geleneksel Keynesyen anlayışla bağdaşır niteliktedir. Bu durum mali konsolidasyon dönemlerinde genişletici mali daralma hipotezinin; genişleme dönemlerinde ise Geleneksel Keynesyen modelin geçerli olabileceğini göstermektedir.

Çalışmada ulaşılan bulgular, PIIGS ülkelerinde uygulanmış olan maliye politikalarının Keynesyen ve Keynesyen olmayan etkilerinin ekonomik ve sosyal konjontüre göre farklılık arz ettiğini göstermektedir. Bu açıdan çalışmanın politik önerisi ise iradi daraltıcı maliye politikaları olarak ifade edilen mali konsolidasyon programları ile sürdürülebilir sonuçların elde edilebilmesi ve özel tüketim harcamaları üzerinde olumlu etkiler yaratabilmesi için bu konuda yürütülen politikaların istikrarlı olması ve makroekonomik göstergelere ilişkin sayısal hedefler belirlenmesi yönündedir. Aksi halde ortaya çıkması beklenen olumlu beklenti etkileri ve politik güvenilirlik ortaya çıkmayacaktır.

Son olarak, şeffaflık ve hesap verebilirlik ilkelerinin kamu mali yönetimine hakim kılınması gerekmektedir. Bu sayede hanehalkları ve işletmelerin hükümet politikalarına ilişkin beklentileri olumlu yönde değiştirilebilecektir. Kamu mali yönetimine ilişkin beklenti ve güven unsurları mali konsolidasyon programlarının başarısı ve tüketim harcamaları için vazgeçilmez bir öneme sahiptir.

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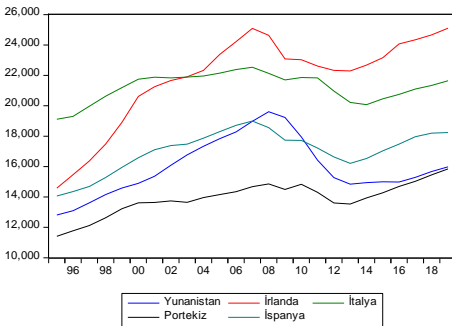
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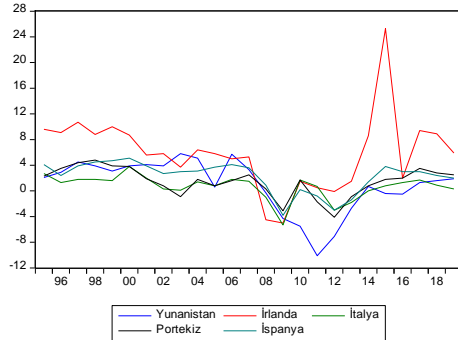
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EK: Serilere İlişkin Grafikler

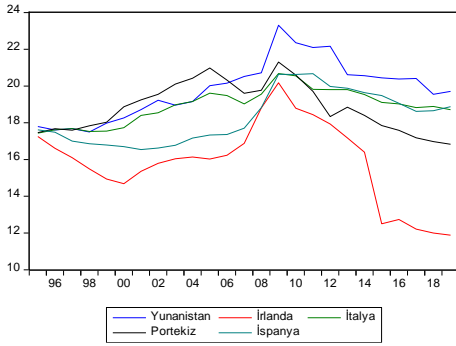
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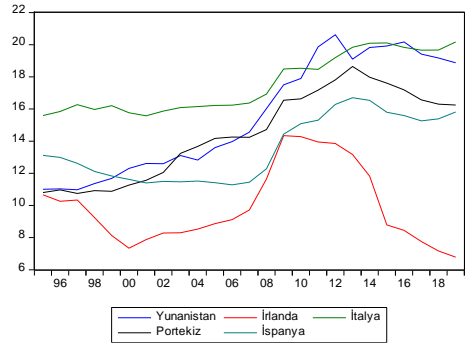
Y (Büyüme Oranı)



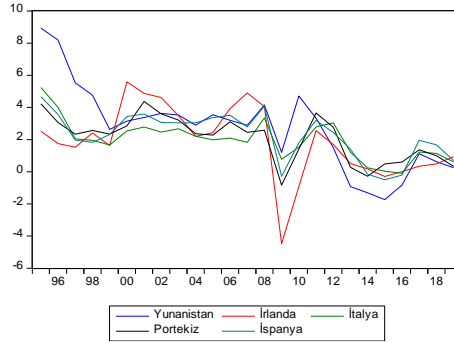
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İş İlişkileri Bağlamında Sanatçı Hakları: Kanada Örneği¹

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Artist Rights in the Context of Business Relations: The Canadian Case²

Abstract

The position of art and the artist in a social structure, the level of consciousness in that social structure, and the sensitivity to cultural heritage also give an idea. Artists need to reach their rights regarding working relations in terms of living and working conditions and artistic efficiency. This study discusses the working relations and categorical rights of artists in Canada. In selecting this country, it has implemented the first international legal regulation that recognises artists' special working conditions and union rights. The importance of the gains achieved by the strong and centralised union structure has been decisive. It aims to contribute to the solution proposals developed in our country and the literature by examining the relevant country regulations and practices on artists' rights regarding working life.

Keywords : Artists, Working Relations of Artists, Artist Rights.

JEL Classification Codes : K310, L51.

Öz

Sanatın ve sanatçının bir toplumsal yapıda yer aldığı konum, o toplumsal yapıdaki bilinç düzeyi, kültürel miras konusundaki duyarlılık konusunda da fikir vermektedir. Sanatçıların çalışma ilişkileri bakımından sahip oldukları haklara ulaşabilmeleri gerek yaşam ve çalışma koşulları gerekse sanatsal verimlilikleri konusunda önem taşımaktadır. Bu çalışmada, Kanada özelinde sanatçıların çalışma ilişkileri ve kategorik olarak hakları ele alınmıştır. Bu ülkenin seçilmesinde, sanatçıların özel çalışma koşullarını ve sendikal haklarını tanıyan uluslararası anlamda ilk hukuki düzenlemeyi hayata geçirmiş olması, güçlü ve merkezi sendikal yapı ile elde edilen kazanımların önemi, belirleyici olmuştur. Sanatçıların çalışma yaşamına ilişkin hakları konusunda ilgili ülke düzenleme ve uygulamaları incelenerek, konuya ilişkin olarak ülkemizde geliştirilecek çözüm önerilerine ve literatüre katkı sunulması amaçlanmıştır.

Anahtar Sözcükler : Sanatçılar, Sanatçıların Çalışma İlişkileri, Sanatçı Hakları.

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² This study was produced from the doctoral thesis titled "Artist Rights in terms of Labour and Social Security Legislation: A Field Study on Actors" which was conducted under the supervision of Prof.Dr. Nuray GÖKÇEK-KARACA.

1. Giriş

Toplumsal yaşam ekonomik, siyasal ve sosyal boyutları ile küresel düzeyde yeniden düzenlenirken, çalışma ilişkileri alanında da gerek işyeri organizasyon ve örgütlenmesinde gerekse çalışma biçim ve sürecinde kapsamlı dönüşümler ortaya çıkmıştır. Yaşanan bu gelişmeler çalışma mevzuatına, değişikliklere uyum gösterecek şekilde daha esnek hale getirilmesi şeklinde yansımıştır. Bu süreç, işverenlerin sorumluluk alanını daraltıcı, işçilerin ise mevcut kazanım ve haklarında gerileme niteliğinde bir etki yaratmıştır. Bu noktada, çalışmamızın konusunu oluşturan sanatçılar gibi, çalışma mevzuatının klasik anlamda iş ve işçi tanımlarının dışında kalan kesimlerle ilgili düzenlemelerin yapılması ve bu kesimler için koruma sağlanması, ayrı bir önem taşımaktadır. Bunun yanında son dönemlerde hükümetlerin ve iş dünyasının, sanat ve kültürün ticari potansiyeli ve ekonomik yönü konusundaki farkındalıkları artmıştır (Leger, 2010). Bu bağlamda sanat ve sanatçılara ilişkin başlık, üzerinde daha fazla durulan bir konu haline gelmiştir.

Türkiye Cumhuriyeti Anayasası'nın 27. maddesinde “herkesin bilim ve sanatı serbestçe öğrenme ve öğretme, açıklama, yayma ve bu alanlarda her türlü araştırma hakkına sahip” olduğu hükme bağlanmıştır. Burada sanat özgürlüğü ve bilim özgürlüğü kavramları birlikte ele alınmıştır. Yine Anayasası'nın “Sanatın ve Sanatçının Korunması” başlığını taşıyan 64. maddesine göre; “Devlet, sanat faaliyetlerini ve sanatçıyı korur. Sanat eserlerinin ve sanatçının korunması, değerlendirilmesi, desteklenmesi ve sanat sevgisinin yayılması için gereken tedbirleri alır.” Sanat ve sanatçının korunması bakımından devlete anayasal düzeyde yüklenen bu yükümlülüklerin hayata geçirilebilmesi kapsamında özellikle hukuksal düzeyde yapılacak çalışmalar ayrı bir önem taşımaktadır. Sanatçıların bireysel ve toplu iş hukukuna ilişkin temel haklar ile sosyal güvenlik hakkının korunması ve geliştirilmesi, ülkemizin taraf olarak iç hukukta gerekli ve uygun düzenlemeleri yapma yükümlülüğü altında bulunduğu uluslararası sözleşmeler ile Avrupa Birliği'nin üstlenilen müktesebatının da bir gereğidir.

Bu çalışmada, sanatçı haklarına ilişkin genel bir çerçeve çizilebilmesi bakımından öncelikle konuya ilişkin temel kavramlar olan sanat ve sanatçı kavramları, çeşitli yaklaşımlar ve tanımlamalar bağlamında açıklanmıştır. Sonrasında sanatçıların iş ve sosyal güvenlik hukuku bakımından hakları konusunda genel bir çerçeve çizilmiş ve sanatçıların toplu iş hukuku alanına ilişkin hakları daha ayrıntılı biçimde ele alınarak incelenmiştir. Nitekim, sanatçıların toplu iş hukuku bakımından durumlarının ve haklarının açıklanabilmesi için, bireysel iş ilişkileri ve sosyal güvenlik alanına giren hususların da ele alınması gerekmektedir. Çalışma, genel bir değerlendirme ve önerileri içeren sonuç bölümü ile tamamlanmıştır.

2. Kavramsal Çerçeve

Sanatçıların çalışma yaşamına ilişkin haklarının incelenebilmesi bakımından öncelikle, sanatçı ve bununla bağlantılı olarak sanat temel kavramının genel olarak açıklanması gerekmektedir. Bu kavramlar aşağıda sırasıyla ele alınarak açıklanmıştır.

2.1. Sanat Kavramı

Sanat kavramı ile ilgili kusursuz ve genel kabul görececek nitelikte bir tanım yapabilmek oldukça güçtür. Ancak konuyla ilgili alanyazın kapsamında, bazı açıklamalar yapılması mümkündür.

Sanat, tarihin ilk dönemlerinden günümüz kavramsal yapıtlarına kadar binlerce yıllık serüveninde döneminin yaşam koşulları, teknolojisi, ekonomisi ve siyasî yapısı ile olan ilişkisini ortaya koymuştur (Boztaş & Düz, 2013: 2). Sanat tarih boyunca ve bugün sahip olduğu düşlere, imgelere dayanmakta ve bunlardan beslenmektedir (Çakır-Aydın, 2009: 230). Sanat tüm tarihsel süreç içerisinde, farklı şekillerde de olsa, insan için gerçekleştirilen bir etkinlik olmuştur (Yılmaz, 1999: 166). Sanatsal üretim sürecinin sonucu olarak ortaya çıkan sanat eserinin gerçeklikle ve insanlıkla ilişkisi, onu sadece bir eğlence aracı olmaktan çıkarmaktadır (Serdaroğlu, 2015: 86).

Sanat, etimolojik bakımından amel, iş ve yapma anlamındaki *sunu* kelimesinden türeyen, Arapça kökenli bir kelimedir (Atalay, 2004: 3). Sanat, insanın iç dünyasının eseri olup bu yönüyle büyük ölçüde bireysel nitelik taşımaktadır. Ancak, diğer insanların iç dünyalarına da hitap ettiği için toplumsallaşmaktadır. Hegel’e göre “sanat, maddeye sokulan ve maddeyi kendine benzeten sanatçının ruhudur” (Kutup, 2010: 11). Tüm bu yaklaşımlar sanatı tanımlama ve anlamlandırma çabasının ürünü olarak ortaya çıkmış ve çıkmaya da devam etmektedir.

2.2. Sanatçı Kavramı

Sanatçı kavramıyla ilgili pek çok tanımlama yapmak mümkündür. En genel yaklaşımla sanatçı, sanatsal faaliyet ve yaratım süreci içinde bulunan kişileri ifade etmektedir.

Sanatçı kavramının kapsamı oldukça geniştir. Türk Dil Kurumu (TDK) güncel sözlüğüne göre sanatçı;

- Güzel sanatların herhangi bir dalında yaratıcılığı olan, eser veren kimse, sanat adamı, sanat eri, sanatkâr;
- Sinema, tiyatro, müzik gibi sanat eserlerini oynayan, yorumlayan, uygulayan kimsedir³.

Sanatçı kavramı ile ilgili olarak uluslararası kuruluşların ortaya koyduğu yaklaşım ve tanımlamalar aşağıda ele alınıp değerlendirilecektir. Zira, sanatçılara ilişkin uluslararası çalışma ve düzenlemeler bakımından söz konusu tanımlamalar esas alınmaktadır. Bu

³ Bkz.

<http://www.tdk.gov.tr/index.php?option=com_gts&arama=gts&guid=TDK.GTS.5729e8c1ed9825.22233307>, 25.10.2021.

bağlamda, Birleşmiş Milletler Eğitim, Bilim ve Kültür Teşkilatı (UNESCO)⁴, Avrupa Birliği (AB)⁵ ve Uluslararası Çalışma Örgütü (ILO)⁶ tarafından ortaya konulan tanımlamalar aşağıda ele alınacaktır.

Kültür alanında çeşitli faaliyetler yürüten ve bütün kültürleri insanlığın ortak mirası olarak gören UNESCO sanatçılığa ilişkin olarak oldukça kapsayıcı nitelikte bir tanımlama ortaya koyduğu görülmektedir. Bu tanıma göre sanatçı;

“Sanat eseri yaratan veya yeniden yaratan ya da onlara yaratıcı bir ifade kazandıran, herhangi bir istihdam ilişkisiyle veya mesleki kuruluşa bağlı olmasa dahi sanatçı olarak tanımlanmak isteyen veya tanımlanan, sanatsal yaratım sürecini hayatının asıl parçası olarak kabul eden; bu yolla sanat ve kültürün gelişmesine katkıda sunan kişidir”⁷.

Ülkemizin resmi aday statüsünde olduğu AB'nin kültürel alana ve bu kapsamda sanatçılara ilişkin de çalışmaları bulunmaktadır. Birliğin 2012 yılında yayınlanan kültürel istatistiklere ilişkin final raporunda on kültürel alan ve bu alanlara ilişkin beş fonksiyon belirlemiştir. Bu alanlar; kültürel miras, arşivler, kütüphaneler, kitap ve basım, görsel sanatlar (plastik sanatlar, fotoğraf, tasarım), performans sanatları (müzik, dans, tiyatro, karma sanatlar ve diğer canlı şovlar), görsel işitsel-multimedya, mimari, reklamcılık ve el sanatlarıdır⁸.

Birliğin ekonomik faaliyetlere ilişkin ortaya koyduğu, Avrupa Ekonomik Faaliyetler Sınıflamasında (NACE), faaliyetler numaralandırılarak kategorikleştirilmiş ve faaliyetlerin hangi işleri kapsadığı belirtilmiştir. Yaratıcı sanatlar başlığı altında (90.03); heykeltıraşlar, ressamlar, karikatüristler gibi bireysel sanatçıların faaliyetleri, gravürçüler, hat sanatçıları, tezhip sanatçıları ve benzer bağımsız sanatçıların faaliyetleri, imgesel-kurgusal ya da teknik

⁴ *Yeryüzündeki eğitim, bilim ve kültür çalışmalarının insanlığın ortak çıkarlarına uygun şekilde yürütülmesi yönünde uzlaşma kararları almaya, bunları barış ve işbirliği çerçevesinde uygulamaya çalışan bir dünya kurumu olan UNESCO'nun merkezi Paris'te olup, Türkiye'nin örgüte üyeliği 04.11.1946 tarihinde gerçekleşmiştir.*

⁵ *Türkiye-AB ilişkilerinin dönüm noktası, 10-11 Aralık 1999 tarihlerinde Helsinki'de yapılan AB Devlet ve Hükümet Başkanları Zirvesi'dir. Helsinki Zirvesi'nde Türkiye'nin adaylığı resmen onaylanmış ve Türkiye için hazırlanan ilk Katılım Ortaklığı Belgesi 8 Mart 2001 tarihinde AB Konseyi tarafından onaylanmıştır. Bkz. <<http://www.ab.gov.tr/index.php?p=111&l=1>>, 25.10.2021.*

⁶ *Kuruluşun Anayasası, Barış Konferansı tarafından oluşturulup önce Paris'te, daha sonra Versay'da toplanan Çalışma Komisyonu tarafından 1919 yılının Ocak ve Nisan ayları arasında hazırlandı. ABD'deki Amerikan İşçi Federasyonu (AFL) Başkanı Samuel Gompers'in başkanlığındaki Komisyon'un üyeleri şu ülkelerin temsilcilerinden oluşmaktaydı: Belçika, Küba, Çekoslovakya, Fransa, İtalya, Japonya, Polonya, Birleşik Krallık ve ABD. Sonuçta, benzeri olmayan, üç taraflı, icra organlarında hükümet, işveren ve işçi temsilcilerinin yer aldıkları bir kuruluş ortaya çıktı. Bkz. <http://www.ilo.org/ankara/about-us/WCMS_372874/lang--tr/index.htm>, 25.10.2021.*

⁷ *Bkz. <http://portal.unesco.org/en/ev.phpURL_ID=13138&URL_DO=DO_TOPIC&URL_SECTION=201.html>, 25.10.2021.*

⁸ *Bkz. <<http://ec.europa.eu/eurostat/documents/341465/3199631/essnet-culture.pdf/a6518128-69b3-4d89-82b8-060a3ad01d5>>, 25.10.2021.*

tüm konulara ilişkin yazarlık ve bağımsız gazetecilik faaliyetleri ile tablo gibi sanatsal eserlerinin restorasyon faaliyetlerine (müzikal alet ya da mobilya restorasyon işleri kapsam dışı tutulmuştur) yer verilmiştir. Konser ve tiyatro sahnelerine ilişkin tesis işleri de diğer bir başlık altında (90.04) ele alınmıştır (EC, 2008: 301).

Sınıflamada, gösteri sanatlarını *destekleyici* faaliyetler başlığına da (90.02) yer verilmiş; yönetmen, yapımcı, sahne-set tasarımcıları ve kurucularının yürüttüğü faaliyetler ile ışık mühendisleri ve benzerlerinin faaliyetleri bu kapsamda değerlendirilmiştir (EC, 2008: 300).

Avrupa Birliği İstatistik Ofisi (Eurostat)'nin kültürel istatistik verilerinde⁹ kültürel istihdam bölümünde kullandığı sınıflamada, kültürel istihdama ilişkin veriler ortaya konulurken kültürel alan bakımından da alt sınıflamalara ve bunlara ilişkin verilere yer verilmiştir. Bu bağlamda *yaratıcı sanatlar ile gösteri sanatları ve ilgili aktiviteleri* faaliyet alanına ilişkin istihdam verileri de ayrıca ortaya konulmuş, kültürel istihdamla ilgili yukarıda sözü edilen sınıflamaya atıfta bulunulmuştur¹⁰.

Bu bağlamda, Birliğin sanatçı kavramına ilişkin çerçeveyi bahsi geçen sınıflamalar kapsamında belirlediği söylenebilir.

Konuyla ilgili çalışmalar yürüten bir diğer kuruluş da Uluslararası Çalışma Örgütü'dür. Örgütün önemli bir yayını olan ISCO-88'in güncellenmiş biçimi ISCO-08 (Uluslararası Standart Meslek Sınıflaması), ülkelerin kendi ulusal sınıflamalarının geliştirilmesine katkı sunduğu gibi, meslek bilgilerinin uluslararası düzeyde karşılaştırmasını da mümkün kılmaktadır. Bu sınıflandırma sisteminin esasını işler oluşturmaktadır. Bu bağlamda sistem, yapılan işin niteliğine ve türüne göre dört seviyeli bir hiyerarşik yapıya sahiptir. Sınıflamada yaratıcı sanatçılar ve sahne sanatçıları grubu; *hukuk, sosyal ve kültür ile ilgili profesyonel meslek mensupları* alt ana grubu altında ele alınmıştır¹¹. Bu grupta yer alan meslekler ise; görsel sanatçılar, müzisyenler, şarkıcılar ve besteciler, dansçılar ve koreograflar, film, sahne vb. yönetmenleri ve yapımcıları, aktörler, radyo-televizyon ve diğer medya sunucuları ile başka yerde sınıflandırılmamış yaratıcı sanatçılar ve sahne sanatçıları olarak sıralanmıştır.

Uluslararası Çalışma Örgütü'nün meslek sınıflaması sisteminde, görel olarak daha daraltılmış bir yaklaşım sergilenmektedir. Konu *meslek* temeli bağlamında değerlendirilmiş

⁹ Bkz. <http://ec.europa.eu/danmark/documents/alle_emner/information/110414_kulturel_statistik_en.pdf>, 25.10.2021.

¹⁰ Bkz. <<http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do>>, 25.10.2021.

¹¹ Bkz. <<https://biruni.tuik.gov.tr/DIESS/SiniflamaSatirListeAction.do?surumId=210&kod=265&ustKod=265&seviye=1&detay=E&turId=null&turAdi=null&satirId=2687661>>, 25.10.2021.

ve sanatçılar ayrı bir alt ana grup olarak, profesyonel meslek mensupları¹² kapsamında ele alınmıştır.

Ulusal mevzuatımız bakımından sanat ve sanatçının korunması, sanatı geliştirilmesi ve sanat sevgisini yaygınlaştırılması ile sanatın teşvikine ilişkin birçok düzenleme bulunmasına rağmen doğrudan sanatçı tanımlaması getiren bir düzenleme bulunmamaktadır¹³. Ancak Uluslararası Çalışma Örgütü'nün meslek sınıflandırma sistemi esaslarına göre, meslek unvanlarını, özetlenmiş meslek tanımlarını ve meslek kodlarını kapsayacak şekilde Türkiye İş Kurumu faaliyetleri kapsamında *Türk Meslekler Sözlüğü* hazırlanmıştır. İstihdam ve eğitim politikaları ve bu politikalara dayalı olarak hazırlanan plan ve programların sağlıklı ve günün koşullarına göre oluşturulmasını sağlamak ve iş arayanların istediği şartlarda iş bulması, işçi arayanların da kalifiye eleman bulması amaçlarına hizmet etmektedir¹⁴. Ulusal sözlükte ILO meslek sınıflaması sistematığına ve hiyerarşik yapısına uyulmuş, ancak yerel özelliklere göre farklı mesleklere de yer verilmiştir. Bu bakımdan daha geniş bir çerçeve çizildiği söylenebilir. Örneğin; yaratıcı sanatçılar ve sahne sanatçıları başlığı altında, görsel sanatçılar kapsamında indirmeci(cam), minyatürcü, sedefkârlık; dansçılar ve koreograflar başlığı altında semazenlik; müzisyenler, şarkıcılar ve besteciler başlığı altında kemençe sanatçısı ve zurnacı gibi mesleklere de yer verilmiştir.

Uluslararası kuruluşların konuyla ilgili sistem ve yaklaşımları değerlendirildiğinde, UNESCO tarafından yapılan tanımda sanatçılık kavramı, herhangi bir istihdam ilişkisi ya da belirlenmiş alanlarda faaliyette bulunma gibi ölçütler üzerinden değil, sanat eseri meydana getirme veya yorumlama üzerinden tanımlanmıştır. Bu bakımdan UNESCO'nu yaklaşımı oldukça kapsayıcı ve geniş bir nitelik taşımaktadır. Ancak bu çalışmanın konusunu oluşturan sanatçılar; bir istihdam ilişkisi çerçevesinde işgücü piyasasında yer alan ve sanatsal

¹² Profesyonel meslek mensupları; mevcut bilgi birikimini artırır, bilimsel veya sanatsal kavram ve kuramları uygular ve sistematik bir şekilde öğretir ya da bu faaliyetlerden iki veya daha fazlasının bir bileşimi ile uğraşır. Bu ana grup içindeki mesleklerin çoğunda yapılan çalışmalar; dördüncü ISCO beceri seviyesinde yer alan becerileri gerektirir. Bkz. <<https://biruni.tuik.gov.tr/DIESS/SiniflamaSatirListeAction.do?surumId=210&kod=2&ustKod=2&s>>, 25.10.2021.

¹³ Örneğin, 4848 Sayılı Kültür ve Turizm Bakanlığı Teşkilat ve Görevleri Hakkında Kanun'un 2. maddesinde sayılan amaçların gerçekleştirilmesi için, bakanlığın merkez teşkilatı kapsamında bir takım ana hizmet birimlerinin kurulması öngörülmüş ve bu birimlerden biri olan Güzel Sanatlar Genel Müdürlüğü'nün görevleri sıralanmıştır; Klasik, çağdaş ve geleneksel sanat akımlarını takip ederek, yurt içindeki sanat faaliyetlerinin milli kültür ve çağdaş anlayışa uygun olarak yürütülmesi ve yayılmasını, milletin bu yönden bilgi sahibi olmasını sağlamak; ulusal resim ve heykel sanatları ile geleneksel Türk süsleme ve el sanatları koleksiyonlarını geliştirmek vd. (m. 8). Yine 5225 Sayılı Kültür Yatırımları ve Girişimlerini Teşvik Kanunu'nun 1. maddesinde kanunun amacı; "bireyin ve toplumun kültürel gereksinimlerinin karşılanması; kültür varlıkları ile somut olmayan kültürel mirasın korunmasını ve sürdürülebilir kültürün birer ögesi haline getirilmesini; kültürel iletişim ve etkileşim ortamının etkinleştirilmesini; sanatsal ve kültürel değerlerin üretilmesi, toplumun bu değerlere ulaşım olanaklarının yaratılması ve geliştirilmesini...sağlamak" olarak belirtilmiştir.

¹⁴ Bkz. <<http://www.iskur.us/iskur/turk-meslek-sozlugu.html>>, 25.10.2021.

faaliyetini mesleki¹⁵ temelde yürütenlerdir. Bu bakımdan çalışmamıza, sınıflama tekniğinde *meslek* kavramını ölçüt alması nedeniyle, ILO Uluslararası Standart Meslek Sınıflaması ve Ulusal Meslekler Sözlüğü esasları kılavuzluk edecektir.

3. Sanatçıların İş İlişkileri Bağlamında Hakları: Kanada Örneği

Genel olarak sanatçılar ile kamu otoriteleri arasındaki ilişkiler, dönemin siyasi, sosyal ve ekonomik ortamından ve gelişmelerinden etkilenmektedir. Bu süreç sanata ve sanatçıya bakış açısını şekillendirme konusunda da belirleyici olabilmektedir. Kanada örneğinde de devlet ve toplum ile sanat arasındaki ilişkinin dönüşüm süreci ve aşamaları aşağıda genel hatlarıyla ele alınmıştır. Bu bilgiler, günümüz Kanada sanat dünyası ve özellikle sanatçıların toplu iş ilişkilerine özgü niteliklerin kavranabilmesi açısından önem taşımaktadır. Nitekim toplu iş ilişkileri sendikalar, işverenler, yapımcılar ve kamu otoritelerinin içinde yer aldığı çok bileşenli bir alanı ifade etmektedir.

Kanada federal hükümeti tarafından, sanat camiasının kamu gündemi açısından önemli bir kaynak olduğunun kabul edilmesi esas olarak Birinci Dünya Savaşı dönemine karşılık gelmektedir. Savaş sırasında Kanada hükümeti, savaş sürecini görsel olarak kaydetmeleri için Avrupa'ya bir grup ressam göndermiştir. İkinci Dünya Savaşı sırasında ise hükümet, sanatçıları Kanada'daki savaş çabalarına azalan desteği teşvik etmek için motive etmiştir (Nelson, 1988: 166). 1940'lı yılların sonlarına doğru, on altı sanatçı derneği kurulmuş ve sanat camiasının kolektif sesi güçlenmeye başlamıştır (Tippet, 1990). Kanada kültür politikasının gelişimini doğrudan etkileyen ve dönüm noktası niteliğindeki 1951 tarihli Massey-Lévesque Raporu, sanatçıların yalnızca eserlerinin satışıyla yaşayamayacaklarına vurgu yapmıştır (Cliche, 1996). Raporun ardından hükümet, Kanada Sanat Konseyi'ni finanse etmiştir. Bu durum, sanat camiası tarafından memnuniyetle karşılanmış ancak, hükümet sanatçılık mesleğinin resmi olarak desteklenmesine ilişkin stratejileri bu süreçte yeterince uygulayamamıştır (Yates, 1989: 19). 1970'lerin ortalarına gelindiğinde birçok sanatçı derneği kurulmuş ve hükümete sanatçıların yaşadığı zorlukların kabul edilmesi ve çalışma koşullarının iyileştirilmesi konusunda çağrıda bulunulmuştur. Öneriler arasında, sanatçıların işsizlik sigortası ve Kanada Emeklilik Planı gibi programlara erişirken vergilendirme amacıyla serbest meslek statülerini korumalarına izin verecek ikili statünün getirilmesi de yer almaktaydı. Sanatçıların statüsüne ilişkin endişeler, Birleşmiş Milletler Eğitim, Bilim ve Kültür Kurumu (UNESCO) ve Uluslararası Çalışma Örgütü (ILO) gibi çok taraflı forumlarda da dile getirilmiştir. 1980 yılında Kanada hükümeti, tüm imzacı ülkeleri eğitim ve gelişim, çalışma ilişkileri ve vergilendirme dahil olmak üzere sanatçıların mesleki ve sosyal statüsüne yönelik politikalar uygulamaya teşvik eden UNESCO Sanatçıların Statüsüne İlişkin Tavsiye Kararı'nı imzalamıştır. Bu süreçte, tüm kültür sektörünü incelemek üzere özel bir komite niteliğindeki Federal Kültür Politikası İnceleme Komitesi kurulmuştur (Cliche, 1996). Komite, Massey-Lévesque Raporu'ndan

¹⁵ *Meslek, kişilerin belli bir eğitimle edindikleri ve hayatlarını kazanmak için sürdürdükleri düzenli ve kurallı faaliyetler bütünüdür ve kapsamına faaliyetlerin örgüt düzeyindeki konum ve önemi, meslek başarımı için gerekli bilgi, eğitim, deneyim, yetenek ve beceri gibi kişisel nitelikler girmektedir (Yıldız, 2010: 170).*

sonra ilk federal kültür politikası incelemesini yapmış ve sonuç raporunda sanatçıların çoğu "uzmanlaşmış çalışan yoksullar" olarak nitelendirilmiştir (Federal Cultural Policy Review Committee, 1982: 4). 1980'li yılların sonuna kadar, sanatçının ekonomik ve sosyal statüsünü inceleyen, tartışan ve önerilerde bulunan on iki federal girişim ortaya çıkmıştır. Raporlarda benzer sonuçlara ulaşılmış, kapsamlı kanıtlar toplanarak birçok öneri geliştirilmiştir. Aşağıdaki konular en sık atıfta bulunulan alanları oluşturmuştur:

- Sanatçılara vergilendirme konusunda profesyonel bir statü verilmesi;
- İşsizlik sigortası ve Kanada Emeklilik Planı gibi evrensel programlara erişimin kolaylaştırılması;
- Gelir ortalaması, ikili statü ve bağışlanan sanat eserleri için hayır kurumu makbuzu alma olanağı dahil olmak üzere iyileştirilmiş vergilendirme önlemleri;
- Eğitim ve geliştirme faaliyetlerinin güçlendirilmesi;
- Telif haklarının korunması;
- Sosyal yardımların güvenlik ağının sanatçılar bakımından genişletilmesi;
- Sanatçı derneklerinin hem çalışan hem de serbest meslek sahibi sanatçılar için toplu pazarlık araçları olarak yasal anlamda tanınması;
- Aracı iflasları durumunda sanatçılar için güvenli veya tercih edilen bir sınıflandırma öngörülmesi;
- İş sağlığı ve güvenliği tazminatına erişim;
- Sanatçıların gelirlerinden vergi borcunun erteleneceği bir kısmı için hesap açılması;
- Sanatsal özgürlüğün korunması ve güçlendirilmesidir (Cliche, 1996).

Kanada'da sanatçıların, sanatçı birlik ve sendikalarının günümüzdeki etkinliği ve gücü yukarıda genel hatlarıyla ortaya konulan sürecin bir sonucu olarak ortaya çıkmış ve şekillenmiştir.

Sanatçıların çalışma ilişkileri bağlamındaki hakları aşağıda öncelikli olarak genel olarak belirlenmiş, sonrasında sanatçıların toplu iş hukukuna ilişkin hakları daha ayrıntılı biçimde ele alınmıştır.

3.1. Genel Olarak

Kanada, yasama güçlerinin federal ve eyaletler olmak üzere iki düzeye bölüldüğü federal bir devlettir. Anayasaya göre; eyaletler eğitim ve kültürel konularda federal hükümetin sorumluluğunu paylaşmakla sorumludur. İki düzeyde de kültür ve sanat alanıyla ilgilenen benzer kurumlar mevcuttur (Mcandrew, 2002: 27). Çalışma ilişkileri alanında ise; Kanada Çalışma Bakanlığı, istikrarlı ve yapıcı iş ilişkilerinin teşvik edilmesi amacıyla istihdamla ilgili çeşitli düzenlemeler çerçevesinde işyeri anlaşmazlıklarını gidermek, toplu

sözleşmelerin çözümüne yardımcı olmak ve toplu pazarlık bilgileri üretmek gibi faaliyetler yürütmektedir¹⁶.

Ülkede, iş ve sosyal güvenlik mevzuatı bakımından temel bazı hak ve ilkeler bağlamında en üst sırada 1982 tarihli Kanada Anayasası yer almaktadır. Anayasa'nın ikinci maddesinde temel haklar başlığı altında; vicdan ve din özgürlüğü, basın özgürlüğü ve diğer iletişim medyası da dahil olmak üzere düşünce ve ifade özgürlüğü; barışçıl toplanma özgürlüğü ile örgütlenme özgürlüğü teminat altına alınmıştır. Ayrıca, yedinci madde kapsamında kişilerin yaşam, özgürlük ve güvenlik haklarından temel adalet ilkeleri uyarınca yoksun bırakılmama hakkına sahip olduğu belirtilmiştir. Anayasa'nın on beşinci maddesinde ise, herkesin özellikle ırk, ulusal veya etnik köken, renk, din, cinsiyet, yaş veya engelliliğe dayanan bir ayrımcılık olmaksızın yasa önünde eşit olduğu vurgulanarak eşitlik ilkesi hükme bağlanmıştır¹⁷.

Ülkedeki iş mevzuatı kaynakları, yasama yetkisinin anayasal olarak ikiye bölünmesi sebebiyle, federal ve eyaletler düzeyinde olmak üzere ikili biçimde ele alınabilir. Bu bağlamda federal düzeydeki kaynaklar şu şekilde sıralanabilir;

- Kanada İş Kanunu: Kanun kapsamında, endüstri ilişkileri ve toplu pazarlığa ilişkin hususlar da dahil olmak üzere iş sağlığı ve güvenliği, çalışma süreleri, kıdem, asgari ücret, izinler, fesih gibi konular düzenleme altına alınmıştır. 1985 tarihli Kanun içerdiği ayrıntılı hükümler ile çalışma ilişkileri bakımından temel kaynak niteliğindedir.
- Kanada İnsan Hakları Kanunu: Kanun, çalışanlar ve potansiyel çalışanlar (adaylar) için ırk, ulusal veya etnik köken, renk, din, yaş, cinsiyet, cinsel tercih, medeni hal, aile statüsü ve engelliliğe dayalı ayrımcılığa karşı koruma sağlamaktadır. Ayrıca kanun kapsamında, iş ilişkisi sona eren çalışanların eski durumlarına iadesi ile bu nedenle duyguların ve kişiliği zedelenen çalışan için az miktarda tazminat ödemesi de dahil olmak üzere, telafi yetkilerine sahip Kanada İnsan Hakları Mahkemesi kurulmuştur.
- Kanada Emeklilik Planı Kanunu ve İstihdam Sigortası Kanunu: Tüm işverenler için geçerli olan federal kanunlardır. Kanada Emeklilik Planı Kanunu, emeklilik veya kalıcı engellilik nedeniyle emeklilik maaşlarına hak kazanmış kişilere yöneliktir. İstihdam Sigortası Yasası, geçici işsizlik dönemlerinde bireylere yedek gelir sağlayan bir düzenlemedir (Wilkinson & Caughey, 2011: 1).

Bu bağlamda, federal düzeyde faaliyet yürüten bir sanatçının çalışma ilişkileri genel olarak yukarıda belirtilen düzenlemeler çerçevesinde şekillenecek, eyalet sınırları içinde çalışılması durumunda ise eyalet özel düzenlemeleri de belirleyici olacaktır. Kanada İş Kanunu'nda federal iş kavramından ne anlaşılması gerektiği ve hangi alanlarda yürütülen

¹⁶ Bkz. <<https://www.labour.gov.on.ca/english/lr/index.php>>, 25.10.2021.

¹⁷ Bkz. <<http://laws-lois.justice.gc.ca/eng/Const/page-15.html>>, 25.10.2021.

işin bu kapsamda sayılacağı ise, açık bir biçimde ifade edilmiştir¹⁸. Ancak, genel anlamda eyalet mevzuatı ile federal mevzuat arasında bir uyum olduğu söylenebilir. Nitekim, Ontario eyaleti İnsan Hakları Kanunu da federal muadili Kanada İnsan Hakları Kanunu gibi, tüm istihdam alanlarında ayırım yapılmaksızın eşit haklar ve fırsatlar sağlanmasını amaçlamaktadır. Ayrıca, kanun kapsamında, insan haklarına yönelik şikayetleri inceleyen ve hükme bağlayan bir mahkeme oluşturulmuştur (Wilkinson & Caughey, 2011: 2). Konumuzla ilgili olarak, aşağıda federal iş mevzuatı üzerinde durulacaktır.

Kanada İş Kanunu'nun birinci bölümünde yer alan tanıma göre işçi; bir işveren tarafından istihdam edilen ve sözleşmenin bağımlı tarafını oluşturan herhangi bir kişiyi ifade eder. Ancak, yönetim işlevleri yerine getiren veya endüstri ilişkileri ile ilgili konularda özel bir kapasitede çalışan bir kişi işçi tanımı içinde yer almaz (m. 3). Bu bağlamda, bir sanatçının Kanada İş Kanunu çerçevesinde işçi kabul edilebilmesi için bu tanım kapsamında yer alması gerekmektedir. İşçi statüsündeki bir sanatçı da bireysel iş ilişkileri bakımından, aşağıda genel hatlarıyla üzerinde durulacak olan koruyucu düzenlemelerden faydalanacaktır.

Kanada'da, bir iş sözleşmesine iş mevzuatı kapsamında belirlenen asgari standartlara aykırı hüküm konulması yasaklanmıştır. Bu nitelikte olup sözleşmeye dahil edilen hükümler geçersiz kabul edilmektedir. İş sözleşmesinin, yazılı ya da sözlü olarak yapılabilmektedir. İşe başlanmasından sonra, iş sözleşmesine bir promosyon veya tazminat artışıyla ilişkili olmadıkça ek bir husus konulması mümkün değildir. Sözleşme, çalışanın unvanı, sorumlulukları, ücreti, yapılacak yardımları ve izin sürelerini içermelidir (Campbell, 2011: 3).

Kanada İş Kanunu'nun, “Endüstri İlişkileri” başlıklı birinci bölümünde ise, toplu iş ilişkileri ayrıntısıyla ele alınmıştır. Kanunun “İş sağlığı ve güvenliği” başlıklı ikinci bölümünde; işverenin iş sağlığı ve güvenliği yükümlülüğüne ilişkin olarak, öncelikle genel bir çerçeve çizilmiş, takip eden maddelerde ise sorumluluğun kapsamı oldukça ayrıntılı şekilde ele alınmıştır. İşverenin genel yükümlülüğü kapsamında; her işverenin çalıştırdığı kişilerin, işyerinde sağlığının ve güvenliğinin korunmasını sağlamakla yükümlü olduğu belirtilmiştir (m. 124). Kanunun devam eden maddelerinde ise; tüm kalıcı ve geçici inşaatların, korkuluk ve barikatların öngörülen standartlara uygun olmasını sağlamak; tüm iş kazaları, mesleki hastalıkları ve diğer tehlikeli olayları öngörülen şekilde araştırmak,

¹⁸ Kanunun Açıklama başlıklı ikinci maddesine göre; şu alanlarda yürütülen işler federal iş olarak kabul edilmiştir: gemilerin işletilmesi ve Kanada'nın herhangi bir yerinde gemi ile nakliye dahil olmak üzere, denizde seyrüsefer ve denizcilik için veya bununla bağlantılı olarak işletilen bir işletme, yapılan bir iş veya taahhüt, herhangi bir ili diğer illerle bağlantılıdır veya bir il sınırlarını aşan demiryolu, kanal, telgraf veya başka bir çalışma veya taahhüt, bir ili başka bir ille bağlayan veya bir il sınırlarının ötesine uzanan bir dizi gemi hattı faaliyeti, il ve diğer iller arasında veya herhangi bir il ve Kanada dışındaki herhangi bir ülke arasındaki feribot faaliyeti, havaalanı, uçak veya bir hava taşımacılığı hattı faaliyeti, bir radyo yayın istasyonu faaliyeti, Banka Kanunu'nun ikinci bölümü anlamında bir banka veya yetkili bir yabancı banka faaliyeti, bir eyalette tamamen yerleşik olursa dahi, parlamentonun Kanada'nın genel yararı olduğunu ilan ettiği ya da iki veya daha fazla ilin yararı için, yürütmeden önce veya sonra bu nitelikte olduğu kabul edilen iş veya taahhüt ile eyaletlerin yasama organlarının münhasır yasama yetkisi dışındaki bir iş, taahhüt veya işletme. Bkz. <<http://laws-lois.justice.gc.ca/eng/acts/L-2/page-1.html#h-3>>, 25.10.2021.

yetkililere bildirmek gibi ayrıntılı yükümlülüklerle yer verilmiştir (m. 125 vd.)¹⁹. İş sözleşmesi kapsamında çalışan bir sanatçının da işini ifa ederken, işverenden söz konusu iş sağlığı ve güvenliği yükümlülüklerini yerini getirmesini talep etme hakkı vardır.

Kanun’un “Çalışma Saatleri, Ücretler, Tatil ve İzinler” başlıklı üçüncü bölümünde; söz konusu hususlar sırasıyla ele alınmıştır. Buna göre; bir işçinin normal çalışma süresi günde sekiz saat, haftada kırk saati aşmamalıdır. Bir sanayi kuruluşundaki çalışmanın doğasının çalışma saatlerinin düzensiz dağılımını gerektiriyorsa, günlük ve haftalık çalışma saatlerinin, düzenlemelerde öngörülen şekilde, iki veya daha fazla haftayı içerecek şekilde ortalama olarak hesaplanabileceği de kanunda hüküm altına alınmıştır (m. 169). Ayrıca, bir toplu iş sözleşmesine tabi olarak çalışanlar için, bu asgari süreler kanunun öngördüğü koşulların sağlanması şartıyla değiştirilebilmektedir. Bu koşullar; en az iki haftalık ortalama çalışma süresinin kırk sekiz saati aşmaması ve söz konusu çalışmaya ilişkin zaman çizelgesinin işveren ve sendika tarafından yazılı olarak kabul edilmesidir (m. 172). Fazla çalışma ücreti, saatlik normal çalışma ücretinin bir buçuk katından az olamayacaktır (m. 174). Ücret konusunu, taraflar arasında kararlaştırılabilmektedir. Ancak işverenin, işçinin bulunduğu eyaletin yasama meclisi tarafından belirlenen saatlik asgari ücretten daha düşük bir oranda ücret ödeyemeyeceği hüküm altına alınmıştır (m. 178)²⁰. Örneğin; 01.10.2016 tarihinden 30.09.2017 tarihine kadar Alberta eyaleti için geçerli olan asgari ücret, saat başına 12,20 dolar olarak belirlenmiştir²¹. Yıllık ücretli izin konusunda ise; bir çalışma yılını dolduran her çalışanın en az iki haftalık; bir işveren nezdinde altı yıllık kıdemi bulunan bir işçinin ise, en az üç haftalık ücretli yıllık izin hakkına sahip olduğu belirtilmiştir (m. 184). Kanun’un üçüncü bölümünün onuncu kısmında ise; iş sözleşmesinin sona ermesine ilişkin hususlar düzenleme altına alınmıştır. Bu kapsamda önce; önemli hastalık, ölüm veya kaybolma gibi bazı genel nedenler sıralanmış, takip eden maddelerde ise özel sona erme sebebi olarak fesih uygulamasına ilişkin ayrıntılara yer verilmiştir (m. 204 vd.). Üç ay boyunca sürekli biçimde istihdam edilen bir işçinin iş sözleşmesini feshetmek isteyen işveren, feshin haklı nedene dayanması durumu dışında, durumu sona erme tarihinden en az iki hafta önce yazılı olarak işçiye bildirmek zorundadır. Ancak, bildirim süresini beklemek istemeyen işveren için diğer bir seçenek; işçiye iki haftalık ücreti tutarında bir tazminat ödeyerek iş sözleşmesini feshetmektir (m. 230)²². Bu bağlamda sanatçı ile işveren arasındaki bir iş sözleşmesinin de genel sebeplerle ya da fesih yoluyla sona ermesi mümkündür. Fesih haklı nedenle ya da bildirimli olarak gerçekleşebilir. En az üç aylık kıdemi bulunan bir sanatçının iş sözleşmesini feshetmek isteyen işverenin, haklı bir nedene dayanmadığı sürece, bunu en az iki hafta önce yazılı olarak sanatçıya bildirmesi gerekecektir. Bildirim süresini

¹⁹ Bkz. <<http://laws.justice.gc.ca/PDF/L-2.pdf>>, 25.10.2021.

²⁰ Kanunun Eşit Ücret başlıklı maddesinde ise, iş ilişkisinde ayrımcı uygulamanın tipik biçimlerinden birini oluşturan ücret ayrımcılığı hususu ayrıca düzenleme altına alınmıştır. Buna göre; işverenlerin ücret konusunda ayrımcı uygulamalardan kaçınma yükümlülüğüne vurgu yapılmıştır. Ayrıca, işverenin ayrımcı bir uygulamada bulunduğu makul gerekçelerle destekleyen bir müfettişin, durumu Kanada İnsan Hakları Komisyonu’na bildirebileceği ya da Kanada İnsan Hakları Kanunu çerçevesinde şikâyetle bulunabileceği hüküm altına alınmıştır (m. 182). Bkz. <<http://laws.justice.gc.ca/PDF/L-2.pdf>>, 25.10.2021.

²¹ Bkz. <<http://www.wageindicator.org/main/salary/minimum-wage/canada>>, 25.10.2021.

²² Bkz. <<http://laws.justice.gc.ca/PDF/L-2.pdf>>, 25.10.2021.

beklemek istemeyen işveren için işçiye iki haftalık ücreti tutarında bir tazminat ödeyerek iş sözleşmesini feshetme hakkı da tanınmıştır.

Sanatçıların sosyal güvenlik hakları ise, büyük ölçüde genel sosyal güvenlik mevzuatı kapsamında şekillenmektedir. Ancak bunun yanında, özel bazı uygulama ve tedbirlerin varlığı da dikkat çekmektedir.

Kanada'nın ilk ulusal sosyal sigorta programı İşsizlik Sigortasıdır. İşsizlik Sigortası Kanunu 1940 yılında federal hükümet tarafından uygulamaya konulmuştur. Takip eden süreçte, 1962 yılında Kuzey Amerika'da ilk kez devlet ve vergi destekli, kamuya açık bir tıbbi bakım sigortası planı getirilmiştir. Bu kapsamda, 1966 yılında federal hükümet Tıbbi Bakım Kanunu'nu kabul etmiş, 1971 yılına gelindiğinde ise tüm eyaletler mevzuat hükümlerine göre sisteme tabi olmuşlardır. Emeklilik, maluliyet yardımları ve hayatta kalanlara sağlanan yardımlar bakımından sosyal sigorta koruması sağlayan Kanada Emeklilik Planı, Federal hükümet tarafından 1965 yılında oluşturulmuştur²³. Kanada Emeklilik Planı kapsamında, tüm Kanada vatandaşları bir emeklilik maaşı ve Yaşlılık Güvencesi Yardımı alma hakkına sahiptir. Emeklilik planı kapsamında alınan miktar, programa ödeme yapılan yıl sayısına ve kazançların toplam miktarına göre hesaplanmaktadır. Kendi adına bağımsız çalışan tüm kişilerin (sanatçılar dahil) hem işveren hem de işçi paylarını ödeyerek bu plana ödeme yapmaları gerekmektedir. Ancak kendi adına serbest çalışan sanatçıların gelir seviyeleri düşük olduğu için, plan kapsamında yapılan ödemeler de düşük seviyededir. Bu açıdan, *emektar Kanadalı sanatçıların*, Kanada kültürüne olan katkıları göz önüne alınarak, düşük gelire sahip olmaları nedeniyle yaşadıkları problemlere çözüm bulmak için bir yöntem geliştirilmiştir. Şöyle ki; profesyonel sanatçı birliklerinden-federasyonlarından bazıları, üyeleri için ilgili kurum ve sanatçının ücretinden yapılan kesintilerce finanse edilen fonlar başlatmışlardır. Üyeler adına bu fonlar, Kanada Emeklilik Birikim Planı'na ödeme yapılması için kullanılmaktadır. Yine, Kanada Yazarlar Federasyonu gibi birlikler, üyeleri için grup sigorta planlarına sahiptirler. Görsel sanatçılar için ise sigorta veya plan uygulaması mevcut değildir (Capiau & Wiesand, 2006: 83). Bu bağlamda, sosyal güvenlik sisteminden sanatçılar da diğer bireyler gibi mevzuat çerçevesinde faydalanmakta ve sosyal güvenlik hakları, oluşturulan özel fonlar ve toplu iş sözleşmelerine konulan hükümlerle desteklenmektedir.

3.2. Sanatçıların Toplu İş Hukukuna İlişkin Hakları

Kanada İş Kanunu'nun “*Endüstri İlişkileri*” başlıklı birinci bölümünde, temel bazı tanımlara yer verilmiştir. Bu tanımlamalara göre sendika; işverenler ile işçiler arasındaki ilişkilerin düzenlenmesini amaçlayan, bir şube veya yerel örgüt şeklinde de olabilecek işçi organizasyonları olarak tanımlanmıştır. Yetkili sendika; bir pazarlık birimindeki çalışanlar için toplu pazarlık yapması Kanada Endüstriyel İlişkiler Kurulu tarafından onaylanmış ve sertifikası iptal edilmemiş bir sendikayı veya bir pazarlık biriminde çalışanlar adına toplu sözleşme yapan diğer herhangi bir sendikayı ifade etmektedir. Toplu sözleşme; bir işveren

²³ Bkz. <<http://www.thecanadianencyclopedia.ca/en/article/social-security/>>, 25.10.2021.

ile bir pazarlık acentesi arasında istihdam koşulları ve ilgili şartlara ilişkin hükümleri içeren yazılı anlaşma olarak ifade edilmiştir (m. 3). Kanunda “Temel Özgürlükler” başlığı altında ise; her işçinin kendi seçtiği sendikaya üye olmak ve yasal faaliyetlerine katılmakta serbest olduğu; her işverenin de kendi seçtiği işveren örgütüne ve yasal faaliyetlerine katılmakta serbest olduğu belirtilerek, sendikal özgürlük bakımından teminat sağlanmıştır (m. 8)²⁴.

Kanada’da, sendikalar tarihsel süreç içinde geleneksel olarak zanaat birlikleri ve endüstriyel birlikler olarak ikiye bölünmüştür. İlk sendikal yapılar nitelikli işçiler tarafından basım ya da marangozluk gibi alanlarda kurulmuştur. Yirminci yüzyılın sonlarında sendikaların diğer türleri de ortaya çıkmıştır²⁵. 1989 yılından önce, yalnızca üç ilde toplu pazarlık hakkını güvence altına alan yasaların varlığı söz konusuydu (Forsey, 1961). Kamu sektörü sendikaları ise, kamu çalışanlarının örgütlenmesi ve toplu pazarlık yapmasına izin veren kanuni düzenlemelerin kabul edilmesiyle 1960’lı yıllarda ortaya çıkmıştır.

Ülkede sanatçılar da dahil olmak üzere, toplu iş uyuşmazlıklarının çözümü konusunda faaliyet yürüten Federal Arbuluculuk ve Uzlaştırma Servisi (FMCS) önemli bir birim olarak karşımıza çıkmaktadır. Federal Arbuluculuk ve Uzlaştırma Servisi, Kanada İş Kanunu’nun yargı yetkisi altındaki sendikalara ve işverenlere uyuşmazlıkların önlenmesi ve çözümü konusunda yardım sağlamak üzere kurulmuştur. Servis, bir diğer uyuşmazlık çözümü yöntemi olan “tahkim” konusunda da önemli bir rol oynamaktadır. Şikayetler, haksız işten çıkarmalar ve ücret tahsilatı gibi Kanada İş Kanunu ve Ücretli Koruma Programı Kanunu tarafından yönetilen belirli türdeki anlaşmazlıkların çözülmesi için hakemlerin atanmasını koordine etmektedir. Ancak FMCS tarafından yürütülen temel faaliyetler, toplu sözleşme süresi boyunca anlaşmazlıkların çözülmesi ve endüstriyel ilişkilerin iyileştirilmesine yöneliktir. Bu kapsamda işverenlere ve sendikal çalışanlara aşağıdaki olanaklar sunulmaktadır:

- Uzlaştırma ve arbuluculuk hizmetleri aracılığıyla anlaşmazlığın çözümünün sağlanması,
- Anlaşmazlıkların ortaya çıkmasından önce önlemeyi amaçlayan anlaşmazlık önleme hizmetlerinin sunulması. Bu hizmet, toplu pazarlık ve ortak çatışma çözümü konusundaki eğitim çalışmaları yoluyla sağlanmaktadır²⁶.

Toplu pazarlık sürecinin başlaması ve işleyiş süreci ise, genel hatları ile aşağıdaki şekilde ilerlemektedir.

Toplu pazarlık süreci, toplu sözleşmenin yenilenmesi, revize edilmesi veya yeni bir toplu sözleşmenin yapılması amacıyla, işveren veya sendika tarafından diğer tarafın toplu

²⁴ Bkz. <<http://laws-lois.justice.gc.ca/eng/acts/L-2/page-1.html#h-1>>, 25.10.2021.

²⁵ Bkz.

<<http://autocww.colorado.edu/~toldy2/E64ContentFiles/HistoryOfTheAmericas/LaborUnionCanada060130.html>>, 25.10.2021.

²⁶ Bkz. <<https://www.canada.ca/en/employment-social-development/services/labour-relations/collective-bargaining.html>>, 25.10.2021.

sözleşmeye başlamasını talep eden yazılı bir bildirim olan toplu pazarlık bildirimini ile başlamakta. Pazarlık bildirimini yapılır yapılmasıyla süreç, iyi niyetle pazarlık yapmak işveren ve sendikanın sorumluluk alanına girmektedir. Bu süreçte bir anlaşmazlığın söz konusu olması veya müzakerelerin Kanada İş Kanunu'nun ellinci bölümünde belirtilen süre içinde başlamaması halinde, taraflardan herhangi birinin Çalışma Bakanı'na bir anlaşmazlık bildirimini sunma hakkı vardır²⁷. Kanada Endüstri İlişkileri Yönetmeliği'nin²⁸ altıncı bölümünde belirtildiği şekilde yapılmış bir anlaşmazlık bildirimini olması durumunda Çalışma Bakanı, anlaşmazlığın çözülmesine yardımcı olması için on beş gün içinde bir uzlaştırma görevlisi atamaktadır. Uzlaştırma görevlisinin altmış günlük bir görev süresi vardır. Ancak taraflar kabul ederse, uzlaşma süresinin uzatılması mümkündür. Uzlaşma süresinin sonunda ise, yirmi bir günlük bir *soğuma süreci* başlar. Bekleme süresi boyunca, Çalışma Bakanı, tarafların anlaşmaya varmalarına yardımcı olmaya devam etmek için bir arabulucu atayabilir. Bu süre içinde taraflar kanuni olarak grev veya lokavt hakkını elde ederler. Ancak, grev veya lokavt ilan etme hakkının elde edilebilmesi için karşı tarafa ve Çalışma Bakanına yetmiş iki saat öncesinden bildirimde bulunulması gerekmektedir. Ayrıca sendikanın greve başlayabilmesi için üyelerinden grev yetkisi (İş Kanun'un 87/3. maddesi kapsamında) alması gerekmektedir. Çalışma Bakanı gerekirse belirli konuları Kanada Endüstri İlişkileri Kurulu'na (CIRB)²⁹ yönlendirebilir. Örneğin; tarafların halkın güvenliği veya sağlığına yönelik ani ve ciddi bir tehlikeyi önlemek için, olası bir iş durması sırasında asgari hizmetlerin sürdürülebilmesi konusunda bir anlaşmaya sahip olmaları gereklidir. Böyle bir anlaşmaya varamadıkları durumlarda, Çalışma Bakanı konuyu karar vermesi için CIRB'ye havale edebilir. Diğer bir olasılık da her iki tarafın kabul etmesi şartıyla sorunların çözümü için bir hakem atanmasıdır. Sonuç olarak, toplu pazarlık ihtarı verilene, uzlaştırma süreci gerçekleşene, uzlaştırma sürecinin bitiminin üzerinden yirmi bir gün geçene ve grev oyu alınana kadar taraflar grev veya lokavt haklarını kullanamazlar. Nadir durumlarda, uzlaştırma sürecinin süresi (altmış gün); tarafların mutabakatı ile kısaltılabileceği gibi, Bakanın uzlaştırma görevlisi, uzlaştırma komiseri veya uzlaştırma kurulu atamamasına karar vermesi halinde ortadan kaldırılabilir. Bazı durumlarda ise, grev veya lokavtın kamu yararı üzerinde önemli bir etkiye sahip olması nedeniyle, işe dönüş mevzuatına veya önleyici mevzuata ihtiyaç duyulabilir. Ancak, işe dönüş mevzuatı veya özel mevzuat genel olarak son çare olarak görülmektedir³⁰.

²⁷ Bkz. <<https://laws-lois.justice.gc.ca/eng/acts/l-2/page-25.html#s-50>>, 25.10.2021.

²⁸ Yönetmelik metni için bkz. <<https://laws-lois.justice.gc.ca/eng/regulations/SOR-2002-54/page-1.html#h-5>>, 25.10.2021.

²⁹ Kanada Endüstri İlişkileri Kurulu (CIRB), Kanada İş Kanunu'nun Endüstri İlişkileri, İş Sağlığı ve Güvenliği ve Çalışma Standartlarına ilişkin belirli hükümlerinin yorumlanmasından ve idaresinden sorumlu bağımsız, temsilî, yargı benzeri bir mahkeme niteliğindedir. Ayrıca, CIRB Sanatçıların Statüsüne İlişkin Kanun'un II. "Mesleki İlişkiler" kısmının yorumlanmasından ve idaresinden ve de Ücretli Koruma Programı Yasası kapsamındaki temyiz sürecinden sorumludur. Bkz. <<http://www.cirb-ccri.gc.ca/eic/site/047.nsf/eng/home>>, 25.10.2021.

³⁰ Bkz. <<https://www.canada.ca/en/employment-social-development/services/labour-relations/collective-bargaining.html>>, 25.10.2021.

Ülkede, toplu sözleşmeler kapsamında müzakere edilen konu başlıkları ağırlıklı olarak; iş sınıflandırılmaları, ücret oranları, çalışma süreleri, fazla çalışma ücretleri, iş sağlığı ve güvenliği önlemleri ve iş dağıtımına ilişkin hususlardır. Bunun yanında, sözleşme süresi boyunca ortaya çıkacak çatışmaları gidermek için öngörülmuş tahkim usulleri de kapsama alınmaktadır. Sendikalar, yerel düzeyden ulusal ve uluslararası düzeye kadar farklı seviyelerde örgütlenmişlerdir. Yerel sendikalar, genellikle ulusal veya uluslararası sendika ve birliklerin bir parçası niteliğindedirler. Bir sendikanın bir işyerinde pazarlık temsilcisi olarak onaylanması için, bir devlet kurumu olan Eyalet Çalışma Kurulu'na başvurması gerekmektedir. Kurul, sendika üye sayısı vasıtasıyla, sendikanın o işyerindeki işçilerin çoğunluğu tarafından desteklenip desteklenmediğini ve temsil konusunda yetkisini belirler. Ülkede, sendikalar siyaset alanında da aktif rol almaktadırlar. Siyasal çalışmaların büyük kısmı, çalışanların genel menfaatini korumak için sendikaların oluşturduğu merkezi emek örgütleri tarafından yürütülmektedir. Bu emek örgütlerinin en önde geleni; üyeleri ve diğer çalışanların çıkarına olan mevzuatın oluşturulması için lobi faaliyeti yürüten ve işçi tazminatları ile çalışma koşulları için asgari standartlara ilişkin mevzuatı destekleyen Kanada Çalışma Kongresi (CLC)'dir. Sendikalar ayrıca evrensel sağlık sigortası, işsizlik sigortası, sağlık ve güvenlik mevzuatı gibi (insan hakları, kadınlar için ücret eşitliği gibi toplumsal konular da dahil olmak üzere) toplumsal refah önlemleri bakımından da bir baskı grubu oluşturmuşlardır. Ülkedeki en büyük merkezi emek kuruluşu olan Kanada Çalışma Kongresi'ni, Québec eyaletinde çok sayıda sendikayı kapsayan Ulusal Sendikalar Konfederasyonu takip etmektedir³¹. Kanada'da sendikalaşma oranı 2015 yılı için %31,8, toplu iş sözleşmesinin kapsamına ilişkin oran ise %30,6'dır. Ülkede sendikalar ulusal, uluslararası, bağımsız bir yerel organizasyon ve yerel şubeler olmak üzere dört temel düzeyde faaliyet göstermektedirler. Ancak, çalışanların çoğunluğu (%69,7) ulusal birliklere üyedir³².

Ülkede faaliyet gösteren sanatçı birlik ve sendikaları şunlardır:

Kanada Televizyon ve Radyo Sanatçıları Birliği (ACTRA), Kanada Oyuncular Birliği (EQUITY), Kanada Müzisyenler Federasyonu (CFM), Toronto Müzisyenler Derneği, Kanada Tasarımcıları Derneği, Quebec Profesyonel Sanat Derneği (APASQ), Kanada Dans Sanatçıları Birliği (CADA), Kanada Yönetmenler Birliği (DGC), Tiyatro Sahne Çalışanları Uluslararası Birliği (IATSE), Kanada Ulusal Opera Birliği (opera.ca) Kanada Oyun Yazarları Birliği (PGC), Kanada Tiyatroları Profesyonel Birliği (PAC), Kanada Besteciler, Yazarlar ve Müzik Yayıncıları Derneği (SOCAN), Sanatçılar Sendikası (UdA), Kanada Yazarlar Birliği (WGC), Kanada Yazarlar Sendikası³³.

³¹ Bkz.

<<http://autocww.colorado.edu/~toldy2/E64ContentFiles/HistoryOfTheAmericas/LaborUnionCanada060130.html>>, 25.10.2021.

³² Bkz.

<<https://www.canada.ca/en/employment-social-development/services/collective-bargaining-data/reports/union-coverage.html>>, 25.10.2021.

³³ Bkz.

<<http://www.caea.com/EquityWeb/Links/ProAssoc.aspx>>, 25.10.2021.

Ülkede, sanatçı birlik ve sendikaları bazı sektörlerde, özellikle sanatçıların topluluk olarak çalıştığı sahne sanatları ve medya alanında, çeşitli başarılar elde etmişlerdir. 1940'lı yıllardan başlayarak, yapımcı gruplarıyla akdedilen toplu iş sözleşmeleri kapsamındaki sanatçılar için daha ayrıcalıklı tazminat, sağlık sigortası ve benzer menfaatler sağlanmıştır. Ülkede 1960'lı ve 70li yıllarda sanatçı birlik ve sendikaları örgütlenme sürecine girmiştir. Ancak, genel olarak toplu iş sözleşmeleri yapmak ve kolektif güç oluşturmak bakımından bazı zorluklar da yaşandığı belirtilmektedir. Bu durumun başlıca nedenleri olarak;

- Bazı sanatçılar için sözleşme ilişkisinin, yalnızca işin ya da eserin ortaya çıkarılmasından sonra gerçekleşmesi;
- Birçok sanatçının tek başına çalışması ve yayıncı, yapımcı veya galeri ile arasındaki sözleşmeyi bireysel olarak oluşturması, gösterilmektedir (Neil & Craig, 2010: 7).

Ülkedeki güçlü bir sanatçı örgütü olan EQUITY'nin taraf olduğu ve tiyatro, dans, opera alanlarında imzalanmış bazı toplu iş sözleşmeleri, içerdiği ayrıntılı hükümler ve güncel olmaları bakımından aşağıda ayrıca ele alınacaktır.

- Kanada Tiyatroları Sözleşmesi (CTA): Kanada Oyuncular Birliği ile Kanada Tiyatroları Profesyonel Birliği (PACT) arasında müzakere edilen sözleşme, ülke çapında birçok profesyonel ve bölgesel tiyatro şirketi tarafından imzalanmıştır. Sözleşmenin yürürlüğünün başlangıç tarihi 29.06.2015, bitiş tarihi ise 24.06.2018'dir. Bağımsız Tiyatro Sözleşmesi (ITA) ise, Kanada Tiyatroları Sözleşmesi'ne benzer nitelikte olup PACT üyesi olmayan profesyonel tiyatro şirketleri için kullanılmaktadır. İki sözleşme arasında uyum sağlanması için, Bağımsız Tiyatro Sözleşmesi'nde 04.01.2016 tarihinden itibaren geçerli olan temel bazı değişiklikler yapılmıştır. Kanada Tiyatroları Sözleşmesi, temel terim ve durumlarla ilgili genel bir bölüm ve ücretlerle ilgili bir bölüm olmak üzere, iki bölümden oluşmaktadır. İlk bölümde; tiyatrolarda faaliyet yürüten meslek gruplarının iş tanımlarından, on altı yaşın altındaki çocuk sanatçıların çalıştırılmasına ilişkin standart ve koşulların belirlenmesine kadar birçok konuyu kapsayacak şekilde, tiyatrolardaki çalışma ilişkileri ayrıntısıyla ele alınmıştır³⁴. Ücretlere ilişkin bölümde ise; aylık, haftalık, günlük ya da saatlik yapılacak ödemelerdeki asgari tutarlar, çeşitli çalışan grupları için ve yapılan işin niteliği, ifa koşulları dikkate alınarak tespit edilmiştir³⁵.
- Kanada Ulusal Bale Sözleşmesi (NBCA): Kanada Ulusal Balesi ile akdedilen ve 2016-2019 dönemini kapsayan sözleşme; giriş kısmı, elli bir madde ve iki ek maddeden oluşmaktadır. Giriş kısmında, sözleşmenin taraflarına ve süresine ilişkin bilgiler verilmiştir. Sözleşmenin birinci maddesinde; tüm dansçılar,

³⁴ Bkz. <<http://www.caea.com/Equityweb/EquityLibrary/Agreements/Theatre/CTA/2015-2018CTA-MaterialTerms-FINAL.pdf>>, 25.10.2021.

³⁵ Bkz. <<http://www.caea.com/Equityweb/EquityLibrary/Agreements/Theatre/CTA/2015-2018CTAMinimumFeeBooklet-FINAL.pdf>>, 25.10.2021.

anlatıcılar, şarkıcılar, aktörler, koreograflar, sahne yöneticileri ve yardımcılarının sözleşmenin kapsamında olduğu belirtilmiştir. Bu bağlamda, sözleşmeye sadece dansçılar değil söz konusu sanat faaliyetiyle ilgili görevler üstlenen diğer sanatçı gruplarının da dahil edilmesiyle, kapsamın oldukça geniş tutulduğu söylenebilir. Sözleşmede, çalışma koşulları çeşitli hükümler kapsamında ayrıntılı olarak ele alınmıştır. Sözleşmenin onuncu maddesinde ücret kavramından ne anlaşılması gerektiği açıklanarak devamında asgari ücret tutarlarını ortaya koyan bir liste sunulmuştur. Buna göre ücret; sanatçının sözleşmeli haftalık ücretinin yanında, ek hizmetler için ödemeler ile sözleşmede yer alan diğer tazminatlar da dahil olmak üzere sanatçıya ödenmesi gereken tüm paraları içermektedir. Tanımlara ilişkin on ikinci maddede ise, söz konusu sanatçıların tanımı ve hangi işleri yürüttükleri de açıklanmıştır. Sözleşmenin *Genişletilmiş Sağlık ve Dış Sigortası* başlıklı on üçüncü maddesinde; karşı tarafın, her bir sanatçının Genişletilmiş Sağlık ve Dış Sigortası primini, tek ve eşit bir oranda karşılayacağı kararlaştırılmıştır. Sendikaya bildirimde bulunmak ve kapsamın mevcut seviyeden daha az olmaması şartıyla karşı tarafın, sigorta sağlayıcısını değiştirme hakkı da bulunmaktadır. Maddede, henüz Ontario Sağlık Sigortası Planı kapsamına girmeyen yabancı sanatçılar da dahil olmak üzere tüm sanatçıların, sigorta şirketinin evde ve çağrı üzerine gelen tıbbi personeline erişme hakkına sahip olduğu belirtilmiştir. Yabancı sanatçıların da söz konusu sigortanın kapsamına alınması oldukça olumlu bir yaklaşımdır. Ayrıca madde kapsamında; bir sanatçının kısa süreli iş göremez duruma düşmesi halinde sanatçıya haftalık kazancın %75'ine eşit bir gelir sağlanacağı hükmü bağlanmıştır. Ödenecek tutarın azami sınırının ise, İstihdam Sigortası Kanunu çerçevesinde dönemsel olarak değiştirilen haftalık sınıra göre tayin edileceği belirtilmiştir (m. 13/3). Maddenin sözleşme sürelerine ilişkin kısmında; kıdemleri gözetilmeksizin tüm ana dansçıların ve şirkette beş sezondur çalışan diğer tüm sanatçıların elli iki haftayı kapsayan yıllık bir sözleşme istihdam edilmeleri öngörülmüştür (m. 13/9). Sözleşmenin devamında ücretli izinler, izinlerin sıralanması, konuk sanatçı ücretleri, performanslara ilişkin azami süre sınırları gibi hususlara değinilmiştir³⁶.

Kanada Oyuncular Birliği'nin bu alanda taraf olduğu diğer sözleşmeler ise; EQUITY ile Alberta Bale arasında 2017-2020 dönemini kapsayacak şekilde 20.02.2017 tarihinde onaylanan Alberta Bale Sözleşmesi; Kraliyet Winnipeg Balesi (RWB) ile 2014-2017 dönemini kapsayan Kanada Bale Sözleşmesi ve Les Grands Bale Canadiens ile akdedilen Les Grands Bale Canadiens Sözleşmesidir³⁷.

- Kanada Opera Sözleşmesi (COA): Kanada Oyuncular Birliği ile Kanada Opera Şirketi arasında 2016-2019 dönemi için 08.09.2016 tarihinde onaylanan sözleşme, giriş kısmı ile elli iki madde ve eklerden oluşmaktadır. Sözleşmenin giriş

³⁶ Sözleşmenin tamamı için bkz. <<http://www.caea.com/EquityWeb/EquityLibrary/Agreements/Dance/NBC/NBCA2016-2019.pdf>>, 25.10.2021.

³⁷ Bkz. <<http://www.caea.com/EquityWeb/EquityLibrary/Agreements/Dance/DanceLibrary.aspx>>, 25.10.2021.

kısmında, taraflara ilişkin bilgiler yanında sözleşmenin kapsamına ilişkin bilgilere de yer verilmiştir. Buna göre sözleşme kapsamında kullanılan sanatçı kavramı ile; solistler, sahne sanatçıları (dansçılar da dahil olmak üzere), çıraklar, koro üyeleri, sahne yönetmeni, sahne asistanı, asistan ve çırak sahne yönetmeni, koreograf, yardımcı koreograf ve bale eğitmenleri ifade edilmektedir. Asistan ve çırakların da kapsama alınmış olması, sözleşme ile öngörülen koruyucu düzenlemelerden bu grupların da yararlanması bakımından önem arz etmektedir. Sözleşmenin *Güvenli ve Saygın İşyeri* başlıklı maddesinde; taciz edici ve şiddet içeren davranışların engellendiği ya da en aza indirildiği güvenli ve saygın bir işyeri ortamını teşvik etme konusunda tarafların ortak bir taahhüt atında oldukları belirtilmiştir (m. 7). Sözleşmenin tazminatlar başlıklı on birinci maddesinde ise; ücretlerin ödeme şekli, zamanı, tura çıkılması halinde yapılacak ödemeler, kısmi çalışılan haftalardaki ödeme gibi hususlar üzerinde durulmuştur. Ayrıca, yürütülen faaliyet türüne göre değişen haftalık (bazı gruplar için günlük ya da saatlik) asgari ücret tutarlarına ilişkin bir listeye de yer verilmiştir. Sözleşmenin devam eden maddelerinde; tanımlar, provalar, performanslar, ek performansların süresi ve asgari ücret düzeyleri, kostümlerin sağlanması gibi konular ele alınmış, *Güvenli ve Sıhhi Yerler* başlığı altında ise; soyunma odalarının fiziksel koşullarından, prova ve sahnelerin ideal sıcaklık derecelerine kadar ayrıntılı hükümlere yer verilmiştir³⁸.

Sanatçıların toplu iş ilişkileri kapsamında üzerinde durulması gereken bir başlık da ülkede yürürlükte olan *Sanatçıların Statüsüne İlişkin Kanun*'dur.

Uluslararası boyutta, sanatçıların özel çalışma koşullarını ve sendikal haklarını tanıyan ilk federal kanun olan *Sanatçıların Statüsüne İlişkin Kanun*, Kanada'da 1993 yılında kabul edilip 1995 yılında yürürlüğe girmiştir. Kanun, kendi adına bağımsız çalışan sanatçıları temsil eden dernekler, sendikalar veya federasyonlar ile federal yapımcılar ve kurumlar arasındaki toplu iş sözleşmeleri için yasal bir çerçeve sağlamaktadır. Kanun, işçi-işveren ilişkisi ile çalışan sanatçılar ve eyalet yetki sınırları içerisinde çalışan sanatçıları kapsamamaktadır (Capiou & Wiesand, 2006: 80). Kanun, federal yetki alanı içinde bağımsız profesyonel sanatçılar ve yapımcılar arasındaki profesyonel ilişkilerin yürütülmesi için bir çerçeve oluşturmaktadır. Sanatçıların mesleki çıkarlarını temsil edebilecek dernek ve sendikalara üye olma hakları, sanatçıların yapımcılara hizmet sunacağı asgari koşullar üzerinde anlaşmaya varmak amacıyla toplu pazarlık yapma hakları kanun kapsamında garanti edilmektedir. Kanun ayrıca yapımcıların pazarlık yapma ve ölçek anlaşmalarına girme amaçlarıyla birlikler oluşturmasına da izin vermektedir. Ölçek anlaşmaları, belirli bir sanat sektörü için geçerli olan asgari koşulları belirlemektedir. Ancak, sanatçılar daha uygun menfaatler ve haklar sağlayan bireysel sözleşmeler üzerinde pazarlık yapmakta da özgürdürler³⁹. Kanadalı görsel sanatçı Philip Fry'a göre kanun "sanatçıların ve sanat

³⁸ Sözleşmenin tamamı için bkz. <<http://www.caea.com/EquityWeb/EquityLibrary/Agreements/Opera/COA/COA.pdf>>, 25.10.2021.

³⁹ Bkz. <<http://www.cirb-ccri.gc.ca/eic/site/047.nsf/eng/00283.html#s1.5>>, 25.10.2021.

biçimlerinin kurumsal geçerliliğini” sağlayan büyük güce sahip bir düzenleme niteliğindedir⁴⁰ (Cliche & Lenet, 1992).

Kanun kapsamında, sanatçılar ve yapımcılar arasındaki profesyonel ilişkilerin yürütülmesi için, federal yargının yetki alanı içerisinde *Kanadalı Sanatçıların ve Yapımcıların Profesyonel İlişkileri Mahkemesi* oluşturulmuştur. Parlamente’ye, Çalışma Bakanlığı vasıtasıyla rapor veren mahkemenin üç temel sorumluluk alanı vardır;

- Sanat sektörünü kapsayan disiplinleri belirlemek,
- Üyeleri adına toplu iş sözleşmelerine katılma hakkına sahip ulusal sanatçı birliğini onaylamak,
- Birlikler ile federal yapımcılar ve ajanslar arasındaki sanatçı hizmetleri ve ilgili diğer konulara ilişkin minimum koşulları belirleyen sözleşmeleri düzenlemek.

Bugüne kadar mahkeme; yirmi üç sanatsal sektörü belirlemiş, yirmi bir sanatçı birliğini onaylamış, federal yapımcı ve ajanslarla on dört ödeme ölçekli sözleşme düzenlemiştir (Capiou & Wiesand, 2006: 80).

Sanatçıların Statüsüne ilişkin Kanun’a göre, bir sanatçının profesyonel statü alabilmesi için “ulusal sertifikalı dernek” üyeliği bakımından gerekli şartları yerine getirmesi gerekmektedir. Sanat sektörleri ve kapsam alanları belirlendikten sonra, hangi sanatçı derneklerinin sertifika almaya uygun olduğu belirlenmekte ve bu kuruluşlara üyeleri adına toplu pazarlık yapma hakkı verilmektedir. Sertifikalı derneğin amacı, belirli bir disiplin içindeki sanatçılar için asgari çalışma koşulları ve maaş skalası anlaşmaları oluşturmaktır. Sektör başına yalnızca bir dernek sertifikasyon için uygun görülmektedir. Bu durum, kültürel meşruiyet için büyük bir rekabet sürecini de beraberinde getirmektedir (Ontario Ministry of Culture and Communication, 1992).

Kanun 2002-2003 yılları arasında gözden geçirilmiş ve mevzuatın tek başına yeterli olmadığı konusunda bir fikir birliğine varılmıştır. Bu bağlamda, yasanın federal yapımcılarla sınırlı olması ve yalnızca çalışma ilişkilerini ele alması, sanatçı örgütleri tarafından temel eksiklikler olarak görülmüştür⁴¹. Sanatçıların Statüsüne İlişkin Kanun’un *Mesleki İlişkiler* kısmının idaresine ve uygulanmasına ilişkin sorumluluk, 01.04.2013 tarihinden itibaren CIRB’ye bırakılmıştır. Kurul, federal düzeyde özel sektördeki iş uyuşmazlıkları konusunda yasal yetkilerini kullanarak çalışma ilişkileri sorunlarını çözmektedir. Kurulun faaliyetleri pazarlık haklarının verilmesi, değiştirilmesi ve feshedilmesi; haksız iş uygulaması şikayetlerinin soruşturulması, arabuluculuk sürecinin karara bağlanması; halk sağlığını veya güvenliğini korumak için olası bir iş durması sırasında sürdürülmesi gereken hizmet

⁴⁰ Ancak bu düzenleme ve uygulamaların, politika yapımcılar tarafından tanınmayan sanatsal disiplinler veya sanat toplulukları arasında görece ayrımcılığa yol açabileceğine ilişkin yaklaşımlar için bkz. Anselmi & Gouliamos, 1994. Ayrıca, Kanada’nın kültür politikalarının, sanatçıları marjinal ekonomik konumlarından kurtarmaya odaklanmak yerine kültür endüstrisinin büyümesini ve sanat kurumlarının bakımını desteklediği yönündeki eleştirisi için bkz. British Columbia Advisory Committee on the Status of the Artist, 1994.

⁴¹ Bkz. <<http://www.culturalpolicies.net/web/canada.php?aid=514&cid=1100&lid=en&curl=813>>, 25.10.2021.

düzeylerinin belirlenmesi ve hukuka aykırı grev veya lokavt hallerinde durdurma ve cayma yetkilerinin kullanılması şeklinde sıralanabilir⁴². Mevcut yasal rejim kapsamında, toplu pazarlık için uygun kültürel faaliyet sektörlerinin tanımlanması; bu sektörlerde çalışan serbest meslek sahibi sanatçıları temsil etmek için sanatçı derneklerinin belgelendirilmesi; sanatçılar, sendikalar veya yapımcılar tarafından ileri sürülen haksız işgücü piyasası uygulamaları ve diğer konularla ilgili şikayetleri ele almak ve çözüm önerilerinde bulunmak, kurulun sorumluluk alanında yer almaktadır⁴³.

Ülkede, Sanatçıların Statülerine İlişkin Kanun hükümlerinin etkisinin değerlendirilmesi bakımından bir rapor hazırlanmış ve kanunun sanatçıların sosyoekonomik durumlarını yeterince geliştirmediği belirtilerek aşağıda belirtilen alanlarda adım atılması gerektiğine işaret edilmiştir;

- Sanatçıların ekonomik durumunu istikrara kavuşturmaya yardım etmek için bir gelir ortalama mekanizması oluşturulması,
- İşsizlik sigortasına erişimin kolaylaşması,
- Bir iflas durumunda sanatçılar için imtiyazlı veya teminatlalı alacaklılar olarak yeni bir sınıflandırma yapılması,
- Emeklilik planları, işçi sağlığı ve iş güvenliği önlemleri ile diğer sosyal yardım programları için iyileştirilmiş bir erişim sağlanması (Capiou & Wiesand, 2006: 83).

Kanuna ilişkin olarak yukarıda belirtilen eleştiri başlıkları, esasında ülkede sanatçılarla ilgili adım atılması gereken öncelikli sorun alanlarını ortaya koyması bakımından da ipucu sunmaktadır. Ancak bu eleştiri noktalarına rağmen, uygulamanın oldukça özgün ve başarılı olduğunu söylemek mümkündür. Ayrıca, Sanatçıların Statüsüne İlişkin Kanun kapsamında oluşturulan *Kanadalı Sanatçıların ve Yapımcıların Profesyonel İlişkileri Mahkemesi*'nin, bir ihtisas mahkemesi olmasının yanında, sanatçıların çalışma ilişkileri bakımından yürüttüğü özel faaliyetler ile model oluşturacak nitelikte bir yapı sergilediği söylenebilir.

Toplu iş hukukuna ilişkin temel göstergeler bağlamında, aşağıda Kanada ve Türkiye bakımından bir karşılaştırma tablosuna yer verilmiştir.

⁴² Bkz. <<http://www.cirb-ccri.gc.ca/eic/site/047.nsf/eng/00641.html#s1.1>>, 25.10.2021.

⁴³ Bkz. <<http://www.cirb-ccri.gc.ca/eic/site/047.nsf/eng/00283.html#s1.5>>, 25.10.2021.

Tablo 1
Toplu İş Hukukuna İlişkin Temel Göstergeler

Ülke	Toplu Pazarlık Düzeyi	Sendikalaşma Oranı (Genel)	Sendikal Güç ve Etkinlik	Özel Hukuki Düzenleme
Türkiye	İşyeri: Kanuni düzenleme ile tarafları bağlayıcı şekilde belirlenmiştir.	Yirmi işkolu kapsamında, özel sektör sendikalarının toplam üye sayısı bağlamında bu oran %14,32'dir*.	Sanatçı sendikaları tarihsel birikime sahip olmayıp, toplu pazarlık gücü bakımından zayıftır.	Sanatçıların toplu iş ilişkilerini düzenleyen özel bir kanuni düzenleme ya da mekanizma bulunmamaktadır.
Kanada	İşyeri/işletme: Uygun toplu pazarlık düzeyinin veya ünitesinin belirlenmesi konusundaki yetkisi, toplu pazarlık taraflarının özgür iradelerine bırakılmıştır.	En yüksek oran Quebec eyaletinde olup %39,9'dur. En düşük oran, Alberta eyaletinde olup %25,8'dir. Kanada ortalaması ise, %31,3 düzeyindedir**.	Sendikalar merkezi ve güçlü konumdadır.	Sanatçıların Statüsüne İlişkin Kanun, konuya ilişkin özel bir düzenleme niteliğinde olup, toplu iş ilişkileri konusunda sanatçılara yönelik özel mekanizma ve uygulamaların varlığı söz konusudur.

Kaynak: * <https://www.csqb.gov.tr/media/88077/2022_ocak.pdf>, 25.10.2021; ** <<https://www.statista.com/statistics/442980/canada-union-coverage-rate-by-province/>>, 25.10.2021.

Daha öne değinilen konular ve tabloda belirtilen hususlar, sanatçıların iş ilişkileri bakımından korunmalarının genel olarak birçok faktörle bağlantılı olduğunu ortaya koymaktadır. Ülkelerdeki sendikalaşma oranının yüksek olması; sendikaların gerek toplu pazarlık süreci gerekse politika belirleyicilere yön verme bakımından güçlü ve etkili olmaları; sanatsal alana ve sanatçıların iş ilişkilerinin kendine özgü yapısına uygun kanuni düzenleme, özel mekanizma ve uygulamaların varlığı sanatçıların iş ilişkileri bağlamında korunmalarına büyük katkı sunmaktadır.

4. Sonuç

Sanatçıların yaşamlarını ve bu bağlamda sanatsal çalışmalarını gelecek kaygısı taşımadan sürdürmeleri oldukça önemlidir. Bunun için ise, sanatçıların insan onuruna yakışır nitelikte çalışma koşulları içinde mesleklerini icra etmeleri gerekmektedir.

Ülkemizde sanatçıların iş mevzuatının koruyucu hükümlerinden yeterince faydalanabildiklerini söylemek oldukça güçtür. Sanatçıların bireysel iş hukuku alanındaki koruyucu hükümlerden yararlanamamalarının başlıca nedeni, sanatçıların “işçi” sayılıp sayılmadıkları konusunda gerek alanda gerekse yargı mercileri nezdinde yaşanan kafa karışıklığıdır. Bu belirsizliğin ortadan kaldırılması, İş Kanunu’na eklenecek özel hükümler bağlamında yapılabileceği gibi, konuya ilişkin özel bir hukuki düzenlemenin yapılması da mümkündür.

Sanatçıların bireysel iş hukuku, toplu iş hukuku ya da sosyal güvenlik hukukuna ilişkin hakları ülkemizde *bütün* olarak genel nitelikli düzenlemeler çerçevesinde ele alınmaktadır. Bu durum, sanatsal çalışmanın niteliğiyle çatışan düzenlemelerin uygulanma güçlüğü yaratmakta ve sanatçıların haklarına tam anlamıyla ulaşabilmelerini engellemektedir. Şüphesiz, her ülke farklı tarihsel gelişim sürecine sahip olup, bu süreç o ülkede sanat ve sanatçıya yaklaşım bakımından da etkili olmaktadır. Bu durum, konuya ilişkin hukuksal düzenlemelere de yansımaktadır. Kanada örneğinde de sanatçıların iş ve sosyal güvenlik mevzuatı bakımından sahip oldukları haklar ağırlıklı olarak genel nitelikli iş mevzuatı hükümleri çerçevesinde şekillenmektedir. Ancak ülkede; sanatçıların çalışma ilişkileri konusunda haklarına ilişkin *özel nitelikli* düzenleme ve uygulamalar

bulunmaktadır. Bu noktada sanatçıların sosyal güvenlik hakkı ile ilgili olarak genel yasal düzenlemeler dışında sanatçılara özel uygulamalar kapsamında bazı sanatçı birliklerinin oluşturduğu fon uygulamaları öne çıkmaktadır. Kanada kültürüne olan katkıları göz önüne alınarak, profesyonel sanatçı birliklerinden bazılarının, üyeleri için ilgili kurum ve sanatçının ücretinden yapılan kesintilerle finanse edilen fonlar oluşturmaları, bunun en güzel örneğidir. Bu fonlar aracılığıyla birlikler, üyeler adına Kanada Emeklilik Birikim Planı'na ödeme yapmaktadırlar. Ayrıca, Kanada Yazarlar Federasyonu gibi birlikler, üyeleri için grup sigorta planlarına sahiptirler. Ülkedeki sendikaların gelişmiş ve kurumsallaşmış yapısı, sanatçıların sosyal güvenliği konusunda sistemin açıklarının kapatılması bakımından olumlu bir etki yaratmaktadır. Ülkemizde ise, sanatçı sendikalarının bu yönde bir uygulaması bulunmamaktadır. Şüphesiz bu uygulamalar sendika ve birliklerin üye sayısı, mali yeterliliği, etkin işleyişi gibi hususlar bakımından güçlü bir yapıya sahip olmalarıyla yakından ilgilidir. Ancak sanatçı sendika ve birliklerinin bu yönde faaliyet yürütmeleri bakımından yasal bir engel de bulunmamaktadır. Bu bağlamda, esasen kamusal politikalarla çözülmesi gereken sosyal güvenlik alanına ilişkin sorunların, sanatçı kuruluşları tarafından oluşturulacak grup ya da topluluk sigortalarına ilişkin bir sistem ile bir ölçüde hafifletilmesi mümkündür. Devletin de belli oranlar da katkı sunarak finansmanına dahil olabileceği böyle bir sistemde, özellikle emektar sanatçılar bakımından bir emeklilik yardım planı öngörülebilir. Bu önlemler yanında, emeklilik hakkının elde edilebilmesi bakımından mevzuatımızdaki yaş hadleri, faaliyet yürütülen sanat dalının özellikleri de göz önüne alınarak sanatçılar bakımından ayrıca ele alınabilir. Daha önce üzerinde durulan ve özellikle dansçılık gibi fiziksel icra esasına dayanan sanatsal branşlarda, sanatçı grupları bakımından yaş hadlerinin geriye çekilmesi düşünülebilir.

Sanatsal alana ve bu alanın aktörleri olan sanatçılara yönelik etkin hukuksal düzenlemelerin ortaya konulması önemli bir adım olmakla birlikte, tek başına istenilen sonucu doğurmayacaktır. Sanat ve toplum ilişkisi düşünüldüğünde konunun daha bütünsel bir yaklaşımla ele alınması ve konuya ilişkin toplumsal duyarlılığın artırılması, sanatçıların yaşam ve çalışma koşulları bakımından da olumlu etkiler yaratacaktır.

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Finansal Verilere Dayalı Marka Deęeri Belirlemeye Yönelik Yapay Zekâ Temelli Ampirik Bir Çalıřma

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An Empirical Study Based on Artificial Intelligence for Determining Brand Value Based on Financial Data

Abstract

Brand value is determined by financial methods, methods based on consumer behaviour, and mixed methods in which these two methods are used together. In the study, after determining the appropriate variables of the financial techniques that define the brand value, it is aimed to approach the brand value determined by the “Brand Finance” firm with artificial neural networks by using these variables and selecting the most appropriate model. R-square, MAPE and RMSE values of the models built with artificial neural networks were determined, and the models were compared. These values were interpreted and stated that the models were good.

Keywords : Brand, Brand Value, Artificial Intelligence, Artificial Neural Networks.

JEL Classification Codes : M31, C45.

Öz

Marka deęeri finansal yöntemler, tüketici davranıřına dayalı yöntemler ve bu iki yöntemin bir arada kullanıldıęı karma yöntemler ile belirlenmektedir. Çalıřmada, marka deęerini belirleyen finansal yöntemlerin uygun olan deęiřkenlerini belirledikten sonra bu deęiřkenleri kullanarak yapay sinir aęları ile “Brand Finance” firmasının belirlemiř olduęu marka deęerine yaklařmak ve en uygun modeli belirlemek amaçlanmıřtır. Yapay sinir aęları ile kurulan modellerin R-kare, MAPE ve RMSE deęerleri belirlenmiř ve modeller karřılařtırılmıřtır. Bu deęerler yorumlanarak, modellerin iyi model oldukları belirlenmiřtir.

Anahtar Sözcükler : Marka, Marka Deęeri, Yapay Zekâ, Yapay Sinir Aęları.

1. Giriş

Firmaların piyasa şartlarında varlıklarını devam ettirebilmesi ve piyasadaki rakipleri ile rekabet edebilmesi için rekabet güçlerinin iyi olması gerekmektedir. Marka bu güçleri oluşturan faktörlerden birisidir. Bu durum, marka kavramının önemini artırmaktadır. Marka kavramının artan önemi ile beraber marka değerinin nasıl belirleneceği de oldukça önem kazanmıştır. Geçmişten günümüze marka ve marka değerini belirlemeye yönelik yapılan çalışmalar incelendiğinde, marka kavramının, üreticiler, araçlar ve tüketiciler açısından oldukça önemli bir konumda olduğunu söylemek mümkündür (Bursalı, 2009: 29). Markanın öneminin artması ile birlikte, marka değerinin nasıl hesaplanacağı konusu da önem kazanmış ve birçok çalışmaya konu olmuştur. Bu çalışmalar neticesinde, marka değeri belirlemeye yönelik finansal yöntemler, tüketici davranışına dayalı yöntemler ve bu iki yöntemin bir arada kullanıldığı karma yöntemler gibi birçok yöntem ortaya çıkmıştır.

Bu çalışmada marka değeri, yapay sinir ağı modeli ile marka değeri belirleme yöntemlerinden finansal modellerin değişkenleri kullanılarak belirlenmeye çalışılmış ve finansal değerler kullanılarak marka değerinin belirlenmesine yönelik yeni bir model geliştirilmesi amaçlanmıştır.

Marka kavramı, marka değeri kavramı açıklanmış, marka değerlendirme yöntemlerinden bahsedilmiş ve uygulamamızda değişkenlerini kullandığımız finansal modeller detaylı olarak ele alınmıştır. Literatürde marka değeri belirlenmesi üzerine yapılmış çalışmalara değinilmiştir.

Daha sonra çalışmada anlatılan finansal temelli marka değerlendirme modellerinden belirlenen uygun değişkenler ile yapay sinir ağı modeli kullanılarak marka değerini belirleyen modelin kurulumu anlatılmıştır. Veri setinin sınırlı sayıda veri içermesinden dolayı eğitim ve test için ayrılması gereken veriler iki farklı şekilde ayrılarak, hangisinin daha etkin sonuç vereceğini kavrayabilmek için iki model kurulmuştur. Kurulan iki farklı yapay sinir ağı modelinin sonuçları gösterilmiştir. Son olarak iki modelin sonuçları karşılaştırılarak genel bir yorumlama ile değerlendirilmiştir.

2. Marka Kavramı ve Değerleme Modelleri

Marka, eski yıllarda kullanılmış olan bir İskandinav dilinde yakma fiili anlamında kullanılan "brand" kelimesinden gelmektedir (Akgün & Akgün, 2014: 3). Türk Dil Kurumuna göre marka, ticari bir malı, herhangi bir nesneyi tanıtmaya, benzerinden ayırmaya yarayan özel bir işaret veya isim olarak tanımlanmaktadır (Türk Dil Kurumu, 2019). Literatür incelendiğinde birçok marka tanımının olduğu görülmektedir. Aaker marka tanımını, satıcılar tarafından sunulan mal ya da hizmetlerin tanımlanması ve aralarındaki farklılıkların ortaya konulabilmesini hedefleyen ayırt edici isim ve sembol tasarımı olarak yapmıştır (Aaker, 1991: 31). Keller ve Kotler'in tanımlamasına göre ise marka, diğer ürün ve hizmetlerden işlevsel, rasyonel, somut, sembolik, doğrusal veya soyut olarak farklılaşmayı sağlayan özellikleri ekleyen ürün ya da hizmetlerdir (Kotler & Keller, 2006:

274). Seethraman et al. (2001: 243)'e göre marka, firmanın ürünlerini veya hizmetlerini benzer ürünler veya hizmetlerden ayırt etme amaçlı düşünülen işarettir.

Marka değeri ise markanın müşterilerinin, dağıtıcıların ve diğer firmaların, marka hakkında sahip oldukları çağrışımlardır (Kapferer, 2008: 13). Keller tüketici taraflı yapmış olduğu tanımda, marka değerine karşı tüketicilerin vermiş oldukları tepkilerin farklılık gösterdiğini ve tüketicilerin marka değeri hakkındaki bilgileri sayesinde markaya karşı bir tutum geliştirdiklerini vurgulamıştır (Keller, 1998: 60). Marka değeri, tüketicilerin markaya karşı tutumları, davranışları ve markaya verdikleri değere bağlı olarak ortaya çıkan, markayı diğer markalardan ayırt etmeye yarayan ve markanın rakip markalara karşı parasal gücünü ifade eden bir değer olarak tanımlanabilir (Fırat & Badem, 2008: 211). Buradan, marka değerinin, tüketicinin marka hakkındaki tutumuna, markanın ismine ya da sembolüne bağlı bir değer olduğu söylenebilir.

Literatür incelendiğinde "Marka Değeri" olarak karşımıza iki kavram çıkmaktadır. Bunlar "Brand Equity" ve "Brand Value" kavramlarıdır. "Brand Equity" kavramı müşterilerde oluşan marka değeri algısını, "Brand Value" kavramı ise finansal açıdan marka değerini ifade etmektedir (Divanoğlu vd., 2019: 2567).

Marka değeri belirlemede, finansal yöntem, tüketici davranışına dayalı yöntem ve bu iki yöntemin eksikliklerinin ortadan kaldırılması amacıyla beraber kullanıldıkları karma yöntem yaklaşımları geliştirilmiştir (Kim et al., 2003: 336).

Finansal temelli marka değerlendirme, markanın oluşturulması, pazarlanması ve dağıtım sürecilerindeki çalışmaları kapsayan modellerdir (Kriegbaum, 1998: 9). Tüketici davranışı temelli marka değerlendirme modelleri, finansal temelli modellerde kullanılan hesaplama kriterlerinin yerine tüketicilerin izlenimleri, tüketicinin marka hakkındaki tutumu gibi kriterleri kapsamaktadır (Lassar et al., 1995: 13). Karma yöntemler ise finansal temelli ve tüketici davranışı temelli modellerdeki eksikliklerin gözlemlenmesi sonucunda bu eksiklikleri ortadan kaldırma amacıyla iki yöntemin bir arada kullanılmasıyla meydana gelmiştir (Kim et al., 2003: 338).

Finansal yöntemler kullanarak marka değeri belirlenmesindeki temel amaç firmanın marka değerini parasal olarak belirlemektir (Divanoğlu vd., 2019: 2567). Finansa dayalı modellerde, hesaplamalar finansal değerler kullanılarak yapılmaktadır (Baldauf et al., 2003: 221). Marka değeri belirlemeye yönelik finansal modelleri, maliyet esaslı yöntemler, piyasa esaslı yöntemler ve gelir esaslı yöntemler olarak ele alınmaktadır (Uygurtürk vd., 2017: 13).

Maliyet esaslı marka değerlendirme modeli, marka değerini, markanın oluşturulması ve geliştirilmesinde yer alan reklam, promosyon, tanıtım giderleri vb. gibi harcamaların tamamını dikkate alarak değerlendirir (Seethraman et al., 2001: 248).

Piyasa esaslı marka değerlendirme modeline göre marka değeri, markanın faaliyette olduğu piyasada aynı ürüne sahip diğer markaların piyasa değerleri kıyaslanarak belirlenmektedir (Durusoy, 2005: 53). Yöntem, markaların alınıp satılabildiği bir pazarın

olduğunu ve bu pazarda kıyaslama yapılabilecek benzer markaların olduğunu varsaymaktır (Çelik, 2001: 198). Marka değeri belirlenmek istenen bir firmanın faaliyette olduğu sektörde, bu firma ile aynı ürünü üreten benzer bir firmanın olup olmadığı tespit edilir. Benzer firma bulunduktan sonra bu firmanın daha önceden belirlenmiş olan marka değeri baz alınır ve marka değeri hesaplanır (İlik, 2014: 45). Simon ve Sullivan tarafından geliştirilmiş olan sermaye piyasası esaslı marka değerlendirme modeline göre marka değeri, gelecekte elde edilecek ve yalnızca marka ile ilişkilendirilebilen getirilerin bugünkü değeri şeklinde tanımlanmıştır (Simon & Sullivan, 1993: 30). Modelde, sermaye piyasalarının aktif olduğu ve firmanın finansal değerinin maddi ve maddi olmayan duran varlıkları içerdiği kabul edilmektedir (Kriegbaum, 1998: 18).

Gelir hasılatı esaslı marka değerlendirme modelleri, şirketin markanın etkisiyle elde ettiği karlardan hareketle marka değerini belirlemeye yöneliktir (Bursalı & Karaman, 2009: 288). Firmanın markaya sahip olmadan önceki kazançları ile firmanın markaya sahip olduktan sonraki kazançları arasındaki fark hesaplanır ve markanın firmanın kârını ne kadar artırdığı bulunur (Yılmaz & Güzel, 2012: 147). Bu oransal olarak hesaplanan değer ve markalaşmış ürünlerin sağlamış olduğu nakit akışları tahmin edilerek şimdiki değerine indirgenmesi ile marka değeri belirlenir (İlik, 2014: 51). Gelir esaslı marka değerlemeye yönelik aşağıda görülen yöntemler kullanılmaktadır (Bozkaya, 2019: 28).

- Fiyat Primi Modeli
- İsim Hakkından Kurtulma Modeli
- Birleştirme Analiz Modeli
- Hedonic Model
- Crimmins Model
- Kern Modeli
- Hirose Modeli

Marka değeri belirlenirken finansal temelli modellerde dikkate alınmayan tüketici davranışları, tutumları ve görüşleri tüketici davranışı temelli modellerde dikkate alınmaktadır. Tüketici davranışına dayalı yöntemler, marka değerini belirlemek için anket, gözlem, yüz yüze görüşme vb. gibi yöntemler kullanılmaktadır (Çelik, 2001: 200). Bu yöntem parasal olmayan model olarak da adlandırılır (Fırat & Badem, 2008: 214). Literatür incelendiğinde tüketici davranışına dayalı marka değeri belirleme yöntemlerinden yaygın olarak kullanılan modeller aşağıda gösterildiği gibidir (Tuğay & Top, 2014: 223).

- Aaker Marka Değerleme Modeli
- Keller Marka Değerleme Modeli
- McKinsey Marka Değerleme Modeli
- Kapfferer Marka Değerleme Modeli

Finansal temelli yöntem ve tüketici davranışı temelli yöntemin bir arada kullanıldığı karma yöntemler, birleştirilmiş yöntemler olarak da adlandırılmaktadır. Birleştirilmiş modeller, finansal temelli yöntemlerin tüketici davranışlarını dikkate almaması ve tüketici

davranışı temelli yöntemlerin sayısal sonuçlar elde edememesi gibi eksikliklerini ortadan kaldırma amacıyla geliştirilmiş modellerdir (Fırat & Badem, 2008: 214). Birleştirilmiş modellere göre marka değerinin belirlenmesi aşamasında tüketici davranışına yönelik verilerden ve finansal verilerden yararlanılarak sayısal olarak marka değeri hesaplanmaktadır (Başçı, 2009: 80). Karma modeller finans ve pazarlama alanlarında danışmanlık yapan firmalar tarafından geliştirilmiş olan modellerdir. Karma modellerle hesaplanan marka değerinde kullanılan yöntemler hakkında bilgi verilmemektedir (Divanoğlu vd., 2019: 2568). Karma modelleri içerisinde, Interbrand Modeli, Financial Word Modeli, Nielsen Modeli, Brand Finance Modeli, Brand Raiting Modeli, Semion Yaklaşımı Modeli gibi modeller yer almaktadır. Karma modeller arasında en çok kullanılan modeller ise InterBrand ve Brand Raiting modelleridir (Fırat & Badem, 2008: 215).

3. Literatür Taraması

Literatürde marka değerine yönelik yapılan araştırmalar incelendiğinde, ilk çalışmaların finansal yaklaşımlar vasıtası ile yapıldığı görülmektedir. Finansal temellere dayalı yöntemlerin, tüketici davranışlarını açıklama konusunda eksiklikleri nedeniyle tüketici davranışına dayalı yaklaşımlara yönelik çalışmalar ortaya çıkmıştır. Her iki yöntemde sahip olduğu eksiklikleri minimuma indirmek amacıyla, iki yaklaşımın beraber kullanıldığı karma modeller üzerine çalışmalar söz konusu olmuştur. Literatürde bugüne kadar marka değeri üzerine yapılan çalışmalardan bazıları birbirinden bağımsız olarak özetlenmeye çalışılmıştır:

Çelik (2001) tarafından yapılan çalışmada, marka değerini belirlemek için kullanılan finansal, davranışa dayalı ve birleşik marka değerlendirme yöntemleri sistematik bir şekilde açıklanmaya çalışılmıştır. Kullanılan yöntemlerin güçlü ya da zayıf özelliklerini ortaya koymuştur.

Vazquez et al. (2002) çalışmalarında, tüketiciler tarafından markalara atfedilen değere yönelik bir marka değeri modelinin geliştirilmesi amaçlamışlardır. Elde edilen sonuçlara göre, geliştirilen modelin, ürünün işlevsel yararı ile sembolik yararı ve markanın işlevsel yararı ile sembolik yararı olmak üzere 4 temel boyutunun olduğunu ifade etmişlerdir.

Kim et al. (2003) marka değeri değişkenlerinin, otel işletmelerinin finansal başarılarına olan etkisini belirlemek amacıyla yapmış oldukları çalışmada, 12 otelden topladıkları verileri kullanmışlardır. Çalışma sonucunda, markaya olan bağlılık, marka kalite algısı ve marka imajı boyutlarının, önemli belirleyiciler olduğu ifade edilmiştir.

Christodoulides ve Chernatony (2004) yapmış oldukları çalışmada, marka değerini belirlemek için, Aaker'in modeline uyarak on ilk hareket noktasını kullanmışlardır. Klasik marka değeri yöntemlerinin web temelli marka değeri belirlenmesi yapılabilmesi için yetersiz olduğu sonucuna varmışlardır.

Koçak ve Özer (2004) yapmış oldukları çalışmada, Vazquez ve arkadaşlarının geliştirmiş olduğu 22 değişkeni içeren likert ölçeğinin, Türkiye’de uygulanabilir olduğunu belirlemeyi hedeflemişlerdir. Araştırmada Doğrulamalı Faktör Analizi kullanmışlardır ve sonucunda kullandıkları ölçeğin Türkiye’de uygulanabilir olduğunu tespit etmişlerdir.

Marangoz (2007), tüketici davranışı esaslı marka değeri belirlemeye yönelik çalışmasında, otomobil sahiplerine uygulanan anket ile marka değeri değişkenlerinin (marka bağlılığı, algılanan kalite, marka imajı, marka farkındalığı), marka değerini pozitif yönde etkilediğini tespit etmiştir.

Avcılar (2008) çalışmasında, Aaker’in marka değer modelini baz alarak, dört bileşenli (marka farkındalığı, çağrışımları, sadakati ve kalite algısı) tüketici davranışına dayalı marka değerlendirme modeli yapısının geçerliliğini test etmiştir. Yapılan analiz sonucunda, tüketici davranışına dayalı marka değerlendirme modeli yapısının geçerliliği doğrulanmıştır.

Chen ve Chang (2008) yapmış oldukları çalışmada, Tayvan’da uluslararası hava yolcularının kararlarına yönelik marka değeri, marka tercihi ve satın alma niyetleri arasındaki ilişkiyi tespit etmeyi amaçlamışlardır. Yapılan analizler sonucunda, bu üç bileşen arasında pozitif bir ilişki olduğu bulunmuştur.

Bursalı (2009) yapmış olduğu çalışmada, İMKB tekstil sektöründen belirlenen şirketlerin mali tablo değerlerinden yararlanarak Hirose yöntemi ile marka değerleri belirlemiştir.

Başçı (2009) İMKB gıda sektörü şirketlerin marka değerini belirlemeye yönelik çalışmasında, Hirose modeli ve buna ek olarak düzeltilmiş genişleme parametresinin dahil edildiği bir yaklaşım ile marka değerlerini belirleyerek, elde ettiği değerler üzerine çoklu regresyon analizi uygulamıştır.

Bursalı ve Karaman (2009), Denizli’de tekstil sektöründe faaliyet gösteren bazı firmalar üzerinde Hirose yöntemini baz alarak yaptıkları çalışmada, sektörde faaliyet gösteren firmaların bazılarının markalaşma hususunda olumlu adımlar attığını ortaya çıkarmışlardır.

Taşkın ve Akat (2010) yaptıkları çalışmada, “yapısal eşitlik modelleme” yaklaşımı kullanarak Bosch markasının tüketici davranışlarına dayalı marka değerini ve boyutlar arası ilişkilerini araştırmışlardır. Araştırma sonuçları, marka değeri ile marka değerinin bileşenleri arasındaki ilişkilerin birbirinden farklı olduğunu ortaya koymuştur.

Yüce (2010) otomobil sektörü üzerine yapmış olduğu çalışmada, marka değeri bileşenlerinin tüketici davranışına dayalı marka değerine etkilerini incelemiştir. Çalışma sonucunda, otomobil markalarında marka değeri bileşenlerinin (sadakat, memnuniyet, çağrışım, algılanan kalite, algılanan değer) tüketici davranışına dayalı marka değeri üzerinde

ve tüketici davranışına dayalı marka değerinin de davranışsal değer üzerinde etkili olduğu belirlenmiştir.

Nam (2010) gıda sektöründen 10 şirket üzerine yapmış olduğu çalışmada, finansal marka değeri belirleme yöntemlerinden royalti modeli, fiyat primi modeli ve Hirose modelini kullanarak şirketlerin marka değerlerini 3 şekilde belirlemiş ve eleştirmişlerdir.

Özgüven (2010) çalışmasında, marka, marka değeri kavramları ve bileşenlerini açıklayarak, Brand Finance firmasının yayımladığı en iyi global markaların yer aldığı raporda bulunan markaları değerlendirmiştir. Sektör ayrımı yapılmadan oluşturulan sıralamada en iyi marka değerine sahip firma Walmart olduğu ve Türk firmalarının 100 firma arasında bulunmadığı bulgularına ulaşılmıştır.

Toksarı ve İnal (2011) çalışmalarında, Kayseri’de ikamet eden 1200 otomobil kullanıcısına, tüketici davranışlarına dayalı marka değerinin değişkenlerini inceleyip güvenilirliğini test etme amacıyla anket uygulamıştır. Anket ile elde edilen verilerin iç tutarlılığının belirlenmesi için güvenilirlik analizi uygulanmıştır. Analizler sonucunda çalışmada kullanılan tüm değişkenlerin geçerlilik ve güvenilirliğinin yüksek olduğu belirlenmiştir.

Yılmaz ve Güzel (2012) yaptıkları çalışmada, telif ücretinden kurtulma yöntemini bir marka üzerinde uygulamış ve marka değerini belirlemişlerdir. Çalışmada, telif ücretinden kurtulma yöntemiyle marka değeri belirlenirken kullanılan iskonto oranı ve satış tahminlerine göre marka değerinin farklılık göstereceği belirtilmiştir.

Kocaman ve Güngör (2012) çalışmalarında, “tüketici temelli marka değeri” ölçeğinden uyarladıkları ölçeği kullanarak Alanya ilinin destinasyon olarak marka değerini belirlemişlerdir ve marka değeri bileşenlerinin, marka değeri üzerine etkilerine göre sıralamalarını yapmışlardır. Sonuç olarak marka farkındalığı bileşeni, marka değerini en fazla etkileme derecesine sahip bileşen olarak bulunmuştur.

İlik (2014) çalışmasında, telif hakkından kurtulma ve fiyat primi modelleri ile boya sektöründen DYO ve MARSHALL şirketlerinin marka değerlerini belirleyip, modeller arasında karşılaştırma yapmıştır ve iki modelden elde edilen sonuçların farklılık gösterdiğini ifade etmiştir.

Akgün ve Akgün Ali (2014) çalışmalarında, marka, marka değeri ve marka belirleme modellerini açıklayarak, BİST’te faaliyet gösteren Vestel A.Ş. firmasının marka değerini Hirose modelini kullanarak belirlemişlerdir.

Yazgan, Kethüda ve Çatı (2014) yapmış oldukları çalışmada, tüketici davranışına dayalı marka değeri boyutlarının kendi aralarındaki ve ağızdan ağıza pazarlama ile etkileşimlerini belirlemek amacıyla anket yöntemi kullanmışlardır. Araştırma sonucunda, tüketici temelli marka değeri boyutlarından marka sadakati ve kalite boyutlarının ağızdan ağıza pazarlamayı doğrudan etkilediği belirlenmiştir.

Dımbıloğlu (2014) çalışmasında, hirose yöntemi kullanarak, kimya, petrol, kauçuk ve plastik ürün sektörlerindeki firmaların marka değerlerini hesaplamayı ve şirketlerin marka değerleri ile piyasa değerleri arasındaki ilişkiyi belirlemeyi hedeflemiştir. Uygulamamın sonucunda marka değerleri belirlenmiş ve firmaların marka değerleri ile piyasa değerleri arasında pozitif yönlü bir ilişkinin olduğu tespit edilmiştir.

Kuang Yu ve Min Wang (2015) yapmış oldukları çalışmada, bulanık mantık analizi uygulayarak, Tayvan bankacılık endüstrisinin marka değerini belirlemeyi amaçlamışlardır. Marka tespitinde, bulanık mantık yönteminin etkinliğini araştırmak amacıyla Hirose yöntemini kullanmışlardır.

Zengin ve Güngördü (2015) çalışmalarında, gıda perakendeciliği sektöründen seçilen Migros, TESCO KİPA, BİM, Kiler, Carrefoursa şirketlerinin marka değerlerini Hirose yöntemi kullanarak finansal olarak belirlemişlerdir. Yine aynı şirketlerin tüketici davranışına dayalı marka değerleri belirlenmesi amacıyla 400 kişi üzerine anket uygulanmış ve marka değeri belirlenmiştir.

Yılmaz ve Bağdiken (2015) yaptıkları çalışmada, marka değerini, endüstriyel hizmetlerde muhasebe yazılımı kullanıcıları bakımından incelenmişlerdir ve daha önce farklı bir muhasebe yazılımı kullanan kullanıcıların, kullanmayan kullanıcılara göre kalite algısının farklılık gösterdiğini tespit etmişlerdir.

Majerova ve Klietk (2015) Slovakya Cumhuriyeti şartlarında marka değeri belirleme modellerinden en uygun olanını belirlemeyi hedefledikleri çalışmalarında, Hirose modelini en uygun model olarak tespit etmişlerdir.

Kendirli vd. (2016) yaptıkları çalışmada, gıda sektöründe faaliyet gösteren iki şirketin hirose yöntemiyle marka değerlerini belirlemiş ve şirketlerin marka ile ilişkilendirilebilen finansal verileri incelemişlerdir.

Bayrakdaroğlu ve Mirgen (2016) şirketlerin marka değerinin hisse senedi getirilerine etkisini tespit etmek amaçlı yürütmüş oldukları çalışmalarında, panel regresyon analizi uygulayarak, aralarındaki etkinin anlamlı ve pozitif olduğunu belirlemişlerdir.

Alsı ve Palta (2017) çalışmalarında Hirose yöntemini kullanarak imalat sektöründen seçilen 10 şirketin marka değerini hesaplamışlardır. 2016 yılı marka değeri en yüksek olan şirketi Banvit A.Ş olduğunu tespit etmişlerdir.

Uygurtürk vd. (2017) çalışmalarında, BİST'te faaliyet gösteren seramik sektörü şirketlerinin marka değeri Hirose yöntemine göre belirlemiş ve sonuçları yorumlamışlardır.

Karataş Aracı ve Bekçi (2017) yapmış oldukları çalışmada, bulanık AHP(Analitik Proses Hiyerarşi) yöntemini kullanarak, bankacılık sektöründe marka değeri belirlemeye yönelik kullanılacak finansal modelin seçimini yapmışlardır.

Çam vd. (2018) çalışmalarında, Hirose yöntemi değişkenlerine ek olarak beta katsayısı ve dibe uzaklık değişkenleri eklenerek yeni bir entegre model geliştirmeyi hedeflemişlerdir. Yeni geliştirilen entegre modelin, marka değeri belirlemeye yönelik yeni bir bakış açısı sağlayacağı söylenmiştir.

Ekinci (2019) çalışmasında, 2013-2017 yıllarına ait finansal tablo verilerini kullanarak, Türkiye'deki katılım bankalarının marka değerlerini Hirose yöntemi ile tespit edilmiştir.

Divanoğlu vd. (2019) çalışmalarında, bankacılık sektöründe 2014-2018 yıllarında BİST'e kote olan bankaların marka değerini Hirose yöntemine aracılığıyla hesaplanmış ve en yüksek değerdeki bankayı Garanti Bankası, en düşük marka değerdeki bankayı ise Türkiye Kalkınma Bankası olarak bulmuşlardır.

Gökbayrak (2019) çalışmasında, marka, marka değeri ve marka değeri belirleme yöntemlerini açıklayarak, Vakko firmasının marka değerini Hirose modeli ile belirlemiştir.

Karaömer ve Oypın (2020) yaptıkları çalışmada, BIST Sürdürülebilirlik Endeksi'nde işlem gören altı firmanın finansal performanslarını ve marka değerlerini Hirose yöntemini kullanarak ölçmüş ve değerlendirmişlerdir.

Uygurtürk ve Yılmaz (2020) yaptıkları çalışmada, borsada işlem gören tekstil, giyim eşyası ve deri sektöründe faaliyet gösteren işletmelerin marka değeri ile finansal performanslarını belirleyip sonuçlarını karşılaştırmışlardır. Marka değerinin belirlenmesinde Hirose yöntemini kullanmışlardır.

Öcal ve Aksoy (2020) çalışmalarında, markaları deneyimleyen kişilere ilişkin tüketici temelli marka değerini belirlemeyi amaçlamışlardır ve marka tüketicisinin görüşlerini öğrenmek için çözümlene aracı olarak nitel araştırma yöntemi kullanmışlardır.

Can ve Sağlam (2021) çalışmalarında, Hirose yöntemini kullanarak Arçelik, Vestel, Tofaş ve Ford Otosan şirketlerinin marka değerlerini ölçerek şirket değeri ile arasındaki ilişkiyi incelemişlerdir.

Avşarlıgil (2021) yapmış olduğu çalışmada, BIST'te işlem gören teknoloji şirketlerinin marka değerlerini ölçmek için Hirose yöntemini kullanmışlardır.

Literatürde marka değeri belirlenmesi genelde anket gibi ölçekler veya varsayım gerektiren istatistik veya çok kriterli karar verme yardımıyla yapıldığı görülmüştür. Tüketici davranışına dayalı marka değerinin belirlendiği çalışmalarda genellikle anket yönteminden yararlanıldığı, finansal temellere dayalı marka değerinin belirlendiği çalışmalarda ise en çok kullanılan yöntemin Hirose yöntemi olduğu görülmüştür. Çalışmada marka değeri, veri seti hazırlanma bölümünde açıklanan finansal yöntemlerin farklı avantajları ve dezavantajları düşünüldüğünde daha objektif bir yöntem olan günümüzde önemi her geçen gün artan yapay sinir ağları ile ele alınmıştır.

4. Metodoloji

4.1. Araştırmanın Amacı ve Önemi

Uygulamamızın konusu, marka değerini belirleyen finansal yöntemlerin değişkenlerini belirleyip, bu değişkenleri kullanarak yapay sinir ağı yöntemi ile yeni bir model kurulmasına yönelik ampirik bir çalışmadır.

Araştırmanın amacı, marka değerini belirleyen finansal yöntemlerin uygun olan değişkenlerini belirledikten sonra bu değişkenleri kullanarak yapay sinir ağı ile "Brand Finance" firmasının belirlemiş olduğu marka değerine yaklaşmak ve en uygun modeli belirlemektir. Literatürde finansal temelli modellerin uygulandığı çalışmalar incelendiğinde, modellerden elde edilen marka değerlerinin, Brand Finance firmasının yayımlanmış olduğu marka değeri ile karşılaştırılarak yorumlandığı görülmüştür (Alsu & Palta, 2017). Uygulamamızda da bağımlı değişken olarak "Brand Finance" firmasının belirlemiş olduğu marka değerleri kullanılmıştır.

Araştırmanın önemi, finansal verilere dayalı marka değerini belirlemeye yönelik yapay zekâ temelli bir model oluşturmaktır. Literatür incelendiğinde, marka değerinin finansal, tüketici temelli, karma yaklaşımlar, entegre edilmiş yöntemler kullanılarak belirlendiği gözlemlenmiştir. Marka değerlemesine yönelik yapay makine öğrenmesinin kullanılmadığı çalışmalara rastlanılmamıştır. Finansal veri temelli marka değeri belirlemeye yönelik uygulamamızda, yapay zekâ tekniklerinden yapay sinir ağı modelinin kullanılması ve makine öğrenmesi ile beraber yeni bir model geliştirilecek olması, uygulamanın önemini artırmaktadır. Çözülmesi zaman alan ve karmaşık problemlerin kısa sürede farklı bakış açılarıyla sonuca ulaştırabilmesi yapay sinir ağı her alanda çok kullanılan bir uygulama haline getirmiştir. Doğrusallık, bağımsızlık gibi varsayımları olmayan bir sistem olan yapay sinir ağı herhangi bir ön bilgiye gerek duymadan hem doğrusal hem de doğrusal olmayan modelleme yaparak tahmin yapabildiğinden dolayı diğer modelleme yöntemlerine göre daha esneklerdir. Aynı zamanda gözlem sayısının az olduğu durumlarda diğer tahmin modellerine göre daha iyi sonuçlar vermektedir (Sönmez-Çakır, 2018: 15). Tüm bu özellikleri göz önünde bulundurularak marka değerini belirlemeye yönelik çalışmamızda yapay sinir ağı yöntemi kullanılmıştır.

4.2. Araştırmanın Yöntemi

Yapay Sinir Ağları (YSA), insan beyni gibi biyolojik sinir sistemlerinin işlem bilgisinden esinlenen bir bilgi işleme modelidir. YSA'lar, insanlar ile diğer bilgisayar teknikleri tarafından fark edilemeyecek kadar karmaşık ya da kesin olmayan verileri kullanarak, bu verilerden anlamlı sonuçlar elde etme yeteneğine sahiptir (Zakaria et al., 2014: 7). Sinir ağına yönelik çalışmalar, insan beyninin, bilgisayarlardan tamamen farklı olarak çalışıp hesaplamalar yapabildiği düşüncesine odaklanmıştır (Haykin, 2005: 23). Sinir ağı, beynin öğrenme özelliğini model alarak, yeni bilgiler üretebilme, keşfedebilme ve oluşturabilme gibi özellikleri hiçbir şekilde destek almadan kendiliğinden gerçekleştirmek için geliştirilmiş olan bilgisayar yazılımlarıdır (Öztemel, 2006: 29). Doğrusal olmayan bir

model olan YSA, kendisine yollanan giriş ve çıkış veri setlerini eşleştirebilen, tahmin, sınıflandırma ve kümeleme gibi problemlerin çözülmesinde kullanılan modellerdir (Akcan & Kartal, 2011: 32).

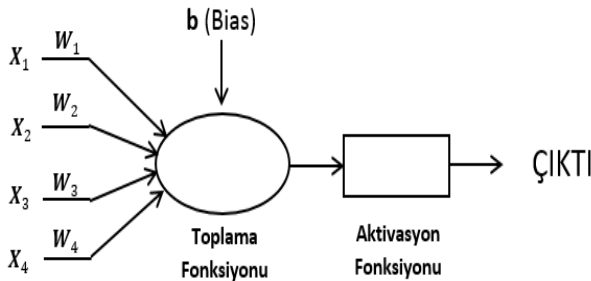
YSA, bilginin, ağ tarafından bir öğrenme süreci aracılığıyla elde edilmesi ve iki nöronun birinden diğerine bilgi iletmek amaçlı bağlandığı sinaptik ağırlıklar olarak bilinen bağlantı kuvvetlerinin, edinilen bilgiyi saklamak için kullanılması yönleriyle insan beynine benzemektedir (Haykin, 2005: 24).

YSA, aşağıdaki varsayımlara dayanarak insan bilişi veya sinirsel biyolojinin matematiksel modeli olarak geliştirilmiştir (Çakin, 2017: 9).

- Bilgi işleme, nöron ismi verilen basit yapılarda gerçekleşir ve sinyaller nöronlar arasındaki bağlantılar aracılığıyla aktarılır.
- Nöronlar arasındaki her bağlantı, ağı içindeki geliş sinyalleri ile çarpılan bir ağırlığa sahiptir.
- Her nöronda, girdi sinyallerini çıktı sinyallerine dönüştüren bir aktivasyon fonksiyonu kullanır.

YSA, "proses elemanları" da denilen yapay sinir hücrelerine sahiptirler ve bu hücrelerin bir araya gelmesi ile oluşurlar. Proses eleman, girdiler, ağırlıklar, toplam fonksiyonu, aktivasyon fonksiyonu ve hücre çıktısı olmak üzere 5 temel öğeden oluşur (Öztemel, 2006: 48). Basit bir yapay sinir hücresi Şekil 1'de gösterildiği gibidir. Şekilde gösterildiği gibi yapay sinir hücrelerinde dış ortamdan gelen giriş verileri ($X_1, X_2, X_3, \dots, X_n$), verilerin ağırlıkları ($W_1, W_2, W_3, \dots, W_n$) ile nörona bağlanırlar. Ağırlıklar ile girdi verilerinin çarpılmasıyla toplama fonksiyonu yani net girişler belirlenir. "b" ise bias(eşik) değerini göstermektedir. Giriş verileri toplamı sıfır olduğunda ağda öğrenme gerçekleşmemiş olur. Değeri 1 ve sabit olan biaslar, giriş verilerinin sıfırdan farklı olmasını sağlar. Aktivasyon fonksiyonu ile sinir ağı hücresinin çıktı değeri hesaplanır (Haykin, 2005: 33).

Şekil: 1
Yapay Sinir Hücresi Yapısı



Kaynak: Haykin, 2005: 33.

Girdi: Dış ortamdan gelen ham verilerdir.

Ağırlık: Yapay sinir hücresine gelen verilerin, hücre üzerindeki önemini ve etkisini gösteren, değişken ya da sabit değerlere sahip olabilen katsayılardır. Ağırlık değerinin artı veya eksi olması, hücre üzerindeki etkisinin pozitif ya da negatif olduğunu, sıfır olması ise hücre üzerinde etkisinin olmadığını ifade eder (Öztemel, 2006: 49).

Toplama Fonksiyonu: Hücreye gelen her girdi değerini, kendi ağırlığı ile çarpar ve çarpımları bias değeriyle toplayarak net girdi değerini hesaplar. Hesaplamış olduğu net girdi değerini aktivasyon fonksiyonuna iletir. En yaygın olan toplama fonksiyonu ağırlıklı toplam fonksiyonudur ve formüle edilmiş hali aşağıdaki gibidir (Taner, 2007: 12).

$$NET = \sum_i^n (X_i W_i)$$

Aktivasyon Fonksiyonu: Toplama fonksiyonu tarafından iletilen net girdiyi işleme olarak hücrenin çıktı değerini belirleyen ve genelde doğrusal olmayan bir fonksiyondur (Taner, 2007: 13). Çıktı değerini hesaplamak için kullanılan birçok aktivasyon fonksiyonu vardır. Aktivasyon fonksiyonu seçilirken, fonksiyonun kolay türev alınabilir olmasına dikkat edilmelidir (Haykin, 2005: 190). Son zamanlarda en çok kullanılan model olan, çok katmanlı algılayıcı modeline göre aktivasyon fonksiyonu türevi alınabilir bir fonksiyon olmalıdır ve kolay türev alınabildiğinden dolayı bu model aktivasyon fonksiyonu olarak, sigmoid fonksiyonunu kullanır. Sigmoid fonksiyonu formülü aşağıda gösterildiği gibidir (Çakın, 2017: 23).

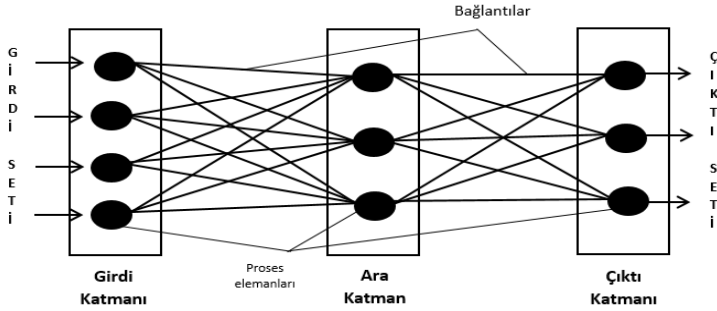
$$F(Net) = \frac{1}{1+e^{-Net}}$$

Sigmoid fonksiyonu dışında, lineer, step(adım), sinüs, eşik değer ve hiperbolik tanjant gibi fonksiyonlar da aktivasyon fonksiyonu olarak kullanılan diğer fonksiyonlardır (Öztemel, 2006: 51).

Çıktı: Aktivasyon fonksiyonundan iletilen, nihai sonuç olarak dış ortama ya da diğer bir nörona girdi olarak gönderilen değerdir (Çakın, 2017: 23).

Sinir hücrelerinin bir araya gelmesiyle oluşan yapay sinir ağlarında, bir araya gelme işlemi rasgele yapılmaz. Genelde bu hücreler, paralel şekilde girdi, çıktı ve gizli katmanların içerisinde bir araya gelerek sinir ağını oluştururlar. Girdi katmanının görevi, dış ortamdan gelen verileri almak ve gizli katmanlara iletmektir. Gizli katmanın görevi, girdi katmanından iletilen verileri işlemek, işlendikten sonra çıktı katmanına iletmektir. Çıktı katmanının görevi ise, gizli katmandan iletilen verileri işlemek ve dış ortama iletmektir. Bu katmanların ve katmanları oluşturan proses elemanlarının (yapay sinir hücrelerinin) aralarındaki ilişkiler Şekil 2'de gösterildiği gibidir (Öztemel, 2006: 52-53).

Şekil: 2
Yapay Sinir Ağı Modeli



Kaynak: Öztemel, 2006: 53.

YSA'lar, nöronların birbirlerine mimari olarak bağlantı yapıları, öğrenme yapıları ve yöntemleri ve öğrenme zamanları gibi kıstaslar dikkate alınarak sınıflandırılırlar (Çakın, 2017: 25).

Bağlantı modeline yani mimari yapılarına bağlı olarak YSA'lar grafiklerin döngülü olmadığını ileri beslemeli ağlar ve geri beslemeli bağlantıları ile tekrarlayan geri beslemeli ağlar olarak iki kategoriye ayrılır (Jain et al., 1996: 34).

İleri beslemeli ağlarda proses elemanlar katmanlara ayrılmışlardır ve veriler girdi katmanından tek yönlü bağlantılar kullanılarak çıktı katmanına iletilirler. Katmanları oluşturan hücrelerin çıktı verileri kendilerinden sonraki katmana ağırlıklar üzerinden girdi olarak aktarılır. Katmanlardaki hücrelerin arasında veya kendilerinden önceki katmanlara yönelik veri aktarımı olmamaktadır (Asilkan & Irmak, 2009: 380).

Geri beslemeli ağlarda, girdiler ileri beslemeli ağlarda olduğu gibi yalnızca tek yönlü hareket ederek sonraki katmana iletilmez. Girdi değerleri, katmanlardaki hücreler arasında veya kendilerinden önceki katmanlara aktarılırlar (Öztürk & Şahin, 2018: 32). Geri beslemeli ağlar, doğrusal olmayan geri yönlü hareketli yapıları nedeniyle dinamik sistemlerdir (Jain et al., 1996: 34).

Öğrenme yapılarına göre YSA'lar, genel olarak denetimli, denetimsiz ve destekleyici öğrenme olarak 3 öğrenme stratejisi uygulanmaktadır (Krenker et al., 2011: 13).

Öğrenme zamanlarına göre YSA'lar, çevrim içi ve çevrim dışı öğrenme kuralı olarak ikiye ayrılmaktadır. Çevrimiçi öğrenme kuralına göre, gerçek zamanda çalışan ağ, fonksiyonlarını yerine getirirken aynı zamanda öğrenmesini de sürdürmektedir. Yani eğitim verilerini kullanarak eğitilen ağ kullanımı esnasında da kendini düzenlemeye devam eder. Çevrimdışı öğrenme kuralına göre ise, ağ kullanılmadan önce kendisine gösterilen örnekler aracılığıyla eğitilirler. Eğitim bittikten sonra gerçek hayatta kullanıma geçildiğinde öğrenme gerçekleşmemektedir. Yani eğitim verilerini kullanarak eğitilen ağ yapısı kaydedilir ve ağ

kullanım sırasında herhangi bir değişikliğe uğramadan kaydedilmiş olan yapıyla çalışır. Eğer ağın öğrenmesi gereken yeni bilgiler mevcut ise ağ çevrimdışı olarak tekrardan eğitilmektedir. “Delta Öğrenme Kuralı” en çok kullanılan çevrimdışı öğrenme kuralına bir örnektir (Öztemel, 2006: 26).

YSA’larda hücreler arasındaki bağlantıların ağırlık değerlerinin belirlenmesine “ağın eğitilmesi” denir. Bu belirleme işleminin başlangıç aşamasında, ağırlık değerleri rastgele tayin edilir. Ağa örnekler gösterildikçe, ağ tarafından en doğru çıktı değeri elde edilene kadar ağırlık değerleri değiştirilir. Doğru ağırlık değerleri belirlendiğinde, ağ kendisine gösterilen örnek üzerinde genellemeler yapabilme kabiliyetini elde eder ve bu “ağın öğrenmesi” olarak adlandırılır (Öztemel, 2006: 55).

YSA’larda, ağın öğrenmesi işlemi belirli kurallara göre yürütülmektedir. Bu kurallara “öğrenme kuralları” denir. Öğrenme kuralları, ağın çıktı değerleri ile gerçek çıktı değerleri arasındaki farkın minimum seviyeye inmesinde rol oynamaktadırlar. Literatürde Hebb, Hopfield, Delta ve Kohanen gibi öğrenme teknikleri kullanılmaktadır (Çakın, 2017: 32).

5. Uygulama

5.1. Veri Seti

Literatürde finansal olarak marka değeri belirlemeye yönelik birçok model kullanılmıştır. Bu çalışmada marka değeri belirleyen finansal modeller arasında kullanılan yaygın tekniklerin değişkenleri belirlenmiştir. Belirlenen bu değişkenlerin değerlerinin elde edilebilirliği ve ulaşılabilirliği dikkate alınmıştır. Daha sonra bu değişkenler kullanılarak yapay zekâ tekniklerinden yapay sinir ağı yöntemi ile yeni bir model ampirik olarak geliştirilmiştir. Uygulamamız için “Brand Finance” firmasının belirlemiş olduğu ve 2018 yılında yayımladığı En Değerli 100 Türk Markası içerisinde yer alan ve aynı zamanda BİST’e bağlı olan 75 adet şirket yer almaktadır.

Literatürde yer alan finansal verilere dayalı marka değeri belirlemeye yönelik yöntemlerin, uygun olan değişkenleri belirlenmiş ve veri setimizin bağımsız değişkenleri oluşturulmuştur.

Marka değerini belirlemede kullanılan finansal yöntemler içerisinde modelimizde kullanılacak olan değişkenlerin hangileri olduğu bu bölümde belirlenmiştir. Bu değişkenlerin seçiminde, modelimizde kullanacağımız verilerin finansal karakterde olması, tek döneme ait seçilmesi, subjektif özellikler taşıması gibi kriterleri dikkate alınmıştır.

Maliyet esaslı marka değerlendirme modeline göre bir marka, markanın oluşturulması ve geliştirilmesinde yer alan harcamaların tamamı dikkate alınarak değerlendirilir. Bu harcamalar, markanın oluşturulması veya geçmişten günümüze kadar var olması sürecinde katlanılan maliyetlerdir (Seethraman et al., 2001: 243). Bu model, firmanın geçmişten

günümüze kadar olan tüm harcamalarını esas aldığı için değişkenleri modelimize uygun değildir ve modelimizde kullanılmamıştır.

Sermaye piyasası esaslı marka değerlendirme modeli, gelecekte elde edilebilecek olan ve sadece markaya ait getirilerin bugünkü değeri olarak ifade edilen bir modeldir (Simon & Sullivan, 1993: 30). Modelin değişkenleri aşağıdaki gibidir:

- Hisse senedi piyasa birim fiyatı
- Borsada işlem gören hisse senedi sayısı
- Maddi duran varlıklar
- Maddi olmayan duran varlıklar

Bu dört değişken, modelimizin bağımsız değişkenlerine eklenmiştir.

Fiyat primi modelinde fiyat primi oranı, satışların tahmini ve iskonto oranı değişkenleri vardır. Ancak bu yöntemde bu değişkenleri kullanarak markalı ürüne karşılık markasız bir ürün gerekmektedir. Bu yüzden fiyat primi modelinin değişkenleri modelimizden çıkarılmıştır.

Gelir (hasılat) esaslı marka değerlendirme yöntemlerinden isim hakkından kurtulma yöntemi değişkenleri, royalti oranı, satışların tahmini ve iskonto oranıdır. Fakat sektörlerin tümünde royalti uygulaması bulunmamaktadır ve bundan dolayı model ancak bazı sektörlerde uygulanabilecektir (Kaya, 2002: 10). Modelimiz sektör ayrımı yapılmadan 75 adet firma verileri ile kurulduğundan ve aynı zamanda sadece 2018 yılı yılsonu verileri kullanılacağından dolayı isim hakkından kurtulma yöntemi değişkenleri modelimizden çıkarılmıştır.

Gelir (hasılat) esaslı marka değerlendirme yöntemlerinden birleştirme analiz yöntemi, fiyat primi yöntemine benzemektedir. Modelde, müşterilerin markalı ürünü tercih etme sebebinin markanın hangi özelliklerinden kaynaklandığı, anket, mülakat, yüz yüze görüşme vb. metotlar ile oransal olarak hesaplanır ve bu oran tahmini yapılan gelecek yıllara ait satışlar ile çarpılır (Zimmerman et al., 2001: 40). Satışların tahminini ve anket, mülakat vb. gibi metotlar ile belirlenen oranı kullanan bu yöntemin değişkenleri modelimizde kullanılmamıştır.

Gelir (hasılat) esaslı marka değerlendirme yöntemlerinden Hedonic yöntemde, ürünlerin özellikleri ile piyasa fiyatları arasında işlevsel bir ilişki vardır ve her özelliğin piyasa değeri regresyon analizi ile belirlenir (Kriegbaum, 1998: 13). Modelde markanın, ürün fiyatı içerisindeki payı değişkenlerinden biridir. Gelirlerin marka payından giderlerin marka payı düşülerek marka değeri hesaplanır. Bu yöntem için en büyük sorun, markadan kaynaklı maliyetlerin nasıl belirleneceğidir (Zimmerman et al., 2001: 38). Ürünler arasındaki fiyat farklılıkları, gelirlerin marka payı, giderlerin marka payı modelimize uygun değişkenler olmadığından modelimizden çıkarılmıştır.

Gelir (hasılat) esaslı marka değerlendirme yöntemlerinden Crimmins yöntemi James C. Crimmins tarafından markanın yarattığı ek değeri belirlemek amacıyla geliştirilmiştir. Crimmins marka değerinin üç boyutu olduğunu belirtmiştir (Crimmins, 1992: 16-17). Bu üç boyut markaların eklediği değer miktarı, genişliği ve içerikleri şeklindedir. Markaların eklediği değerinde bir oran elde edilmektedir ve bu oran fiyat primi yönteminde anlatıldığı gibi hesaplanmaktadır. Fiyat primi metodu karşılaştırma yaptığından dolayı değişkenleri modelimizden çıkarılmıştır. Genişlik boyutunda, firmalar başka ürünler imal eden firma ile karşılaştırılmaktadır. İçerik boyutu ise ürünlerdeki kalite ve hissedilen güvendir. Değişkenler finansal karakteristikler olmadığı için modelimize uygun olmadığından dolayı modelimizden çıkarılmıştır.

Kern yönteminde kullanılan değişkenler, senelik beklenen gelirin ortalaması, piyasadaki standart isim hakkı oranı, markanın fayda sağlayacağı yıl, kapitalizasyon faktörüdür. Modelde kullanılan değişkenler için eleştiriler yer almaktadır. Sektör için kabul edilen isim hakkı oranı, markanın fayda sağlayacağı yıl, iskonto faktöründe kullanılacak parametre bilgileri öznel karakterde olduğundan eleştirilmiştir (İlik, 2014: 60). Modelimize uygun olmadığından dolayı Kern yöntemi değişkenleri modelimizden çıkarılmıştır.

Gelir (hasılat) esaslı marka değerlendirme yöntemlerinden bir diğeri ise Hirose yöntemidir. Hirose yönteminin değişkenleri, prestij parametresi, sadakat parametresi, genişleme parametresi ve risksiz faiz oranıdır (Hiroshi, 2012: 158).

Prestij parametresi şirketin satışları, satılan malın maliyeti, reklam ve promosyon giderleri, faaliyet giderleri kullanılarak aynı sektördeki ikinci bir firma ile karşılaştırma yapılarak hesaplandığından dolayı bu değişkenler modelimizden çıkarılmıştır.

Sadakat parametresi firmanın satışların maliyeti kullanılır. Satışların maliyetinin 5 yıllık ortalaması ve satışların maliyetinin standart sapmalarını kullanılarak hesaplanır. Modelimizde firmaların 2018 yılı son dönem verileri kullanıldığından değişken olarak sadece satışların maliyeti değişkeni modelimize eklenmiştir.

Genişleme parametresi ise firmaların yurt dışı satışları ana faaliyet dışı gelirleri değişken olarak kullanılmıştır. Bu iki değişken modelimize eklenmiştir. Son olarak modelde kullanılan risksiz faiz oranı sabit olduğundan dolayı modelimize eklenmemiştir.

Marka değeri belirlemede kullanılan finansal yöntemlerin değişkenleri arasından modelimize uygun olan değişkenler belirlenmiştir. Bu değişkenler, aşağıdaki tabloda gösterilmiştir. Bağımlı değişkenimiz ise "Brand Finance" firmasının "Brand Finance Turkey 100" de yayımlanmış olduğu Türk firmalarının marka değerleridir. Bu veriler Brand Finance şirketinin hazırlanmış olduğu Türkiye'nin en değerli markalarının 2018 yıllık raporundan elde edilmiştir (Haigh & İlgüner, 2018).

Tablo: 1
Modelin Bağımsız Değişkenleri

Maddi Duran Varlıklar	MDV
Maddi Olmayan Duran Varlıklar	MODV
Satışların Maliyeti	SM
Yurt Dışı Satışlar	YDS
Ana Faaliyet Dışı Gelirler	AFDG
Hisse Senedi Piyasa Birim Fiyatı	HSPBF
Hisse Senedi Sayısı	HSS

BİST’te yer alan ve aynı zamanda “Brand Finance” firmasının yayımlanmış olduğu “En Değerli 100 Türk Markası” içerisinde yer alan firmaların bağımsız değişkenlerinden maddi duran varlıklar, maddi olmayan duran varlıklar, satışların maliyeti, yurtdışı satışlar, ana faaliyet dışı gelirler verilerinin değerleri bu firmaların 2018 yılı yılsonu mali tablolarından elde edilmiştir. Hisse senedi piyasa birim fiyatı ve borsada işlem gören hisse senedi sayısı verileri ise “tr.investing.com” sitesinden elde edilmiştir. Uygulamamızda şirketlerin 2018 yılı yılsonu verilerini kullandığımızdan dolayı şirketlerin hisse senedi birim fiyatı 28.12.2018 tarihi kapanış fiyatı olarak alınmıştır. Şirketlere ait mali tablolar “kap.org.tr” sitesinden elde edilmiştir.

Uygulamamızdaki şirketlerin bağımsız değişken verilerinden bazıları şirketlerin mali tablolarından elde edilmiştir. Fakat uygulamamızda sektör ayrımı yapılmadığından dolayı seçilen şirketler arasında bankacılık sektöründen ve sigortacılık sektöründen de firmalar yer almaktadır. Bankacılık sektörü ve sigortacılık sektörü farklı gelir tablosu ve bilanço tablolarına sahiptirler. Mali tablolardan kullandığımız kalemlerin, bankacılık ve sigortacılık sektörlerinin mali tablolarında hangi kalemlere denk geldikleri aşağıda açıklanmıştır.

Bankacılık sektöründeki firmalar için maddi ve maddi olmayan duran varlıklar kalemleri aynı şekilde alınmıştır. Bankalarda fiziki üretim olmadığından dolayı satışların maliyeti kalemi bilanço ve gelir tablolarında yer almamaktadır. Satışların maliyeti kalemi yerine faiz giderleri kalemi değerleri kullanılmıştır. Aynı şekilde ana faaliyet dışı gelirler kalemi de bankacılık sektörü mali tablolarında bulunmamaktadır. Ana faaliyet dışı gelirler kalemi yerine diğer faaliyet gelirleri kalemi kullanılmıştır. Son olarak bankacılık sektörü mali tablolarında yurtdışı satışlar kalemi de bulunmamaktadır. Yurtdışı satışlar kalemi yerine bankaların yurtdışı döviz işlemlerinin esasını oluşturan kambiyo işlemleri ve türev finansal işlemler kalemlerinin toplamaları kullanılmıştır (Divanoğlu vd., 2019: 2751).

Uygulamamızın bankacılık sektöründeki şirketleri için kullanılan değişkenlerden faiz giderleri kalemi değerleri, diğer faaliyet gelirleri kalemi değerleri ve türev finansal işlemler ile kambiyo işlemleri kalemleri değerleri şirketlerin mali tablolarından gelir tablosundan alınmıştır. Maddi ve maddi olmayan duran varlıklar değerleri ise şirketlerin mali tablolarının bilanço tablosundan alınmıştır.

Sigortacılık sektöründeki firmalar için maddi ve maddi olmayan duran varlık kalemleri aynı şekilde alınmıştır. Fakat satışların maliyeti, yurtdışı satışlar ve ana faaliyet dışı gelirler kalemleri sigorta sektörü bilanço ve gelir tablolarında yer almamaktadır. Bundan

dolayı satışların maliyeti, yurtdışı satışlar ve ana faaliyet dışı gelirler kalemleri yerine bu kalemlerin sigortacılık sektörü mali tablolarında eşleştirildiği değerler kullanılmıştır. Satışların maliyeti kalemi için reasüröre devreden pirimler kalemi değeri kullanılmıştır. Ana faaliyet dışı gelirler kalemi için yatırım gelirleri kalemi değeri kullanılmıştır. Son olarak yurtdışı satışlar kalemi yerine ise türev finansal işlemler ve kambiyo işlemleri kalemlerinin toplamları değeri kullanılmıştır.

Uygulamamızın sigortacılık sektöründeki şirketleri için kullanılan değişkenlerden maddi ve maddi olmayan duran varlıklar kalemleri değerleri şirketlerin mali tablolarından bilanço tablosundan alınmıştır. Reasüröre devreden pirimler kalemi, yatırım gelirleri ve türev finansal işlemler ile kambiyo işlemleri kalemleri değerleri ise şirketlerin mali tablolarının gelir tablosundan elde edilmiştir.

Finansal kuruluşlar için marka değeri belirlenmesine yönelik çalışmalarda satışların maliyeti, yurt dışı satışlar ve ana faaliyet dışı gelir kalemleri yerine kullanılan değerler, finansal kuruluşlar kendi aralarında kıyaslandığında anlamlı sonuçlar vermektedir. Fakat çalışmamızda sektör ayrımı gözetilmediğinden finansal kuruluşlar için bu değerler literatürdeki çalışmalarda olduğu gibi kullanılmıştır.

İşletmelerin mali tabloları genellikle aynı yılın 1 Ocak ile 31 Aralık tarihleri arası hesap dönemini kapsamaktadır. Ancak futbol kulüplerinin mali tablolarının hesap dönemi bir önceki yılın 1 Haziran'ı ile bir sonraki yılın 31 Mayıs'ı arasındaki dönemi kapsamaktadır. Bu doğrultuda çalışmaya dahil edilen 4 futbol kulübünün belirtilen dönemlere ait mali tabloları kullanılmıştır.

Yapay sinir ağlarında verilerin eğitimlerinin daha başarılı gerçekleştirilmesini sağlamak için ağı eğitiminden önce ağı girdi değerleri ve çıktı değerleri üzerinde belirli işlemler gerçekleştirilebilir. Girdi işlem fonksiyonları, girdileri ağı kullanımı için daha düzenli bir forma çevirir. Ham verilere uygulanan normalizasyon işlemi bu verilerin eğitimi için uygun bir veri seti oluşturulmasında etkilidir (Santhakumaran & Jayalakshmi, 2011, s. 90). Eğer elimizdeki ham veriler üzerine normalleştirme işlemi uygulanmasaydı yapay sinir ağının eğitimi çok yavaş gerçekleşebilirdi (Yavuz & Deveci, 2012: 175).

Normalizasyon işlemi ile aynı ölçekteki veriler için eğitim süreci başlatılarak eğitim süresi hızlandırılabilir. Z-Score normalizasyon yöntemi, Min-Max normalizasyon yöntemi, Sigmoid normalizasyon yöntemi, D_Min_Max normalizasyon yöntemi ve Medyan normalizasyon yöntemi gibi birçok normalizasyon yöntemi vardır (Santhakumaran & Jayalakshmi, 2011: 90).

Yapay sinir ağı çok katmanlı ağı modelinin girdi değerleri ile çıktı değerlerinin normalleştirilmesinin ağı performansı açısından oldukça önemli olmasının sebebi normalleştirme işleminin ağı girdi değerleri ile çıktı değerlerinin dağılımlarını düzenli bir hale getiriyor olmasıdır. Yanlışlıktan kaynaklı girdi verileri arasında çok büyük ya da çok küçük değerler alınmış olabilir ve bu değerler ağıımızı yanlış yönlendirebilirler.

Normalleştirme işlemi sayesinde girdilerin hepsi belli bir aralıkta ölçeklendirilir ve yanlış girilmiş olan aşırı büyüklük ve küçüklükteki değerler ortadan kaldırılmış olur. Çok katmanlı ağ modeli tasarımcısı verilerini normalleştirecek yöntemi kendileri seçebilir. Bu seçim konusunda herhangi bir standart koyulması doğru olmayacaktır (Öztemel, 2006: 101).

Uygulamamızda normalizasyon yöntemlerinden D_Min_Max normalizasyon modeli kullanılarak verilerimiz düzenli hale getirilmiştir.

YSA modeli MS Excel, SPSS, MATLAB gibi farklı programlarda kullanılarak uygun çözüme ulaşılmaya çalışılabilir. MATLAB programı kendisine gösterilen verilerden bir eğitim seti oluşturmaktadır ve eğitim setinin içinden kendi seçtiği test verisi ile modeli test etmektedir. MATLAB programında eğitim verilerinin öğrenmesi gerçekleşikten sonra programın kendisinin ayırdığı test verilerini kullanarak modeli test etmesine rağmen belli miktarda veri programa eklenmeyerek test verisi olarak ayrılabilir ve sonrasında ayrılmış olan test verisi modelde test edilebilir (Yılmaz, 2019: 341).

YSA'da kullanacağımız veriler hazırlandıktan sonra modelin öğrenme aşaması için ve modelin test aşaması için veri grubumuzu ikiye ayırmamız gerekmektedir. Öğrenme aşaması için ayırdığımız veriler eğitim verileridir. Test aşaması için ayırdığımız veriler ise ağı daha önce hiç görmediği verilerden oluşmaktadır. Literatür incelendiğinde eğitim ve test verileri %70, %30 olarak veya %80, %20 olarak ya da %90, %10 oranlarına göre belirlenip ayrılabilir (Zhang et al., 1998: 50).

Uygulamamızda kullandığımız eğitim ve test verilerini %90, %10 ve %80, %20 oranlarında ayırarak bu iki durumda modelin sonuçları elde edilecek ve karşılaştırılarak değerlendirilecektir. 75 adet veri bulunan veri setimiz ilk olarak %80, %20 oranında 60'ı eğitim ve 15'i test için ayrılmıştır. Daha sonra %90, %10 oranında 67'si eğitim ve 8'i test için ayrılmıştır.

Literatürde eğitim ve test verisi ayırma işleminde test verisi seçiminin veri setinden tamamen tesadüfi yöntemle ayrılmış olduğu ve yine veri setinden rassal olarak seçilmiş olduğu gibi çalışmalara rastlanmıştır (Karaatlı vd., 2005: 43). Uygulamamızda veri setimizden eğitim ve test kümesi ayırma işlemi sistematik rassal örnekleme ile yapılmıştır. %80, %20 oranında ayıracağımız verilerimizde rassal olarak birinci örneğimiz 5.satırdır. $k=75/15$ olduğundan $k=5$ alınarak rassal olarak seçtiğimiz ilk örnekten sonra 5 adımda bir satır seçilerek ilk test kümesi oluşturulmuştur ve Tablo 2'de gösterilmiştir.

Tablo: 2
%80 - %20 Oranında Ayrılmış Test Kümesi

MDV	MODV	SM	YS	AFDG	HSS	HSBF
0,100302	0,100306	0,106619	0,101492	0,100001	0,164099	0,361255
0,100034	0,100118	0,132988	0,100694	0,1	0,10194	0,124827
0,105612	0,10021	0,139885	0,108355	0,100102	0,112444	0,167986
0,104624	0,176315	0,148704	0,100959	0,126556	0,198562	0,124624
0,1	0,100025	0,100124	0,100072	0,1	0,101606	0,123947
0,104308	0,100294	0,111225	0,102005	0,102927	0,109503	0,151818
0,142859	0,138838	0,58386	0,498336	0,100093	0,151187	0,41057
0,100021	0,100175	0,107334	0,100244	0,167379	0,150892	0,100947
0,100293	0,100251	0,159377	0,101192	0,116842	0,105621	0,132674
0,100225	0,114203	0,1	0,101672	0,10142	0,100524	0,27859
0,103455	0,100055	0,108766	0,100409	0,101185	0,10369	0,12503
0,10686	0,10436	0,143311	0,13441	0,113686	0,27582	0,102435
0,235849	0,58976	0,323023	0,124157	0,154302	0,435427	0,174412
0,102522	0,100012	0,103457	0,101147	0,1	0,139102	0,106224
0,100515	0,100876	0,103358	0,103638	0,100064	0,101501	0,123203

%90, %10 oranında ayıracağımız verilerimizde ise rassal olarak birinci örneğimiz 9. Satır olmuştur. Buradan $k=75/8$ olduğundan $k=9$ alınarak rassal olarak seçtiğimiz birinci örnekten sonra 9 adımda bir satır seçilerek ikinci test kümemiz oluşturulmuştur ve Tablo 3'te gösterilmiştir.

Tablo: 3
%90 - %10 Oranında Ayrılmış Test Kümesi

MDV	MODV	SM	YS	AFDG	HSS	HSBF
0,100265	0,102625	0,120346	0,101981	0,249893	0,144252	0,116235
0,119158	0,103114	0,135239	0,115892	0,100059	0,144115	0,137815
0,110732	0,101668	0,251539	0,1	0,112533	0,127574	0,122527
0,149111	0,119627	0,43003	0,153672	0,9	0,745577	0,148842
0,100293	0,100251	0,159377	0,101192	0,116842	0,105621	0,132674
0,101744	0,109173	0,117569	0,106389	0,1	0,104666	0,312955
0,100978	0,101274	0,144978	0,1	0,100072	0,113985	0,115085
0,255741	0,56148	0,281804	0,113513	0,129633	0,63748	0,121377

5.2. Bulgular

Veriler normalize edilip hazırlandıktan sonra eğitim ve test verisi olarak ikiye ayrılmıştır. Bu ayırma işlemi sonucunda 75 adet veri birinci model için 60 adet eğitim 15 adet ağa hiç gösterilmeyecek olan test verisi olarak ayrılmıştır. İkinci model için ise 67 adet eğitim ve 8 adet ağa hiç gösterilmeyecek olan test verisi olarak ayrılmıştır. Daha sonra ayırmış olduğumuz eğitim verilerinin modelimizde eğitimi gerçekleştirilmiştir. Test verisi olarak ayırdığımız değişkenlerimizin değerlerini ağa sunarak marka değeri tahmini yapılmış ve gerçek değer olarak Brand Finance firmasının belirlemiş olduğu marka değerleri ile sonuçlar karşılaştırılacaktır. Her iki test verisine ayrı ayrı kendi eğitimleri sonucunda yapılan işlemlerden sonra modellerimizin çıktıkları elde edilmiş olur. Birinci ve ikinci modelimizden elde edilen çıktılar ve gerçek değerleri Tablo 4 ve Tablo 5'te gösterilmiştir.

Tablo: 4
Yapay Sinir Ağı 1. Modelin Çıktısı ve Gerçek Değerler (Normalize Edilmiş Hali)

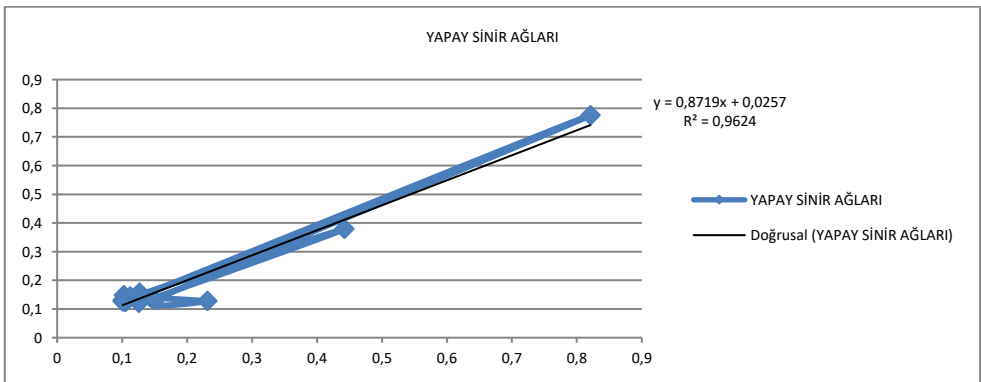
MARKA DEĞERİ	YSA ÇIKTISI
0,10236	0,148202
0,108653	0,132564
0,131858	0,139587
0,126745	0,157054
0,104326	0,125099
0,100787	0,13048
0,442183	0,37897
0,125565	0,121088
0,120059	0,139543
0,112586	0,1436
0,231367	0,127337
0,150344	0,13088
0,820944	0,775577
0,105113	0,123964
0,10118	0,125768

Tablo: 5
Yapay Sinir Ağı 2. Modelin Çıktısı ve Gerçek Değerler (Normalize Edilmiş Hali)

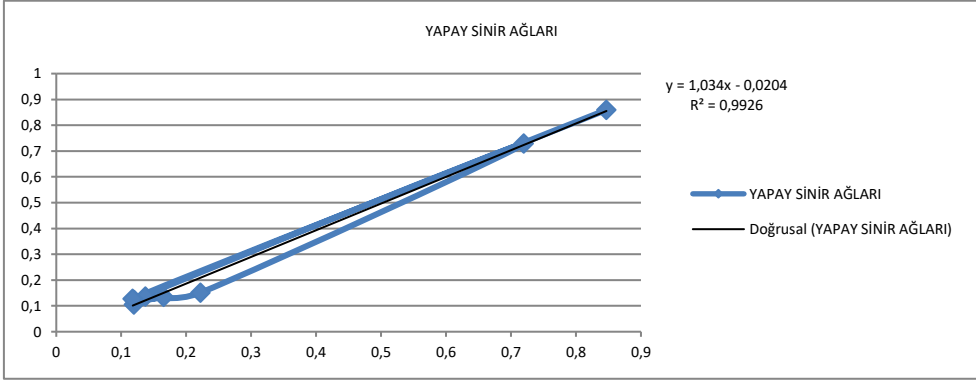
MARKA DEĞERİ	YSA ÇIKTISI
0,119666	0,105196
0,137365	0,137154
0,221927	0,151132
0,719862	0,729175
0,120059	0,123339
0,16529	0,135164
0,117699	0,127641
0,846903	0,859626

Geliştirilen YSA modelinin performansını R-kare (Determinasyon katsayısı), RMSE (Hata Kareler Ortalamasının Kare Kökü) ve MAPE (Ortalama Mutlak Hatanın Yüzdesi) gibi istatistiksel enstrümanlar yardımıyla değerlendirilmiştir (Yakupoğlu vd., 2015: 86).

Şekil: 3
1. Modelin R-kare Grafiği



Şekil: 4
2. Modelin R-kare Grafiği



Gerçek değerler ile modelimizin çıktı değerlerinin birbirlerine ne kadar yakın olduğunu görmek için ilk olarak R-kare grafikleri çizilmiştir. Modellerimizin çıktı değerleri ile gerçek değerleri için çizilen R-kare grafiği Şekil 3 ve Şekil 4'te görüldüğü gibidir.

R-kare grafiği çizilip değeri belirlendikten sonra modelin performans testi için MAPE ve RMSE değerleri de hesaplanmıştır. Birinci modelimizin MAPE ve RMSE ve R-kare değerleri Tablo 6'da gösterilmiştir.

Tablo: 6
Modellerin Tahmininin Hata ve Güvenirlik Sonuçları

1.MODEL			2.MODEL		
R-kare	MAPE	RMSE	R-kare	MAPE	RMSE
0,9624	20,88311	0,040449	0,9926	9,543273	0,028476

Test verileri modele sokulduktan sonra elde edilen sonuçlar normalize edilmiş değerlerdir. Modelden çıkan değerler ile gerçek değerler bazı birimlerde büyük ayrımlar olmasına rağmen R-kare değerleri 0,9624 ve 0,9926, MAPE değerleri 20,88311 ve 9,54273, RMSE değerleri de 0,040449 ve 0,028476 çıkmıştır. Yaklaşımımız tam kesinlik ifade etmemektedir, yaklaşımın kesinleştirilebileceğine yönelik çalışmalar uygulanabilir.

Modellerin R-kare değerlerine bakıldığında birinci modelin R-kare değeri 0,9624 olduğu, ikinci modelin R-kare değeri ise 0,9926 olduğu görülmüştür. R-kare değerinin 1'e yakın olması ağızımızın tahmin ettiği değerler ile gerçek değerlerin birbirine yakın olduğu anlamına gelmektedir (Okkan & Mollamahmutoglu, 2010: 41). R-kare değerlerinden de belli olduğu gibi ikinci modelimizde test verimizden elde edilen değerler ile gerçek verilerin sonuçlarının birbirine daha yakın olduğu görülmüştür.

Birinci modelin MAPE değeri %20,8831 olarak hesaplanmıştır. İkinci modelin MAPE değeri ise %9,5432 olarak hesaplanmıştır. MAPE değeri %10'dan düşük olan

modeller "Çok İyi" model, % 10 ile %20 arasında olan modeller "İyi" model, %20 ile %50 arasında olan modeller "Kabul Edilebilir" model ve %50'den yüksek olan modeller "yanlış ve hatalı" model olarak sınıflandırılmıştır (Var & Türkay, 2014: 37). Buna göre, birinci modelin "İyi" model, ikinci modelin ise "Çok İyi" model aralığında olduğu görülmüştür. MAPE değerlerine bakıldığında ikinci modelin sonuçlarının daha iyi olduğu görülmüştür.

Modellerin tahmin değerleri için önceki bölümde hesaplanan bir diğer performans gösterge değeri ise RMSE'dir. Birinci modelin RMSE değeri 0,0404 olarak hesaplanmıştır. İkinci modelin RMSE değeri ise 0,0284 olarak hesaplanmıştır. RMSE değeri düştükçe modelin tahmin başarısı artmaktadır (Yakupoglu vd., 2015: 89). Modellerin RMSE değerlerine baktığımızda ikinci modelin RMSE değerinin daha düşük olduğu ve tahmin başarısının daha fazla olduğu görülmüştür.

Elde edilen tahmin sonuçları ve gerçek değerlere göre modellerin R-kare, MAPE ve RMSE değerlerine bakıldığında ikinci modelin daha iyi bir model olduğu görülmüştür. Elimizdeki ham veri setinin az sayıda veri içermesi ve bu veri seti içerisinde ayrılan test veri setinin fazla sayıda olması ikinci modelin sonuçlarının birinci modelin sonuçlarından daha anlamlı sonuç vermesinin sebebi olarak düşünülebilir. Kurmuş olduğumuz modellerde görüldüğü üzere ağa gösterilen verilerin fazla miktarda olması, ağı tahminini daha başarılı yapmasını sağlayacaktır. İkinci modelde elde ettiğimiz sonuçların, gerçek değerlere çevrildiğinde de oldukça başarılı sonuçlar olduğu görülmüştür. Bu sonuçlara göre, finansal verilere dayalı marka değeri belirlemeye yönelik yapay sinir ağları kullanılarak yeni bir model oluşturulduğu söylenebilir.

YSA ile modellerimiz kurulurken katman sayıları ve katmanlardaki nöron sayıları yapılan denemeler sonucunda birinci model için en ideal model bir gizli ve bir çıktı katmanı olmak üzere iki katmanlı olarak seçilmiştir ve gizli katmanın nöron sayısı 15 olarak belirlenmiştir. İkinci modelimiz için en ideal model bir gizli katmanı ve bir çıktı katmanı olmak üzere iki katmanlı seçilmiştir ve gizli katmanın nöron sayısı 8 olarak belirlenmiştir. YSA'da bu sayıları belirlemenin belirli bir kuralı olmadığı için birçok deneme yapılmış ve en ideal olarak bu modeller belirlenmiştir.

YSA ile kurulan modelin açıklanabilmesinin ve anlamlandırılabilmesinin oldukça zor olması yapay sinir ağlarının en büyük dezavantajıdır. Modelde kullanılan ağırlıkların ne tür bir ilişkisel yapıyı ifade ettiğini anlayamayacağımızdan, sonuçların nasıl elde edildiğini anlamak mümkün değildir. Bu yüzden sonuçların nasıl elde edildiğinden ziyade sonuçların kendisinin kullanılmasının uygun olacağı durumlarda yapay sinir ağlarının kullanılması uygun olacaktır (Çakır, 2008: 56).

6. Tartışma, Sonuç ve Öneriler

Yapılan uygulamada finansal verilere dayalı marka değerlendirme yöntemleri olan finansal modellerin değişkenleri belirlenmiş ve yapay sinir ağları yardımıyla değişkenler

kullanılarak Brand Finans firmasının belirlediği marka değerlerine yaklaşılmaya çalışılmıştır.

Marka değerini belirlemek için "Brand Finance" firmasının 2018 yılında yayımlanmış olduğu "En Değerli 100 Türk Markası" içerisinde yer alan ve aynı zamanda BİST'e bağlı olan farklı sektörlerdeki 75 şirketten yararlanılmıştır. KAP'ın resmî sitesinden çekilen finansal tablo verileri kullanılmış ve bağımsız değişkenlerimizi oluşturan değerlerden birkaçı belirlenmiştir.

Marka kavramı, marka değeri kavramı ve marka değeri açıklayan modeller üzerinde durulmuş, aynı zamanda literatürde marka değeri belirlemeye yönelik daha önceden yapılmış çalışmalara değinilmiştir. Çalışmanın yöntem kısmında uygulamada yer alan yapay zekâ tekniklerinden yapay sinir ağı modeli anlatılmıştır.

Veri seti hazırlanırken marka değerini belirleyen finansal modellerin değişkenleri belirlenmiştir. Değişkenlerden hangilerinin modelde kullanılıp kullanılmayacağı detaylı olarak anlatılıp modelin bağımsız değişkenleri belirlenmiştir. Bağımsız değişkenler belirlendikten sonra firmaların finansal tablolarından değişkenlerin değerleri çekilmiştir. Uygulamamızda, sektör ayrımı yapılmadığı için finansal kuruluşlar da yer almaktadır. Finansal kuruluşlar için marka değeri belirlenmesine yönelik çalışmalarda satışların maliyeti, yurt dışı satışlar ve ana faaliyet dışı gelir kalemleri yerine kullanılan değerler, finansal kuruluşlar kendi aralarında kıyaslandığında anlamlı sonuçlar vermektedir. Fakat çalışmamızda sektör ayrımı gözetilmediğinden finansal kuruluşlar için bu değerler literatürdeki çalışmalarda olduğu gibi kullanılmıştır. Bağımsız değişkenlerin değerleri belirlendikten sonra bağımlı değişken değeri ile birlikte veri seti hazırlanmıştır. Ham veri setinin sınırlı sayıda veri içermesinden dolayı eğitim ve test için ayrılması gereken veriler iki farklı şekilde ayrılarak, hangisinin daha etkin sonuç vereceğini kavrayabilmek için iki farklı yapay sinir ağı modeli kurulmuştur. İki modelde de eğitime gönderdiğimiz veri sayıları birbirinden farklıdır. Birinci modelde eğitim için ikinci modele göre daha az sayıda veri ayrıldığından test için ayrılan veri sayısı ikinci modele göre daha fazladır. İkinci modelde ise eğitim için ayrılan veri sayısı birinci modele göre artırıldığından, test için ayrılan veri sayısı birinci modele göre daha azdır. Böylelikle gözlem sayısının az olduğu ve fazla olduğu iki farklı model ağı sunularak eğitilmiş ve test edilmiştir. Daha sonra bu iki farklı modelin sonuçları değerlendirilmiş ve karşılaştırılmıştır.

Daha sonra YSA ile kurulan iki modelin sonuçları elde edilmiştir. Elde edilen sonuçların R-kare, MAPE ve RMSE değerleri belirlenmiştir. Belirlenen R-kare, MAPE ve RMSE değerlerine bakıldığında eğitime daha fazla veri ayrılıp az sayıda test verisi kullanılan ikinci modelin daha iyi sonuçlar verdiği görülmüştür. Bu durumun sebebinin test verisi ve eğitim verisi ayrımından kaynaklanabileceği belirtilmiştir. Fakat yapay sinir ağı modelinin yorumlanabilir ve açıklanabilir olması mümkün olmadığından dolayı yalnızca sonuç elde etmek istenen uygulamalarda kullanılmasının uygun olacağı görülmüştür.

Sonuç olarak, araştırma alanı ile beraber teknik kullanımı sonucu literatürde ampirik bir katkı sunmak amaçlanmıştır. Bu doğrultuda finansal verilere dayalı marka değeri belirlemeye yönelik makine öğrenmesi tekniği kullanılarak yeni bir model elde edilmiştir. Finansal olarak marka değeri belirlemeye yönelik oluşturulan YSA modelinin sonuçlarının R-kare, MAPE ve RMSE değerlerine göre incelenip, yorumlanmıştır. Bu sonuçlara göre modellenin başarı bir model olduğu ve anlamlı sonuçların elde edildiği görülmüştür. Modelde kullanılan değişkenler, finansal verilere dayalı marka değeri belirleme yöntemlerinin kullanmış olduğu değişkenler arasından modelimize uygun olarak belirlediğimiz, maddi duran varlıklar, maddi olmayan duran varlıklar, satışların maliyeti, yurtdışı satışlar, ana faaliyet dışı gelirler, hisse senedi piyasa birim fiyatı ve borsada işlem gören hisse senedi sayısı değişkenleridir. Brand Finance firmasının belirlemiş olduğu marka değeri ise modelimizin bağımsız değişkenidir.

Çalışmada, marka değerinin finansal veriler ile belirlenmesine yönelik yapılacak çalışmalarda, makine öğrenmesinin kullanılarak yeni modellerin geliştirilmesine yönelik ampirik bir çalışma önerisi olarak sunulmaktadır. İleride bu konu ile ilgili yapılacak çalışmalarda finansal olarak kullanılan farklı değişkenlerin incelenmesi ve ele alınması, daha verimli sonuçların elde edilmesi konusunda faydalı olacaktır.

Çalışmada YSA modeli kullanılmış ve sektör ayrımı yapılmamıştır. Çalışmada belirlenen değişken değerleri sadece 2018 yılı yılsonu verileri olarak alınmıştır. İçerisinde kıyaslama bulunduran değişkenler, birden fazla dönemi kapsayan değişkenler ve finansal karakteristikte olmadığı için uygulamaya dâhil etmediğimiz diğer tüm değişkenlerin de modele dâhil edilebilmesi durumunda farklı bir model kurulmasının bundan sonraki çalışmalara konu olabileceği öngörülmektedir.

Çalışmada bağımsız değişkenler belirlenirken, sektör ayrımı yapılmadığı için elenen değişkenler vardır. Tek bir sektördeki firmaların seçilmesi, veri sayısını artırmak amaçlı firmaların ortak bir tarihinin belirlenmesi, bu tarihten itibaren finansal değerlerin kullanılması ve çalışmamızda elediğimiz değişkenlerin modele dâhil edilmesinin bundan sonraki çalışmalara konu olabileceği ve diğer marka değerlendirme modellerinin de bu çerçevede değerlendirilebileceği öngörülmektedir.

Ayrıca çalışmada kullanılan değişkenler finansal modellerin değişkenleridir. Finansal modellere ek olarak tüketici davranışlarını temel alan modellerin sayısallaştırılabilecek değişkenlerinin modele dâhil edilebilmesiyle yeni bir model kurulmasının bundan sonraki çalışmalara konu olabileceği öngörülmektedir.

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Türkiye’de Bilgi ve İletişim Teknolojileri Sektörü Kapsamında Bir Girdi-Çıktı Analizi

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An Input-Output Analysis of the Information and Communication Technologies Sector in Turkey

Abstract

The effects of the Information and Communication Technologies (ICTs) sector on countries' economies have become an important subject. After observing that ICTs production and consumption affect countries, these effects are analysed with various empirical methods. This study aims to determine the impact of the ICTs sector on the other sectors of Turkey using the input-output analysis. The analysis is made for 2000 and 2014 based on data from the World Input-Output Database. In studies of the literature, it has been determined that this sector has an essential contribution to the growth and development of the economy. In this study, it was concluded that the contribution of the ICTs sector to the added value and employment in the economy remains low due to the small share of the Turkish economy in production.

Keywords : Input-Output Analysis, ICTs Sector, Turkey.

JEL Classification Codes : C67, L63, L86.

Öz

Bilgi ve iletişim teknolojilerinin (BİT) kullanımının yaygınlaşmasıyla birlikte dünyanın bilgi çağına girdiği kabul edilmektedir. BİT üretiminin ve tüketiminin ülke ekonomilerini etkilediğinin gözlemlenmesi üzerine, bu etkiler çeşitli ampirik yöntemler ile analiz edilmeye başlanmıştır. Bu çalışmada da Dünya Girdi-Çıktı Veri Tabanından elde edilen veriler kapsamında, 2000 ve 2014 yılları için Türkiye’de, BİT sektörünün diğer sektörler üzerindeki etkisini ve dolayısıyla Türkiye ekonomisindeki yerini belirlemek üzere bir girdi-çıktı analizi uygulanmıştır. Literatürde yer alan çalışmalarda, ekonomilerde büyüme ve kalkınmaya önemli bir katkısı olduğu belirlenen BİT sektörünün, Türkiye ekonomisinde üretimdeki payının küçük olması nedeniyle katma değere ve istihdama katkısının düşük kaldığı tespit edilmiştir.

Anahtar Sözcükler : Girdi-Çıktı Analizi, BİT Sektörü, Türkiye.

1. Giriş

İkinci Dünya Savaşı'ndan sonraki dönem, bilgi ve iletişim teknolojilerinde yaşanan gelişmelere bağlı olarak, enformasyon çağı, bilgi çağı, bilişim çağı gibi isimlerle anılmaya başlanmıştır. Bu süreçte BİT'in hem üretim hem de tüketim sürecinde artan düzeyde kullanılması ülkelerin ekonomik, toplumsal, politik, kültürel pek çok yönden değişmesine yol açmıştır. Bu durum akademik çevrelerde teknolojinin ekonomik büyüme ve kalkınma üzerindeki etkilerini ölçmeye çalışan modellerin gelişmesine neden olmuştur. Bu konuda öncü isimlerden Solow çalışmalarında (1956 ve 1957) teknolojinin ekonomik büyümeye katkısını, toplam faktör verimliliği (TFV) kavramı üzerinden emek ve sermayenin katkılarının dışında kalan artık olarak ele almıştır. Solow emek, sermaye ve teknolojinin büyümeye katkısını büyüme muhasebesi yöntemi ile ayırtmıştır. Teknolojinin dışsal olduğu varsayımına dayanan bu çalışmalar azalan verimler yasasına ve büyümenin durağan duruma geleceği üzerine kurulmuştur. Sonraki yıllarda Romer (1986) çalışmasında kârını maksimize etmeye çalışan iktisadi birimlerin, bilgi birikimi ile yönlendirildiği içsel teknolojik değişimin artan verimler yaratarak, uzun dönemde büyümeyi devam ettireceğini ortaya koymuştur. Bu dönemde ABD'de, BİT ve diğer yeni teknoloji sektörlerinde yer alan firmaların verimliliğe katkıları artış göstermiştir (OECD, 2001: 16). ABD'nin bu dönemde yaşadığı ekonomik gelişmeler ülkenin BİT sektörüne yaptığı yatırım ile açıklanmıştır. Teknolojik gelişmenin içsel olduğu kabul edildikten sonra TFV artışı açısından BİT'in büyümeye katkısı, içsel büyüme literatüründen türetilen çeşitli büyüme muhasebesi yöntemlerini kullanan ampirik çalışmaları hızlandırmıştır (Christensen, 2015: 7). Ekonomik boyutuyla ele alınan çalışmalarda BİT sektörünün, büyüme, verimlilik, istihdam gibi değişkenler üzerindeki etkisinin daha çok ekonometrik modeller ile analiz edildiği, buna karşın girdi-çıktı (G-Ç) analizlerine daha az yer verildiği görülmüştür. Bu çalışma ile Türkiye ekonomisinde BİT sektörüne dair bir girdi-çıktı analizi yapılarak literatüre katkı sunulması hedeflenmektedir.

BİT sektörü hem malların hem de hizmetlerin üretimini kapsamaktadır. Üretim alanında bilgisayarlar, elektronik bileşenler ve telekomünikasyon ekipmanı gibi ürünlerin imalatı BİT sektörü içinde yer almaktadır. Ticaret ve hizmet sektörleri alanında ise toptan satış ve kiralama hizmetleri, telekomünikasyon, bilgi teknolojileri danışmanlık hizmetleri (yazılım, donanım, veri tabanı gibi) ve bilgisayarla ilgili diğer faaliyetleri kapsamaktadır. BİT sektörünün dar kapsamlı tanımında BİT ürünlerinin üretimi temel alınırken, perakende faaliyetler dahil edilmemektedir (UNCTAD, 2011). Bu tanımdan yola çıkarak, bu çalışmada Dünya Girdi-Çıktı Veri Tabanından (WIOD World Input-Output Databases) 2016 için derlenen verilerden; bilgi ve iletişim sektörü adı altında yayıncılık faaliyetleri (J58), sinema filmi, video ve televizyon programları yapımcılığı, ses kaydı ve müzik yayımlama, programcılık ve yayıncılık faaliyetleri (J59-J60), telekomünikasyon (J61), bilgisayar programlama, danışmanlık ve ilgili faaliyetler ve bilgi hizmet faaliyetleri (J62-J63) olmak üzere 5 alt sektör ve imalat sanayi sektörü içinde yer alan bilgisayarların, elektronik ve optik ürünlerin imalatı (C26) toplulaştırılarak BİT sektörü verisi hazırlanmıştır. BİT sektörünün makro düzeyde etkilerini belirlemek üzere, WIOD veri tabanında yer alan Türkiye Ulusal

Girdi-Çıktı Tablosu (NIOT National Input-Output Table) 2000 ve 2014 yılları kapsamında analiz edilmektedir.

Çalışmada Türkiye G-Ç tabloları kapsamında, BİT sektörüne dair sermaye ve emek yoğunlukları, ara girdi talebi, katma değer, istihdamdaki payları ve endüstriyel bağlanma (sektörlerin ileri ve geri bağlantı etkileri) yapısı analiz edilmektedir. Sektörlerin ileri ve geri bağlantı etkileri endüstriyel bağlanma yapısını gösteren iki önemli bileşendir. Geri bağlantı etkisi, herhangi bir ekonomide, her bir sektörün üretim faaliyetini gerçekleştirirken ekonomide faaliyet gösteren diğer sektörlerden veya kendisinden ne kadar ara girdi talep ettiğini gösterirken, ileri bağlantı etkisi ise herhangi bir sektör tarafından üretilen çıktının ekonomide faaliyet gösteren diğer sektörler tarafından ne kadar talep edildiğini göstermektedir. Dolayısıyla ileri ve geri bağlantı etkilerinin belirlenmesi bir sektörün ekonomideki yerinin ve öneminin belirlenmesine yardımcı olan bir analizdir.

BİT sektörünün Türkiye ekonomisindeki yerine yönelik ekonometrik çalışmalar olmakla birlikte G-Ç analizi yapan çalışmaların sayısı oldukça azdır. Bu çalışmalardan Şaf (2015), BİT sektörünün ülke ekonomilerindeki makroekonomik etkilerini ve sektörün yapısını incelemek üzere yaptığı çalışmasında Türkiye için 1998 ve 2002 yılları verilerini kullanarak BİT yatırımlarının arttığı, ancak ithalat oranının yüksek olması ve sektöre dair becerilerin sınırlı olması nedeni ile sektörün yarattığı katma değer düşük kaldığı sonucuna ulaşmıştır. Taşçı (2013) da 1998 ve 2002 yılları için BİT sektörünün Türkiye ekonomisi üzerindeki etkilerini istihdama ve katma değere katkısı bakımından ele almıştır. Çalışmanın sonuçlarına göre BİT sektörü hızlı gelişim göstermekte ve kriz dönemlerinde dahi istihdam olanağı yaratabilmektedir. Bu çalışmada ise ulaşılabilen son güncel veriler ile BİT sektörünün sermaye ve emek yoğunlukları, katma değer ve istihdamdaki yeri, ileri-geri bağlantı etkileri ölçülerek sektörün Türkiye ekonomisindeki yerinin daha net şekilde ortaya konulması amaçlanmıştır.

Çalışmanın bu giriş bölümünden sonraki ilk bölümünde ekonometrik modellerin ve girdi-çıktı analizlerinin yer aldığı bir literatür araştırması, ikinci bölümünde, Türkiye ekonomisinde BİT sektörü, üçüncü bölümünde yöntem ve analiz yer almakta olup, çalışma sonuç ve değerlendirme ile tamamlanmaktadır.

2. BİT Üzerine Yapılan Ampirik Çalışmalar

2.1. Ekonometrik Analizler

Literatürde yer alan ampirik çalışmalarda, BİT hem üretim hem de tüketim yönüyle ele alınmakta ve genel olarak ekonomiler üzerinde pozitif etkiye sahip olduğu yönünde bulgulara ulaşılmaktadır. Erdil, Türkcen ve Yetkiner (2009), panel veri analizi kullanarak 1995-2006 yılları arasında, gelişmiş ve gelişmekte olan ülkelerde BİT'in ekonomik büyüme üzerindeki etkisini test ettikleri çalışmalarında her iki ülke grubu için de BİT sektörünün büyüme oranı üzerinde olumlu ve anlamlı bir etkisi olduğu sonucuna ulaşmışlardır. Türedi (2013), BİT'in ekonomik büyümeye olan etkisini araştırdığı çalışmasında, Türkiye'nin de yer aldığı 30 gelişmekte olan ve 23 gelişmiş toplam 53 ülke için, 1995-2008 dönemi

kapsamında panel veri yöntemi analizi uygulamış ve gelişmiş ülkelerde daha fazla olmakla birlikte, BİT'in ekonomik büyümeye pozitif etkide bulunduğu sonucuna ulaşmıştır. 1995-2013 döneminde 18 Arap ülkesi için ekonomik büyümeyi etkileyen faktörleri inceleyen Hodrab et al. (2016) ülkelerin gelişmişlik düzeylerine göre farklılık gösterse de BİT'in ekonomik büyüme üzerinde pozitif bir etkisi olduğunu ve bu etkinin gelişmiş ülkelerde daha fazla olduğu sonucuna ulaşmışlardır. Alper (2017), BİT'in ekonomik büyüme ve işsizlik üzerindeki etkisini 23 Avrupa Birliği ülkesi ve Türkiye için incelemiştir. 1996-2016 dönemi için panel veri analiz yöntemi kullanılan çalışmanın sonuçlarına göre, BİT hem Avrupa Birliği ülkelerinde hem de Türkiye'de ekonomik büyümeye olumlu katkıda bulunmakta ve işsizliği azaltmaktadır. Niebel (2018) gelişmekte olan, yükselen ve gelişmiş 59 ülke için, BİT sektörü ve ekonomik büyüme arasındaki ilişkiyi test ettiği çalışmasında benzer bir sonuca ulaşmıştır. Özellikle 2000 sonrası dönemde, sektörün ekonomik büyümeye katkısı pozitif anlamı çıkmış ve bu etkinin gelişmiş ekonomilerde daha yüksek olduğu belirlenmiştir. Taymaz (2018: 27), panel veri analizi yöntemi kullandığı çalışmasında, ülke düzeyinde kişi başına gelir ile dijital teknoloji ürünlerinin kullanımı ve yaygınlaşması arasında güçlü bir pozitif ilişkinin olduğu; Türkiye özelinde firma düzeyinde dijital teknoloji kullanımı ve yetkinliğinin firma üretkenliğine ve büyümesine olumlu katkıda bulunduğu sonucuna ulaşmıştır. Nair et al. (2020), panel VAR modeli kullanarak 1961-2018 dönemini analiz ettikleri çalışmalarında, Ar-Ge ve BİT altyapı gelişiminin OECD ülkelerinde uzun vadeli ekonomik büyümeye katkıda bulunduğu sonucuna ulaşmışlardır.

BİT'e yönelik uygulanan ampirik çalışmaları inceleyen Spieiza (2012), ekonometrik modellerde değişen varyans, araç değişkenlerinin ve gecikme sayısının belirlenmesindeki sorunlar nedeniyle yanlış ve hatalı sonuçların olabileceğini belirtmiştir. Spieiza, bu sorunları dikkate alarak kendi çalışmasında 1995-2007 yıllarını kapsayan 18 OECD ülkesi için GMM uyguladığı analizinde bilgisayar, yazılım ve iletişim olmak üzere BİT yatırımlarının 26 endüstride katma değere pozitif katkıda bulunduğu sonucuna ulaşmıştır. Büyüme muhasebesi yöntemi ve ekonometrik modellerin kullanıldığı çalışmalara dair bir literatür taraması yapan Kretschmer (2012), BİT sektörünün verimlilik etkisinin önemli olduğunu ve zaman içinde bu etkinin artış eğiliminde olduğunu ortaya koymuştur. Özetle ekonometrik çalışmalar farklı gelişmişlik düzeyine sahip ülkeler ve farklı dönemlerde BİT üretiminin ve kullanımının ekonomide olumlu etki yarattığını göstermektedir.

Uluslararası Telekomünikasyon Birliği (International Telecommunication Union, ITU) tarafından BİT'in kullanılması, yayılması ve bu alanda becerilerin geliştirilmesini sağlayan eğitim gibi göstergelerin birleştirilmesi ile BİT gelişim endeksi oluşturulmaktadır. Bu endeks ile ekonomik kalkınma arasında güçlü bir ilişki olduğunu belirten, ITU (2017: 90) BİT'e erişimin ve bu teknolojilerin kullanımının gelişmiş ülkelerde daha fazla olmakla birlikte neredeyse tüm ülkelerde artış gösterdiğini belirlemiştir. Ülkeler ve bölgeler arasında büyük eşitsizliklerin olduğu belirtilen bu çalışmada daha yüksek BİT geliştirme oranlarına sahip ülkelerin başarılı deneyimlerinin az gelişmiş ülkelerin sürdürülebilir ekonomik ve sosyal kalkınmalarına katkıda bulunacağı vurgulanmıştır. Baldwin (2016) de BİT devriminin gelişmekte olan ülkelere rekabet olanağı sağladığını belirtmiştir. Buna göre

üretim ayrıştırılması ile gelişmekte olan ülkeler, yapısal dönüşümlerini tamamlamadan BİT üretiminde yer alabilir ve kalkınmalarına katkıda bulunabilir.

2.2. Girdi-Çıktı Analizleri

G-Ç modelleri, sektörlerin hem arz hem de talep yönünden analizini aynı anda mümkün kılması açısından tercih edilen bir yöntemdir. Bu analizler hangi sektörlerin ekonomiye daha çok katkı sağlayacağını göstermesi bakımından da önemli bir bilgi sağlamaktadır. Bu açıdan Girdi-Çıktı modellerini özel kılan sektörler arası bağlaşımları göstermesi nedeniyle "yapısal bir modelleme" tekniği olmasıdır.

G-Ç modelleri ilk defa Wassily Leontief tarafından sistematik bir şekilde uygulandığı için literatürde çoğu zaman Leontief modeli olarak da bilinmektedir. Bununla birlikte G-Ç modelleri için endüstriler arası iktisat, yapısal bağlaşıma, yapısal analiz gibi farklı terminolojiler de kullanılmaktadır (Aydoğuş, 2015: 3-4). Basit düzeyde bir G-Ç modeli genel olarak herhangi bir ülke veya bölge için oluşturulabilir. Bu modellerin en önemli avantajı herhangi bir ekonomide hem çeşitli sektörlerin karşılıklı etkileşimlerinin doğrudan ve dolaylı etkilerini hem de makro ölçekte birikimli etkilerini analiz edebilmesidir (Rohman, 2013: 390). G-Ç analizleri, G-Ç tablolarından yararlanılarak yapılmaktadır. G-Ç tabloları ulusal veya bölgesel anlamda herhangi bir ekonomide faaliyet gösteren sektörler arasındaki mal ve hizmet akımını göstermektedir (Leontief, 1986: 19-20). Ekonomide faaliyet gösteren herhangi bir sektör, G-Ç tablolarında hem arz hem de talep eden konumundadır. Bu açıdan G-Ç tablolarında yer alan herhangi bir sektör hem çıktı üreticisi hem de çıktı üretmek için diğer sektörlerin üretiminden faydalanarak ara girdi tüketicisi durumundadır (Miller & Blair, 2009: 2-3).

Toh & Thangavelu (2013), 1990-1995 ve 1995-2000 dönemleri için Singapur'da bilgi sektörünün ekonomik büyüme üzerindeki etkisi ve bu sektörün imalat ve hizmet sektörleriyle olan bağlantısını belirlemek üzere G-Ç analizi uygulamışlardır. Buna göre bilgi sektörünün talebi, diğer sektörlerdeki nihai talebin yarattığı etkiler ile artmaktadır. Ayrıca, bilgi sektörünün nihai talebinin 1990'lar boyunca kendisi üzerinde bir çıktı etkisi olduğu ve bu etkinin ikinci dönemde daha da büyüdüğü belirlenmiştir. 1990'larda bilgi sektörünün genişlemesi ve büyümesinin daha çok talebe dayanması BİT ürünlerinin diğer sektörler tarafından yaygın bir şekilde benimsendiğini ve kullanıldığını göstermektedir. Sonuç olarak BİT sektörünün, Singapur ekonomisi için yüksek katma değerli imalat faaliyetlerinin ve elektronik ihracatının genişletilmesi için kilit bağlantılar sağladığı tespit edilmiştir. Bilgi sektörünün genişleme aşamasında olduğu ve dinamik etkilerinin ortaya konduğu bu çalışmada, Singapur'un BİT sektörünün küresel üretim ağına katılımını da artırdığı vurgulanmıştır.

Rohman (2013), AB ülkeleri için yaptığı G-Ç analizinde, 1995, 2000 ve 2005 yılları kapsamında, BİT dışı sektörlerin çarpan etkisinin, BİT sektörüne göre daha büyük olduğunu ve ekonomiye daha fazla katkı sağladığını tespit etmiştir. Çalışmada 1995-2000 dönemi için, BİT sektörünün büyük ölçüde iç talebe ve ihracat etkilerine bağlı olduğu bulunmuştur. 2000-

2005 döneminde ise AB ülkelerinin BİT ürünleri ithalatına izin vermesiyle, BİT sektörünün AB içinde yavaşlamaya başladığı tespit edilmiştir. Bu durum, AB için BİT sektörleri ile ekonominin geri kalanı arasındaki bağlantının zayıflamasına yol açtığı şeklinde yorumlanmıştır.

Mattioli & Lamonica (2013), Avrupa Komisyonu tarafından geliştirilen Dünya Girdi-Çıktı Tablosunu kullanarak, 2009 yılı için 27 Avrupa ülkesi ve sanayileşmiş 13 ülke ile birlikte 40 ülkeyi kapsayan bir çalışma yapmışlardır. Çalışmada, 35 sektörün her biri için küresel dikey entegrasyonu değerlendirmek için geriye doğru bağlantı ve yatay entegrasyonu değerlendirmek için ileri bağlantı endeksleri hesaplanmıştır. Buna göre küresel entegrasyonu ölçen endeksler, analize dahil edilen ülkelerin ekonomik senaryosunda, BİT sektörünün stratejik bir konuma sahip olduğunu göstermiştir. Ayrıca çalışmada, BİT sektörünün son derece dinamik ve diğer sektörler üzerinde önemli bir çarpan etkisi olduğu vurgulanmıştır.

Mehta (2020), Hindistan için 1993-1994 ve 2013-2014 dönemleri kapsamında, OECD (2009) sınıflandırmasına göre BİT sektörüne yönelik bir G-Ç analizi uygulamıştır. Buna göre iletişim, bilgisayar ve ilgili faaliyetler, elektronik ekipman (TV dahil) ve bilgisayar ekipmanı imalatı ve hizmet sektörleri kapsamında BİT sektörü toplulaştırılmıştır. İhracat odaklı sektörler ile bilgi ve iletişim teknolojisi içeriği yüksek olan sektörler arasında yıllar içinde bir bağlantı kurulmuştur. Geriye doğru bağlantı katsayısı 2 veya daha fazla olan sektörler, ekonomik büyüme için kilit sektörler olarak değerlendirildiğinde, BİT sektörünün geriye doğru bağlantı katsayısı 2010'ların ortasında 2'nin üzerinde iken, ileriye doğru bağlantı katsayısı 2'ye yakın olup, sektörün Hindistan ekonomisinde önemli olduğu vurgulanmıştır. Çalışma kapsamındaki dönem boyunca geriye doğru bağlantının sürekli arttığı, ileri bağlantı katsayısının ise başlangıç yıllarında düşerken son dönemlerde küçük oranlarda arttığı tespit edilmiştir. Sonuç olarak ekonometrik analizler gibi girdi-çıkıtı modelleri de BİT'in ekonomilerde pozitif etkiye sahip olduğu bulgularına sahiptir.

2.3. Türkiye Ekonomisi için Yapılan Ampirik Çalışmalar

Türkiye ekonomisinde, BİT'in etkilerine yönelik yapılan çalışmalardan Genç & Tandoğan (2015)'nin çalışması, BİT ve TFV arasındaki nedensellik ilişkisini, 1980-2012 yılları için Toda ve Yamamoto Nedensellik Yaklaşımını kullanarak analiz etmiştir. TFV serisi büyüme muhasebesi yöntemi kullanılarak hesaplanmış, BİT serisi de telefon (sabit ve mobil) kullanıcılarının toplamı olarak analize dahil edilmiştir. Çalışmanın sonucuna göre, BİT ve TFV arasında çift yönlü nedensellik ilişkisi bulunmuştur. Sayar-Özkan & Çelik (2018), 1998-2015 yılları için birim kök testi ve Granger nedensellik testi ile analizleri sonucunda BİT kullanımının Türkiye ekonomisi büyümesini olumlu yönde etkilediği sonucuna ulaşmışlardır. Taymaz (2018) 2011-2015 yılları için dijital teknoloji kullanımının sanayi firmalarının üretkenliği üzerindeki etkisini panel veri analizi ile test etmiş ve dijital teknoloji kullanımının üretkenlik üzerinde güçlü, pozitif bir katkıda bulunduğu sonucuna ulaşmıştır. Ayrıca çalışmada bilişim teknolojisi uzmanı istihdam eden firmaların, personeli istihdam etmeyen firmalardan daha yüksek bir üretkenliğe sahip olduğu belirlenmiştir. Serin

& İşcan (2019), ARDL Sınır Testi Yaklaşımı ile 2009Q1-2015Q2 dönemi için Türkiye'de BİT ile verimlilik arasında uzun dönemli bir ilişkinin varlığını tespit etmişlerdir. Literatür bölümünde yer alan, Türkiye'nin dahil edildiği diğer çalışmalarda da benzer sonuçlara ulaşıldığı görülmüştür.

Türkiye için BİT sektörüne yönelik yapılan G-Ç analizlerinden Taşçı (2013) çalışmasında, OECD Dünya Girdi-Çıktı tabloları kapsamında üretilen 48 sektörlü 1998 ve 2002 yıllarına ait tabloları kullanmıştır. BİT sektörünün katma değer ve istihdam içindeki payının oldukça düşük olduğu belirlenen bu çalışmada, BİT'in makroekonomik açıdan kritik bir sektör olmadığı, ancak diğer sektörlerle olan difüzyonunu artırması ile istihdam olanağı sağlayarak reel birim istihdam başına sektör ücretlerinde bir iyileşme yarattığı sonucuna ulaşılmıştır. Şaf (2015), aynı dönemler için uyguladığı G-Ç analizinde, BİT yatırımlarının teknoloji yoğun imalat sanayi sektörlerinde artış gösterdiğini belirtmiştir. Ancak Şaf, bu sektörde özellikle ithalata bağımlılığın yüksek olması sebebiyle, BİT'in tüm sektörlerde yaratılan katma değer artışındaki payının sınırlı kaldığını tespit etmiştir. Her iki çalışmada BİT sektörü G-Ç tablolarında yer alan (i) ofis hesaplama makineleri ve bilgisayar, (ii) radyo, televizyon ve iletişim ekipmanları, (iii) posta ve telekomünikasyon, (iv) bilgisayar ve ilişkili hizmetler sektörlerinin verileri toplulaştırılarak hesaplanmıştır.

3. Türkiye'de BİT Sektörü

Dünya genelinde olduğu gibi Türkiye'de de bilgi ve iletişim teknolojileri kullanımı hızla artmaktadır. Bu durum Covid-19 pandemisinden korunmak üzere alınan önlemler neticesinde daha da hızlanmıştır. Bu süreçte önemli bir göstere olan internet kullanımına yönelik verilere bakıldığında, TÜİK Hanehalkı Bilişim Teknolojileri Kullanım Araştırması sonuçlarına göre 2021 yılında hanelerin %92'si evden internete erişim imkânına sahip olurken, Girişimlerde Bilişim Teknolojileri Kullanım Araştırması sonuçlarına göre de 2021 yılında 10 ve daha fazla çalışanı olan girişimlerin internete erişim oranı %95,3 olmuştur (TÜİK, 2022a; 2022b).

Tablo: 1
Bilgi Toplumu İstatistikleri, 2004-2021 (%)

	2004	2005	2006*	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Girişimlerde Bilişim Teknolojileri Kullanımı																		
Bilgisayar Kullanımı	-	87,8	-	88,7	90,6	90,7	92,3	94,0	93,5	92,0	94,4	95,2	95,9	97,2	97,0	96,7	-	-
İnternet Erişimi	-	80,4	-	85,4	89,2	88,8	90,9	92,4	92,5	90,8	89,9	92,5	93,7	95,9	95,3	94,9	94,9	95,3
Web Sitesi Sahipliği ⁽¹⁾	-	48,2	-	63,1	62,4	58,7	52,5	55,4	58,0	53,8	56,6	65,5	66,0	72,9	66,1	51,5	53,7	49,4
Hanelerde Bilişim Teknolojileri Kullanımı																		
Bilgisayar Kullanımı	23,6	22,9	-	33,4	38,0	40,1	43,2	46,4	48,7	49,9	53,5	54,8	54,9	56,6	59,6	-	-	-
İnternet Kullanımı	18,8	17,6	-	30,1	35,9	38,1	41,6	45,0	47,4	48,9	53,8	55,9	61,2	66,8	72,9	75,3	79,0	82,6
Hanelerde İnternet Erişimi	7,0	8,7	-	19,7	25,4	30,0	41,6	42,9	47,2	49,1	60,2	69,5	76,3	80,7	83,8	88,3	90,7	92,0

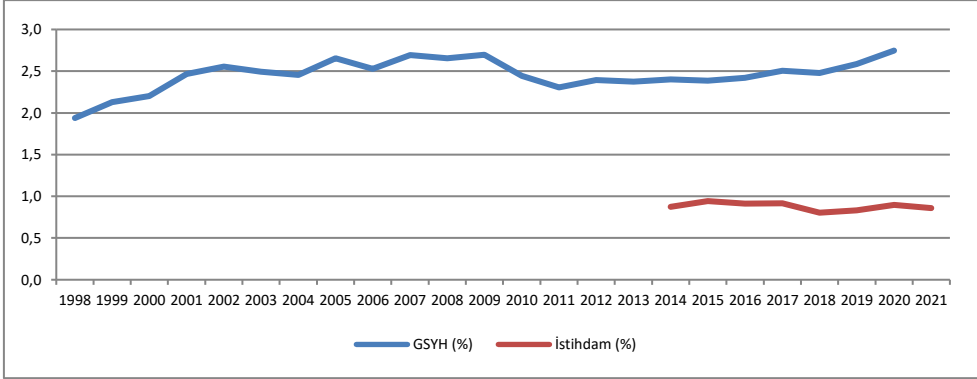
Kaynak: TÜİK, *2006 verisi bulunmamaktadır.

Tablo 1'de görüldüğü üzere Türkiye'de BİT kullanımına yönelik artan talebe karşın, yurt içinde BİT ürünleri üretimi yetersiz kaldığı için dışa bağımlılık artmaktadır. TÜİK'ten elde edilen veriler ile oluşturulan Grafik 1'de bu durum daha net görülmektedir. İktisadi faaliyet kollarına göre, Türkiye'de BİT sektörünün üretimdeki payı 2020 yılı itibarıyla %2,7 olmuş ve bu orana en son 2009 yılında ulaşılmıştır. Sektörde çalışanların toplam istihdam

içindeki payı da ortalama olarak %1’in altında kalmaktadır. Türkiye Bilişim Sanayicileri Derneği (TÜBİSAD) 2021 yılı raporunda sektöre yönelik hizmet ve yazılımın yerli kaynaklarla karşılanabildiğini, donanımda ise ithalata oldukça bağımlı bir yapının olduğunu belirtmiştir.

Grafik: 1

Türkiye’de BİT sektörünün Gayrisafi Yurtiçi Hasıla (1998-2020) ve İstihdam Payı (2014-2021)



Kaynak: TÜİK.

Türkiye’de BİT sektörüne yönelik politikalara dair gelişmeler beş yıllık kalkınma planlarından takip edilebilir. Buna göre 2019-2023 yıllarını kapsayan 11. Kalkınma Planında, 10. Kalkınma Planı’nın hedeflerinden olan işletmelerin, vatandaşların ve kurumların BİT’i yaygın kullanmasına hizmet edecek önemli ilerlemeler sağlandığı vurgulanarak, tüketim yönünden olumlu gelişme olduğu belirtilmiştir. Planda BİT sektörüne dair olumlu gelişmeler yaşanmış olduğu ifade edilmesine karşın altyapıya dayalı rekabetin geliştirilmesine yönelik ihtiyacın devam ettiği, bilgi teknolojileri alanında nitelikli çalışanlara ve özellikle yazılım alanında faaliyet gösteren firmaların ölçek büyüterek yurt dışı pazarlara açılmasını sağlayacak etkin politikalara ihtiyaç olduğu vurgulanmaktadır (11. Kalkınma Planı: 24). 11. Kalkınma Planı’nda sektöre yönelik temel amaç ve hedefler bölümünde dijital dönüşümü sağlamak üzere gerekli kolaylıkların sağlanması yönünde adımlar atılacağı vurgulanmıştır. Bu şekilde BİT’in geliştirilmesi ve kullanımı yoluyla ekonomide verimliliğin ve rekabet gücünün artırılması, bu suretle iş süreçlerinin dönüştürülmesi temel amaç olarak belirlenmiştir (11. Kalkınma Planı: 107).

Taymaz, TÜSİAD için hazırlamış olduğu Dijital Teknolojiler ve Ekonomik Büyüme adlı çalışmasında benzer politikaları önermiştir. Buna göre Türkiye’nin kalkınma ve ekonomik büyüme sürecinde, dijital dönüşüme odaklanan bütüncül bir kamu politikasını etkili bir şekilde uygulaması gerekmektedir. Taymaz, kamu politikası ve şirket stratejilerinde dijital dönüşüm odaklı gelişme sağlamadığı durumda, Türkiye’nin rekabet gücü ve uluslararası iş bölümündeki konumunun olumsuz etkileneceğini vurgulamıştır.

Dijital teknolojilerin üretkenliğini artıracak şekilde kullanılması Türkiye’nin mevcut sektörler temelinde rekabet gücünü ve konumunu koruyabilmesine karşın asıl yapılması gereken; "... başta insan gücü ve bilgi sermayesi olmak üzere, fiziki altyapı ve sabit sermaye yatırımlarının artırılması ve bu dönüşümü sağlayacak tutarlı strateji ve politikaların sistemli ve sürekli bir şekilde uygulanması gereklidir" (Taymaz, 2018: 20-22).

Çalışmanın bundan sonraki bölümünde Türkiye’de BİT sektörünün ekonomiye katkısı belirlemek üzere G-Ç modeli ve sonuçları yer almaktadır.

4. Yöntem ve Analiz

G-Ç tabloları üç kısımdan oluşmaktadır. Birinci kısım sektörler arasındaki karşılıklı ara girdi akışını göstermektedir. İkinci kısım, sektörler tarafından üretilen mal ve hizmetlere olan nihai talebi göstermektedir. Üçüncü kısım ise temel girdilere yapılan ödemeleri göstermektedir (Thirlwall, 1983: 232-233). Herhangi bir ekonomiye ait G-Ç tabloları aracılığıyla denge üretim miktarı (denge çıktı çözüm denklemi) veya genel anlamda nihai talep ile çıktı düzeyi arasındaki denklik bulunabilir (Aydoğuş, 2015: 51-52). Bunun için herhangi bir ekonomide n tane sektörün faaliyet gösterdiği varsayımı altında, i sektörünün toplam üretimi x_i , toplam nihai talebi f_i ve Z_{ij} sektörler arası ara girdi akışını göstermektedir. Dolayısıyla denge miktarı çözümü aşağıdaki gibidir (Miller & Blair, 2009: 11-12):

$$x_i = z_{i1} + \dots + z_{ij} + \dots + z_{in} + f_i = \sum_{i=1}^n z_{ij} + f_{ij} \quad (1)$$

Bu denklem n tane sektör için yazıldığında;

$$X = \begin{bmatrix} x_1 \\ \vdots \\ x_n \end{bmatrix}, Z = \begin{bmatrix} z_{11} & \dots & z_{1n} \\ \vdots & \ddots & \vdots \\ z_{n1} & \dots & z_{nn} \end{bmatrix} \text{ ve } F = \begin{bmatrix} f_1 \\ \vdots \\ f_n \end{bmatrix}, X \text{ ve } F \text{ birer vektör ve } Z \text{ ise } nxn \text{ şeklinde}$$

bir matris ile gösterilmektedir. Dolayısıyla genel olarak nihai talep ile çıktı arasındaki denklem aşağıdaki gibi elde edilir:

$$X = Z_i + F \quad (2)$$

A_d yerli ara girdilerin oluşturduğu teknik katsayılar matrisini ifade etmek üzere; $A_d = Z \cdot \hat{X}^{-1}$; $A_d = \sum a^d_{ij}$ ve $n \times n$ matrisi şeklindedir (Thirlwall, 1983: 234-235)¹. Denklem (2) buna göre tekrar düzenlenirse;

$X = A_d X + F$ şeklinde ifade edilir ve bu denklem X için çözümlerse denklem (3) elde edilir:

$$X = (I - A_d)^{-1} \cdot F^2 \quad (3)$$

¹ X ifadesinin üzerindeki şapka X ifadesinin diagonal bir matris olduğunu ifade etmektedir.

² $(I - A_d)^{-1}$ Leontief ters matrisini ifade etmektedir ve $n \times n$ şeklinde bir matris oluşturmaktadır. Burada I $n \times n$ şeklinde birim matrisi şeklindedir. F ise $n \times 1$ şeklinde bir vektör oluşturmaktadır ve aynı zamanda bir ekonomide toplam

Bu ifade ile her bir ekonomide denge üretim miktarı elde edilmiş olmaktadır (Aydoğuş, 2015: 50-51). Bu açıklamalar dahilinde Türkiye için WIOD'da yer alan Ulusal Girdi-Çıktı Tablosu (NIOT) kullanılarak G-Ç analizi uygulanmaktadır. WIOD'da iki farklı G-Ç tablosu bulunmaktadır. Birincisi (Release-2013), 35 alt sektörden oluşan ve 1995-2011 yılları için derlenen tablolardır. İkincisi (Release-2016) ise 56 alt sektörden oluşan ve 2000-2014 yılları için derlenen tablolardır. Çalışmada Türkiye için Release-2016 uyumlu derlenen NIOT kullanılmıştır. Türkiye ekonomisinin NIOT 2000 ve 2014 yılları kapsamında yer alan 56 alt sektör TÜİK NACE Rev. 2'ye göre iktisadi faaliyet kollarına gruplamasına göre toplulaştırılmıştır (Ek 1). Türkiye G-Ç tablolarına göre BİT sektörünün faktör yoğunluk katsayıları (sermaye ve emek) Tablo 2'deki gibi hesaplanmıştır. 2000 yılında BİT sektöründe yapılan üretim sonucunda elde edilen 1 birimlik çıktı 0,45 birimlik katma değer içermektedir. Aynı zamanda 2000 yılında, BİT sektörü 1 birimlik çıktı üretimi için 0,15 birim emek ve 0,29 birim sermaye kullanmıştır. 2014 yılına gelindiğinde ise BİT sektöründe yapılan 1 birimlik çıktının yaklaşık olarak 0,46 birimi katma değer oluşturmaktadır ve 1 birimlik çıktı için yaklaşık olarak 0,12 emek ve 0,33 birim sermaye kullanılmıştır. Bu bağlamda BİT sektörünün görece sermaye yoğun bir sektör olduğu ve zaman içinde emek yoğunluğunun azaldığı görülmektedir. BİT sektörünün sermaye yoğunluğu oranı, toplam ve ayrı ayrı olarak hizmetler sektöründen sonraki en yüksek orandır. Tabloda hizmetler sektörü hariç, BİT sektörünün katma değer payının sanayi sektörünün oranlarına yakın olduğu da görülmektedir. Tarım sektöründe ise 2000 ve 2014 yıllarında faktör yoğunluk katsayıları sabit kalmıştır. Bu yıllarda tarım sektöründe 1 birimlik çıktı elde edebilmek için yaklaşık 0,56 birim emek ve 0,06 birim sermayeye ihtiyaç duyulmaktadır. Tablo 2'de elde edilen bulgular genel olarak değerlendirildiğinde 2014 yılında emek yoğunluğunun yüksek olduğu sektörler sırasıyla tarım, diğer hizmetler, hizmetler, BİT sektörü, inşaat ve sanayi şeklindedir. Sermaye yoğunluğunun en yüksek olduğu sektörler ise sırasıyla diğer hizmetler, hizmetler, BİT sektörü, inşaat, sanayi ve tarım şeklindedir.

Tablo: 2
Sektörlerin Sermaye ve Emek Yoğunlukları (2000, 2014)³

		Tarım	Sanayi (C26 Hariç)	İnşaat	Hizmetler	BİT sektörü	Diğer Hizmetler
2000	VA/Q	0,662565	0,285037	0,451944	0,566578	0,451673	0,680807
	LAB/Q	0,565784	0,107774	0,169580	0,162248	0,153974	0,261255
	CAP/Q	0,062865	0,167194	0,262300	0,378837	0,291198	0,410613
2014	VA/Q	0,667579	0,294622	0,454910	0,568060	0,463858	0,692962
	LAB/Q	0,565784	0,105175	0,121297	0,158078	0,125436	0,243831
	CAP/Q	0,062865	0,177666	0,310583	0,378995	0,330939	0,439683

Kaynak: G-Ç tablolarından yararlanılarak yazarlar tarafından hesaplanmıştır.

nihai talebi ifade etmektedir. Nihai talep, özel hane halkı tüketimi, hükümet harcamaları, yatırım harcamaları ve ihracat olmak üzere 4 bileşenden oluşmaktadır.

³ VA/Q = Katma Değer /Toplam Çıktı, LAB/Q = İşgücü Ödemeleri/Toplam Çıktı, CAP/Q = Sermaye /Toplam Çıktı.

4.1. BİT Sektöründe İleri ve Geri Bağlantı Analizi

Sektörler arasında ileri ve geri bağlantı etkisi, doğrudan ve dolaylı olmak üzere iki şekilde hesaplanır. Doğrudan ileri bağlantı etkisi, bir sektörün çıktısının diğer sektörler açısından ne derece önemli olduğunu göstermektedir ve bu sektörün çıktısının doğrudan ara mal olarak kullanılan kısmının sektörün toplam çıktısına oranı sektörün doğrudan ileri bağlantı etkisini verir. Herhangi bir sektörün diğer sektörlerin çıktıklarına olan talebi ise geri bağlantı etkisini göstermektedir. Bu sektörün talep ettiği ara mal miktarının sektörün toplam çıktısına oranı doğrudan geri bağlantı etkisini vermektedir (Aydoğuş, 2015: 127). Doğrudan ileri bağlantı etkisi (FL) ve geri bağlantı etkisi (BL) aşağıdaki gibi hesaplanmaktadır (Miller & Blair, 2009: 556-560);

$$BL_j = \sum_{i=1}^n a_{ij} \quad (4)$$

Denklem 4'teki j sektörünün doğrudan geri bağlantı katsayısı, elde edilen girdi katsayıları matrisinde j sütununun toplamıdır.

$$FL_i = \sum_{j=1}^n a_{ij} \quad (5)$$

Benzer şekilde i sektörünün doğrudan ileri bağlantı katsayısı ise, elde edilen girdi katsayılar matrisinde i satırının toplamıdır.

Doğrudan bağlantı katsayıları endüstriler arası dolaylı ilişkileri yansıtmamaktadır. Ancak sektörler arasında dolaylı etkiler de ortaya çıkmaktadır. Sektörler arası dolaylı etkileri de gösteren toplam ileri bağlantı etkisi (TFL) ve toplam geri bağlantı etkisi (TBL) aşağıdaki gibi hesaplanmaktadır⁴:

$$TBL_j = \sum_{i=1}^n l_{ij} \quad (6)$$

Burada j sektörünün toplam geri bağlantı katsayısı, Leontief ters matrisinin j sütununun toplamıdır.

$$TFL_j = \sum_{j=1}^n l_{ij} \quad (7)$$

Benzer şekilde i sektörünün toplam ileri bağlantı katsayısı Leontief ters matrisinin i satırının toplamıdır. Leontief ters matrisinin elemanları, nihai talepte meydana gelen bir birimlik artış sonucunda meydana gelen toplam ara girdi talebini göstermektedir. Bu bağlamda, herhangi bir sektörde nihai talepte meydana gelen bir birimlik artışın yol açtığı üretim artışı o sektörün toplam geri bağlantı etkisini vermektedir. Tüm sektörlerde nihai talepte meydana gelen bir birimlik artışın belli bir sektörün üretiminde yol açtığı üretim artışı ise o sektörün toplam ileri bağlantı etkisini vermektedir (Aydoğuş, 2015: 127).

⁴ Leontief ters matrisinden yararlanarak hesaplanmaktadır.

Tablo 3, Türkiye ekonomisinde ana sektörler itibariyle ileri ve geri bağlantı etkilerini göstermektedir. Elde edilen bulgular değerlendirildiğinde, 2000 yılında Türkiye ekonomisinde toplam geri bağlantı etkisi en yüksek olan sektörün sanayi sektörü olduğu görülmektedir. Sanayi sektöründen sonra sırasıyla inşaat, BİT, hizmetler, tarım ve diğer hizmetler sektörü gelmektedir. 2014 yılında toplam geriye bağlantı etkisi en yüksek olan sektör yine sanayi sektörü olmakla birlikte toplam geri bağlantı etkilerinin düştüğü görülmektedir. Bu yılda sanayi sektöründen sonra toplam geriye bağlantı etkisi en yüksek olan sektörler sırasıyla inşaat, hizmetler, BİT sektörü, diğer hizmetler ve tarım sektörleri şeklindedir. BİT sektörü özelinde bakıldığında, 2000 yılında toplam geri bağlantı etkisi 1,7887 iken 2014 yılında ise toplam geri bağlantı etkisi 1,5989'dur. Dolayısıyla 2014 yılına gelindiğinde BİT sektöründe toplam ara girdi talebinin düştüğü görülmektedir. Toplam ileri bağlantı etkileri değerlendirildiğinde ise 2000 yılında toplam ileri bağlantı etkisinin en yüksek olduğu sektör sanayi sektörüdür. Sanayi sektöründen sonra sırasıyla hizmetler, diğer hizmetler, tarım, BİT sektörü ve inşaat sektörleri gelmektedir. 2014 yılında da yine toplam ileri bağlantı etkisi en yüksek olan sektör sanayi sektörüdür. Bu yılda hizmetler hariç diğer sektörlerin toplam ileri bağlantı etkilerinin düştüğü görülmektedir. BİT sektörü değerlendirildiğinde, 2000 yılında toplam ileri bağlantı etkisi 1,2580 iken 2014 yılında toplam ileri bağlantı etkisi 1,1698 olmuştur. Dolayısıyla BİT sektöründe toplam geri bağlantı etkisine benzer bir şekilde toplam ileri bağlantı etkisi de düşüş göstermiştir. BİT sektöründe toplam ileri bağlantı etkisinin düşüş göstermesi ekonomide faaliyet gösteren diğer sektörlerin BİT sektöründe üretilen çıktıya olan talebinin azaldığını göstermektedir. Bu sonuçlara göre Türkiye'de sanayi sektörünün ekonominin dinamizmi için önemi ortaya çıkarken, çalışmanın konusu olan BİT sektörü sanayi sektörü kadar bir dinamizm yaratmamakla birlikte tarım, inşaat, hizmetler ve diğer hizmetler sektörlerine benzer ve yakın bir etki yarattığı ileri sürülebilir.

Tablo: 3
BİT Sektörü Geri ve İleri Bağlantı Katsayıları

Geri Bağlantı Etkileri						
Sektörler	2000			2014		
	Doğrudan	Dolaylı	Toplam	Doğrudan	Dolaylı	Toplam
Tarım	0,3038	1,2264	1,5303	0,2495	1,1367	1,3862
Sanayi (C26 Hariç)	0,6162	1,5999	2,2160	0,5083	1,3559	1,8642
İnşaat	0,4869	1,4973	1,9843	0,3811	1,2668	1,6479
Hizmetler	0,3725	1,2880	1,6604	0,3794	1,2236	1,6030
BİT sektörü	0,4425	1,3462	1,7887	0,3825	1,2164	1,5989
Diğer Hizmetler	0,2835	1,2173	1,5009	0,2620	1,1523	1,4143
İleri Bağlantı Etkileri						
Sektörler	2000			2014		
	Doğrudan	Dolaylı	Toplam	Doğrudan	Dolaylı	Toplam
Tarım	0,2179	1,2306	1,4485	0,1777	1,1081	1,2858
Sanayi (C26 Hariç)	1,0616	2,0369	3,0985	0,6681	1,4370	2,1051
İnşaat	0,0366	1,0150	1,0516	0,0302	1,0107	1,0408
Hizmetler	0,5316	1,4738	2,0053	0,6926	1,4737	2,1663
BİT sektörü	0,1811	1,0769	1,2580	0,1207	1,0491	1,1698
Diğer Hizmetler	0,4767	1,3419	1,8186	0,4734	1,2731	1,7466

Kaynak: G-Ç tablolarından yararlanılarak yazarlar tarafından hesaplanmıştır.

Toplam ileri ve geri bağlantı katsayıları hesaplandıktan sonra, bir sektörün ekonomideki diğer sektörler ile olan ileri ve geri bağlantı etkilerinin ne durumda olduğunu

görebilmek amacıyla doğrudan ve dolaylı ara girdi talep matrisi oluşturulmuştur. Bu bağlamda BİT sektöründe bir birimlik üretim faaliyetinin gerçekleştirilebilmesi için diğer sektörlerden ne kadar ara girdi talep ettiğini belirlemek üzere Tablo 4 ve Tablo 5 oluşturulmuştur. Tablo 4 sektörlerin doğrudan ara girdi talebini gösterirken, Tablo 5 ise toplam (doğrudan + dolaylı) ara girdi talebini göstermektedir. Tablo 4'e göre 2000 yılında BİT sektörünün doğrudan en fazla ara girdi talep ettiği sektör BİT sektörüdür. 2014 yılında ise BİT sektörünün doğrudan en fazla ara girdi talep ettiği sektör ise diğer hizmetler sektörüdür. Tablo 4'teki veriler değerlendirildiğinde, 2000 yılında BİT sektöründen doğrudan en fazla ara girdi talep eden sektörler sırasıyla BİT sektörü (0,1393), hizmetler (0,0184), diğer hizmetler (0,0147), sanayi (0,0048), inşaat (0,0034) ve tarım (0,0004) şeklindedir. Aynı yılda BİT sektörünün diğer sektörlerden doğrudan en fazla ara girdi talep ettiği sektörler ise sırasıyla BİT sektörü (0,1393), diğer hizmetler (0,1161), sanayi (0,0960), hizmetler (0,0868), inşaat (0,0039), tarım (0,0003) şeklindedir. 2014 yılına gelindiğinde BİT sektöründen doğrudan en fazla ara girdi talep eden sektörler sırasıyla BİT sektörü (0,0819), hizmetler (0,0171), diğer hizmetler (0,0143), sanayi (0,0031), inşaat (0,0031), tarım (0,0003) şeklindedir. 2014 yılında BİT sektörünün diğer sektörlerden doğrudan en fazla ara girdi talep ettiği sektörler ise sırasıyla diğer hizmetler (0,1435), hizmetler (0,1040), BİT sektörü (0,0819), sanayi (0,0500), inşaat (0,0031), tarım (0,0001) şeklindedir. Genel olarak BİT ürünlerini kullanan hizmetler ve diğer hizmetler sektörü olduğu görülmektedir. Beklenildiği üzere BİT sektöründen en az ara girdi talep eden sektör ise tarım sektörüdür.

Tablo 4
Sektörlerin Doğrudan Ara Girdi Talep Matrisi

	Tarım	Sanayi (C26 Hariç)	İnşaat	Hizmetler	BİT sektörü	Diğer Hizmetler	
2000	Tarım	0,1277	0,0764	0,0003	0,0108	0,0003	0,0025
	Sanayi (C26 Hariç)	0,0868	0,3758	0,3203	0,0993	0,0960	0,0833
	İnşaat	0,0025	0,0009	0,0174	0,0023	0,0039	0,0095
	Hizmetler	0,0441	0,1155	0,0938	0,1485	0,0868	0,0430
	BİT sektörü	0,0004	0,0048	0,0034	0,0184	0,1393	0,0147
	Diğer Hizmetler	0,0423	0,0428	0,0518	0,0932	0,1161	0,1306
		0,1071	0,0596	0,0001	0,0086	0,0001	0,0021
2014	Tarım	0,0554	0,2652	0,1793	0,0572	0,0500	0,0610
	Sanayi (C26 Hariç)	0,0020	0,0008	0,0143	0,0016	0,0031	0,0083
	İnşaat	0,0577	0,1418	0,1288	0,1982	0,1040	0,0622
	Hizmetler	0,0003	0,0039	0,0031	0,0171	0,0819	0,0143
	BİT sektörü	0,0268	0,0371	0,0554	0,0967	0,1435	0,1140
	Diğer Hizmetler						

Kaynak: G-Ç tablolarından yararlanılarak yazarlar tarafından hesaplanmıştır.

Tablo 5 sektörlerin toplam (dolaylı + doğrudan) ara girdi talebini göstermektedir. Tablo 5'e göre 2000 yılında BİT sektöründe en fazla toplam ara girdi talep eden sektörler sırasıyla BİT sektörü (1.1699), Hizmetler (0.0298), diğer hizmetler (0.0231), sanayi (0.0167), inşaat (0.0136), tarım (0.0049) şeklindedir. 2000 yılında BİT sektörünün en fazla toplam ara girdi talep ettiği sektörler ise sırasıyla BİT sektörü (1.1699), sanayi (0.2379), diğer hizmetler (0,1870), hizmetler (0,1630), tarım (0.0238), inşaat (0.0071) şeklindedir. 2014 yılına gelindiğinde BİT sektöründe en fazla toplam ara girdi talep eden sektörler sırasıyla BİT sektörü (1,0962), hizmetler (0,0268), diğer hizmetler (0,0206), sanayi (0,0123), tarım (0,0035) şeklindedir. 2014 yılında BİT sektörünün en fazla toplam ara girdi talep ettiği sektörler ise sırasıyla BİT sektörü (1,0962), diğer hizmetler (0,2021), hizmetler

(0,1783), sanayi (0,1073), tarım (0,0095), inşaat (0,0055) şeklindedir. Genel olarak Tablo 4 ve Tablo 5'te elde edilen bulgulara göre BİT sektörünün endüstriyel bağlanışma (ileri ve geri bağlantılar) yoğunluğunun en yüksek olduğu sektörlerin hizmetler ve diğer hizmetler sektörü olduğu söylenebilir.

Tablo: 5
Sektörlerin Toplam Ara Girdi Talep Matrisi

		Tarım	Sanayi (C26 Hariç)	İnşaat	Hizmetler	BİT Sektörü	Diğer Hizmetler
2000	Tarım	1.1643	0.1507	0.0540	0.0353	0.0238	0.0205
	Sanayi (C26 Hariç)	0.1896	1.6822	0.5804	0.2253	0.2379	0.1832
	İnşaat	0.0042	0.0037	1.0200	0.0047	0.0071	0.0119
	Hizmetler	0.0908	0.2440	0.2010	1.2177	0.1630	0.0888
	BİT sektörü	0.0049	0.0167	0.0136	0.0298	1.1699	0.0231
	Diğer Hizmetler	0.0766	0.1187	0.1153	0.1476	0.1870	1.1735
2014	Tarım	1.1277	0.0961	0.0210	0.0205	0.0095	0.0111
	Sanayi (C26 Hariç)	0.0983	1.3977	0.2760	0.1168	0.1073	0.1090
	İnşaat	0.0030	0.0026	1.0160	0.0036	0.0055	0.0101
	Hizmetler	0.1033	0.2632	0.2227	1.2850	0.1783	0.1136
	BİT sektörü	0.0035	0.0123	0.0104	0.0268	1.0962	0.0206
	Diğer Hizmetler	0.0503	0.0923	0.1017	0.1503	0.2021	1.1499

Kaynak: G-Ç tablolarından yararlanılarak yazarlar tarafından hesaplanmıştır.

4.2. BİT Sektöründe Katma Değer ve İstihdam

G-Ç modelleri yardımıyla bir sektörün ekonomide ne kadar katma değer ve istihdam yarattığı hesaplanabilmektedir (Macedo & Lavopa, 2018: 7-8):

$$Y = \mu.w.(I-Ad)^{-1}.F \quad (8)$$

Denklemin 8'de μ $1 \times n$ şeklinde toplam vektörünü, w katma değer/toplam çıktıyı ifade etmekte ve aynı zamanda $n \times n$ şeklinde bir diagonal matris oluşturmaktadır. F ise $n \times 1$ şeklinde bir nihai talep vektörünü ifade etmektedir. Y ise belirli bir dönemde ülkenin GSYH'sini oluşturmaktadır. Benzer bir şekilde bir ekonomideki istihdam etkisi istihdam çarpanı ile hesaplanabilmektedir. Denklemdaki I istihdam/toplam çıktıyı ifade etmekte ve aynı zamanda $n \times n$ şeklinde bir diagonal matrisi ifade etmektedir (Aydoğuş, 2015: 74-75):

$$LE = \mu.l.(I-A)^{-1}.F \quad (9)$$

Tablo: 6
Sektörlerin Katma Değer ve İstihdama Katkısı (%)

	Ana Sektörler	2000	2014
Katma Değer	Tarım	10,98	8,19
	Sanayi (C26 Hariç)	24,11	21,69
	İnşaat	5,45	5,20
	Hizmetler	27,24	30,31
	BİT sektörü	2,53	2,42
	Diğer Hizmetler	29,68	32,19
İstihdam	Tarım	23,10	19,03
	Sanayi (C26 Hariç)	22,45	21,22
	İnşaat	5,04	3,80
	Hizmetler	19,22	23,12
	BİT sektörü	2,13	1,79
	Diğer Hizmetler	28,06	31,04

Kaynak: G-Ç tablolarından yararlanılarak yazarlar tarafından hesaplanmıştır.

Tablo 6'da ana sektörlerin 2000 ve 2014 yıllarında ülkenin katma değer ve istihdama katkısı gösterilmektedir. Buna göre BİT sektörünün 2000 ve 2014 yıllarında toplam katma değer içindeki payı sırasıyla %2,53 ve %2,42'dir. İstihdam içindeki payı ise 2000 yılında %2,13 iken 2014 yılına gelindiğinde %1,79'a düşmüştür. BİT sektörü dışında diğer sektörlerin toplam katma değer içindeki payı 2000 yılında sırasıyla diğer hizmetler (%29,68), hizmetler (%27,24), sanayi (%24,11), tarım (%10,98), inşaat şeklinde iken 2014 yılında ise sırayla diğer hizmetler (%32,19), hizmetler (%30,31), sanayi (%21,69), tarım (%8,19), inşaat (%5,20) şeklindedir. Sektörlerin toplam katma değere katkısı açısından bakıldığında, 2000 yılından 2014 yılına gelindiğinde hizmetler ve diğer hizmetler sektörü dışında diğer sektörlerin toplam katma değer içindeki payının düşüş gösterdiği görülmektedir. Sektörlerin toplam istihdama katkısı değerlendirildiğinde 2000 yılında toplam istihdama katkısı en yüksek olan sektörler sırasıyla diğer hizmetler (%28,06), tarım (%23,10), sanayi (%22,45), hizmetler (%19,22) ve inşaat (%5,04) iken 2014 yılında ise sektörlerin toplam istihdama katkısı sırasıyla diğer hizmetler (%31,04), hizmetler (%23,12), sanayi (%21,22), tarım (%19,03), inşaat (%3,80) şeklindedir. Diğer hizmetler ve hizmetler sektörü hariç sektörlerin toplam istihdama olan katkısı 2000 yılından 2014 yılına gelindiğinde düşüş göstermiştir. Genel olarak elde edilen bulgulara göre, Türkiye ekonomisinde katma değer içindeki payı artan ve en fazla istihdam yaratan sektör hizmetler sektörü iken diğer sektörler için bu paylar azalmıştır. Bu anlamda reel üretimin ulusal gelirdeki payının azaldığı ve bu durumun reel sektörün istihdam talebinin azalmasına yol açtığı söylenebilir. BİT sektörüne bakıldığında, dünya ekonomisindeki yeri ve önemi gittikçe artan bu alanda ülkelerin rekabet yarışına girdiği bir dönemde, Türkiye'nin oldukça yetersiz bir performans gösterdiği söylenebilir.

4.3. BİT Sektörünün İthalat Bağımlılığı

G-Ç tabloları yardımıyla, bir ekonomide üretim faaliyetleri sürecinde sektörler tarafından kullanılan ara girdiler, yerli ve ithal girdi payları hesaplanabilir. Toplam ara girdiler ya da teknik katsayılar matrisi (A), yerli teknik katsayılar matrisi (A_d) ve ithal katsayılar matrisinin (A_m) toplamından oluşmaktadır. İthal katsayılar matrisinin (A_m) sütunlarının toplamı nihai talepte meydana gelen bir değişme karşısında doğrudan ithalat bağımlılığını göstermektedir. Daha açık bir anlatım ile ithalat katsayılar matrisi doğrudan ithal ara girdi etkilerini göstermektedir. Ayrıca hem doğrudan hem de dolaylı ithal ara girdi etkileri hesaplanabilir. Bu bağlamda sektörlerin üretim sürecinde kullandıkları doğrudan ve dolaylı yani toplam ithal ara girdi miktarı ithalat ters matrisi yardımıyla hesaplanmaktadır. İthalat ters matrisi (R), Leontief ters matrisinden yararlanarak aşağıdaki gibi hesaplanmaktadır (Amar et al., 2016: 13-14):

$$(R)^5 = A_m(I-A)^{-1} \quad (10)$$

İthalat ters matrisinin herhangi bir *j* sektörüne ait sütunlarının toplamı *j* sektörünün nihai talebinde meydana gelecek olan bir değişme karşısında ithal girdi gereksinimini

⁵ $A_m = M/Q$ 've $n \times n$ şeklinde bir matris oluşturmaktadır.

göstermektedir. Benzer şekilde sütun toplamı denge durumunda *j* sektörünün bir birimlik çıktı üretimi için ne kadar ithalat yapması gerektiğini de ölçmektedir (Bravo & Alvarez, 2012: 91-92).

Tablo: 7
Sektörlerin İthalat Bağımlılığı

Sektörler	2000			2014		
	Doğrudan	Dolaylı	Toplam	Doğrudan	Dolaylı	Toplam
Tarım	0,0167	0,0600	0,0767	0,0294	0,0186	0,0480
Sanayi (C26 Hariç)	0,1818	0,1856	0,3674	0,0924	0,0545	0,1469
İnşaat	0,0798	0,1569	0,2366	0,0535	0,0399	0,0934
Hizmetler	0,2105	0,0992	0,3097	0,0348	0,0331	0,0679
BİT sektörü	0,2464	0,1255	0,3719	0,3480	0,0532	0,4012
Diğer Hizmetler	0,0277	0,0638	0,0915	0,0152	0,0243	0,0395

Kaynak: G-Ç tablolarından yararlanılarak yazarlar tarafından hesaplanmıştır.

Tablo 7’de görüldüğü üzere, BİT sektöründe üretimin ithalat bağımlılığı 2000 yılında 0,37 iken 2014 yılında 0,40’a çıkmıştır. Diğer sektörler için elde edilen bulgulara göre 2000 yılında ithal ara girdi bağımlılığı en yüksek olan sektörler sırasıyla sanayi (0,3674), hizmetler (0,3097), inşaat (0,2366), diğer hizmetler (0,0915), tarım (0,0767) şeklindedir. 2014 yılında ise BİT sektörü dışında diğer sektörlerde ithalat bağımlılığı en yüksek olan sektörler ise sırasıyla sanayi (0,1469), inşaat (0,0934), hizmetler (0,0679), tarım (0,0480), diğer hizmetler (0,0395) şeklindedir. Tablo 7’de ithalat bağımlılığı için elde edilen bulgulara göre 2000 yılından 2014 yılına gelindiğinde, BİT dışında diğer sektörlerde ithal girdi bağımlılığının ciddi bir düşüş gösterdiği görülmektedir. BİT sektöründe ise üretimde ithalat ara girdi kullanımı artış göstermiştir. BİT sektöründe 2000 yılında doğrudan ithal girdi bağımlılık katsayısı 0,2464 iken, 2014 yılına geldiğinde bu oran 0,3480’e çıkmıştır. Dolaylı ithal ara girdi bağımlılık katsayısı 2000 yılında 0,1255 iken 2014 yılında bu oran 0,0532 olarak gerçekleşmiştir. Bu bulgulara göre BİT sektöründe doğrudan ithal ara girdi bağımlılık etkisi artarken, dolaylı ithal ara girdi bağımlılık etkisi ise azalmıştır. Dolayısıyla BİT sektörü, diğer sektörlerin yapmış oldukları ithalat sonucunda ara girdi kullanmak yani dolaylı bir şekilde ithal ara girdi kullanmak yerine doğrudan kendisi ithalat yaparak ara girdi kullanmaktadır. Bu durum BİT ürünleri tüketiminin artışının ithalat artışı ile karşılandığını göstermektedir. Bu da daha önce değinildiği üzere kalkınma planlarında hedeflenmesine rağmen bu alana yönelik yatırımların ve politikaların yetersiz kaldığı şeklinde yorumlanabilir.

Türkiye’de ithalata bağımlılık artarken, Çin ve Hindistan gibi yükselmekte olan ülkelerin BİT ürünleri üretiminde güçlü bir atılım göstermesi gelişmiş ülkelerin üretim merkezlerini bu ülkelere kaydırmasına yol açmıştır. Gelişmiş ülkelerde BİT sektörüne dair geri bağlantı katsayısının 2005 yılında düşüş gösterdiğini belirleyen Şaf (2015: 93), bu düşüşün söz konusu ülkelerin BİT üretim merkezlerini yükselen ekonomilere kaydırmış olması nedeniyle, imalat sanayi sektörlerinde BİT’in payının azalmasından kaynaklandığını ileri sürmüştür. Rohman (2013) AB ülkeleri için yaptığı G-Ç analizinde, AB ülkelerinde BİT sektörüne dair yavaşlamanın nedeni olarak yeni sanayileşen Asya ülkelerinin (özellikle Çin ve Güney Kore) rolüne vurgu yapmıştır. Taymaz ise uluslararası üretim yapısındaki hızlı dönüşüme karşın, gelişmiş ülkelerin (Japonya, ABD, Almanya, Fransa, İngiltere ve

Hollanda) hala dijital teknolojilerin geliştirilmesinde önde olduğunu belirtmiştir. Ancak son yıllarda, Kore ve Çin'in bu alanda öne çıkan ülkeler olduğunu vurgulamıştır. Bu durumda gelişmiş ülkelerin teknoloji geliştirdiği, gelişmekte olan ülkelerin de ürünleri ürettiği uluslararası iş bölümüne dair bir dönüşüm yaşanacağını tahmin eden Taymaz, Türkiye'nin, (sosyal medya hariç) dijital teknolojilerin kullanımını bakımından yüksek gelirli ülkeler düzeyine ulaşması için dijital teknolojilerin ve ürünlerin geliştirilmesi süreçlerindeki konumunu iyileştirmesi gerektiğini vurgulamıştır (Taymaz, 2018: 83). İzmen vd. (2015: 66), BİT sektörüne yönelik ülkelerin uluslararası ticaretteki rekabet gücünü ölçtükleri çalışmalarında Türkiye'nin rekabet gücünün zayıf olduğunu belirlemişlerdir. 2002-2012 yıllarını kapsayan bu çalışmada AB, ABD, Brezilya ve Hindistan'ın da rekabet gücü azalırken, rekabet gücü yüksek olan Çin'in bu gücü artırmaya devam ettiği tespit edilmiştir. Türkiye'de BİT sektörüne dair çalışmalarında Tunç ve Demir (2019), yazılım ve hizmet üretiminde kendi kendine yeterliliğin neredeyse sağlanmasına karşın, özellikle donanım üretiminin yurt içinde düşük oranda kaldığını vurgulamışlardır. Bu çalışmada BİT sektörüne yönelik eğitimin yetersiz olması, istihdam ve üretimin düşük kalması bu sektörün gelişmesi önünde engel olarak tespit edilmiştir.

Gelişmekte olan ülkelerin mevcut kıt kaynaklarını hedefledikleri ekonomik büyüme hızını gerçekleştirebilmek için en verimli şekilde kullanması gerekmektedir. Yatırımların geri ve ileri bağlantı etkilerinin en yüksek olduğu kilit sektörlerle yönlendirilmesi, ülke ekonomisinde yapısal değişim sürecini başlatarak büyüme ve kalkınma sürecine katkı sağlayacaktır (Uğurlu & Tuncer, 2017: 132). Bu çalışma kapsamında yapılan G-Ç analizi ile Türkiye için BİT sektörünün kilit bir sektör olduğu olduğu desteklenirse de BİT'in ekonomilere pozitif etkisini anlatan teorik ve ampirik çalışmalar yanında ülke deneyimleri de dikkate alındığında, bu sektörün üretimdeki payının artırılması ile kilit bir sektör haline getirilmesi ve ekonomiye katkısını artıracak etkili politikaların uygulanması gerektiği görülmektedir.

5. Sonuç ve Değerlendirme

Bu çalışma kapsamında Türkiye'de BİT sektörünün ekonomideki yerini tespit etmek üzere 2000 ve 2014 yılları için bir girdi-çıktı analizi uygulanmıştır. Bu bağlamda BİT sektörünün sermaye ve emek yoğunlukları, katma değer ve istihdamdaki yeri, ileri-geri bağlantı etkileri ölçülerek sektörün Türkiye ekonomisindeki yerinin daha net şekilde ortaya konulması amaçlanmıştır. Elde edilen bulgulara göre BİT sektöründe ileri ve geri bağlantı etkileri sanayi sektörü kadar olmasa da diğer sektörlerin sahip olduğu etkilere yakın bir etkiye sahiptir. 2000 yılında BİT sektörünün toplam geri bağlantı etkisi tarım, hizmetler ve diğer hizmetler sektöründen daha yüksek iken, 2014 yılında bu katsayı düşüş göstermiş, sadece tarım ve diğer hizmetler sektörlerinin etkisinden yüksek kalmıştır. Bu düşüşün nedeni BİT ürünlerinin ithalatının yüksek olması ve dolayısıyla bu sektörün diğer sektörlerden girdi talebinin düşük kalması ile açıklanabilir. Sektörün ileri bağlantı etkilerine bakıldığında ise her iki yılda sadece inşaat sektöründen daha yüksek olduğu tespit edilmiştir. Yurtiçindeki üretimin düşük olduğu dikkate alındığında bu sonuç olasıdır. Bu durum sektörün ithalata bağımlılığı oranlarında da görülmektedir. Her iki yıl için de BİT sektörünün diğer sektörlerle oranla daha yüksek ithalat bağımlılığı katsayısına sahip olduğu ve bu oranının 2000'den

2014 yılına yükseldiği hesaplanmıştır. BİT üretiminin ekonomideki payının düşük olması bu sektörün ülke ekonomisine olan katma değer ve dolayısıyla istihdamdaki payının da düşük olmasına neden olmaktadır.

Hayatın hemen her alanının dijitalleştiği günümüz dünyasında dijital ekonominin temel sektörü olan BİT sektörü, üretimden tüketime bir ekonomi için kilit bir öneme sahiptir. Sanayi devriminde imalat sanayinin ülkelerin ekonomilerindeki rolüne benzer etkiyi, dijital devrimin yaşandığı günümüzde BİT sektörünün yerine getirmesi öngörülmektedir. Bu bağlamda gelişmiş ülkelerin yanında bir çok gelişmekte olan ülke de bu sürece dahil olmaya çalışmaktadır. Türkiye’de BİT ürünlerine olan yurt içi talep artış gösterirken yerli üretimin bu talebi karşılamakta yetersiz kalması ithalat talebini artırmaktadır. Bu durum döviz gereksiniminin artırmasına ve cari açık sorununun da büyümesine yol açmaktadır. Bir taraftan hazırlanan kalkınma planlarında BİT sektörünün önemli olduğu ve sektöre yönelik gerekli düzenlemeler üzerinde çalışıldığı vurgulanarak devletin bu sektörü desteklediği, diğer taraftan sektörde yer alan firmaların oluşturduğu TÜBİSAD raporlarından yavaş da olsa ilerlemelerin kaydedildiği görülmektedir. Bu sürecin hızlanması için BİT ürünlerinin yurtdışı üretimini artıracak sektör yatırımlarının teşvik edilmesi, bu alana dair yeteneklerin geliştirilmesi için akademik ve mesleki eğitimlerin verilmesi, dolayısıyla sektörün üretkenliğinin artırılmasını hedefleyen somut adımların atılması önemlidir.

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Ek: Ana Sektörlerin Toplaştırılması

NACE Rev. 2	A- Tarım
A01	Bitkisel ve hayvansal üretim, avcılık ve ilgili hizmet faaliyetleri
A02	Ormancılık ve tomrukçuluk
A03	Balıkçılık ve su ürünleri yetiştiriciliği
	BCDE- Sanayi (C26 hariç)
B	Madencilik ve taş ocakçılığı
C10-C12	Gıda ürünleri, içecek ve tütün ürünleri imalatı
C13-C15	Tekstil, giyim eşyası ve deri ürünleri imalatı
C16	Ağaç, ağaç ve mantar ürünleri imalatı (mobilya hariç); saman ve örgü malzemelerden ürünlerin imalatı
C17	Kâğıt ve kâğıt ürünleri imalatı
C18	Kayıtlı medyanın basılması ve çoğaltılması
C19	Kok kömürü ve rafine edilmiş petrol ürünleri imalatı
C20	Kimyasalların ve kimyasal ürünlerin imalatı
C21	Temel eczacılık ürünlerinin ve eczacılığa ilişkin ürünlerin imalatı
C22	Kauçuk ve plastik ürünlerin imalatı
C23	Metalik olmayan diğer mineral ürünlerin imalatı
C24	Ana metal imalatı
C25	Makine ve teçhizat hariç fabrikasyon metal ürünlerin imalatı
C27	Elektrikli teçhizat imalatı
C28	Başka yerde sınıflandırılmamış makine ve ekipman imalatı
C29	Motorlu kara taşıtları, römork ve yarı römork imalatı
C30	Diğer ulaşım araçlarının imalatı
C31_C32	Mobilya imalatı; diğer imalat
C33	Makine ve ekipmanların onarımı ve montajı
D35	Elektrik, gaz, buhar ve iklimlendirme temini
E36	Su toplama, arıtma ve temini
E37-E39	Kanalizasyon; atık toplama, işleme ve bertaraf faaliyetleri; malzeme geri kazanımı; iyileştirme faaliyetleri ve diğer atık yönetimi hizmetleri
F	F- İnşaat
	İnşaat
	GHI- Hizmetler
	GHI- Hizmetler
G45	Motorlu kara taşıtları ve motosikletlerin toptan ve perakende ticareti ve onarımı
G46	Motorlu kara taşıtları ve motosikletler hariç toptan ticaret
G47	Motorlu taşıtlar ve motosikletler hariç perakende ticaret
H49	Kara taşımacılığı ve boru hatları ile taşıma
H50	Su ulaştırma
H51	Hava Taşımacılığı
H52	Taşımacılık için depolama ve destek faaliyetleri
H53	Posta ve kurye faaliyetleri
I	Konaklama ve yemek hizmeti faaliyetleri
	J- Bilgi ve iletişim (C26 dahil)
J58	Yayıncılık faaliyetleri
J59_J60	Sinema filmi, video ve televizyon programı yapımçılığı, ses kaydı ve müzik yayıncılığı faaliyetleri; programlama ve yayıncılık faaliyetleri
J61	Telekomünikasyon
J62_J63	Bilgisayar programlama, danışmanlık ve ilgili faaliyetler; bilgi hizmet faaliyetleri
C26	Bilgisayar, elektronik ve optik ürünlerin imalatı
	KLMNOPQRSTU-Diğer Hizmetler
K64	Sigorta ve emeklilik fonları hariç finansal hizmet faaliyetleri
K65	Zorunlu sosyal güvenlik hariç sigorta, reasürans ve emeklilik finansmanı
K66	Finansal hizmetler ve sigorta faaliyetlerine yardımcı faaliyetler
L68	Gayrimenkul faaliyetleri
M69_M70	Hukuk ve muhasebe faaliyetleri; genel merkezlerin faaliyetleri; yönetim danışmanlığı faaliyetleri
M71	Mimarlık ve mühendislik faaliyetleri; teknik test ve analiz
M72	Bilimsel araştırma ve geliştirme
M73	Reklam ve pazar araştırması
M74_M75	Diğer mesleki, bilimsel ve teknik faaliyetler; veterinerlik faaliyetleri
N	İdari ve destek hizmet faaliyetleri
O84	Kamu yönetimi ve savunma; zorunlu sosyal güvenlik
P85	Eğitim
Q	İnsan sağlığı ve sosyal hizmet faaliyetleri
R_S	Diğer hizmet faaliyetleri
T	İşveren olarak hanelerin faaliyetleri; hanehalkının kendi kullanımı için farklılaşmamış mal ve hizmet üreten faaliyetleri
U	Bölge dışı örgütlerin ve organların faaliyetleri

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Sürdürülebilirlik ve Güven Ekseninde Paylaşım Ekonomisi

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Sharing Economy in the Dimension of Sustainability and Trust

Abstract

The factors such as how consumers buy things and where they buy products have changed in parallel with the development of mobile internet technologies. Digital interactions among individuals have gained strength thanks to the internet, in which social networks increase interactions. A new economic approach called sharing economy has emerged thanks to these strong interactions. Individuals prefer to temporarily own goods or services rather than permanently via digital sharing platforms. In this context, it is observed that resources are utilised efficiently to meet specific needs. In this way, it can be said that the formation of idle resources is reduced significantly. Sharing economy is examined conceptually based on sustainability and trust. And also, the effect of Covid-19 on the ecosystem of sharing economy and what sorts of ramifications Covid-19 created for sharing economy are examined.

Keywords : Sharing Economy, Sustainability, Trust, Covid-19.

JEL Classification Codes : P28, M20, Q56.

Öz

Mobil internet teknolojisi, bireylerin satın alma biçimlerini ve sahip oldukları pazar yeri gibi faktörleri değiştirmiştir. Etkileşimin sosyal ağlar vasıtasıyla artmasıyla, bireylerin birbirleriyle olan dijital bağları güçlenmiştir. Bu güçle paylaşım ekonomisi adında yeni bir ekonomik yaklaşım ortaya çıkmıştır. Paylaşım ekonomisi ile bireyler dijital paylaşım platformlarıyla mal veya hizmetlere geçici olarak sahip olmayı tercih etmektedir. Bu doğrultuda kaynakların paylaşılarak ihtiyaçlar doğrultusunda hedefe yönelik etkin bir şekilde kullanıldığı ve böylece atıl kaynak oluşumunun azaldığı görülmektedir. Çalışmada paylaşım ekonomisi kavramsal bir bakışla sürdürülebilirlik ve güven boyutları açısından değerlendirilmiştir. Ayrıca Covid-19 salgınının paylaşım ekonomisini nasıl etkilediği ve ne gibi sonuçlar bıraktığı da çalışmada ele alınmaktadır.

Anahtar Sözcükler : Paylaşım Ekonomisi, Sürdürülebilirlik, Güven, Covid-19.

1. Giriş

Biyolojik temelli olan simbiyotik ilişki artık her alanda kullanılan bir olguya dönüşmüştür. Bu ilişkinin temel prensibi, ana karakterlerin iki veya daha fazla unsurun birlikte karşılıklı yarar ilişkisi ekseninde hareket etmesidir. Geleneksel bakışta bir tarafın kazanıp diğer tarafın kaybettiği veya her iki tarafın da zarara uğradığı yok edici bir rekabet yerine tarafların karşılıklı yardımlaşması sonucu kazançlı çıktığı rekabet şekli ortaya çıkmakta ve "kazan-kazan stratejisi" en uygun strateji olarak kabul edilmektedir (Demir & Baykal, 2020: 166).

Bilgi ve iletişim teknolojilerinin gelişmesiyle birlikte bireylerin paylaşım süreci genişlemekte ve günlük yaşam ve çalışma faaliyetlerinin kapsamı basite indirgenmektedir. Artık birçok firma dijital teknolojilerden faydalanmakta ve bu da refahın artmasına zemin oluşturmaktadır (Şepel'ová et al., 2022: 140). Dijitalleşmenin bireylere sağlamış olduğu fayda sayesinde artan refah ile birlikte tüketicinin de algısı dönüşüme uğramıştır. Kaynakların kıt, isteklerin sınırsız olması tüketilecek mal veya hizmetlerin paylaşılmasını zorunlu kılmıştır.

Post-modernizm ile birlikte tüketim felsefesi temelli yaklaşıma dönüşen dünyada "ırk" ve "milliyet" kavramları yerini tüketiciye bırakmıştır. Tüketim kültürünün yükselişinin durdurulamaz bir noktaya geleceğini düşünen kesimler ortaya yeni bir kavram olan paylaşım ekonomisi olgusunu atmışlardır. Paylaşım ekonomisi aslında geçmişten gelen bir olgudur. Mülkiyet oluşumu ve ortak yaşam ile bireyler önce paylaşarak daha sonra takas ve para ile ihtiyaçlarını karşılamışlardır. Takas ve para daha çok kullanılsa bile paylaşım her süreçte geçerliliğini korumuştur. Ülkemiz özelinde bilinen en yerel paylaşım ekonomisi uygulaması ise imece usulüdür. Kentleşmenin etkisiyle uygulanabilirliği azalsa da yine de günümüzde geçerliliğini korumaktadır. Paylaşım ekonomisi ekonomik, sosyal ve teknolojik faktörlere bağlı bir zemin oluşturmuştur. Küreselleşen dünyada artan nüfus kaynakların kıtlığına yol açmakta ve doğal kaynakların hızla tükenme tehlikesi ile karşı karşıya bırakmaktadır. İleri teknolojinin internet alanında yoğunlaşması ve özellikle mobil platformlar sayesinde paylaşım ekonomisi hızla yayılmıştır. Bu gelişmelerle birlikte sosyal ağlarda meydana gelen hareketlilik ve devamında yeni nesil dayanışma kültürü ile tüketerek bir haz almaktansa paylaşarak haz almayı öne çıkaran bu çaba geleneksel imece usulünün dijital biçimi olarak karşımıza çıkmıştır (Çelik-Varol & Varol, 2020: 129-133). Paylaşım ekonomisinin ortaya çıkışı ile dünyada birçok ekonomiye yeni iş ve sosyal değer getirmesinin yanında işletmeleri, endüstri sektörlerini ve pazarlarını alt üst etmiştir.

Paylaşım ekonomisi son zamanlarda hızlı bir ivme kazanmıştır. Bu gelişimin tetikleyicileri arasında, iktisadi anlamda tasarruf ihtiyacı, çevresel ve sürdürülebilir sistemlere karşı hassasiyet, sosyal iletişimin güçlenmesi, dijital çağ ile birlikte sosyal platformların gelişimi ve kentleşme oranının artması vb. faktörler yer almaktadır (Cheng, 2016: 61). Ayrıca azalan tüketici güveni, artan işsizlik oranı, teknolojinin çevrimiçi bir piyasaya ev sahipliği yapması paylaşım ekonomisinin büyümesine katkı sağlamaktadır (Daunorienė et al., 2015: 839). Bu faktörlerin tetikleyici gücü, artan tüketici talepleriyle

eşleşerek yeni bir ekonomi modelinin doğmasına zemin hazırlamaktadır. Paylaşım ekonomisinin etkileyici bir şekilde büyümesi göz önüne alındığında bu iş modelinin küresel ekonomi üzerinde önemli bir etkiye sahip bir dönüşüm olarak ortaya çıkması paylaşım ekonomisinin ne kadar önemli olduğunu ortaya çıkarmaktadır (Eckhardt, 2019: 5).

Paylaşım ekonomisinde, tüketiciler mal satın almak ve onlara sahip olmak yerine, ihtiyaç duydukları mallara geçici erişim sağlarlar. Geçmişte bakıldığında çoğu tüketici kullandığı eşyaya sahip olma arzusu taşıyorken, günümüzde tüketiciler paylaşmak ve kiralamaktan zevk almaktadır. Bu nedenle paylaşım ekonomisi gün geçtikçe popüler hale gelmektedir (Kişi, 2018: 59). Paylaşım ekonomisi özellikle ulaşım, konaklama veya turizm sektörlerinden çok sayıda şirkete fayda sağlamıştır. Uber, Blablacar veya Lyft gibi şirketler, boş zamanı olan sürücülerini ulaşım ihtiyacı olan kişilerle buluşturarak klasik ulaşım şirketleri için ciddi rakip haline gelmiştir. Diğer bir örnek ise konaklama için yer arayan turistler ile ev sahiplerini buluşturan Airbnb platformunun konaklama endüstrisi ile etkin bir rekabet üstünlüğünün bulunmasıdır (Grondys, 2019: 3) Sosyal iletişim araçlarının ilerlemesi ve internet altyapısının artması ve yaygınlaşmasının yanı sıra bireylerin mal ve hizmetleri paylaşmaya alışması da paylaşım ekonomisinin popüler hale gelmesine neden olmuştur (Kişi, 2018: 57). Paylaşım ekonomisinin önemli bir noktaya gelişi ile birlikte girişimciler bu yeni iş modelinden faydalanmaya başlamışlardır. Popülarite ile beraber paylaşım ekonomisinin temel felsefesinden kopan yeni bir düzen ortaya çıkmıştır. Bu da paylaşım ekonomisi ile çelişen kavramların yeniden bir sorun hale gelmesine neden olmuştur.

Paylaşım ekonomisinin yükselişinin ve sürdürülebilirliğinin arkasındaki en önemli faktörlerden biri tüketicilerin ihtiyaçlarında meydana gelen hızlı değişim olarak gösterilmektedir. Ayrıca piyasada ortaya çıkan teknolojik, sosyal, ekonomik ve çevresel göstergeler de paylaşım ekonomisini popüler hale getirmektedir (Şepel'ová et al., 2022: 139). 2008 küresel finansal krizin yarattığı finansal kısıtlamalar ve istikrarsızlıktan beslenen paylaşım ekonomisi kaynakların kullanım şeklini kökten değiştiren işbirlikçi bir tüketim modeli olarak ortaya çıkmıştır (Andreoni, 2020: 1).

Heinrichs (2013), paylaşım ekonomisinin sürdürülebilirliğe giden bir yol olabileceğini belirtmiştir. Sürdürülebilir bir ekonomi çerçevesiyle kendine yeni bir piyasa modeli edinen paylaşım ekonomisi çevresel göstergeler ile ivme kazanmıştır. Bu piyasa modeli ile özgün fikirlerin de desteği sayesinde dijital paylaşım platformları oluşmuştur. Ancak paylaşım ekosistemi belirli bir doygunluğa ulaştıktan sonra geriye paylaşım ekonomisinde âtil kapasite problemi ortaya çıkmıştır. Bu nedenle piyasadaki girişimcilerin ve düzenleme yetkisi olanların bu tip olumsuz durumları önleyebilecek mekanizmalar oluşturmaları elzem hale gelmektedir.

Öte yandan paylaşım ekonomisinin merkezinde güven olgusu vardır ve güven olmadan paylaşım gerçekleşmemektedir. Paylaşım ekonomisinin önündeki en önemli engel güven eksikliğidir (Räisänen et al., 2021: 18). Güven algıları paylaşım ekonomisi platformlarının başarısı için kırılğan yapıları nedeniyle kritik bir öneme sahiptir. Paylaşım ekonomisi platformlarında tarafların birbirlerine karşı duydukları güven bu platformların

başarısının en temel göstergesidir. Güven duygusu geliştikçe bu tür platformların geleceği belirsizlikten belirginliğe doğru yol alabilir. Bu nedenle piyasadaki aktörlerin güven unsurunu hesaba katmaları bu tür dijital platformların devamlılığı için hayati önem taşımaktadır. Kısaca, paylaşım ekonomisi için paylaşılanlar ve kullanıcılar arasındaki ilişki açısından güven oluşturuvcu önlemler ve düzenlemeler çok önemlidir.

Covid-19 pandemisi ile birlikte paylaşım ekonomisi, ekonomideki olumsuz yönelimin etkisi altında kalmıştır. Paylaşım ekonomisi çoğunlukla turizm sektöründe ve bilhassa konaklama ve ulaşım hizmetlerinde aktif olduğundan pandemi sürecinden daha çok etkilenmiştir. Güven odaklı bir hareket noktası olan paylaşım platformlarında, hastalığın bulaşma riski ve kullanıcılar arasındaki belirsizliklerin sıralanması küresel kapsamda daralmaya neden olmuştur. Öte yandan pandeminin neden olduğu ekonomik daralma sonrası dijitalleşmeye kayan ticaret, paylaşım ekonomisinin pandemiden sonra daha hızlı iyileşme göstereceğine yönelik beklentileri güçlendirmektedir.

Çalışma kapsamında paylaşım ekonomisi kavramı ele alınıp küreselleşen bir piyasadaki konunun önemi vurgulanarak paylaşım ekonomisinin sürdürülebilirlik ve güven temelli iki eksenden bağımsız olamayacağı değerlendirilmiştir. Paylaşım ekonomisinin sürdürülebilirlik temelinde ekonomik, çevresel ve sosyal boyutlar bağlamında sentezlenip açıklanmıştır. Paylaşım ekonomisi bu yönüyle yeterince kullanılmayan kaynakların erişilebilir hale getirilmesine, dayanışmaya dayalı ve katılımlı bir toplum yapısına ve çevresel yükün azaltılmasına katkı sunmaktadır. Güven temelinde ise günümüz tüketicisinin azalan güvenini hesaba katarak bu yeni piyasa modelinin hayatta kalabilmesi için güven mekanizmasının elzem olduğu ifade edilmekte ayrıca güven artırıcı önlemlerden bahsedilmektedir. Ayrıca çalışmamıza ek olarak tüm dünyayı etkisine alan Covid-19 salgını ile birlikte pandemi sürecinde paylaşım ekonomisi ekosisteminde meydana gelen gelişmeler ele alınmıştır.

2. Paylaşım Ekonomisine Kavramsal Bakış

Mübadele, kiralama, ortak tüketim, paylaşım ve değişim gibi çeşitli tüketim faaliyetlerini içeren paylaşım ekonomisinin genel kabul gören ortak bir tanımı bulunmamaktadır (Kumar et al., 2018: 148).

Paylaşım ekonomisi, gelişen ve gelecek vaat eden bir teknoloji odaklı platform ve iş modelidir (Venkateswaran et al., 2021: 110). Belk (2014: 1598), "sahip olduğunuz şeysiniz" şeklindeki eski klişeyi yeni bir slogana dönüştürerek "paylaştığımız şeysiniz" olarak ifade etmiştir. Paylaşım ekonomisi, bireysel refahı sağlayarak sosyal bir sermaye inşa eden ve aynı zamanda çevresel sorunları hafifleterek sürdürülebilir kalkınmaya katkıda bulunma potansiyeline sahip olan önemli bir sosyoekonomik trend olarak kabul edilmektedir.

Paylaşım ekonomisi, bilgi ve iletişim teknolojilerindeki gelişmeler ile birlikte artan tüketici bilinci, işbirlikçi web topluluklarının çoğalması ve sosyal medya veya paylaşım platformları tarafından güçlendirilen iktisadi ve teknolojik bir olgudur (Botsman & Rogers,

2010: 30). Paylaşım ekonomisinde temel fikir, dönüşüm ve kaynakların verimli kullanılmasıdır (Demir, 2020: 55).

Ortaklaşa tüketim kavramı ile karıştırılan paylaşım ekonomisinin temelde ayrıldığı nokta ortaklaşa tüketimde olduğu gibi sadece maddi çıkar odaklı değil, aynı zamanda ahlaki ve iktisadi değerleri ve maddi olmayan hizmetleri de kapsayan ve en önemlisi de sahiplenme ya da mülkiyetin ötesinde erişim ve kullanım hakkını öne çıkaran bir sistem olmasıdır (Kurt & Ünlüöner, 2017: 5). Paylaşım ve işbirlikçi tüketim modellerinde iki ortak nokta bulunmaktadır. Tüketilen mal veya hizmetlerin geçici ve sahiplenilmeden kullanılması ve bunu gerçekleştirmek için internete ve özellikle Web 2.0'a güvenilmesidir (Belk, 2014: 1595). Web 2.0, kullanıcıların içeriklere katkıda bulunmasına ve birbirleriyle bağlantı kurmasına izin veren web sitelerini ifade etmektedir (Carrol & Romano, 2010: 190).

Öte yandan paylaşım ve mübadele(takas-değişim) kavramları yapılan çalışmalarda birbirlerine yakın olarak kullanılmıştır. Takasta malın sahipliği eşler arasında birinden diğerine aktarılmaktadır. Paylaşımında ise malın sahipliği eşler arasında ortak olmakta ve paylaşılan mal/hizmetin her bir eş için etkin kullanımı amaçlanmaktadır (Belk & Llamas, 2012: 621). Petrucci et al. (2021: 3), paylaşım ekonomisinin kapsamış olduğu paylaşım ve takas ayrımını çeşitli araştırmacıların yapmış oldukları tanımlamalara göre sentezlemiştir. Paylaşım kapsamında değerlendirildiğinde etkileşime dâhil olan bireyler arasında sosyal bir bağ oluşmaktadır. Bireyler arasında ortak mülkiyet duygusu gelişmektedir. Paylaşan ve faydalanan arasında birbirlerine bağımlı olma durumu bulunmaktadır. Kaynakların verimli ve etkin kullanımı söz konusudur. Takas kapsamında ise paylaşılan mal veya hizmet karşılığında bir şey alma beklentisi vardır. Dolayısıyla bireyler arasında karşılıklılık ilkesi bulunmaktadır. Öte yandan takasta para ile ilişkili bir durum vardır. Bireyler arasındaki etkileşim parasal değişime bağlıdır. Faydalananlar ve paylaşanlar arasında bir çıkar hesabı bulunmaktadır.

Geleneksel iş modellerinin aksine paylaşım ekonomisi; müşteri, hizmet sağlayıcı ve platform olmak üzere üç aktörü içeren üçlü bir iş modelidir. Bu iş modelinde hizmet sağlayıcı, müşterilerin kaynaklara geçici erişimi için yeterince kullanılmayan kaynakları bir fiyat karşılığında sunmaktadır (Benoit et al., 2017: 220). Paylaşım ekonomisinde bir mal veya hizmeti satmak veya satın almaktan ziyade paylaşmak yeterlidir. Bu yönüyle internet üzerinden alışverişten ayrılmaktadır. E-ticarete ticari yöntemler tüketiciler arası elektronik ticaret (Consumer to Consumer- C2C) ve işletmeden işletmeye elektronik ticaret (Business to Business - B2B) iken, paylaşım ekonomisinde kişiler arası paylaşım (Peer to Peer - P2P) ya da işletme kişi arası paylaşım (Business to Peer - B2P) şeklinde olmaktadır (Acuner & Acuner, 2017: 190).

Paylaşım ekonomisinin bu kadar popüler olması sahip olduğu birtakım özelliklere dayandırılmıştır. Bu özellikler; fiyat avantajları, teknolojik gelişme ve çevresel fayda olarak sıralanmıştır (Zhu & Liu, 2021: 2). Paylaşım ekonomisinin gelişmesiyle birlikte, bireyler hizmet sunarak belirli faydalar elde etmek için atıl kaynakları kullanabilmektedir. Bu sayede değer yaratma ve gelir elde etme konusunda daha fazla fırsata kavuşulabilecektir. 2008'deki

ekonomik kriz, 2020'deki Covid-19 işsizlikte keskin artışlara yol açtı ve birçok aile gelirini kaybetti. Bu süreçlerden sonra bireylerin tüketim davranışları ve tüketim kalıpları temelden değişerek paylaşım ekonomisinin popülaritesinin önemli bir nedeni haline gelmiştir. Tüketiciler, paylaşım ekonomisine katılım konusunda fiyatın önemli bir faktör olduğunu bilmektedir ve birçok tüketici bu nedenle paylaşım ekonomisine katılmaktadır. Çünkü bu sadece onların ek gelirlerini artırmalarına değil aynı zamanda harcama maliyetlerinin de azaltılmasına yardımcı olmaktadır. Öte yandan birçok çalışma işbirlikçi tüketim için sosyal ağların ve topluluk temelli çevrimiçi teknolojilerin önemini vurgulamaktadır (Barnes & Mattsson, 2016: 201; Hamari et al., 2016: 2048). İnternet teknolojisinin gelişmesi ile bilgisayar ve akıllı telefonların popülaritesi sayesinde iki yönlü etkileşimden platformlar aracılığı ile üç yönlü bir etkileşime dönüşmüştür. Diğer bir özellik ise çevresel fayda olarak karşımıza çıkmaktadır. Çevre dostu olmak paylaşım ekonomisine katılanların başlıca niyetlerinden birisidir; bu da birçok ülkenin ve hükümetin paylaşım ekonomisini desteklemesinin bir nedeni olmuştur. Az kullanılan mal ve hizmetlerin ortak bir platform aracılığıyla elde edilmesi veya paylaşım yoluyla satın alınmasının azaltılması hem kaynak kaybını hem de sera gazı emisyonlarını büyük ölçüde azaltmaktadır (Demailly & Novel, 2014: 21). Bu durum, ulaşım konaklama vb. alanlarda daha net görülebilir.

Paylaşım ekonomisi, çevrimiçi işbirliği, sosyal ticaret, çevrimiçi paylaşım ve tüketici ideolojisi alt boyutlarına indirgenmiştir (Hamari et al., 2016: 2050). Web 2.0 çağında bilgi teknolojilerinin artan kullanımı, kullanıcı tarafından oluşturulan içeriğin miktarını ve ayrıca bilginin çevrimiçi olarak oluşturulma ve tüketilme şeklini artırmıştır. Eşler arası platformlar (P2P), bu tip tüketim kalıpları veya bilgi paylaşım amaçları için önemli bir araç haline gelmiştir. Bilgi paylaşımı açısından iyi bir örnek herkesin sıkça kullandığı Wikipedia'dır. Eşler arası platformlar, merkezi bir otoritenin katılımı olmadan taraflar arasında bilgi, veri veya varlık alışverişi veya paylaşımı tarif etmek için kullanılmaktadır. Bu platformlar, bireyler ve gruplar arasındaki etkileşimlere dağıtılmış bir yaklaşımı esas almaktadır (Paribu, 2020). Sosyal ticaret, sosyal medyanın aracılık ettiği bir ticaret biçimi olarak eşler arası etkileşime dayanmakta ve bu da kullanıcıların sosyal paylaşım sitelerini kullanmaya ve etkileşime devam etmek için motive olmalarına dayanmaktadır. Kozinets (1999: 259), tüketicilerin ürünler hakkında bilgi alırken artık ticari bilgiler/kaynaklara yönelmekten ziyade bilgi almak için sosyal ağlarında eşler arası paylaşımaya yöneldiklerini ve bu nedenle de pazarlamacıların rolünün azaldığını belirtmektedir. "Paylaşım" terimi özellikle sosyal paylaşım siteleri ortamında çevrimiçi hizmetlerin evrimi anlamında büyük bir değişiklik yaşamıştır. Sosyal paylaşım siteleri bağlamında paylaşım kavramı genellikle durum güncellemeleri, bağlantılar veya fotoğraflar gibi bilgilerin paylaşılması anlamına gelmektedir. Öte yandan bilgi iletişim teknolojilerindeki gelişmelere bağlı olarak e-ticarete olan güven mal ve hizmetlerin paylaşımını da kolaylaştırmıştır. Bilgi teknolojisi, bir ideolojinin veya fikrin ilerlemesini desteklemek için bir araç olarak giderek daha fazla kullanılmaktadır. Bu bağlamda, Arap Baharı sırasında Twitter'ın rolü ve 2008 ABD Başkan adaylarının sosyal medya aracılığıyla yoğun bir kampanya yürütmesi düşünülebilir. Paylaşım ekonomisinin altında da yatan ideoloji ve fikirler paylaşarak yayılmaktadır. Aşırı

tüketim karşılığı, sürdürülebilir ekonomi fikri gibi ideolojiler bunlardan bazılarıdır. Kullanıcılar paylaşım platformları ile bu fikirleri de paylaşmaktadırlar.

TIME dergisi 2011'de paylaşım ekonomisini dünyayı değiştirecek 10 fikirden birisi olarak aday gösterdi. Günümüzde yaklaşık 2 milyar dolarlık bir fonla ilerleyen 200'den fazla yeni girişim, mal ve hizmetlerin eşler arası paylaşımı için büyüyen bir pazarda rekabet etmektedir. Bunlar arasında araç, konaklama, giysi paylaşımı gibi hizmetler bulunmaktadır. Evlerde kullanılmayan boş odaların veya âtil durumda olan evlerin kiralanması en göze çarpan hizmetlerdendir (Teubner, 2014: 322). Küresel piyasalarda paylaşım ekonomisinin ticari boyutunun 2015'te sağladığı 15 milyar dolarlık hacminin 2025 yılında 335 milyar dolara yükseleceği beklentisi vardır (Narasimhan et al., 2018: 93; Yaraghi & Ravi, 2017: 7). Küresel anlamda paylaşım ekonomisinin popüler hale gelmesi birçok insanın girişimci olarak ortaya çıkmasına yol açmıştır. Paylaşılan mal veya hizmet, ticari ve ticari olmayan ürün olmasına göre iki farklı tür olarak karşımıza çıkmaktadır. Herhangi bir para alışverişinin olmadığı Couchsurfing ve Wikipedia gibi platformlar yanında mal ya da hizmet sahibine ekonomik kazanç sağlayan Blablacar ve Airbnb gibi platformlar da bulunmaktadır. Örneğin, Airbnb aracılığıyla bireyler yaşadıkları evlerini bu platform sayesinde çevrimiçi kiralarak paylaşmaktadır. Bu platform ile tüketicilerin eğilimleri yeniden biçimlenmektedir. Airbnb ekonomik bir etki yansıtmasının yanı sıra bireylerin sosyal olarak değişmesine de zemin hazırlamaktadır. Bu sayede evlerini paylaşan kişilerin kira yoluyla ek bir gelir kazanmasının dışında farklı kültürden birisiyle bir arada bulunmaları karşılıklı olarak toplumsal fayda sunma şansını da doğurmaktadır (Özdemir & Çelebi, 2018: 30). Paylaşım ekonomisinin olumlu ve elle tutulur faydalarının olmasının yanı sıra güvenlik, gizlilik, kayıt dışılık, vergiden kaçınma gibi olumsuz yönleri de mevcuttur. Ayrıca bu gibi platformların henüz yasal bir mevzuata dayatılmamaları da paylaşım ekonomisinin sağlıklı bir şekilde gelişimini engellemektedir (Çelik & Varol, 2020: 138).

Bucher et al. (2016) ve Belk (2013) çalışmalarında paylaşım ekonomisinde dijitalleşmenin sosyal platformlara kaymasının rolünü açıklamışlardır. Dijitalleşmenin bu platformlarda ilerleyişi paylaşım ekonomisinin de yaygınlaşmasının önünü açmıştır (Gansky, 2010: 40). Paylaşım ekonomisinin temelinde paylaşımı arz ve talep eden insanlar bulunmaktadır ve arz ile talep arasındaki akışı ise paylaşım platformları sağlamaktadır (Özdemir & Çelebi, 2018: 28). Dijital tabanlı platformlar ve özellikle mal veya hizmet paylaşmak isteyenler arasında hızlı ve rahat bir eşleşme sağlayan çevrimiçi teknolojiler ile dönüştürülmektedir. Dijitalleşmenin getirmiş olduğu bu sosyal paylaşım platformları sadece paylaşanlar için değil aynı zamanda paylaşmayı kolaylaştıranlar için de ticari bir değer oluşturma fırsatını doğurmuştur (Çelik-Varol & Varol, 2020: 132).

3. Paylaşım Ekonomisinde Sürdürülebilirlik ve Etkin Kaynak Kullanımı

Günümüzde paylaşım kavramı ekonomi alanının da içine girdiği dijitalleşen toplumumuzda görülmektedir. Paylaşmayı sosyal ve kültürel nedenlerin dışında artık ekonomik nedenler de etkilemektedir. İktisat bilimi kıt olan kaynakların kullanımı ve bu kaynakların etkin ve verimli kullanımını temel almaktadır. İktisat biliminin sahip olduğu bu

temel ilkeler paylaşım ekonomisinin fonksiyonlarıyla örtüşmektedir (Acuner & Acuner, 2017: 189). Dünya nüfusu gittikçe artmakta ve bu da kaynakların kullanımında bir artış anlamına gelmektedir. Buna göre, daha sürdürülebilir bir yaşam ve iş yapma biçimini destekleyecek iş modellerine ihtiyaç duyulmaktadır. Paylaşım ekonomisi sürdürülebilirliği teşvik etmek için bir çözüm yolu olabilir (Räisänen et al., 2021: 2).

Paylaşım ekonomisi, âtlı durumda olan mal veya hizmetlerin paylaşım yoluyla iktisadi olarak değerlendirilmesine neden olabilmektedir (Özdemir & Çelebi, 2018: 28). Nitekim paylaşım ekonomisi genellikle sürdürülebilirlikle ilgilidir ve şu şekilde çerçevesizdir: (a) ekonomik bir fırsat, (b) daha sürdürülebilir bir tüketim biçimi ve (c) adil ve sürdürülebilir bir ekonomiye giden yol (Martin, 2016: 154).

Yeterince kullanılmayan kaynakların tüketiciler arasında paylaşılacağı fikrine dayalı olarak, paylaşım ekonomisi genellikle daha sürdürülebilir bir geleceğe katkıda bulunabilecek bir sistem olarak çerçevesizdir (Andreoni, 2020: 1). Paylaşım ekonomisi sürdürülebilir bir kalkınmanın doğasını keşfetmek ve sürdürülebilirliğe katkıda bulunmak için ideal bir merkez sağlamaktadır. Paylaşım ekonomisinin çevresel itici güçleri her iş modeline özgü çeşitli koşullara bağlıdır. Paylaşım ekonomisi sürdürülebilirlik kapsamında biyolojik ve fiziksel sistemlerin sürekliliğine odaklanmaktadır. Ayrıca çevresel sürdürülebilirlik ile birlikte üretilen malların azaltılmasını ortaya çıkarmaktadır (Daunorienė et al., 2015: 839).

Paylaşım ekonomisi ile ilgili kavramsal tanımlamalara baktığımızda her seferinde tüketmeye veya satın almaya gerek kalmadan bir topluluk içinde kaynakların kullanılmasına yardımcı olduğu ifade edilebilir. Mal veya hizmetlerin paylaşılma imkânı bu mal veya hizmetlerin sadece gerçekten ihtiyaç duyulduğunda kullanılma ve sonrasında başkalarıyla paylaşma fırsatını sunmaktadır. Bu tür bir tüketim anlayışında mülkiyetin daha az önemli olduğu, tüketmek isteyen herkesin her varlığa sahip olmasına gerek olmadığı anlamına gelmektedir. Paylaşarak üretimin düşük tutulması üretim miktarını azaltarak sürdürülebilirliğe olumlu bir etki sağlayacaktır (Boar et al., 2020: 8). Ayrıca paylaşım ekonomisi ürünleri ve hizmetleri daha az maliyetli hale getirebilir (Schor, 2016: 10).

Paylaşım ekonomisi; çevresel, sosyal ve ekonomik yönleri bir araya getirerek sürdürülebilir bir bakış açısı sağlar ve ürün veya hizmetlerin mülkiyetine geçici erişim hakları yoluyla kaynak kullanımını etkin hale getirmektedir (Acquier et al., 2017: 2). Mal veya hizmetlere erişirken kaynak kullanımının daha az yoğunluğunu göz önüne aldığımızda birçok paylaşım platformu kendisini yeşil ekonomi adında veya karbon ayak izini azaltmanın bir yolu olarak tanıtmaktadır (Parguel et al., 2017: 49). Andreoni (2020: 4), sürdürülebilirliği paylaşım ekonomisi bağlamında ekonomik, sosyal ve çevresel boyutta ele almıştır:

Ekonomik boyut; geleneksel iş modellerini merkezsizleştirilebilen ve kaldırabilen bir iş modeli olarak karşımıza çıkmaktadır. İnternet platformlarının kullanımına bağlı olarak kitle fonlaması girişimlerinin geliştirilmesi ve yeterince kullanılmayan varlıkların

erişilebilirliklerinin artması ekonomik fırsatlar olarak gösterilmiştir. Büyük firmaların piyasa dinamiklerini yönlendirdiği geleneksel piyasa sisteminin dışında ticaret yapma imkânı, paylaşım ekonomisi aktörlerinin gelir olanaklarını ve fırsatlarını şekillendirmeye katkıda bulunmaktadır. Ayrıca P2P platformlarının kullanımını ile işlem ve arama maliyetlerinin de azalması ile tasarruf, gelirin yeniden dağılımı ve refah açısından önemli katkılar elde edilmektedir.

Sosyal boyut; paylaşım ekonomisi sosyal bağ ve işbirliğini artırmanın bir yolu olarak incelenebilir. Sahip olduklarını başkalarıyla paylaşmak genellikle dayanışma ve topluluk duygusunu artırabilen toplum yanlısı bir davranış olarak tanımlanmaktadır. Örneğin, Airbnb ve Coachsurfing platformları, kullanıcılar arasında kişisel ilişkiler kurmaya, dayanışmanın ve güvenin gelişimini teşvik etmeye yönelik faydalar sunmaktadır. Bu çerçevede paylaşım ekonomisi daha katılımlı bir toplumu teşvik etmek için bir araç olarak da görülmektedir.

Çevresel boyut; paylaşım ekonomisi yeterince kullanılmayan kaynaklara erişim sağlar ve daha sürdürülebilir bir geleceğe katkıda bulunur. Mülkiyet yerine geçici kullanım fikrine dayanan paylaşım ekonomisi, tüketicilerin paylaşılabilir mallara yönelmesini teşvik ederek fazla olan kapasitenin kullanımına fırsat sunmaktadır. Benkler (2004: 304), sahibi tarafından her zaman kullanılmayan malları paylaşılabilir mallar olarak tanımlamıştır. Bu mallar diğer tüketicilere geçici olarak verilebilecek bir âtlı kapasiteye sahiptir. Örneğin, evler, arabalar, eşyalar, giysiler, ev aletleri, kitaplar veya mobilyalardır. Bu bağlamda paylaşım ekonomisi, varlıkların kullanımını optimize etmeye ve sürdürülemez hiper tüketim alışkanlıkları düzeltmeye katkıda bulunması beklenmektedir. Özetle sürdürülebilirlik bağlamında paylaşım ekonomisi, çevresel yükü azaltabilen, sosyal bağ ve işbirliğini artırabilen bir sosyoekonomik model olarak çerçevelemiştir (Liu et al., 2020: 2). Sosyal yemek ağlarından EatwithMe uygulamasına baktığımız zaman tanımadığımız birisiyle ya da komşumuzla yemek yemek için kullanılmaktadır. Yalnız başına yemek yemeyi sevmeyen veya sosyalleşmek isteyen bireylerin kullandığı platform olan EatwithMe ile yemek israfına engel olabilecektir. Bu sayede sosyal faydası da kaçınılmaz olacaktır.

Öte yandan paylaşım ekonomisinin sürdürülebilirliğe olumsuz etkileri de olabilir. Net tüketim artabilir, mevcut paylaşım platformları sosyal ve çevresel açıdan olumsuz etkiler doğurabilir (Ma et al., 2018). Örneğin Airbnb ile birlikte artan konut fiyatları ve yerel konut stokunda azalmaya neden olmuştur (Muñoz & Cohen, 2018: 116). Paylaşım ekonomisi uygulamalarından Uber'in trafik sıkışıklığına sebep olduğu (Plante, 2019) ve daha fazla fazla kirliliğine sebep olduğu görülmüştür (Keating, 2019). Özetle paylaşım ekonomisi sonuçları bakımından sürdürülebilirliğe olumsuz etkileri de görülebilmektedir. Bu nedenle paylaşım ekonomisi iş modellerini tasarlama ve uygulama konusunda daha bilinçli ve stratejik davranmayı gerektirmektedir.

Paylaşım ekonomisinin neden olduğu diğer olumsuz bir etki de kaynakların etkin kullanılıp kullanılmadığı problemidir. Paylaşım ekonomisinin gelişimi göz önüne alındığında paylaşım ekonomisini paylaşım ekonomisi 1.0 ve paylaşım ekonomisi 2.0 ekseninde değerlendirildiğinde âtlı kaynak kullanımı probleminin de ortaya çıkabileceği

belirtilmiştir (Rong et al., 2019: 2). Paylaşım ekonomisi 1.0 tüketiciden tüketiciye bir paylaşım mekanizmasını temsil ederken, paylaşım ekonomisi 2.0 ise firmadan tüketiciye paylaşımı temsil etmektedir. Rong et al. (2019), paylaşım 1.0 ile eşleşmelerin daha etkin olduğunu ve kapasite fazlasının daha az yaşandığını ancak paylaşım 2.0 ile firmaların arz fazlasına neden olduklarını göstermiştir. Çalışmada, Çin'deki bisiklet paylaşım sistemlerinin arz fazlasına yol açması bisiklet çöplüklerine neden olduğu ve çevre kirliliğini artırdığı değerlendirilmiştir.

Paylaşımçı tüketimin iktisadi faaliyetlerin maliyetini düşürerek aşırı tüketim, çevre kirliliği ve yoksulluk gibi toplumsal sorunları hafifletmeyi amaçlamaktadır. Öte yandan tüketime yönelik tutumlar son zamanlarda dönüşüme uğramış ve ekolojik, toplumsal ve kalkınma temalarında endişelerin artmasına neden olmuştur (Hamari et al., 2016: 2047). Paylaşım ekonomisi çeşitli çevresel problemleri ve âtil kaynak kullanımı gibi sorunları çözebilecek bir alternatif olarak değerlendirilirken, topluma kazandırdığı değer yanı sıra gelirlerin büyük kısmının paylaşım ekonomisi platformlarına yönlendirildiği eleştirisi de yapılmaktadır (Kim et al., 2018: 118). Paylaşım ekonomisi hem kapitalist ekonominin bir parçası hem de kapitalist ekonomiye karşı dual bir yapıya sahiptir. Bu yönüyle bir paradoks halini de aldığı söylenebilir (Richardson, 2015: 121; Martin, 2016: 157).

Kaynakların etkin kullanımı problemi iş gücü piyasasında da mevcuttur. Paylaşım ekonomisi platformları yeterince kullanılmayan mal ve hizmetlerin (araba, ev, iş gücü arzu vb.) ve bu mal veya hizmetleri ödemeye istekli bireylerin taleplerini eşleştirmek için bilgi teknolojilerinden faydalanmaktadır. Paylaşım ekonomisi platformlarının etkilediği potansiyel piyasalardan birisi de iş gücü piyasasıdır. McKinsey araştırmasına göre ABD ve AB'de ortalama 162 milyon kişi paylaşım ekonomisi ekosisteminde çalışmaktadır. Bu da iş gücünün yaklaşık %20 ile %30'una denk gelmektedir (Li et al., 2018: 666). Paylaşım ekonomisindeki çalışma ilişkileri bir tartışma konusu olmuştur; fakat neredeyse herkesin hem fikir olduğu şey, sektörün yeniden dizayn edilmiş bir kapitalizmi temsil ettiğidir (Slee, 2015: 16). Paylaşım ekonomisinin olumlu ya da olumsuz etkilerine dair çeşitli görüşler bulunmaktadır. Bir tarafta paylaşım ekonomisinin çalışma hayatını destekleyici, verimli ve ileriye dönük bir dönüşüm olarak tanımlayan bir görüş varken, diğer tarafta güvencesiz, kayıtdışı ve sömürücü koşullarla karşı karşıya kalan yetkisiz çalışanların bulunduğu bir neoklasik distopya mevcuttur (Schor & Charles, 2017: 6).

4. Paylaşım Ekonomisi ve Güven

Güven; psikoloji, sosyoloji, ekonomi, antropoloji ve diğer birçok disiplinde geniş çapta kabul görmüş bir kavramdır (Zhang et al., 2021: 2; Beldad et al., 2010: 858). Bireyler paylaşım ekonomisi platformlarında mal veya hizmetlerini paylaşırken daha çok bu platformlar içerisindeki yabancılarla etkileşim içerisine girmektedir (Frenken & Schor, 2017: 4). Bilinmeyen taraflarla olan bu etkileşim riskli olabilir ve potansiyel olarak finansal veya diğer kayıplarla sonuçlanabilir (Räisänen et al., 2021: 3). Güven, işbirlikçi tüketim anlayışında tercihlerde temel belirleyici olarak kabul edilmektedir (Möhlmann, 2015: 193).

Paylaşım ekonomisi, sürdürülebilirlik sorununa fayda sağlayabilir, kaynakların paylaşımını ve yeniden kullanımını kolaylaştırabilir ve sosyal bağlantıları geliştirebilir. Her şeye sahip olmak zorunda kalmadan doğal kaynakların kullanımını azaltarak sürdürülebilirliği olumlu yönde etkileyebilir. Bu tür bir ekonominin temelinde kullanıcılar ve mal/hizmet sahipleri arasındaki güven olgusu yatmaktadır.

Paylaşım ekonomisinin temelindeki eşler arası platformlarda, ilk işlem çevrimiçi olarak gerçekleşirken, asıl işlem fiziksel bir ortamda çevrimdışı olarak gerçekleşmektedir. Konaklama hizmeti bazlı düşünüldüğünde misafirler geleneksel konaklama hizmetlerinde olduğu gibi sadece mülkün özelliklerini değil ev sahibinin özelliklerini de dikkate almaktadır. Böylece ev sahibi ve platform ile güvene dayalı ilişkiler kurmak misafirlerin karar verme süreçlerinde oldukça etkilidir (Zhang et al., 2021: 1).

Paylaşım ekonomisinin sürekli büyümesi ve eşler arasındaki engellerin azalması büyük oranda güvene bağlıdır (Ert et al., 2016: 64). Yabancılar arasında güven inşa etme yeteneği paylaşım ekonomisi tabanlı bir platformun başarısını belirlemenin önemli bir parçası haline gelmiştir. Bu tür dijital platformlarda her iki taraf da birbirine karşı hassasiyet göstermektedir. Bu nedenle taraflar arası değerlendirmeler belirsizliği ve riski azaltmaya yardımcı olmaktadır (Cheng et al., 2019: 368).

Tüketim tecrübesi olan kişilerin vermiş oldukları değerlendirmeler potansiyel tüketiciler için önemli çevrimiçi sinyaller olarak değerlendirilmiştir (Xu, 2018: 1664). Eşler arasındaki güveni korumak ve geliştirmek paylaşım ekonomisi platformlarının başarısı için kritik bir öneme sahiptir (Venkateswaran et al., 2021: 110). Paylaşım ekonomisinin gelişiminin önemli nedenlerinden birisi alıcı ve satıcıların birbirlerini yorumlayıp değerlendirebilecekleri geri bildirim sisteminin gücüdür. Bu etkileşim sonucu alıcı ve satıcı arasındaki asimetrik bilgi azalmaktadır (Çelik-Varol & Varol, 2020: 133).

Ert et al. (2016), turizm endüstrisindeki paylaşım platformlarından Airbnb ile ilgili dikkat çeken bir araştırma yapmıştır. Çalışmada satıcıların kendi fotoğraflarının varlığının konukların karar vermelerinde önemli bir etkisi olduğunu ve ev sahibinin fotoğrafı ne kadar güvenilir algılanırsa fiyatın ve seçilme olasılığının o kadar yüksek olduğunu vurgulamıştır.

Genel olarak yabancılar arasında herhangi bir işlem yapmak zor iken, sanal platformlar aracılığı ile işlem yapmak daha da zordur. Değişim tarafları geri bildirimlerden veya derecelendirmelerden toplanan bilgilerle ilişkilerini yürütürler. Bu koşullar altında taraflar arasındaki güven kırılğan bir yapıdadır ve güveni daha güçlü hale getirmek için ek takviyeler gerekebilir. Bu nedenle yeni bir iş modeli olan paylaşım ekonomisi iş modelinde güveni incelemek önem arz etmektedir (Venkateswaran et al., 2021: 111).

Güven unsuru hassas olduğu için paylaşım platformlarının geleceği de bu güvene bağlıdır. Finlandiya'da başlatılan "Kutsuplus" adında bir araç paylaşım hizmeti sürdürülebilirliği destekleyen faydalı bir girişim olmuştur. Ancak aynı yıl içerisinde başarısız olmuştur. Başarısız diğer paylaşım ekonomisi platformu örneği ise "Duara

Travel"dir. Bu platform gezginlerin gelişmekte olan ülkelerdeki köylerde kalabileceği ve yerel halkla birlikte yaşayabilecekleri temelinde amaçlanan bir hizmettir. Bu platformların piyasada başarısız olmasının temel nedeni güven eksikliği olarak görülmektedir (Cherry & Pidgeon, 2018: 945). Dolayısıyla, paylaşım ekonomisi platformlarına olan güven artırılarak bu platformların olumlu etkilerinden faydalanılabilir ve bireylerin bu tür platformları kullanma kararları güçlendirilebilir (Hawlitschek et al., 2018: 144).

İşlemlerin genellikle uzaktan gerçekleşmesi güven açısından kilit öneme sahiptir. Paylaşım ekonomisi platformları bu sorunu çözmek için güveni artırıcı birtakım önlemler almaktadır. Ancak Covid-19 pandemisi ile birlikte güven problemi yeniden gündeme gelmiştir ve bu da paylaşım ekonomisi açısından kayıpları gündeme getirmektedir (Hossain, 2021: 2).

5. Covid-19 Döneminde Paylaşım Ekonomisi

Dünya Sağlık Örgütü'nün Covid-19 salgınına 30 Ocak 2020'de uluslararası öneme sahip bir halk sağlığı acil durum olduğunu duyurması paylaşım ekonomisi ile ilgili sektörleri derinden etkilemiştir. Konaklama endüstrisinde önemli bir yere sahip olan paylaşım ekonomisi platformları ise Covid-19 salgınından olumsuz etkilenen sektörlerin başında gelmektedir (Hossain, 2021: 1). Paylaşım ekonomisi, hükümetler tarafından uygulamaya konulan sosyal mesafe ve sokağa çıkma kısıtlamaları gibi katı önlemler nedeniyle Covid-19'dan etkilenmiştir (Alharthi et al., 2021: 4).

Online eşler arası (P2P) piyasa mekanizmaları özellikle seyahat ve turizm hizmetlerinde hızlı bir oranda büyümektedir. Turizmde özellikle konaklama sektöründe bu kadar yükselmesinin sebebi ekonomik ve toplumsal kaygılardan kaynaklanmaktadır (Tussyadiah, 2015: 818). Salgından en fazla etkilenen sektörler, turizm ve konaklama, seyahat, eğlence gibi sektörler olmuştur. Özellikle seyahat ve konaklama sektörü daha savunmasız ve hassas kalmıştır (Yıldırım, 2021: 282). Turizm sektöründeki paylaşım platformları da Covid-19 döneminde ağır kayıplar vermiştir. Pandemi ile birlikte gelen kısıtlamalar neticesinde Airbnb ve Uber gibi paylaşım platformlarında alınan hizmetlerin taleplerinde düşüş meydana gelmiştir. Seyahat kısıtlamaları nedeniyle ulaşım ve konaklama ile ilgili paylaşım hizmetleri ciddi oranda etkilenmiştir. Örneğin kısıtlamalar neticesinde en çok zarar gören Airbnb'nin kaybı gelirinin yarısına ulaşmıştır. Airbnb'nin Pekin'de Ocak-Mart 2020 arası rezervasyonları %96'lık bir kayıp ile karşı karşıya kalmıştır. Benzer durum Uber uygulamasında da yaşandığı gözlenmiştir. Öte yandan pandemi ile birlikte bu kısıtlamalar paylaşım ekonomisi platformlarından bazıları için fırsata dönüşmüştür. Ülkelerde yaşanan kısıtlamalar neticesinde online yemek ve alışveriş sitelerinin kullanımı artmıştır (Batoool et al., 2021: 2374).

Chen et al. (2020) yapmış oldukları çalışmada Avustralya'nın Sydney kentindeki Airbnb kayıtlarının mali kaybını değerlendirmiştir. Elde edilen bulgulara göre Ocak 2020-Ağustos 2020 arasında pandemi sürecinde Airbnb platformundaki ev sahipleri yaklaşık %89,5'lik bir kayıp yaşamıştır. Öte yandan Airbnb'deki ev sahipleri Avustralya hükümeti

tarafından sunulan mali yardım programlarına dâhil edilememiştir. Dolayısıyla paylaşım ekonomisi platformları pandemi döneminde büyük zarara uğramış ve zararlarını telafi etme şansı mümkün olamamıştır.

Paylaşım ekonomisi, Covid-19 pandemisi sonrası piyasalardaki durgunluğun ardından dijital ekonomideki canlılığın etkisiyle güçlenmiştir. Belova (2021) çalışmasında paylaşım modelinin yalnızca istikrarlı bir ekonomik kalkınma döneminde değil, aynı zamanda Covid-19 pandemisinin neden olduğu bir krizde de geçerli olabileceği sonucuna ulaşmıştır. Teixeira & Lopes (2020: 8), New York'taki Covid-19 salgını sonrası ulaşım hizmetleri kapsamında metro ile ulaşım ve bisiklet paylaşım uygulaması arasındaki direnç seviyelerini araştırdıkları çalışmalarında bisiklet paylaşım uygulamasının göreceli olarak metro sistemine göre daha dirençli olduğunu göstermiştir. Covid-19 ile metro sisteminde %90'lık bir düşüş gözlemlenirken bisiklet paylaşım uygulamasında Covid-19 dönemi öncesine göre %71'lik bir düşüş gözlemlenmiştir. Ayrıca çalışmada bazı metro kullanıcılarının bisiklet paylaşım uygulamasına doğru bir eğilim gösterdiği de ortaya çıkmıştır.

Her iş modelinde olduğu gibi paylaşım ekonomisi iş modellerinde de Covid-19 döneminde sosyoekonomik olarak kayıplar verilmiştir. Covid-19 pandemisi sonrası dönemde meydana gelen ekonomik durgunluk ile beraber paylaşım platformları kullanıcılar ve platform sahipleri açısından fırsat haline gelmiştir. Üretim maliyetlerindeki artış ve bazı sektörlerdeki üretimin durma noktasına gelmesi sonucu paylaşım ekonomisinin temel hedeflerinden birisi haline gelen kaynakların etkin kullanımını gündeme getirmiştir. Bu durum küreselleşen ticaret ortamında ekonominin paylaşım esaslı bir boyuta da gelebileceği olgusunu akıllara getirmiştir.

6. Sonuç

Küreselleşen dünyanın dijitalleşmesi bireylerin kararlarını hızlandırmakta ve tüketim toplumuna dönüşmenin yolunu açmaktadır. Öte yandan teknolojinin gelişimi ile beraber üretilen ürün ve hizmetlerin çeşitliliği tüketicilerin tatmin düzeyini olumsuz etkilemektedir. Doyumsuz bireylere dönüşen tüketici, kaynakların kalıcı sahipleri olup geçici kullanıcıları olmaktan öteye gidememiştir. Bunun sonucu olarak, ekonomide kaynakların etkin kullanılmaması sorunu ortaya çıkmıştır.

Değişen tüketici davranışları ile birlikte bireyler artık mal veya hizmetlere sahip olmak yerine onları geçici olarak sahiplenmek veya paylaşmayı tercih etmektedir. Bu sayede ekonomideki kaynakların atıl kullanımı engellenmektedir.

Kaynakların etkin kullanımı sürdürülebilir bir ekonominin önünü açmıştır. Sürdürülebilirlik günümüz dünyasının geleceği için önemli bir dönüm noktasıdır. Sürdürülebilir bir kalkınma ile iktisadi olarak uzun dönemli pozitif faydalar sağlanabilir. Bu doğrultuda paylaşım ekonomisi platformlarının sürdürülebilirlik açısından faydaları bulunmaktadır. Ancak; sürdürülebilirliğe giden yolda, paylaşım ekonomisi platformlarının

sürdürülebilir bir ekonomiden sapma gösterdiği de alan yazında görülmektedir. Bu nedenle bu ekonominin büyürken dengeli ve etkin politikalarla ilerlemesi gerektiği akıldan çıkartılmamalıdır. Örneğin, hükümet kontrolü ile çevre ekonomisini bozucu ilerlemelerin engellenmesi sağlanarak paylaşım ekonomisinin sürdürülebilir faydası öne çıkarılabilir. Aksi takdirde sürdürülebilir bir ekonomiye fayda sağlamaktan çok âtil kaynak birikiminin olduğu, çevresel tahribatın arttığı bir dünya ile karşı karşıya kalmamız kaçınılmazdır.

Paylaşım ekonomisi tüketicilerin çevre bilincini olumlu yönde etkileyerek düşük karbonlu, çevreyi koruyucu ve yeşil yaşam biçimlerini destekleyici bir yol ile popüleritesini artırıcı bir yöne doğru gitmektedir. Sürdürülebilir kalkınma ışığında yeşil bir ekonomik büyüme ivmesi yakalanabilecektir. Gelecekte paylaşım platformlarının yaygınlaşması paylaşım ekonomisinin çevreyi koruma etkisi üzerindeki teşvik edici rolünün daha belirgin hale gelmesine neden olabilir.

Paylaşım ekonomisi platformlarının hayati önem taşıdığı faktör güvenidir. Güvenin geleneksel ticaretteki kilit rolü bilinmektedir. Geleneksel ticaretin ötesinde e-ticarette de oldukça önem arz etmektedir. Ancak paylaşım ekonomisinde sadece mal veya hizmetlerin yanı sıra eşlerin birbirlerine karşı güvenine de önem atfettiği için bu ekonominin ayakta kalması için güven hassas bir konumdadır. Eşler arasında güven köprüsü inşa eden paylaşım ekonomisi platformları uzun ömür vaat etmektedir. Paylaşım ekosistemi içerisindeki eşler arasında güven problemini çözecek birtakım araçlar kullanılarak etkin bir sistem oluşturulabilir. Bunlar; mal ya da hizmet sahibinin hakkındaki yorumlar, fotoğraf/resim kullanımı, geri bildirimler sonucu oluşan puanlar, doğrulanmış sosyal medya hesaplarının eşleştirilmesi gibi argümanlardır. Bu sayede güvenli bir paylaşım ekonomisi ekosistemi kurulabilecektir.

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Bankalarda Kâr Yönetimi Uygulamaları: Türkiye’de Katılım ve Yatırım Bankaları Üzerine Bir Analiz

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Earnings Management Practices in Banks: An Analysis of Participation and Investment Banks in Turkey

Abstract

This study identified earnings management behaviours of investment and participation banks in Turkey. Banks typically conduct earnings management activities through accrued variables found in financial statements. The study was done by analysing the data of these banks from 2005-2019. Panel data analysis is used as an analysis method. According to analysis findings, it was determined that banks were involved in earnings management activities using the loan loss allowances variable in their financial statements. However, a meaningful statistical relationship between the loan loss allowances dependent variable and macroeconomic variables such as inflation, interest and growth rate were not detected.

Keywords : Earnings Management, Loan Loss Allowances, Investment Banks, Participation Banks.

JEL Classification Codes : M40, M41, G21.

Öz

Bu çalışmada Türkiye’de faaliyette bulunan katılım ve yatırım bankalarının kâr yönetimi davranışları tespit edilmeye çalışılmıştır. Bankalar kâr yönetim faaliyetlerini genelde mali tablolarında bulunan ve tahakkuk esaslı değişkenler vasıtasıyla gerçekleştirmektedir. Çalışma bu bankaların 2005-2019 yılları arasındaki verileri analiz edilerek yapılmıştır. Analiz yöntemi olarak panel veri analizi kullanılmıştır. Analiz bulgularına göre bankaların mali tablolarında yer alan özel karşılıklar değişkenini kullanarak kâr yönetimi faaliyetinde buldukları tespit edilmiştir. Ancak özel karşılıklar bağımlı değişkeni ile enflasyon, faiz ve büyüme gibi makroekonomik değişkenler arasında anlamlı istatistiksel bir ilişki tespit edilememiştir.

Anahtar Sözcükler : Kâr Yönetimi, Özel Karşılıklar, Yatırım Bankaları, Katılım Bankaları.

1. Giriş

Ekonomide farklı oyuncular bulunmaktadır. Bu oyuncuların birbirleriyle iletişimi daha çok bilgi açıklama ve veri analiz süreçleri ile olmaktadır. Ekonomideki oyuncuları genel anlamda hane halkı sektörü, üretim sektörü ve para-finans (bankacılık) sektörü olarak ayırdığımızda karşımıza üçlü bir saç ayağı çıkmaktadır. Bu saç ayakları önemli olmakla birlikte para ve bankacılık sektörü diğer iki oyuncudan daha önemli olduğunu söyleyebiliriz. Çünkü bankacılık sektörü hem hane halkı hem de üretim sektörü ile doğrudan bağlantılıdır. Bankacılık sektörü hane halklarının tasarruflarını bünyesinde barındırırken üretim sektörüne de kredi imkânı sunmaktadır. Bu şekilde dolaylı olarak üretim ve hane halkları sektörü arasında bir bağlantı oluşturmakta ve bu bağlantı da ekonominin işleyişi içinde bir etkileşimi beraberinde getirmektedir. Bankacılık sektörünün hem ekonomi içindeki hem de ekonomi içindeki oyuncular açısından bu derece önemli olması bu sektör hakkında bilgi edinme yollarının da önemli hale getirmektedir. Çağdaş dünyada ticari şirketler gibi bankacılık sektörü hakkında da bilgi edinmenin temel yollarından bir tanesi de onların mali tablolarına bakmak ve iyi bir analiz süreci oluşturmaktır.

Mali tabloların bu denli önemli olması sebebiyle mali tabloların oluşturulma süreci değişik düzenleyici kurumlar tarafından denetlenmektedir. Bu süreç Türkiye’de halkı açık şirketler için Sermaye Piyasası Kurulu (SPK) tarafından yürütülürken bankacılık alanında faaliyette bulunan kurumlar için ise Bankacılık Düzenleme ve Denetleme Kurumu (BDDK) tarafından yürütülmektedir. Bu çalışmanın amacı, düzenleme ve denetlemeye tabi olan mali tablolarda bankaların ilgili kurum ve kuduruşlar tarafından yapılan düzenlemelere aykırı bir raporlama yapıp yapmadığını ve bu hususların mali tabloların yanlış analiz edilmesine sebep olup olmadığını tespit etme güdüsüdür.

Türk Bankacılık sektörüne bakıldığında Türkiye’de yatırım, katılım ve mevduat bankalarının faaliyette bulunduğu görülmektedir. Bankacılık sektörünün ana oyuncuları mevduat bankaları olmakla birlikte yatırım ve katılım bankalarının da bankacılık kesimi içindeki önemi yadsınamaz düzeydedir. Bu araştırmada tespit edilmesi amaçlanan esas nokta literatürde de çalışmaları yapıldığı üzere bankacılık kesiminde kâr yönetimi uygulamaları yapılıp yapılmadığıdır. Ancak çalışmada bankacılık kesimi içinde faaliyette bulunan yatırım ve katılım bankaları özelinde bu tespitlerin yapılması amaçlanmıştır. Türkiye’de faaliyette bulunan katılım ve yatırım bankalarının kâr yönetimi faaliyetinde bulunup bulunmadıklarına yönelik tespitlerin yapılması hem literatür hem de bu bankalar üzerinde ortak bir çalışma yapılmamış olması nedeniyle önemlidir. Ekonomik İşbirliği ve Kalkınma teşkilatı (OECD) verilerine göre Türk ekonomisi dünyadaki ilk 20 ekonomi arasında yer almaktadır. Bu şekilde gelişen bir ekonomi içinde de bankacılık kesiminin önemli olması ve ekonomideki gelişmeler ile bankacılık sektörü arasındaki bağlantı bu çalışmanın önemini daha da artırmaktadır.

2000 yılının başlarında Türk bankacılık sektörü ciddi bir krize girmiştir. Bu krizle birlikte bankacılıkta ciddi sıkıntılar oluşmuştur. Bu kriz aynı zamanda üretim sektörünü de etkilediğinden birbirine bağlı olan bu yapılar nedeniyle ekonomide de ciddi sıkıntılar

yaşanmıştır. Bu kriz nedeniyle bankacılık sektörünün mevcut durumunun kırılganlığı da anlaşılmalı ve bu kırılganlığın ortadan kaldırılmasına yönelik çalışma yapılmasının da gereği ortaya çıkmaktadır. Bu nedenle bu kriz bankacılık kesiminin yeniden yapılandırılması için bir zemin oluşturmuştur. Yaşanan bu kriz yeni yapılar doğurmuş ve batan bankaların devralındığı bir yapı ile bankacılık sektörünün düzenlenmesi ve denetlenmesi kapsamında da yapı değişikliğine gidilmiştir (Yetiz, 2016: 113). Krizin bu denli yıkıcı olması sebebiyle Türkiye uluslararası alanda da çözümler aramış ve Türkiye hem Dünya Bankası hem de IMF ile krizin aşılmasına yönelik anlaşmalar imzalamıştır. Bu anlaşmalar ile birlikte yukarıda bahsedilen değişikliklerin yapılmasında uluslararası bir zemin de sağlanmış olmaktadır. Böyle bir zemin bir önceki paragrafta belirtilen değişiklikleri hayata geçirilmesini de kolaylaştırmıştır. Bu anlaşma hükümlerine bakıldığında hem bankacılık kesiminin düzenlenmesine hem de genel ekonomik sistemin düzenlenmesine yönelik hükümlerin olduğu görülmektedir. Bu nedenle uluslararası kuruluşlar ile yapılan bu anlaşmalarda genel ekonomik göstergelerin iyileştirilmesinin yanında bankacılık kesiminin de iyileştirilmesi hedeflenmiştir. Yapılan bu değişiklikler işe yaramış ve bu çabalar sonucunda Türk bankacılık sistemi daha sağlam temeller üzerine bina edilmiş ve bu yapılanmadan sonraki krizlerde ise ciddi bir sarsılma yaşamamıştır (Karluk, 2014: 561).

Bu çalışma, Türkiye’de faaliyette bulunan yatırım ve katılım bankaları üzerinde yapılmakta ve bu bağlamda da bu bankaların yöneticileri ve piyasa düzenleyicilerine bir ışık tutma amacı taşımaktadır. Bu çalışmada kullanılan bağımlı ve bağımsız değişkenler literatür taraması yapılarak oluşturulmuş ve aynı zamanda da Türkiye şartlarına da uyarlanmıştır. Literatüre bakıldığında bankaların kâr yönetimi davranışlarını tespit etmeye yönelik pek çok çalışmanın olduğu görülmektedir. Bu çalışmalar, Greenawalt & Sinkey (1998), Ma (1988), Collins et al. (1995), Bhat (1996), Hasan & Wall (2004), Li & Richie (2016), Shrieves & Dahl (2003), Kanagaretnam et al. (2003) olarak sayılabilir. Bu çalışmalarda bankaların kâr yönetimi faaliyetinde bulunup bulunmadıklarına yönelik tespitler bu çalışmada diğerlerinden farklı olarak hem yatırım hem de katılım bankaları için yapılmıştır.

Bu çalışma beş ana başlık altında toplanmıştır. Birinci bölümü giriş bölümü, ikinci bölümü literatür taraması, üçüncü bölümü araştırmanın kavramsal çerçevesi ve geliştirilen hipotez ile bu hipotezi sınamak için yapılan analizlerden oluşmaktadır. Dördüncü bölümde yapılan analizler sonucunda elde edilen bulgulara yer verilmiştir. Beşinci bölüm ise sonuç ve değerlendirme bölümüdür. Bu bölümde elde edilen analiz sonuçları değerlendirilmiş, araştırmanın sahip olduğu avantajlar ve kısıtlara yönelik açıklamalar yapılmıştır. Ayrıca sonraki yapılacak bilimsel çalışmalara ışık tutması açısından da önerilere yer verilmiştir.

2. Literatür Araştırması

Literatüre bakıldığında kâr yönetimi hakkında çeşitli tanımlamaların yapıldığı görülmektedir. Bu bağlamda kâr yönetimini bir muhasebe hilesi olarak algılayan tanımlamalar (Schipper, 1989; Healy & Wahlen, 1999; Leuz et al., 2003) olduğu gibi,

normal bir muhasebe tercihi gören tanımlamalar da (Giroux, 2006; Ronen & Yaari, 2008; Scott, 2015) mevcuttur.

Kâr yönetimini bir muhasebe hilesi olarak gören yaklaşımlar kâr yönetimi ile raporlanan kârın değiştirildiğini, bu nedenle hem hisse sahiplerinin hem de sözleşmeye bağlı çıktılarının saptırıldığını iddia etmektedirler. Dolayısıyla firmanın içindeki kişiler ile firmanın dışındaki kişiler arasında bir bilgi uyumsuzluğu durumu ortaya çıkmaktadır. Bu uyumsuzluk da kısmen de olsa içerdeki kişilerin dışardaki kişiler üzerinde firma açısından bir hâkimiyet kurmasına yol açmaktadır. Kâr yönetimini normal bir muhasebe tercihi olarak gören yaklaşımlar ise bu konuda yaptıkları tanımlamayı üçe yapmaktadırlar. Bunlar beyaz, gri ve siyah olarak ifade edilebilir. Beyaz olarak adlandırılan tanıma göre kâr yönetimi, firmalara muhasebe tercihlerinde bir esneklik sağlamakta ve yöneticilere gelecekte meydana gelecek nakit akışları için bir ön bilgi sağlamaktadır. Kâr yönetiminin gri tanımı ise, kâr yönetiminin firmalara hem fırsatçı hem de ekonomik olarak etkin bir muhasebe tercihi sunduğu ifade edilmektedir. Kâr yönetiminin siyah tanımına bakıldığında ise muhasebe hilesi yaklaşımına yakın tanım yapıldığı görülmektedir. Buna göre kâr yönetimi, mali raporların şeffaflığı ortadan kaldıracak ve yanlış anlamalara vesile olacak şekilde açıklanması şeklinde tanımlanmıştır.

Bu tanımlamalardan sonra ise genel bir tanım yapmak gerekirse kâr yönetimi genel olarak firmanın kâr kavramının yapı olarak azalış ve artışı olarak tanımlanabilir. Bunun sonucu olarak hisse başına düşen birim kâr miktarı da değişmektedir. Dolayısıyla hem firmanın elde ettiği kâr tutarının hem de hisse başına düşen birim kâr tutarının muhasebe taktikleri çerçevesinde değiştirilmesi gündeme gelmektedir (Needles et al., 2018: 24).

Literatürde yapılan çalışmaların bir diğer hedefi ise firmaların neden kâr yönetimi davranışında bulduklarını araştırmaya yöneliktir. Bu bağlamda pek çok sebep ileri sürülebilir. Ancak başlıca sebepler olarak sermaye piyasasına ilişkin beklentiler, tekelliliğe karşı yapılan devlet düzenlemeleri ve muhasebe çıktılarına ilişkin yapılan sözleşmeler olarak gösterilebilir (Healy & Wahlen, 1999: 370). Bu bağlamda şirket yöneticileri firma için sermaye piyasalarında oluşan algının iyi olmasını istemektedirler. Yatırımcılar firmanın zarar etmesinden ziyade kâr elde etmesiyle daha çok ilgilenmektedirler (Beyer, 2009: 1715). Şirket yöneticilerinin kâr yönetimi uygulamasında bulunmasının diğer bir nedeni ise işletmelerin imzaladıkları kredi sözleşmelerinde yer alan kısıtlardan kurtulmak istemesidir. Bu şekilde muhasebe politikalarında değişikliğe giderek varlık ve gelir artırıcı muhasebe politikaları uygulama yolunu seçmektedir (Begley, 1990: 125-126). Yöneticileri kâr yönetimi uygulamasına iten diğer bir neden ise de şirket tarafından kendilerine verilmesi muhtemel olan primler ve ödüllerdir. Bu şekilde bir ödül olması şirket yöneticilerinin firma kârını yüksek gösterme eğiliminde bulunmalarına yol açmaktadır (Bergstresser & Philippon, 2006: 512). Pek çok ülkede şirketlerin uygulamak zorunda olduğu düzenlemeler yapılmakta ve bu düzenlemelere uyulmaması durumunda da ciddi yaptırımlar gündeme gelmektedir. Şirketler devlet tarafından böyle bir yaptırıma maruz kalmamak için de muhasebe politikalarında değişikliğe giderek kâr yönetimi faaliyetinde bulunmaktadır (Watts & Zimmerman, 1978: 131).

Literatürde kâr yönetimi ilgi çeken konular arasında gelmektedir. Bu nedenle kâr yönetimi alanında birçok araştırma yapılmaktadır. O kadar ki 2000-2006 yıllarını kapsayan dönemde belli başlı muhasebe dergilerinde kâr yönetimi ile alakalı 153 tane makale yayımlanmıştır (Verbruggen et al., 2008: 3).

Bankacılık kesiminde kâr yönetimine ilişkin uygulamaları tespit ederken kullanılan bir tespit aracı da özel karşılıklardır. Literatürde özel karşılıklar kaleminin kâr yönetimi uygulamalarında kullanılmasının nedenlerinden bir tanesi de genel itibarıyla özel karşılık tespit edilme yöntemleri üzerinde bir mutabakatın bulunması ve dünyada genel kabul görmüş usullerinin olmasıdır. Bu şekilde farklı ülkelerde faaliyet gösteren bankaların mali tablolarında yer alan özel karşılık kalemleri arasında karşılaştırma yapma fırsatı ortaya çıkmaktadır. Basel ilkelerinin de özel karşılıkların tespit edilmesi hususunda bir yeknesaklık sağladığı söylenebilir. Tabi bu yeknesaklığın olması, ülke uygulamalarının tamamen birbiri ile uyumlu olduğunu anlamına gelmemektedir. Bu nedenle ülkelerin birebir aynı ölçütleri kullandığını söylemek doğru değildir. Uygulamada meydana gelen bu farklılıkların banka yöneticilerine bir esneklik alanı açtığı da görülmektedir (Hasan & Wall, 2004: 133). Banka bilançolarına bakıldığında bilanço kalemleri arasında borçların önemli bir yer edindiğini söylemek yanlış olmayacaktır. Tabi borç kaleminin bu kadar önemli olması bu kalemden yer alan tutarlar üzerinden değerlendirilmesi durumunda ortaya çıkacak tutarı da etkilemektedir. Özel karşılıkların önemi de burada ortaya çıkmaktadır. Bankaların borç kalemi üzerinde değişik değerlendirme usullerinin uygulanması özel karşılık olarak ayrılan tutarların değişmesine ve dolayısıyla da beyan edilen kâr miktarında da artışa ya da azalışa neden olmaktadır. Yukarıda açıklanan nedenlere bakıldığında araştırmacıların neden kâr yönetimini tespit etmek konusunda özel karşılıklara bu kadar önem verdiğini de ortaya çıkarmaktadır (Barth et al., 1996: 514).

Literatürde kâr yönetimine ilişkin çalışmalardan bir tanesi de Hasan & Wall (2004) tarafından yapılmıştır. Hasan & Wall (2004), Kanada, ABD ve Japon bankaları üzerine yaptıkları çalışmada banka mali tablolarındaki özel karşılık (LLA) kalemini incelemişlerdir. Araştırmacılar yaptıkları bu incelemede, bu ülkelerde faaliyette bulunan bankaların yöneticilerinin özel karşılıklar (LLA) kalemlerini kullanarak kâr yönetimi faaliyetinde bulunup bulunmadıklarını araştırmışlar ve çalışma sonucunda ise müdür olarak bankalarda görev alanların kârlarını daha istikrarlı göstermek için kâr yönetimi yaptıklarına yönelik tespitlere yer vermişlerdir. Literatürde bankaların kâr yönetimi davranışlarını araştırmaya yönelik yapılan bir diğer çalışma da Blasco & Pelegrin (2006) tarafından İspanya’da faaliyette bulunan yatırım bankaları üzerine yapılmıştır. Bu çalışma özellikle önemlidir. Çünkü yatırım bankalarının sadece kâr güdüsü ile hareket etmedikleri bilinmektedir. Bu bankalar, kâr elde etme amacını birinci saik olarak öne almamakla birlikte hükümetin yaptığı düzenlemeleri yakalama güdüsüyle hareket etmektedir. Dolayısıyla bu bankaların da kâr yönetimi faaliyetinde buldukları tespit edilmiştir. Literatürde gelişmiş ülkeler üzerinde yapılan çalışmalar olduğu gibi az gelişmiş veya gelişmekte olan ülkeler üzerinde de yapılan çalışmalar bulunmaktadır. Bu çalışmalardan bir tanesi de Olson & Zoubi (2014) tarafından yapılmıştır. Araştırmacılar Ortadoğu ve Kuzey Afrika bölgesinde faaliyette bulunan bankalar üzerinde yürüttükleri çalışmada bankaların kayıp kredi karşılıklarını (LLP) mı

yoksa özel karşılıkları (LLA) mı kullanarak kâr yönetimi faaliyetinde bulduklarını irdelemişlerdir. Çalışma sonucunda yazarlar bankaların her iki kalemi de kâr yönetimi faaliyetinde bulunmak için kullandıklarını tespit etmişlerdir. Bankaların özel karşılık (LLA) kaleminin yüksek olması gelecekte yüksek kâr beyan edebileceğinin bir göstergesi olarak kabul edilirken, kayıp kredi karşılıklarının (LLP) yüksek olması ise gelecekteki kâr tutarlarının düşük beyan edebileceklerinin bir işareti olarak kabul edilebilir.

Banka müdürlerinin kâr yönetimi faaliyetinde bulunmalarının diğer bir nedeni de hükümet tarafından yapılan düzenlemelere uyma zorunluluğudur. Bu düzenlemelere uyulmaması durumunda bankalar değişik müeyyidelerle ile karşı karşıya kalabilir. Bu müeyyideler bankalar için itibar kaybına da neden olacağından banka müdürleri bu tür bir itibar kaybından da kaçınmak istemektedir (Moyer, 1990: 125). Ülkelerdeki vergi düzenlemelerindeki farklılıklar da kâr yönetimine başvurulmasının diğer bir sebebidir. Devletler vergiye tabi gelirlerin doğru tespit edilmesini beklerler ancak firmalar kârlarını sabit bir seviyede tutarak ne çok fazla ne de çok az vergi ödemek isterler (Sundvik, 2017: 155). Ülkelerin ekonomik alanda yaptığı diğer bir düzenleme ise tekelleşme karşıtı düzenlemelerdir. Ülkeler tekelleşmeye engel olmak suretiyle piyasaların etkin olarak işlemesini hedeflemektedirler. Tekelleşmenin bir göstergesi ise ilgili firmaların aşırı derecede kâr elde etmesidir. Bu aşırı kâr gözleri o şirketin üzerinde yoğunlaştıracağından firmaların böyle bir duruma düşmekten kaçınması da normaldir. Böyle bir konumda bulunmamak için firmalar aşırı kâr elde etmek istemezler bu da kâr yönetiminde bulunma ile sağlanabilmektedir. Bu nedenle de firmalar hem tekelleşme karşıtı düzenlemelerden korunulmak hem de piyasada kötü bir üne sahip olmamak için kâr yönetimine başvurumaktadırlar (Cahan, 1992: 77).

Collins et al. (1995) tarafından yapılan çalışmada kâr yönetimi uygulamalarının yanı sıra bankaların kâr yönetiminde kullandıkları araçları banka sermayesinin belli bir seviyenin üstünde kalmasını sağlamak için de kullandıklarını tespit etmişlerdir. Çünkü bankalar ekonomide önemli bir oyuncu olmaları nedeniyle bankaların sermaye yeterliliği devletin denetleyici ve düzenleyici kurumları tarafından hem belirlenmekte hem de düzenli olarak kontrol edilmektedir. Bu husus, literatürde sermaye yönetimi olarak adlandırılmaktadır.

Kâr yönetimini tetikleyen etkenler olduğu gibi kâr yönetimini sınırlayan etmenler de vardır. Bunların arasında katı bir şekilde uygulanan muhasebe standartları gelmektedir. Özellikle uluslararası alanda ortak bir standart geliştirme çabaları da kâr yönetimi uygulamalarının önüne geçmektedir. Bu standartlar muhasebe politikasındaki yetkinliği artırmak suretiyle firmaların gerçek durumunu yansıtmasına neden olmaktadır (Barth et al., 2008: 468). Kâr yönetimi uygulamalarını kısıtlayan diğer bir etken ise tahakkuk esaslı muhasebe politikalarının uygulanmasıdır. Tahakkuk esasına göre hazırlanan gelir tablosu ve bilançodaki rakamlar hem daha istikrarlıdır hem de rakamlar daha az değişkenlik gösterir (Goel, 2016: 59). Ortaklık yapısı da kâr yönetimi uygulamasını sınırlayan diğer bir etmen olarak kabul edilebilir. Çok ortaklı şirketlerde az ortaklı şirketlere göre kâr yönetimi uygulamasının görülmesi daha muhtemeldir (Dempsey et al., 1993: 481).

Denetim konusuna da burada değinmekte yarar vardır. Denetimin kalitesinin etkin olarak kullanıldığı firmalarda kâr yönetimine kayma eğilimleri daha az gözlemlenmektedir. Bu bağlamda firmanın uluslararası bir bağımsız denetim şirketi tarafından denetime tabi tutulması önemli olduğu gibi denetçilerin mesleki yetkinliklerinin de iyi olması ve denetime yeteri ölçüde zaman ayrılması durumlarında firmaların kâr yönetimi faaliyetlerinin sınırlandığı gözlemlenmiştir (Affes & Smii, 2016: 7).

Yukarıdaki açıklamalar çerçevesinde değerlendirildiğinde bu çalışmanın amacı Türk bankacılık sektöründe faaliyette bulunan katılım ve yatırım bankalarının kâr yönetimi davranışında bulunup bulunmadığını tespit etmektir. Bankalar genelde kâr yönetimi faaliyetinde bulunurken kayıp kredi karşılıklarını (LLP) kullanmaktadır. Bunun yanı sıra literatürde yapılan çalışmalar bankaların bu kalem yanında başka kalemleri de kâr yönetimi faaliyetlerinde kullandığını göstermektedir. Bu kalemlerden bir tanesi de özel karşılıklar (LLA) kalemidir. Bu çalışmada Türkiye’de faaliyette bulunan yatırım ve katılım bankalarının özel karşılıklar (LLA) kalemini kullanarak kâr yönetimi yapıp yapmadıkları hususu tespit edilmeye çalışılmıştır. Çalışmada Türkiye’de faaliyette bulunan yatırım ve katılım bankalarının 2005-2019 yıllarındaki veriler kullanılmıştır.

3. Araştırmanın Konusu, Amacı ve Hipotez Geliştirme

3.1. Katılım ve Yatırım Bankaları

Bu araştırma Türk bankacılık kesiminde faaliyet gösteren yatırım ve katılım bankalarının kâr yönetimi faaliyetinde bulunup bulunmadıklarını tespit etmek için yapılmıştır. Bankacılık kesimine bakıldığında mevduat bankalarından farklı olarak yatırım ve katılım bankalarının farklı saiklerle bankacılık faaliyetinde buldukları söylenebilir.

Mevduat bankaları doğrudan müşterilerine kredi kullandırmakta, ancak katılım bankalarında ise para bir mal veya hizmetin karşılığı olarak verilmektedir. Dolayısıyla mal ve hizmet hareketleri ile para hareketleri arasında bir paralellik vardır. Katılım bankaları mudileriyle kâr ve zarara ortak olma mantığı ile çalışmakta ve önceden belirlenmiş bir oran taahhüt etmemektedirler. Dolayısıyla katılım bankaları paranın para ile değiştirildiği klasik bankacılık anlayışı ile çalışmamaktadırlar (Özsoy vd., 2013: 188).

Yatırım bankalarının da geleneksel mevduat bankalarından ayrılan özellikleri bulunmaktadır. Bu özellikleri yaygın şube ağına sahip olamamaları ve mevduat toplama yetkilerinin olmaması olarak sayabiliriz. Dolayısıyla yatırım bankalarının sağladıkları bankacılık hizmeti sınırlı bir bankacılık faaliyeti olarak da değerlendirilebilir. Yatırım bankaları bu kısıtlamalardan dolayı fon ihtiyacını karşılamak için genelde iki yöntem kullanır. Bunlardan birincisi borçlanmak için tahvil ihraç etmek diğeri ise kredi kullanmak. Bu şekilde toplanan fonlar, yatırım bankaları tarafından menkul kıymet portföylerinin finansmanında, yatırım projelerine kredi sağlamada ve finansal kiralama işlemlerini desteklemekte kullanılır (Anık, 2019: 31).

Literatürde bankacılık kesimi üzerinde yapılan kâr yönetimi çalışmaları iki değişken üzerinden yürütülmektedir. Bu değişkenleri, özel karşılıklar (LLA) ve kayıp kredi karşılıkları (LLP) olarak belirtebiliriz. Hem batıda hem de doğuda yapılan çalışmalar banka mali tablolarında yer alan bu iki değişken baz alınarak yürütülmektedir. Değişkenlerden birisi bilanço değişkeni iken diğeri ise gelir tablosuna ilişkin bir değişkendir. Literatürde yapılan bazı çalışmalar ile uyumlu olması açısından yapılan bu çalışmada da Bankaların bilançosunda yer alan özel karşılıklar değişkeni bağımlı değişken olarak alınmak suretiyle modelleme yapılmıştır. Literatürde pek çok çalışma yapılmasına rağmen Türkiye’deki bankacılık sektörü üzerinde kâr yönetimi konusunda çok fazla çalışmaya rastlanmamıştır. Bu çalışmanın yapılış amacı da Türkiye’deki az olan çalışmalara bir katkı sunabilme gayretidir. Literatürde yapılan çalışmalara bakıldığında bu çalışmaların çoğunun gelişmiş ülke bankaları üzerinde yapıldığı görülmektedir. Literatür bakımından gelişmekte olan ülkeler üzerinde yapılan çalışmalarının az olması da bu çalışmanın yapılmasındaki ikinci bir etken olarak değerlendirilmektedir. Yapılan çalışmalar, bir önceki paragrafta da değinildiği gibi hem özel karşılıklar (LLA) değişkenini hem de kayıp kredi karşılıkları (LLP) değişkenini kaynak olarak bankaların kâr yönetimi davranışlarını tespit etmeye yönelik ve bu davranışları irdeleyen çalışmalardır.

Karşılıkları genel ve özel olarak iki kalem olarak değerlendirmek mümkündür. Yapılan bu ayırım karşılıkların genel mi özel mi olarak değerlendirmesinde de kendini göstermektedir. Genel karşılık ayrılması çoğunlukla öngörülere bağlanmıştır. Bu öngörülerin gerçekleşip gerçekleşmemesi kesin değildir. Sadece bir tahmin meselesidir. Bu nedenle, ülkelerin muhasebe standartları oluşturulurken genel karşılık kalemlerine ilişkin düzenlemeler yapılmamakta beklenti yönetimleri ile bu tür karşılıklar ayrılmaktadır. Ancak özel karşılık kalemi için aynı şeyi söylemek doğru olmayacaktır. Bu kalemin ayrılabilmesi için beklentiden ziyade gerçekleşmiş olaylara ve olgulara bakılmaktadır. Bu olaylar önceden gerçekleşmiş ve bu dönemi etkilemektedirler. Bu nedenle bu iki karşılık kalemi bir arada düşünüldüğünde genel karşılık kalemi üzerinde oynama yapmanın daha kolay olduğu söylenebilir. (Cavallo & Majnoni, 2001: 6). Kâr yönetimi uygulamasının tespit edilmesinde yazında özel karşılık (LLA) kaleminin kullanılmasının bir sebebi de genel anlamda tespit usullerinde bir mutabakatın olmasıdır. Uluslararası olarak karşılıkların nasıl belirleneceğine dair bir mevzuat oluşturulmakta ve ülkeler de uluslararası mevzuata yakın düzenlemeler yapmaktadır. Böyle bir husus ise dünyanın pek çok yerinde özel karşılık ayrılmasının benzer kurallara bağlanmasına yol açmıştır. Genel anlamda bu şekilde benzer kurallar oluşturulması ise ayrılan bu karşılıklar arasında karşılaştırma yapabilme ihtimalini artırmaktadır. Dolayısıyla kâr yönetiminin tespit edilmesinde de bu husus araştırmacılara kolaylıklar sağlamaktadır (Hasan & Wall, 2004: 133).

Yukarıda da belirtildiği gibi hem katılım hem de yatırım bankalarının farklı bankacılık anlayışları ile hareket etmesi ve literatürde bu bankaların kâr yönetimi faaliyetinde bulunup bulunmadıklarına yönelik Türkiye ölçeğinde bir çalışma olmaması, bu çalışmanın yapılmasının temel sebeplerindendir.

3.2. Hipotez Geliştirme

Bu araştırmanın asıl amacı Türkiye’de faaliyette bulunan yatırım ve katılım bankalarının özel karşılıklar (LLA) kalemini kullanarak kâr yönetimi faaliyetinde bulunup bulunmadığını tespit etmektedir. Hasan & Wall (2004), tarafından yapılan çalışmada da benzer hususlar araştırılmış ve araştırmalar bankaların özel karşılıklar (LLA) vasıtasıyla kâr yönetimi faaliyetinde bulduklarını yani özel karşılıklar kalemi ile kâr kalemi arasında pozitif yönlü bir ilişkinin bulunduğunu tespit etmişlerdir. Benzer şekilde Jin et al. (2016) da ABD bankaları üzerine yaptıkları çalışmada özel karşılıklar (LLA) kalemini kullanarak bankaların kâr yönetimi faaliyetinde bulunup bulunmadıklarına yönelik bir çalışma yapmışlar ve çalışmalarında da lojistik regresyon modelini kullanmışlardır. Çalışma sonucunda bankaların bu değişkeni kâr yönetimi faaliyetlerinde kullandıklarını tespit etmişlerdir.

Literatürde bankacılık kesimi üzerinde yapılan çalışmalara uygun olarak yapılan bu çalışmada da Türkiye’de faaliyette bulunan yatırım ve katılım bankalarının kâr yönetim faaliyeti tespit etmeye yönelik araştırma yapılmıştır. Bu bağlamda sınanması düşünülen ilk hipotez aşağıdaki gibidir.

H₁: Vergi ve karşılıklar öncesi kâr ile özel karşılıklar kalemi arasında istatistiksel olarak anlamlı ve pozitif yönlü bir ilişki vardır.

H₁ hipotezinin doğrulanması kâr yönetimi davranışının tespit edilmesi için önemlidir. Eğer kâr kalemi ile özel karşılıklar (LLA) kalemi arasında anlamlı bir ilişki tespit edilemez ise bu husus bankaların kâr yönetimi faaliyetinde bulunmadıkları anlamına gelmektedir.

Modelde yer alan diğer değişkenler ise hem makroekonomik değişkenler hem de banka mali tablolarında yer alan diğer kalemlerdir. Bu kalemler arasında donuk alacaklar, aktiften silinen krediler, toplam krediler, aktiften silinen krediler gibi kalemler ile enflasyon ve faiz gibi makroekonomik değişkenler yer almaktadır.

Özel karşılıklar ile arasında istatistiksel olarak önemli bir ilişki olması beklenen diğer bir değişken ise toplam kredilerdir. Toplam krediler ile özel karşılıklar arasında pozitif yönlü ve anlamlı bir ilişki olması beklenmektedir. Bu nedenle ikinci hipotezimiz aşağıdaki gibidir.

H₂: Toplam krediler ile özel karşılıklar arasında istatistiksel olarak anlamlı ve pozitif yönlü bir ilişki vardır.

Bu çalışmada sınanması yapılan diğer bir hipotez ise makroekonomik değişkenler ile bir bilanço kalemi olan özel karşılıklar (LLA) arasında istatistiksel olarak anlamlı bir ilişkinin olup olmadığını araştırmaktadır. Bu nedenle çalışmanın tespit etmeye çalıştığı diğer bir hipotez ise aşağıdaki gibidir.

H₃: Modelin makroekonomik değişkenleri ile özel karşılıklar arasında istatistiksel olarak anlamlı bir ilişki vardır.

Bu hipotezin sınanmasındaki amaç, ekonominin genel görünümünün bankaların kâr yönetimi güdülerinde bir etkiye sahip olup olmadığını tespit etme gereğidir. Tabi burada makroekonomik değişkenler ile özel karşılıklar arasındaki ilişkinin seyrinin de değişik olması beklenmektedir. Örneğin gayri safi yurtiçi hasılanın (GSYİH) artması insanlara ödeme kabiliyetini artıracığından banka kredilerinin geri ödemelerinde bir sorun oluşmasına engel oluşturacaktır. Ancak enflasyon ve faiz değişkeninin artması ise hane halklarının ödemelerinde bir olumsuz bir durum oluşturabilir. Bu değişkenler hane halkı gelirlerinin düşmesine neden olduklarından banka kredilerinin geri ödemesinde ciddi sorunlar çıkacağı düşünülmektedir.

3.3. Panel Veri Analizi

İstatistiksel anlamda bir veriyi analiz edebilmek için bazı varsayımlara bakmak gerekmektedir. Bu anlamda örneklem istatistiklerinin güvenilir olması ve veri kümesi içindeki her bir verinin veya bu verilerin ait olduğu zaman serilerinin temel veya siteimli bir kaymaya maruz kalmaması gerekmektedir. Bu şekilde verilerin sahip olduğu istatistiklerin değişmemesi ve elde edilen sonucun tutarlı olması sağlanır. Bu varsayım zaman serilerinde durağanlık olarak ifade edilmektedir. Durağanlık kavramı aslında ortalama, varyans ve otokorelasyonun gözlem zamanları için değişmez olmasını ifade etmektedir. Bir analizde kullanılacak verilerin zaman bakımından durağan olmaması, bu veriler için yapılmış olan analizlerin sadece bu verilerin elde edildiği zaman aralığı için geçerli olduğu anlamına gelmektedir. Bu nedenle zaman serilerinin durağan olup olmadığı birim kök testleri ile belirlenmektedir (Gujarati, 2004: 797-798).

Panel birim kök testleri birinci ve ikinci nesil kök testleri olarak sınıflanmaktadır. Birinci nesil birim kök testleri yatay kesit verilerin yatay kesitsel olarak bağımsız olduğunu varsayar. İkinci nesil birim kök testleri ise kesitsel bağımlılığa izin verir. İkinci nesil testler hetorejenlik varsayımına dayanır bu nedenle de seride ortak otoregresif yapı yoktur ve paneller heterojendir (Tuğcu, 2018: 259).

Bu aşamada çalışmaya çalışma verilerinin durağan olup olmadıklarını tespit etmek amacıyla Levin Lin Chu (LLC) (2002) ve Im Pesaran Chin (IPS) (2003) birim kök testleri ile devam edilmiş ve elde edilen sonuçlar aşağıdaki tabloya çıkarılmıştır.

Tablo: 1
Birim Kök Testi Sonuçları

Değişkenler	IPS Test İstatistiği	P Değeri	LLC Test İstatistiği	P Değeri
Özel Karşılıklar (LLA)	-9.700493	0.0000	-8.805766	0.0000
Aktiften Silinen Krediler (LCO)	-1.897907	0.0289	-2.204569	0.0137
Donuk Alacaklar (FD)	-1.420042	0.0778	-2.591983	0.0048
Toplam Krediler (LOANS)	-7.584687	0.0000	-4.36526	0.0000
Takipteki Krediler (NPL)	-2.189819	0.0143	-2.502562	0.0082
Önceki Dönem Özel Karşılıklar (ALL _{t-1})	-3.692748	0.0001	-3.230761	0.0006
Vergi Ve Karşılık Öncesi Kâr (EBTP)	-4.748069	0.0000	-4.787232	0.0000

Analiz sonucu elde edilen veriler tabloda gösterilmektedir. Tablodan elde edilen sonuçlara göre modelde yer alan değişkenlerin %10 anlamlılık düzeyinde durağan olduğu tespit edilmiştir.

Model için hangi analiz yönteminin seçileceği ise Hausman testi belirlenmektedir. Hausman testi sonuçlarına göre veri seti için sabit etkiler yönteminin mi yoksa tesadüfi etkiler yönteminin mi uygun olacağına yönelik karar verilmektedir. Çalışmanın 4. bölümünde ilgili verilere yer verilmiş ve veri seti analizi için tesadüfi etkiler yönteminin uygun olduğu sonucuna varılmıştır.

3.4. Tesadüfi Etkiler Modeli

Tesadüfi etkiler modelinin arkasındaki mantık sabit etkiler modeline göre farklılık göstermektedir. Buna göre tesadüfi etkiler modelinde birimler arasındaki varyasyonun rastgele olduğu ve modele dâhil edilen bağımsız ve bağımlı değişkenler ile tahmin edici birimler arasında rastgele bir ilişkinin olduğu varsayılmaktadır. Sabit ve tesadüfi etkiler arasındaki önemli ayrım, gözlemlenmemiş bireysel etkinin modeldeki açıklayıcı değişkenlerle ilişkili unsurları kapsayıp kapsamadığı ve bu etkilerin stokastik olup olmadığıdır (Greene, 2008: 183). Tesadüfi etkiler modelinin bir avantajı ise zamanla değişmeyen değişkenleri (örneğin cinsiyet gibi) modele dâhil edilebilmesine imkân vermesidir. Tesadüfi etkiler modelinin matematiksel ifadesi ise aşağıdaki gibidir.

$$Y_i = \gamma_{i0} + \gamma_1 x_{1i} + \gamma_2 x_{i2} + \dots + \gamma_j x_{ij} + \gamma_k x_{ik} + \delta_i + v_i \quad (1)$$

Denklemden yer alan δ_i ifadesi birimsel etkiler vektörü olarak ifade edilebilir. Denklem yeniden yazıldığında ise aşağıdaki gibi olacaktır.

$$Y_i = \gamma_{i0} + \gamma_1 x_{1i} + \gamma_2 x_{i2} + \dots + \gamma_j x_{ij} + \gamma_k x_{ik} + \phi_i \quad (2)$$

Düzenlenmiş ikinci denklemden yer alan ϕ_i ifadesi ise tesadüfi etkiler modelinin hatası olarak adlandırılabilir.

Bu hata, birimler arasında değişen (ancak zamanla sabit) bir bileşenden ve birimler arasında ve zamana göre stokastik olarak değişen başka bir bileşenden oluşmaktadır. Tesadüfi etkiler, birimin hata teriminin tahmin edicilerle ilişkilendirilmediğini varsayar. Tesadüfi etkiler modeli, modelde kullanılan örneklem ötesinde çıkarımların genelleştirilmesine izin verir (Crisci et al., 2014).

3.5. Araştırmanın Modeli ve Değişkenleri

Bu çalışmada Türkiye’de faaliyette bulunan 14 adet yatırım ve kalkınma bankalarının 2005-2019 yılları arasındaki verileri kullanılmıştır. Bu çalışmada özellikle yatırım ve katılım bankalarının dâhil edilmesinin sebebi ise bu bankalar üzerinde Türkiye’de bu konuda bir çalışmanın yapılmamış olması ve literatürde bu konuda bir eksiklik bulunduğu tespit edilmesidir. Dünyada meydana gelen ve küresel bir salgın halini alan

Kovid19 salgınının olumsuz etkilerinden etkilenmemek için 2020 yılı araştırma kapsamı dışına çıkarılmıştır.

Araştırmada bankaların yayınladığı yıllık mali tablolarında yer alan veriler kullanılmıştır. Bu verilerin bir kısmı bankaların kendi internet sitesinden elde edilmiş diğer bir kısmı ise Bankacılık Düzenleme ve Denetleme Kurumunun (BDDK) internet sitesinden elde edilmiştir. Araştırmaya dâhil edilen katılım ve yatırım bankaları aşağıdaki tabloda gösterilmiştir.

Tablo: 2
Araştırmaya Dâhil Edilen Bankalar

Aktif Yatırım Bankası	İstanbul Takas ve Saklama Bankası
Albaraka Türk	Kalkınma Bankası
Bank of America	Kuveyt Türk
Bank Pozitif	Pasha Yatırım Bankası
Diler Yatırım Bankası	Sınai Kalkınma Bankası
GSD Yatırım Bankası	Standart Chartered
İhracat Kredi Bankası	Türkiye Finans Katılım Bankası

Modelde bağımlı değişken özel karşılıklar (LLA) olarak tespit edilmiştir. Literatürde özel karşılıkların (LLA) bağımsız değişken olarak dikkate alındığı çalışmalar bulunmaktadır. Diğer bağımsız değişkenler ise farklılık arz etmektedir. Bu bağlamda özel karşılıkların (LLA) bağımlı değişken olarak kullanıldığı modeller ile bu modellerde kullanılan bağımsız değişkenler aşağıdaki tabloda yer almaktadır.

Tablo: 3
Özel Karşılıkların Bağımsız Değişken Olarak Kullanıldığı Araştırmalar

Çalışmanın Künyesi	Çalışmanın Verileri	Çalışmanın Değişkenleri
Hasan & Wall (2004)	ABD, Kanada ve Japon Bankalarının verileri	Bağımlı Değişken: özel karşılıklar, Bağımsız Değişkenler: takipteki kredilerin toplam varlıklara oranı, aktiften silinen kredilerin toplam varlıklara oranı, toplam kredilerin toplam varlıklara oranı, özkaynak aktif oranı, vergi ve karşılık öncesi kârın toplam varlıklara oranı
Gray (2004)	ABD’de faaliyette bulunan banka holding şirketlerinin verileri	Bağımlı Değişken: özel karşılıklar, Bağımsız Değişkenler: kayıp kredi karşılıkları, zarar yazılmadan önce tahsil edilen krediler, aktiften silinen krediler
Jin et al. (2016)	Şikago Federal Rezerv Sistemi’nden elde edilmiştir.	Bağımlı Değişken: özel karşılıklar, Bağımsız Değişkenler: kredi indirimleri, takipteki krediler, ödenmeyen tutsat kredileri, ticari borçlar, toplam varlıkların doğal logaritması, toplam kredilerdeki büyüme, karşılıklar ve vergi öncesi kâr

Tabloya bakıldığında ortak bağımlı değişkenin özel karşılıklar (LLA) olduğu görülmektedir. Bağımsız değişken tarafında ise görüldüğü üzere değişken sayısı oldukça çeşitlidir. Ancak özel karşılıkların (LLA) hangi mali tablo kalemleri ile istatistiksel olarak anlamlı bir ilişki içinde olduğunu tespit etmek önemlidir. Bankaların kâr yönetimi davranışlarının tespiti bu ilişkiler düzeyinde tespit edilmektedir. Yukarıdaki tabloda yer alan çalışmalar bakıldığında çalışmaların ABD’de yapıldığı görülmektedir. ABD ekonomisinin hem dünyanın sayılı ekonomilerinden olması hem de gözlem yapılacak bankanın ve bu bankalara ilişkin verilerin çokluğunun bu çalışmalara öncülük ettiği söylenebilir.

Türk bankacılık sektöründe faaliyette bulunan yatırım ve katılım bankalarının kâr yönetimi yapıp yapmadıklarını tespit etmek için aşağıdaki model geliştirilmiştir.

$$LLA_{it} = \alpha_{0i} + \alpha_{1i}LCO + \alpha_{2i}FD + \alpha_{3i}LOANS + \alpha_{4i}NPL + \alpha_{5i}ALL_{t-1} + \alpha_{6i}EBTP + \alpha_{7i}INF + \alpha_{8i}IN + \alpha_{9i}GDP + \epsilon_{it} \quad (3)$$

Modelin değişkenlerine ilişkin açıklamalar ise aşağıdaki gibidir.

LLA	: Özel Karşılıklar
LCO	: Aktiften Silinen Krediler
FD	: Donuk Alacaklar
LOANS	: Toplam Krediler
NPL	: Takipteki Krediler
ALL _{t-1}	: Önceki Dönem Özel Karşılıklar
EBTP	: Vergi ve Karşılık Öncesi Kâr
INF	: Enflasyon
IN	: Faiz
GDP	: GSYH Büyüme Hızı

Literatürde yapılan çalışmalarda değişik modeller kullanılmakla birlikte bu çalışmada panel veri analizi yöntemi kullanılmıştır. Literatüre bakıldığında kâr yönetimini tespit etmede değişik analiz yöntemlerinin kullanıldığı görülmektedir. Örneğin Greenawalt & Sinkey (1988) genelleştirilmiş en küçük kareler yöntemini, Bhat (1996) hata bileşenli regresyon modelini, Ahmed et al. (1999) havuzlanmış zaman serisi ve yatay kesit regresyon analizini ve Lobo & Yang (2001) ise yatay kesit regresyon analizini kullanmışlardır.

Panel veri analizi yapılırken kesit ve zaman serileri birlikte kullanılmaktadır. Bu bakımdan panel veri analizinin kesit ve zaman serilerinin bir karışımı olduğu söylenebilir. Panel veride her kesit için bir veri bulunmaktadır. Haneler ve firmalar gibi kesit birimlerinden oluşan panel veri mikro panel olarak adlandırılır. Bu şekilde oluşan panel veri setinde zaman boyutunun kesit boyutundan daha küçük olması beklenmektedir. Ülkeler gibi makro birimlerin yer aldığı kesit birimlerinden oluşan panel veriye ise makro panel veri adı verilmektedir. Makro panelde ise zaman boyutunun kesit boyutuna göre fazla olması beklenir. Panel verileri diğer bir sınıflandırması da dengeli panel ve dengesiz panel olarak yapılmaktadır. Buna göre panel veri, tüm veriler her zaman noktasında tüm birimler için mevcut ise dengeli panel adını alırken aksi takdirde ise dengesiz panel olarak adlandırılır (Das, 2019: 242).

4. Bulgular

Bu çalışma, panel veri analizi kullanılarak yapılmıştır. Çalışmada kullanılan veri seti için yapılan tanımlayıcı istatistikler ise aşağıdaki tabloda gösterilmiştir.

Tablo: 4
Değişkenlere Ait Tanımlayıcı İstatistikler

Değişkenler	Standart Sapma	Ortalama	Ortanca	Maksimum	Minimum
Özel Karşılıklar (LLA)	229.819,41	99.514,09	16.001,00	1.532.370,00	0,00
Takipteki Krediler (NPL)	376.381,13	153.107,06	22.117,00	2.666.352,00	0,00
Toplam Krediler (LOANS)	16.635.931,46	6.852.957,26	722.977,00	143.359.915,00	0,00
Aktiften Silinen Krediler (LCO)	103.828,06	27.456,06	0,00	974.156,00	0,00
Donuk Alacaklar (FD)	569.924,96	197.708,91	8.033,00	4.422.938,00	0,00
Önceki Dönem Özel Karşılıklar (ALL1-1)	178.599,34	79.739,28	10.569,00	1.220.037,00	0,00
Vergi ve Karşılık Öncesi Kâr (EBTP)	698.364,54	402.170,02	109.855,00	6.025.234,00	363,00

Tablodan da görüleceği üzere modelin bağımlı değişkeni olan özel karşılıklar (LLA) değerinin ortalaması 99.514,09 TL iken aynı veri setinin standart sapması ise 229.819,41 olarak tespit edilmiştir. Bu değerler, toplam krediler için sırasıyla 6.852957,26 TL ve 16.635.931,46 olarak gerçekleşmiştir. Takipteki krediler değişkeni için standart sapma değeri 376.381,13 iken ortalama değeri ise 153.107,06 olarak gerçekleşmiştir. Diğer değişkenler için de bu değerlere bakıldığında standart sapma değerlerinin ortalama değerlerinin üzerinde olduğu görülmektedir. Ayrıca standart sapma değerlerinin yüksek olması araştırma kapsamına dâhil edilen bankaların kâr yönetimi yaptığının bir kanıtı olarak dikkate alınabilir.

Yukarıdaki açıklamalardan sonra veri seti için hangi modelin uygun olduğunu belirlemek için bir test yapılmaktadır. Bu testin adı Hausman Test istatistiğidir. Bu test ile verinin sabit etkiler modeli ile mi yoksa tesadüfi etkiler modeli ile mi çalışılmasının uygun olduğuna karar verilmektedir. Hausman test istatistiği, tesadüfi etkiler ile sabit etkiler tahmininden hangisinin önemsiz olup olmadığı göstermek için yapılmaktadır. Hausman test istatistiğinin hipotezleri ise aşağıdaki gibidir.

H₀: Tesadüfi etkiler mevcuttur.

H₁: Tesadüfi etkiler yoktur.

Boş hipotezin reddedilmesi durumunda tek tek etkilerin modeldeki en az bir açıklayıcı değişken ile önemli ölçüde ilişkili olduğu sonucuna varılır. Bu bağlamda çalışmaya konu bankalardan elde edilen verilen Hausman Test istatistiği sonuçları aşağıdaki tabloda gösterilmiştir.

Tablo: 5
Hausman Test İstatistiği Sonuçları

Test İstatistiği	Serbestlik Derecesi	P-Değeri
12,511	9	0,1860

Yukarıdaki tabloda Hausman testinin sonuçları görülmektedir. Tablodan da anlaşılacağı üzere hesaplanan p değeri 0,05 değerinden büyüktür. Bunun anlamı elde edilen veri setinin Sabit Etkiler Modeli ile değil Tesadüfi Etkiler Modeli ile yorumlanmasının daha uygun olacağıdır.

Tablo: 6
Bankalar İçin Tesadüfi Etkiler Modeli

Değişkenler	Parametreler	Standart Hata	t-istatistiği	p-değeri
Sabit Terim	2439.3402	10810.1557	0.2257	0.8215
NPL	-0.0613	0.0454	1.3517	0.1765
LOANS	-0.0013	0.0002	-6.5851	0.0000
LCO	-0.2690	0.0658	-4.0867	0.0000
FD	0.1277	0.0240	5.3162	0.0000
ALL _{t-1}	0.6730	0.0659	10.2084	0.0000
EBTP	0.0825	0.0081	10.2063	0.0000
Enflasyon	-686.0316	804.6486	-0.8526	0.3939
Faiz	-9.3490	379.1666	-0.0247	0.9803
Büyüme	-335.4754	600.9578	-0.5582	0.5767

Burada elde edilen determinasyon katsayısı 0.64782 olarak hesaplanmıştır. Bağımlı değişkende meydana gelen değişikliklerin %64,782’si bağımsız değişkenler tarafından açıklanmaktadır. Modele ilişkin elde edilen Durbin Watson test istatistiği ise 1.8761 olarak, test istatistiğine ilişkin p değeri ise 0.8472 olarak hesaplanmıştır. Bu durumda sıfır hipotezinde otokorelasyon yoktur hipotezi reddedilememiştir. Genel olarak modelin anlamlılığına ilişkin elde edilen F istatistiği 8.988 olarak, bu değere ilişkin p değeri ise 0.002768 olarak bulunmuştur. Bu değerler, modelin genel olarak istatistiksel açıdan anlamlı olduğunu göstermektedir.

Hausman test istatistiği sonuçlarından da anlaşılacağı üzere bankalar için yapılan analiz yöntemlerinden tesadüfi etkiler modelinin daha anlamlı sonuçlar vereceği anlaşılmaktadır. Makroekonomik değişkenlerin modele katılmış ancak bu değişkenler ile kâr arasında istatistiki olarak anlamlı bir ilişki tespit edilememiştir. Modelde yer alan değişkenlerden takipteki krediler (NPL) ile özel karşılıklar arasında da anlamlı bir ilişki bulunmadığı sonucu çıkmaktadır. Ancak bu değişkenin katsayısının da negatif olduğunu vurgulamak gerekir. Borçlar (LOANS) ve Aktiften Silinen Kredi (LCO) değişkenler ile özel karşılıklar değişkeni arasında da ters yönlü bir etkileşim bulunmaktadır. Bu değişkenlerdeki yukarı yönlü bir hareketin özel karşılıklar kaleminde aşağı yönlü bir harekete sebep olması beklenmektedir.

Tablodan çıkarılan bir başka sonuç ise özel karşılıklar kalemi ile ters yönde etkileşimde bulunan değişkenlerden en etkilisinin aktiften silinen krediler olduğunun tespit edilmesidir. Bu bağlamda aktiften silinen krediler, borçlara oranla özel karşılıklar bağımlı değişkeni üzerinde daha fazla bir etkiye sahip olmaktadır.

Denklemden yer alan diğer değişkenler ise donuk alacaklar (FD), önceki dönem özel karşılıklar (ALL_{t-1}) ve faiz ve vergi öncesi kâr (EBTP) kalemidir. Bu değişkenlere bakıldığında ise özel karşılıklar bağımlı değişkeni ile bu üç bağımsız değişken arasında bir pozitif yönlü ilişki görülmektedir. Bunun anlamı bu değişkenlerde meydana gelen yukarı yönlü bir hareketin özel karşılıklar değişkeninde de yukarı yönlü bir hareket meydana getirmesi olgusudur.

Özel karşılıklar değişkeni ile pozitif yönlü ilişki içinde bulunan değişkenlerden bu değişken üzerinde en fazla etkisi bulunan değişkenin önceki dönem özel karşılıklar değişkeni olduğunun tespit edilmiştir. Bu açıdan bakıldığında önceki dönem özel karşılıklar değişkeni ile bu dönem özel karşılıklar değişkeni arasında hem anlamlı hem de etkili pozitif yönlü bir ilişkinin olduğu görülmektedir.

Tablodan da görüleceği üzere kâr kalemi ile özel karşılıklar kalemi arasındaki pozitif yönlü bir ilişki bu banka grubunun kâr yönetimi yaptığını göstermektedir. Buradan çıkarılacak sonuç ise literatürde tespit edildiği üzere mevduat bankaları için tespit edilen kâr yönetimi faaliyetinin Türkiye’de faaliyette bulunan katılım ve yatırım bankaları için geçerli olduğudur.

Elde edilen sonuçlar ile çalışmanın 3.1. bölümünde ortaya atılan hipotezlerin doğrulanıp doğrulanmadığına bakıldığında H_1 hipotezinin doğrulandığı sonucuna ulaşılmaktadır. H_1 hipotezi vergi ve karşılık öncesi kâr ile özel karşılıklar (LLA) arasında pozitif yönlü bir ilişki olduğuna dayanmaktadır. Elde edilen bulgular bunu doğrulamakta ve vergi ve karşılık öncesi kâr ile özel karşılıklar (LLA) arasında pozitif yönlü bir ilişkinin olduğunu göstermektedir.

H_2 hipotezi ise toplam krediler kalemi ile özel karşılıklar (LLA) kalemi arasındaki ilişkiye yöneliktir. Hipotezde ifade edilen husus toplam krediler ile özel karşılıklar (LLA) kalemi arasında aynı yönlü bir ilişkinin bulunduğu varsayımdır. Ancak elde edilen bulgulara bakıldığında toplam krediler kalemi ile özel karşılıklar (LLA) kalemi arasında negatif bir ilişkinin olduğu tespiti yapılmıştır. Bu da ters yönlü bir ilişkiyi ifade etmektedir. Yani toplam kredilerin artması özel karşılıklar kaleminde azalmaya sebep olmaktadır.

H_3 hipotezi ise özel karşılık kalemi (LLA) ile makroekonomik büyüklükler arasındaki ilişkiyi tespit etme üzerine kurulmuştur. Bu büyüklükler ile özel karşılıklar kalemi (LLA) arasında anlamlı bir ilişkinin olması düşünülmektedir. Ancak tablodan elde edilen sonuçlara göre makroekonomik büyüklere ilişkin katsayıların oldukça büyük olması anlamlı bir ilişkinin olmadığı yönünde bir sonucu ortaya çıkarmıştır.

Bu hususlar dikkate alındığında ortaya konulan hipotezlerden sadece biri hakkında doğrulama yapılmıştır. Diğer hipotezler ise reddedilmiştir.

5. Sonuç ve Değerlendirme

Bu çalışmada Türkiye’de faaliyette bulunan katılım ve yatırım bankalarının kâr yönetimi faaliyetinde bulunup bulunmadıkları araştırılmıştır. Bu çalışmada, özel karşılıklar (LLA) bağımlı değişken olarak ele alınmış ve modeldeki diğer değişkenlerin özel karşılıklar üzerindeki etkileri gözlemlenmiştir. Çalışmanın verileri 2005-2019 yılları arasında Türkiye’de faaliyette bulunan yatırım ve katılım bankalarının mali tablolarından elde edilmiştir. Veri analizinde panel veri analizi yöntemi kullanılmıştır. Çalışmada elde edilen sonuçlar literatür bulguları ile paralellik göstermektedir. Literatürde hem katılım bankaları

hem de mevduat bankaları üzerinde yapılan çalışmalarda da benzer sonuçlar elde edilmiştir. Ancak literatürde yatırım bankaları üzerine yapılan bir çalışmaya rastlanmamıştır.

Literatürde Türk bankaları üzerinde yapılan çalışmalardan bir tanesi Fonseca & Gonzales (2008) ile Acar & İpçi (2015) tarafından yapılmıştır. Fonseca & Gonzales (2008) kayıp kredi karşılıklarını (LLP) esas alarak yaptıkları ve Türk bankacılık verilerini de kullandıkları çalışmada bankaların kâr yönetimi faaliyetinde buldukları yönünde tespit yapmışlardır. Bu bağlamda elde ettikleri bulgu ise kayıp kredi karşılıkları ile vergi ve karşılık öncesi kâr arasında pozitif bir ilişkinin tespitidir.

Acar & İpçi (2015) tarafından Türkiye’de faaliyette bulunan 28 banka üzerinde yapılan çalışmada yabancı sermayeli bankaların kâr yönetimi davranışında buldukları tespit edilmiştir. Diğer banka gruplarında ise kayıp kredi karşılıklarının ana belirleyici unsurunun takipteki krediler olduğu tespiti yapılmıştır.

Benzer şekilde Hasan & Wall (2004), Gray (2004) ve Jin et al. (2016) yaptıkları çalışmada bu çalışmanın bulguları ile benzer sonuçlar elde etmişler ve bankaların kâr yönetimi faaliyetinde bulduklarını tespit etmişlerdir.

Katılım bankaları için literatürde Vania et al. (2018), Hamdi ve Zarai (2013), Quttaniah et al. (2013), Lassoued et al. (2018), Mersni & Othman (2016), Kolsi & Grassa (2017), Abdelsalam et al. (2016) ve Zaunildin & Lui (2020) tarafından çalışmalar yapılmıştır. Bu çalışmalarda da katılım bankalarının mevduat bankaları ile karşılaştırıldığında onlardan az da olsa kâr yönetimi faaliyetinde bulduklarına ilişkin tespitler yapılmıştır.

Bu çalışmanın ayırıcı özelliği ise katılım ve yatırım bankaları üzerine yapılmış bir çalışma olmasıdır. Bankalardaki kâr yönetimi davranışları literatürde pek çok araştırmacı tarafından tespit edilmeye çalışılmıştır. Ayrıca kâr yönetimi davranışlarını etkileyen bankanın sermaye yapısı, bağımsız denetime tabi olması gibi etkenler de dikkate alınarak yapılan çalışmalar da mevcuttur. Ancak hem katılım bankalarının hem de yatırım bankalarının dâhil olduğu bir çalışmaya literatürde rastlanılmamıştır.

Çalışmada elde edilen sonuçlara bakıldığında modelde yer alan makroekonomik değişkenler ile takipteki kredilerin bu bankaların kâr yönetimi davranışlarında anlamlı bir sonuç vermediğidir. Bankaların kâr yönetimi davranışında kullandığı mali tablo değişkenlerinden biri olan özel karşılıkları pozitif anlamda etkileyen en önemli değişkenin önceki dönem özel karşılıklar olduğu tespit edilmiştir. Onu sırasıyla donuk alacaklar ve vergi ve faiz öncesi kâr değişkeni takip etmektedir. Modelde yer alan aktiften silinen krediler ile toplam kredilerin ise özel karşılıklar kaleminde negatif yönlü bir harekete sebep olduğu tespit edilmiştir. Bu iki değişkenden aktiften silinen kredilerin daha büyük bir etkisi olduğu da elde edilen analiz bulgularından çıkarılmaktadır.

Literatüre bakıldığında bankacılık kesiminde kâr yönetimi davranışlarının tespit edilmesi ile ilgili olarak çalışmaların devam ettiği görülmektedir. Ancak burada şunu

belirtmek gerekir ki bankacılık kesiminin düzenlenmesinde uluslararası tam bir mutabakat olduğunu söylenememektedir. Bu da her ülkede bankaların farklı kurallar dâhilinde faaliyette bulunduğu anlamına gelmektedir. Bu nedenle bir ülke ya da bölge için yapılan çalışmaların diğer bir ülke ya da bölge için de sağlamlasının yapılması önem taşımaktadır. Ancak genel olarak bakıldığında bankacılık kesiminde kâr yönetimini tespit etmeye yönelik çalışmaların göz önünde tuttuğu iki önemli değişken vardır. Bunlardan birisi kayıp kredi karşılıkları (LLP) diğer ise özel karşılıklardır (LLA). Bu çalışmada ise ikinci değişken kullanılmış ve bankaların bu kalem vasıtasıyla kâr yönetimi faaliyetinde bulunup bulunmadığı araştırılmaya çalışılmıştır.

Ulaştığımız sonuç geleneksel bankalar gibi yatırım ve katılım bankalarının da kâr yönetimi faaliyetinde olduklarını göstermektedir. Ancak bir önceki bölümde de belirtildiği gibi ortaya koyduğumuz hipotezlerden sadece birinin doğrulanması yapılabilmektedir.

Her çalışmada olduğu gibi bizim çalışmamızın da değişik kısıtları mevcuttur. Bu kısıtlardan ilki elde edilen verilerin Türkiye özelinde olduğudur. Yani veriler Türkiye’de faaliyette bulunan yatırım ve katılım bankalarına aittir. Bunun anlamı bu çalışmada küçük bir veri setinin kullanıldığıdır. Bu nedenle çalışma sonucunda genel geçer bir sonuca ulaşılması mümkün değildir. Ulaşılan sonuçlar yukarıda da belirtildiği gibi Türkiye özelinde değerlendirilmelidir. Diğer bir husus ise çalışmada kullanılan verilerin mali kriz dönemlerine ait olmamasıdır. Mali kriz dönemlerinde bankaların nasıl bir davranış sergileyeceklerine yönelik bir tespit yapılmamıştır. Verilerin dâhil olduğu 2008 döneminde dünyada bir mali krizin olduğu varsayılmakla birlikte Türkiye özelinde bu krizin ciddi etkilerinin görüldüğüne dair bir veriye ulaşmak mümkün görülmemektedir. Türk bankacılık sektörünün son dönemde yaşadığı en ciddi kriz 2001 yılında yaşanmıştır. Bu nedenle kriz dönemlerinde bankaların nasıl bir yöntem izlediklerine yönelik araştırmaların bu dönemi de kapsayacak şekilde yapılmasının uygun olacağı düşünülmektedir.

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Macaristan Ekonomisinde Enerji Verimliliğini Etkileyen Faktörlerin FOURIER ADL Eşbütünleşme Yaklaşımıyla Belirlenmesi

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Determination of Factors Affecting Energy Efficiency in Hungary's Economy by FOURIER ADL Cointegration Approach

Abstract

In this study, the factors affecting energy efficiency were investigated for the Hungarian economy, which increased energy efficiency the most among the developed market emerging economies. The Fourier ADL approach, introduced to the literature recently, has been used as an empirical method. In the sample period of 1990-2020, the annual GDP per capita of the Hungarian economy, industrialisation and fossil fuel use, and energy efficiency variables were used. Empirical findings show that GDP per capita and industrialisation increase energy efficiency; It has been shown that the use of fossil fuels reduces energy efficiency.

Keywords : Energy Efficiency, GDP, Industrialization, Fossil Fuel Use, Hungary.

JEL Classification Codes : F63, Q4, C32.

Öz

Bu çalışmada ileri piyasa yükselen ekonomileri arasında enerji verimliliğini en fazla artıran Macaristan ekonomisi için enerji verimliliğini etkileyen faktörler araştırılmıştır. Ampirik yöntem olarak son yıllarda literatüre kazandırılan Fourier ADL yaklaşımı kullanılmıştır. 1990-2020 örneklem döneminde Macaristan ekonomisine ait yıllık kişi başı GSYH, sanayileşme ve fosil yakıt kullanımı ile enerji verimliliği değişkenleri kullanılmıştır. Ampirik bulgular, kişi başı GSYH ve sanayileşmenin enerji verimliliğini artırdığını; fosil yakıt kullanımının ise enerji verimliliğini azalttığını göstermiştir.

Anahtar Sözcükler : Enerji Verimliliği, GSYH, Sanayileşme, Fosil Yakıt Kullanımı, Macaristan.

1. Giriş

Enerji verimliliği kavramı literatürde enerji yoğunluğu ve enerji etkinliği kavramlarıyla çok karıştırılan bir kavramdır. Enerji etkinliği bir birim enerji başına elde edilen maksimum çıktı anlamına gelmektedir (Karabat & Aydın, 2018: 6; Özkara, 2015: 13). Enerji yoğunluğu ise bir birim çıktı başına kullanılan enerji miktarıdır (İslatine & Haydaroğlu, 2009: 157). Enerji verimliliği ise bir birim çıktı başına kullanılan minimum enerji miktarıdır (Patterson, 1996: 377). Dolayısıyla enerji verimliliği enerji yoğunluğunun tam tersidir (Ediger, 2009: 21). Yani bir birim çıktı başına kullanılan enerji miktarı arttıkça enerji yoğunluğu artmakta ancak enerji verimliliği ise azalmaktadır. Diğer yandan kullanılan bir birim enerji başına elde edilen çıktı da azalacağı için enerji etkinliğinde de azalma meydana gelecektir.

Enerji verimliliğinde yaşanan artışın, kirlilik ve maliyetlerde azalma, karbon ayakizi ve enerji güvenliğinde artma, iklim değişikliklerini azaltma ekonomik büyüme ve iş yaratma gibi birçok olumlu etkileri bulunmaktadır (Tuominen et al., 2013: 181). Diğer yandan daha yüksek verimlilik, enerji talebini azaltacağı gibi ek yeni enerji kaynaklarının devreye sokulması için yapılacak olan yatırımlardan da daha ekonomik olmaktadır. Bu yüzden ekonomiler için enerjinin verimli kullanılması hayati önem taşımaktadır. O halde enerji verimliliğini artıran ekonomilerin bunu nasıl başardığını araştırmak tüm ekonomiler için örnek bir politika oluşturulmasına neden olabilecektir.

Macaristan ekonomisi IMF tarafından 2015 yılı dünya ekonomik raporunda sınıflandırılan yükselen ekonomiler arasında bir ekonomidir (IMF: WEO, 2015: 124). Ayrıca Financial Times ve Londra Borsa'sının ortak bir kuruluşu olan FTSE (Financial Times Stock Exchange)'a göre ise yükselen ekonomiler içerisinde ileri yükselen piyasa ekonomileri arasında yer alan bir ekonomidir (FTSE, 2015: 2). Dünya Bankası'ndan alınan verilerle tarafımızca yapılan hesaplamalara göre 1990-2019 döneminde yükselen ekonomiler için (Macaristan, Çin ve Venezuela hariç)¹ yıllık olarak ortalama GSYH artış hızı %3,19 olarak gerçekleşirken Macaristan ekonomisi için ise bu artışın altında olarak %2,58 şeklinde gerçekleşmiştir. Macaristan ekonomisinin büyüme hızı yükselen ekonomilerin büyüme hızından daha düşük gerçekleşse de Uluslararası Enerji Ajansı (IEA)'ndan alınan verilerle tarafımızca yapılan hesaplamalara göre 1990-2019 yılında yükselen ekonomiler için (Macaristan, Çin ve Venezuela hariç) yıllık olarak ortalama yenilenebilir enerji kullanım hızı %2,75 iken Macaristan ekonomisinde ise daha yüksek olarak %3,36 şeklinde gerçekleşmiştir. Ayrıca yine aynı dönemde yükselen ekonomiler için (Macaristan, Çin ve Venezuela hariç) yıllık olarak ortalama fosil yakıt ve toplam enerji tüketimi sırasıyla %1,21 ve %1,29 artış hızına sahipken Macaristan ekonomisinde ise bu artışlar sırasıyla %1,10 ve %0,41 azalış olarak gerçekleşmiştir. Dolayısıyla Macaristan ekonomisi yükselen ekonomilerin aksine fosil yakıt ve toplam enerji kullanımını çok fazla

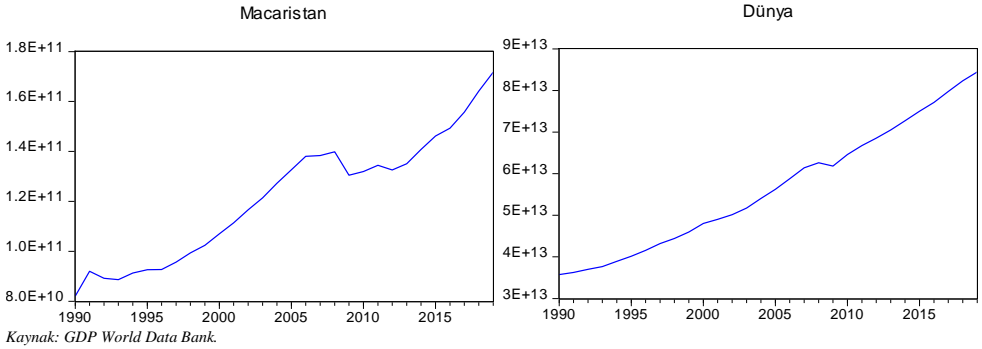
¹ *Venezüella GSYH verisi Dünya Bankası'nda bulunmadığından Venezüella verisi hesaba katılmamıştır. Çin ekonomisi ise çoğu alanda sahip olduğu yüksek büyüme rakamlarıyla tek başına yükselen ekonomilerin hesaplanan rakamlarını çok yükselttiği için hesaplama dışı çıkarılmıştır.*

azaltmış ve bunun yerine yine yükselen ekonomilerin yenilenebilir enerji kullanımı artışından daha yüksek artışlar gerçekleştirmiştir.

Macaristan ekonomisi ekonomik büyüme olarak küresel ekonomiye önemli katkıları olan bir ekonomidir. Dünya Bankası'ndan alınan verilerle tarafımızca yapılan hesaplamalara göre 1990-2019 yılında dünya GSYH'si yıllık olarak ortalama %2,91 artış hızına sahipken Macaristan ekonomisinde ise bu artış %2,49 olarak gerçekleşmiştir².

Grafik 1'de Macaristan ekonomisi ve dünya için 1990-2019 döneminde GSYH'lar gösterilmektedir.

Grafik: 1
GSYH (2015, ABD\$)

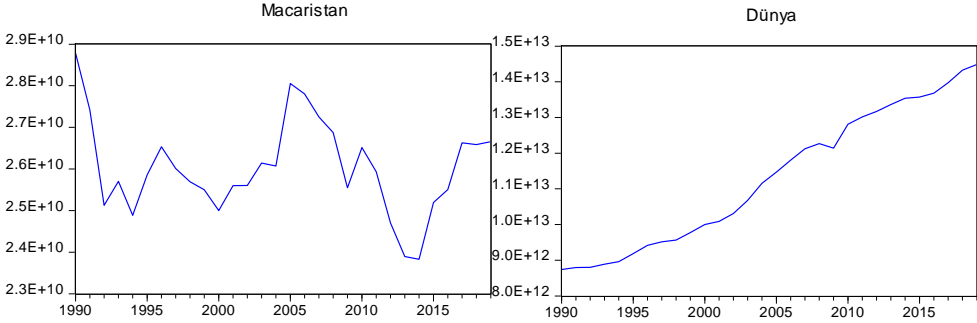


Grafik 1'e dikkat edilirse dünya GSYH'si 2008 krizinde bir kırılma yaşamış ancak sonra tekrar artış göstermiştir. Macaristan ekonomisi ise 2008 krizinden etkilenmiş ancak 2012 yılından sonra hızlı bir şekilde GSYH'sini artırmayı başarmıştır. Bu artışı ise kullandığı enerjiyle sağlamaktadır. Uluslararası Enerji Ajansı (IEA)'ndan alınan verilerle tarafımızca yapılan hesaplamalara göre 1990-2019 yılında dünya toplam enerji tüketimi yıllık olarak ortalama %1,70 artış hızına sahip olarak gerçekleşirken Macaristan ekonomisinde yine ilgili dönemde toplam enerji tüketimi yıllık olarak ortalama %0,26 azalış hızına sahip olarak gerçekleşmiştir.

Grafik 2'de Macaristan ekonomisi ve dünya için 1990-2019 döneminde gerçekleştirdiği toplam enerji kullanımları gösterilmektedir.

² Uluslararası Enerji Ajansı (IEA) verilerine göre Macaristan ekonomisine ait 1990-2020 dönemi için veriler bulunmaktadır. Ancak dünya için ise 1990-2019 dönemine ait veriler bulunmaktadır. Bu yüzden hesaplamalar ve grafiklerde tutarlılık ve bütünlük sağlanması için 1990-2019 dönemi verileri kullanılırken tüm ekonometrik analizlerde ise Macaristan ekonomisi için 1990-2020 dönemine ait veriler kullanılmıştır.

Grafik: 2
Toplam Enerji Kullanımı (koe)

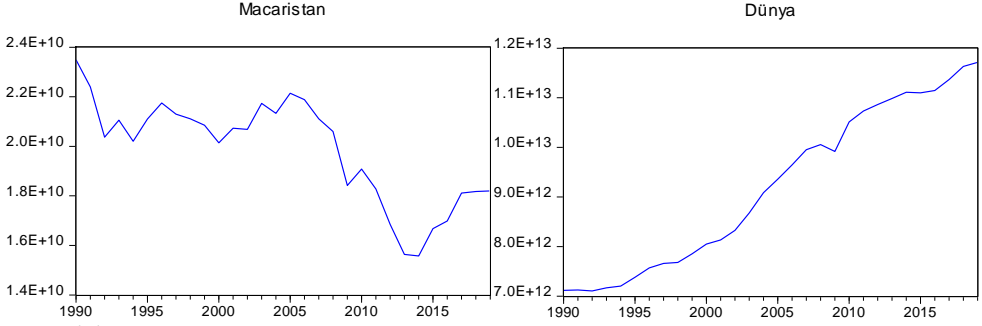


Kaynak: Uluslararası Enerji Ajansı (IEA).

Grafik 2 incelendiğinde dünya toplam enerji tüketimi genel olarak artış gösterirken Macaristan ekonomisinde ise büyük dalgalı artan-azalan bir görünüm sergilemiştir. Ayrıca 1990 yılına göre 2019 yılında dünya toplam enerji tüketimi %65,79 artış gösterirken Macaristan ekonomisinde ise %7,39 azalış göstermiştir. Macaristan ekonomisi toplam enerji kullanım payı arasında en yüksek paya sahip fosil yakıt kullanımını azaltmayı başarmıştır. Uluslararası Enerji Ajansı (IEA)'ndan alınan verilerle tarafımızca yapılan hesaplamalara göre 1990-2019 döneminde dünya fosil yakıt kullanımı yıllık olarak ortalama %1,68 artış hızına sahip iken Macaristan ekonomisinde yine aynı dönemde fosil yakıt kullanımı yıllık olarak ortalama %0,85 azalış olarak gerçekleşmiştir. Bunun en büyük nedeni Macaristan ekonomisinin fosil yakıt yerine yüksek oranda yenilenebilir enerji kullanımını artırmasıdır. Çünkü Uluslararası Enerji Ajansı (IEA)'ndan alınan verilerle tarafımızca yapılan hesaplamalara göre 1990-2019 yılında gelişmekte olan ekonomiler arasında özel bir konuma sahip yükselen ekonomiler için (Macaristan, Çin ve Venezuela hariç) yıllık olarak ortalama yenilenebilir enerji kullanım hızı %2,75 iken Macaristan ekonomisinde ise daha yüksek olarak %3,36 şeklinde gerçekleşmiştir.

Grafik 3'te Macaristan ekonomisi ve dünya için 1990-2019 döneminde gerçekleşen fosil yakıt kullanımları gösterilmektedir.

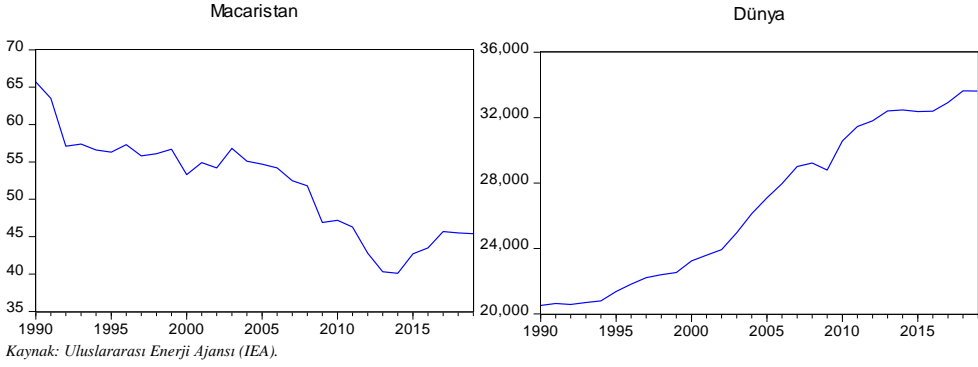
Grafik: 3
Fosil Yakıt Kullanımı (koe)



1990 yılında dünyanın kullandığı toplam enerji içerisinde fosil yakıt kullanımı %81,43 paya sahipken 2019 yılına gelindiğinde bu pay istenilen seviyede olmasa da azalmış ve %80,88 olarak gerçekleşmiştir. Ancak Macaristan ekonomisinin 1990 yılında kullandığı toplam enerji içerisinde fosil yakıt kullanımı %81,61 paya sahipken 2019 yılına gelindiğinde bu pay önemli derecede azalmış ve %68,28 olarak gerçekleşmiştir. Bu durum çevresel kaliteye de olumlu yansımıştır. Uluslararası Enerji Ajansı (IEA)'ndan alınan verilerle tarafımızca yapılan hesaplamalara göre 1990-2019 döneminde dünya fosil yakıt kullanımı sonucu meydana gelen dünya karbon salınımı yıllık olarak ortalama %1,74 artış hızına sahip iken Macaristan ekonomisinde yine aynı dönemde CO₂ salınımı yıllık olarak ortalama %1,22 azalış olarak gerçekleşmiştir. Dolayısıyla Macaristan ekonomisinin özellikle de COVID-19 küresel salgını sonrası daha yaşanılabilir, daha temiz ve daha sağlıklı bir dünya için gerekli olan karbon salınımının azalmasına katkıda bulunması önemli bir gelişmedir.

Grafik 4'te Macaristan ekonomisi ve dünya için 1990-2019 döneminde fosil yakıt kullanımı sonucu ortaya çıkan karbon salınımları gösterilmektedir.

Grafik: 4
Karbon Salınımı (Mt)

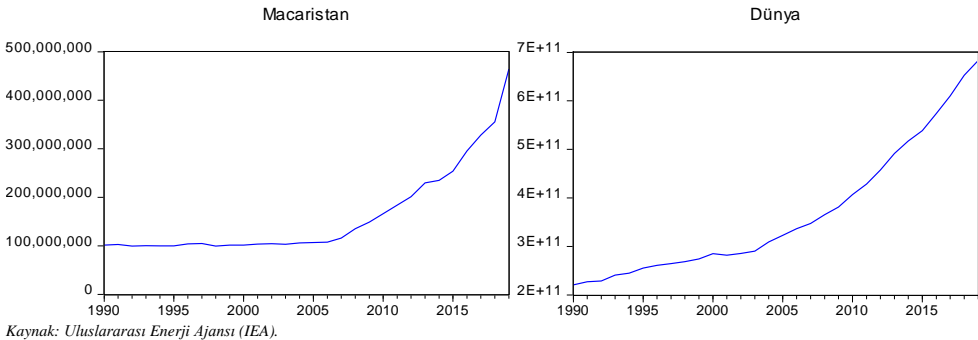


Grafik 4'e dikkat edilirse dünya karbon salınımının arttığı görülürken Macaristan ekonomisi için ise dalgalı ancak genel olarak azalış gösterdiği görülmektedir.

Yenilenebilir enerji kaynağı çevre kalitesinin artmasında fosil yakıt kaynaklarına alternatif olabilecek önemli bir enerji kaynağıdır. Macaristan ekonomisinde yaşanan çevresel kalite artışı bunu desteklemektedir. Uluslararası Enerji Ajansı (IEA)'ndan alınan verilerle tarafımızca yapılan hesaplamalara göre 1990-2019 döneminde dünya yenilenebilir enerji kullanımı yıllık olarak ortalama %3,84 artış hızıyla en hızlı kullanımı artan bir enerji kaynağı iken Macaristan ekonomisinde yine aynı dönemde yenilenebilir enerji kullanımı dünya ortalamasının neredeyse iki katına yakın olarak yıllık ortalama %5,21 artış hızına sahip olmuştur.

Grafik 5'te Macaristan ekonomisi ve dünya için 1990-2019 döneminde yenilenebilir enerji kullanımları gösterilmektedir.

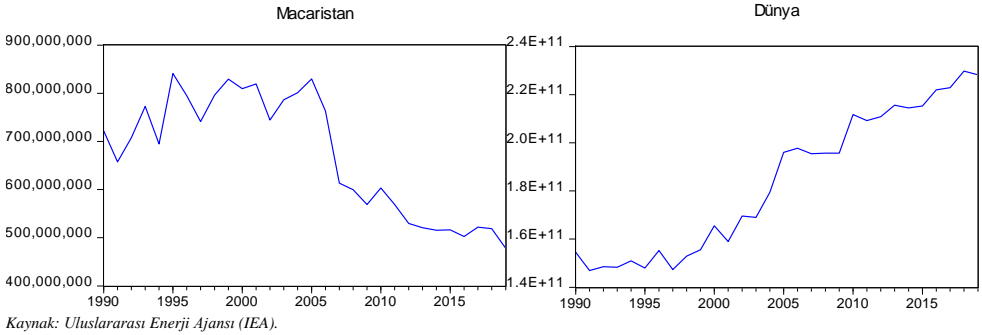
Grafik: 5
Yenilenebilir Enerji Kullanımı (koe)



Grafik 5 incelendiğinde Macaristan ekonomisi 2008 küresel krizi sonrasında fosil yakıt kullanımını ciddi bir şekilde azaltmasına paralel olarak yenilenebilir enerji kullanımını önemli oranda artırmayı başarmıştır. Dolayısıyla azalan fosil yakıt kullanımının yerine artan yenilenebilir enerji kullanımını Macaristan özelinde/ dünya genelinde çevresel kalitenin artmasına neden olmaktadır. Çevresel kalitenin artışına neden olabilecek bir diğer durum ise enerji kayıplarında yaşanan azalmalardır. Artan enerji kayıpları herhangi bir çıktıya dönüşmemenin yanında daha fazla enerji kullanımına, daha fazla karbon salınımına ve daha fazla maliyete neden olmaktadır. Uluslararası Enerji Ajansı (IEA)'ndan alınan verilerle tarafımızca yapılan hesaplamalara göre 1990-2019 döneminde enerjinin üretimi, iletimi ve taşınması sırasında meydana gelen dünya enerji kayıpları yıllık olarak ortalama % 1,31 artış hızına sahip iken Macaristan ekonomisinde ise yine aynı dönemde enerji kayıpları yıllık ortalama % 1,36 azalış hızına sahip olmuştur.

Grafik 6'da Macaristan ekonomisi ve dünya için 1990-2019 döneminde enerji kayıpları gösterilmektedir.

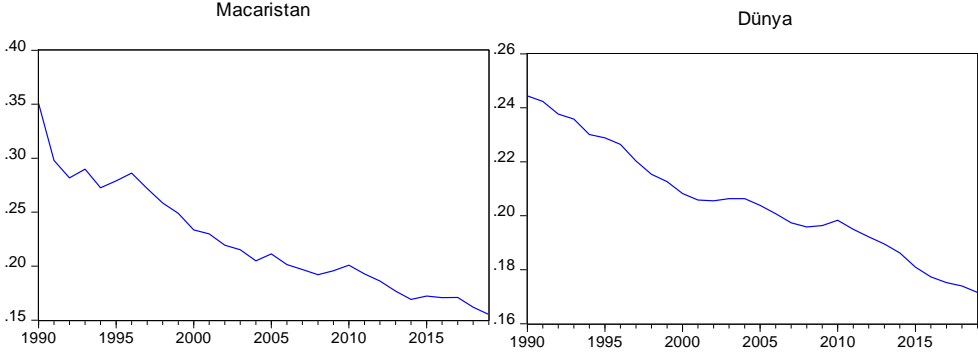
Grafik: 6
Enerji Kayıpları (Mt)



Dolayısıyla Macaristan ekonomisi yüksek büyüme rakamlarıyla küresel ekonominin büyümesine yardım eden ve bunu kullandığı enerjiyle sağlayan ileri piyasa ekonomileri arasında bulunan bir ekonomidir. Ancak enerji kullanımı içerisinde fosil yakıt kullanımı ve enerji kayıplarını azaltmayı başararak ve bununla beraber yenilenebilir enerji kullanımını artırmayı sağlayarak Macaristan özelinde/ dünya genelinde karbon salınımının azaltılmasıyla çevresel kalitenin artmasına yardım eden önemli bir ekonomidir. Macaristan ekonomisinde artan yenilenebilir enerji kullanımı sürdürülebilir enerjinin yanında daha az enerji ithalatına, daha az döviz ihtiyacına, daha az cari açığa ve daha az kırılgan bir ekonomi olmasına neden olmaktadır. Diğer yandan azalan enerji kayıpları ise daha az enerji talebine, daha az enerji kullanımına, daha az ek enerji kaynak yatırımına ve daha az enerji maliyetlerine neden olmaktadır. Bu durum Macaristan ekonomisi için enerjinin yoğun kullanımını azaltmasına neden olmaktadır. Yani elde edilen çıktı için ihtiyaç duyulan enerjinin daha az kullanılmasına ve dolayısıyla enerjide verimlilik artışına neden olmaktadır.

Grafik 7’de Macaristan ekonomisi ve dünya için 1990-2019 döneminde enerji yoğunlukları gösterilmektedir.

Grafik: 7
Enerji Yoğunluğu (Toplam Enerji Kullanımı/ GSYH)



Kaynak: GSYH World Data Bank; Toplam enerji kullanımı Uluslararası Enerji Ajansı (IEA).

1990 yılına göre 2019 yılında dünya enerji yoğunluğu %29,80 azalış gösterirken bu durum Macaristan ekonomisinde %55,76 azalış göstermiştir. Dolayısıyla Macaristan ekonomisi bir birim çıktı başına kullanılan enerjinin azaltılmasını başarmış ve kullandığı enerjiyi daha verimli kullanmıştır. Ayrıca Macaristan ekonomisi bu artışla ileri piyasa ekonomileri arasında en fazla enerji yoğunluğunu azaltmış (tersine enerji verimliliğini artırmış) bir ekonomidir. Dolayısıyla Macaristan ekonomisinde artan bu verimliliğin araştırılması ayrı değer kazanmaktadır.

Gerçekleşen yüksek büyümelerin hala yüksek oranda fosil yakıt kullanımıyla gerçekleşmesi, artan fosil yakıt kullanımının daha fazla CO₂ salınımına neden olması ve bunun sonucunda çevresel bozulmaların daha fazla artarak yaşanabilir bir dünyanın var olan tehdidinin şiddetini artırmaktadır. Bununla beraber artan enerji kayıpları sonucu enerji talebinin artması ve ihtiyaç duyulan talebin ya öz kaynaklar ile karşılanamaması durumunda dışarıdan ithal edilmesiyle ek maliyet getirmesi ya da ek yeni enerji yatırımlarına neden olarak maliyet artışlarına neden olması ve en önemlisi sürdürülebilir enerji ve sürdürülebilir büyüme açısından kullanılan enerjinin nasıl daha verimli kullanılması gerektiği ve bu verimliliği artırmada hangi faktörlerin etkili olabileceği tartışmasında enerji verimliliğinin araştırılması çok önemli hale gelmektedir.

Bu çalışmanın önceki çalışmalardan ilk farkı ihtiyaç duyulan enerji kaynaklarını kendi öz kaynaklarıyla karşılayamayan ve kullanılan enerjinin verimli bir şekilde kullanılmasına en birincil muhatap olan ileri piyasa ekonomileri arasındaki Macaristan ekonomisi için araştırılmasıdır. İkincisi yüksek büyüme rakamlarıyla öne çıkan Macaristan ekonomisi için yüksek enerji kullanımından kaynaklı yüksek maliyetin bu enerjiyi verimli bir şekilde kullanılmasını çok önemli yapmasıdır. Üçüncüsü enerji verimliliğinin ekonomik

büyüme, sanayileşme ve fosil yakıt kullanımıyla araştırılmasıdır. Dördüncüsü değişkenler arasındaki uzun dönemli ilişkinin son zamanlarda literatüre kazandırılan Fourier ADL eşbütünleşme testi ile sınanmasıdır. Beşincisi değişkenlerin enerji verimliliği üzerindeki etkisinin büyüklüğü ve işaretinin sağlamlık testi olarak üç farklı tahminci tarafından koşullanmasıdır. Son olarak elde edilen bulgularla Macaristan özelinde/ dünya genelinde kullanılan enerjinin nasıl verimli kullanılabilir sorusunun ekonometrik yöntemlerle araştırılarak önemli sonuçlar elde edilmesidir. Bu bağlamda 1990-2020 dönemi Macaristan ekonomisi için kişi başı GSYH, sanayileşme ve fosil yakıt kullanımının enerji verimliliği üzerindeki etkisi araştırılmaktadır. Ayrıca literatürde Macaristan ekonomisi özelinde enerji verimliliğini araştıran herhangi bir çalışmaya rastlanmaması çalışmanın ana motivasyon kaynaklarından birisidir. Bu bölümü takip eden bölümde ilgili literatür araştırmasına yer verilmektedir. Sonraki bölümde ampirik olarak model, yöntem ve bulgular ortaya konmaktadır. Son olarak bulgular ışığında çıkarımlar yapılarak politika önerileri sunulmakta ve bu şekilde çalışma sonlandırılmaktadır.

2. Literatür

Enerji ile büyüme gibi farklı makroekonomik değişkenler arasındaki ilişkiyi inceleyen çalışmaların geçtiğimiz yüzyılın ikinci yarısından itibaren yoğunlaştığını ve genellikle enerji tüketiminin belirleyicilerini tespit etme amacıyla yapıldığını görmekteyiz. Ancak enerji verimliliği, özellikle 1970'li yıllar ile birlikte küresel enerji krizlerinin görülmeye başlaması, fosil yakıt rezervlerinin sınırlı ve belli ülkelerin tekelinde olmasından kaynaklı kaygıların artması, küresel ısınmanın potansiyel tehditlerinin yoğunlaşması ve yeşil ekonomiye geçiş sürecinin başlaması ile birlikte, son birkaç on yılda araştırmacıların ilgisini çekmeye başlamıştır. Bu süreçte alanla ilgili son birkaç on yılda yoğun çalışmaların ortaya çıkması geniş bir literatür oluşumuna neden olmuştur. Tüm bunlara rağmen bu alanda enerji verimliliği ile kişi başı milli gelir, özellikle sanayileşme ve fosil yakıt tüketimi arasındaki ilişkiyi inceleyen çalışma sayısı sınırlıdır. Bu çalışmalar incelendiğinde literatürde çoğunlukla panel veri setlerinden faydalandığı, zaman serilerini kullanan çalışmaların ise nispeten daha az olduğu görülmektedir. Bu çalışmalardan bazılarında aşağıda değinilmiştir.

Sadorsky (2013) çalışmasında gelişmekte olan ülkelerdeki kentleşmenin ve sanayileşmenin enerji yoğunluğu üzerindeki etkilerini incelemiştir. 76 ülkenin dâhil edildiği çalışmada panel veri analizindeki yatay kesit bağımlılığını ve eğitim parametrelerinde heterojenliği dikkate alan CCEMG ve AMG gibi günümüzde de güncelliğini koruyan tahminciler kullanılmış ve 1980-2010 yılları arası incelenmiştir. Çalışmanın ampirik sonuçlarına bakıldığında özellikle heterojen katsayılara göre kişi başı milli gelirin enerji yoğunluğunu negatif etkilediği, kentleşme ve sanayileşmenin ise pozitif etkilediği bulunmuştur. Diğer bir ifadeyle bu sonuçlara göre enerji verimliliğini kişi başı milli gelir pozitif, kentleşme ve sanayileşme ise negatif etkilemektedir. Bulunan bu sonuçlar aynı zamanda anlamlıdır.

Filipovic, Verbic ve Radovanovic (2015) çalışmalarında içerisinde Macaristan'ın da bulunduğu 28 Avrupa Birliği ülkesini 1990-2012 yılları arasında incelemişlerdir. Panel veri

seti kullanılarak oluşturulan modelin sabit birim etkilere sahip olduğu tespit edilmiş ve çalışmada standart panel tahmincilerinden olan kukla değişkenli en küçük kareler (LSDV) tahmincisi kullanılmıştır. Enerji yoğunluğunun belirleyicilerinin incelendiği çalışma sonuçlarına göre enerji fiyatlarının, enerji vergilerinin ve kişi başı milli gelirin enerji yoğunluğu üzerinde negatif etkisinin olduğu görülmüştür.

Farajzadeh ve Nematollahi (2018) 1973-2013 yılları arasında İran'da içerisinde enerji yoğunluğunun da olduğu üç farklı enerji göstergesinin belirleyicilerini ortaya çıkardıkları çalışmalarında, dinamik panel veri yöntemlerinden faydalanmış ve sanayileşmenin de içinde bulunduğu dokuz farklı açıklayıcı değişken kullanmışlardır. Çalışmada enerji yoğunluğu için kurulan dört farklı modelin tamamında sanayileşmenin enerji verimliliği üzerinde negatif ve anlamlı bir etkisinin olduğu tespit edilmiştir. Zamanla ağır sanayiden uzaklaşma, enerji verimliliği yüksek sanayi kollarının yaygınlaşması böyle bir sonucu ortaya çıkarabileceği belirtilmiştir.

Şener ve Karakaş (2019) çalışmalarında ekonomideki büyümenin enerji verimliliği üzerindeki etkisini incelemişlerdir. Panel veri setleri üzerinden uzun dönem ilişki tespiti için Westerlund (2007) eşbütünlüşme testinin, katsayı tahmini için ise AMG tahmincisinin kullanıldığı çalışmada analiz yüksek, içerisinde Macaristan'ın da bulunduğu orta ve düşük olmak üzere üç farklı gelir grubu ülkeleri için 1995-2016 yılları arasında kapsayacak şekilde ayrı ayrı yapılmıştır. Enerji yoğunluğunun enerji verimliliğini temsil etmesi amacıyla bağımlı değişken olarak kullanıldığı modellerde açıklayıcı değişken olarak GSYH'nin yanında sanayi enerji yoğunluğu ile sanayileşmeyi temsilen sanayi katma değeri değişkenleri kullanılmıştır. Uzun dönem ilişkinin bulunduğu orta gelir grubu ülkelerde yapılan uzun dönem katsayı tahminlerine göre ekonomideki büyümenin ve sanayileşmenin enerji yoğunluğunu azalttığı dolayısı ile enerji verimliliğini artırdığı bulunmuştur. Bireysel katsayıların da raporlandığı çalışmada bu durumun Macaristan özelinde de geçerli olduğu görülmektedir.

Bayar ve Gavriletea (2019) yaptıkları çalışmalarında MSCI yükselen ekonomiler endeksine dahil 22 ülkede yenilenebilir enerji tüketimi ve enerji verimliliği ile kişi başı gelirdeki büyüme arasındaki uzun dönem ilişkiyi 1992-2014 periyodunda incelemişlerdir. İçerisinde Macaristan'ın da bulunduğu bu ülke grubu için yapılan Westerlund (2008) Durbin-Hausman panel eşbütünlüşme testleri sonucunda uzun dönem ilişkiye rastlanmıştır ve akabinde Dumitrescu ve Hurlin (2012) heterojen panel nedensellik testi ile Granger nedensellik ilişkisi incelenmiştir. Sonuçlara göre sadece enerji verimliliğinden ve yenilenebilir enerji tüketiminden kişi başı gelirdeki büyümeye doğru bir nedensellik ilişkisi tespit edilmiştir.

Enerji fiyatlarının enerji yoğunluğu üzerindeki etkisini 120 ülke ve 34 yıldan oluşan bir panel veri seti ile Antonietti ve Fontini (2019) 1980-2013 yılları arasında incelemişlerdir. Eşbütünlüşme ilişkisinin arandığı çalışmada enerji fiyatlarının yanında modellerde aynı zamanda ekonomik büyüme, kilometrekareye düşen nüfus, toplam emisyon içindeki karbon emisyonu miktarı ve sanayileşmeyi temsilen sanayi katma değeri açıklayıcı değişken olarak

kullanılmıştır. 1980-2013 ve 1997-2013 olmak üzere iki farklı periyotta oluşturulan modellerde uygulanan Westerlund (2005) ve Kao (1999) eşbütünlüğe testleri sonucunda uzun dönem ilişki tespit edilmiştir. Modellerde kullanılan Havuzlanmış EKK, LSDV ve GMM gibi farklı tahminler ile elde edilen genel sonuçlara göre ise ekonomik büyümenin her iki periyotta da enerji yoğunluğunu negatif etkilediği, diğer bir ifadeyle enerji verimliliğini pozitif etkilediği bulunmuştur. Enerji fiyatlarının ise enerji yoğunluğunu sadece 1997-2013 periyodunda negatif etkilediği, sanayi katma değerinin ise anlamlı bir etkisinin olmadığı görülmüştür.

Fitriyanto ve Iskandar (2019) Güneydoğu Asya Uluslar Birliğine üye on ülkede, enerji yoğunluğunu etkileyen faktörleri panel veri analizi yöntemleri ile 2001-2014 yılları arasında incelemişlerdir. Çalışmada enerji yoğunluğun bağımlı değişken olduğu dinamik bir model kurulmuş, açıklayıcı değişkenler ise bağımlı değişkenin bir dönem gecikmesinin yanında kişi başı milli gelir, kişi başı enerji tüketimi, dışa açıklık, enerji fiyatları ve doğrudan yatırımlar olmuştur. Bu şekilde oluşturulan dinamik model GMM yöntemi ile tahmin edilmiştir. Tahmin sonuçlarına göre ise enerji yoğunluğunu kişi başı milli gelir ve enerji fiyatları negatif; kişi başı enerji tüketimi ise pozitif etkilemektedir. Dışa açıklık ile doğrudan yatırımların etkisi anlamlı bulunmamıştır.

Malik (2019) Pakistan'da 1971-2017 yılları arasında enerji verimliliğinin belirleyicilerini incelediği çalışmasında zaman serisi analizi yöntemlerinden faydalanmıştır. Çalışmanın modelinde kentleşme, sanayileşme ve örgütsel kalite kişi başı milli gelirle beraber açıklayıcı değişkenler olarak kullanılmıştır. Johansen eşbütünlüğe testi ve vektör hata düzeltme modeli yardımı ile uzun dönem ilişki tespit edilen çalışmada, katsayı tahmin sonuçlarına göre kentleşme ve kişi başı milli gelir uzun dönemde enerji verimliliğini pozitif yönde etkilerken sanayileşme ve örgütsel kalite negatif yönde etkilediği görülmüştür. Bulunan bu sonuçların tümü istatistiksel olarak anlamlıdır.

Murshed (2020) yaptığı çalışmasında Güney Asya ülkelerini (Bangladeş, Hindistan, Pakistan, Sri Lanka, Nepal ve Maldivler) 2000 yılından 2016 yılına kadar gerçekleşmiş yıllık verileri kullanarak incelemiştir. Ana amaç olarak bilişim teknolojilerinde dışa açıklığın enerji ile ilgili çeşitli değişkenler üzerindeki etkisinin incelendiği çalışmada bağımlı değişkenler olarak yenilenebilir enerji tüketimi, toplam enerji tüketiminde yenilenebilir enerji payının yanında enerji yoğunluğunu da kullanılmıştır. Etkilerin farklı aşamalarda farklı yönlerde oluşacağı düşünülerek çalışmada doğrusal olmayan modeller kurulmuş, bilişim teknolojileri dış ticaret hacmine ek olarak petrol fiyatı, doğrudan yabancı yatırımlar, net resmi doğrudan devlet destekleri, yurt dışında yerleşik vatandaşlardan yurt içine net parasal girişler, kişi başı milli gelir ve tüketici fiyat endeksi kontrol değişkenleri olarak modele eklenmiştir. Kurulan tüm modellerde Westerlund (2007) eşbütünlüğe testi yardımı ile uzun dönem ilişki bulunmuştur. CUP-FM ve CUP-BC gibi ikinci nesil tahminler ile yapılan doğrusal olmayan regresyon tahmininin sonuçlarına göre bilişim teknolojileri dış ticaret hacminin düşük seviyelerde enerji verimliliğini azalttığı, fakat hacim büyüdükçe verimliliği artırdığı tespit edilmiştir. Petrol fiyatları ile enerji verimliliği arasında anlamlı ilişki bulunamayan çalışmada doğrudan yabancı yatırımların enerji verimliliğini negatif

etkilediği bulunmuş, kişi başı milli gelirin ise düşük seviyelerde negatif olarak tespit edilen etkisinin, gelirin artması ile pozitif dönüşümü görülmüş fakat bu pozitif etki anlamlı bulunamamıştır. Çalışmada son olarak Dumitrescu ve Hurlin (2012) heterojen panel nedensellik testi ile değişkenler arasında Granger nedensellik ilişkisi incelenmiştir. Buna göre bilişim teknolojileri dış ticaret hacminden tüm bağımlı değişkenlere doğru, aynı şekilde petrol fiyatları ve kişi başı milli gelirden enerji verimliliğine doğru Granger nedensellik ilişkisi bulunmuş, doğrudan yabancı yatırımlar ile enerji verimliliği arasında herhangi bir nedensellik ilişkisine rastlanmamıştır.

Seçilmiş 35 gelişmekte olan ülkeyi incelediği çalışmasında Solarin (2020) 2010 ile 2016 arasındaki 7 yılı kapsayan yıllık veriler ile oluşturulmuş bir panel veri setinden faydalanmıştır. Çalışmada özellikle fosil yakıt sübvansiyonlarının enerji yoğunluğuna etkisi üzerinde durulmuştur. Kısa dönem ilişkinin incelendiği çalışmada kurulan dinamik modelde aynı zamanda kişi başı milli gelir ve sanayileşmeyi temsilen sanayi katma değeri değişkenleri kullanılmış ve model GMM tahmincisi ile tahmin edilmiştir. Sonuçlar fosil yakıt sübvansiyonlarını enerji yoğunluğunu artırdığını göstermiştir. Ayrıca enerji yoğunluğu üzerinde kişi başı milli gelirin negatif; sanayileşmenin ise pozitif etkisi olduğu görülmüştür.

Enerji verimliliği ile ilgili literatür incelemesi sonucunda ekonomik büyümenin yüksek teknoloji ve yenilenebilir enerji yatırımları açısından önemli olduğu, sanayileşmenin ekonomik büyümenin çarkı ve sanayi sektöründe enerji maliyetlerinin önemli olduğu görülmektedir. Sanayi sektöründe yaşanacak enerji verimlilik artışları maliyetlerde azalma ve ekonomilerin uluslararası arenada rekabet gücünü artırmanın yanında söz sahibi olmasına neden olacağı değerlendirilmektedir. Fosil yakıt kullanımı ise enerji ithalatçısı ekonomiler açısından önemli bir yük ve enerji bağımsızlığı için önemli bir engel olarak görülmektedir.

3. Ekonometrik Yöntem ve Bulgular

Enerji verimliliği literatürde enerji yoğunluğu formülüyle ölçülmektedir. Ancak artan enerji yoğunluğu yani bir birim çıktı için ihtiyaç duyulan enerjinin daha fazla artması yani enerjinin yoğun kullanılması enerji verimliliğinde azalmanın olduğunu ve tersine enerji yoğunluğunda yaşanan bir azalmanın enerji verimliliğinde bir artışa neden olduğunu ifade etmektedir. Bu bölümde, Macaristan ekonomisi için enerjinin verimliliğinin önemli bir göstergesi olan enerji verimliliği (tersine enerji yoğunluğu) (lnYOĞUN) ile kişi başına GSYH (lnGDP), sanayileşme (lnSANAYİ) ve fosil yakıt kullanımı (lnFOSİL) arasındaki ilişki ekonometrik yöntemlerle test edilecek ve

$$\ln\text{YOĞUN} = f(\ln\text{GDP}, \ln\text{SANAYİ}, \ln\text{FOSİL}) \quad (1)$$

şeklindeki fonksiyonel ilişki araştırılacaktır.

3.1. Veriler

Macaristan'ın 1990-2020 dönemi için enerji verimliliğini etkileyen faktörlerin sınındığı bu çalışmada, bağımlı değişken olan enerji verimliliği (lnYOĞUN) toplam enerji

kullanımı (koe)/ GSYH ((2015 sabit fiyatlarıyla ABD\$) olarak alınmıştır. Ekonomik büyüme (lnGDP) kişi başı GSYH (2015 sabit fiyatlarıyla ABD\$), sanayileşme (lnSANAYİ) sanayi (Madencilik, imalat, kamu hizmetleri ve inşaat toplamı) katma değeri (2015 sabit fiyatlarıyla ABD\$) ve fosil yakıt kullanımı (lnFOSİL) kömür, petrol ve doğalgaz kullanımlarının toplamı (koe) olarak alınmıştır. GSYH ve sanayileşme verileri Dünya Bankası veri tabanından elde edilirken diğer değişkenlerin verisi ise Uluslararası Enerji Ajansı'ndan elde edilmiştir. Model de kullanılan tüm değişkenlerin doğal logaritmaları alınmıştır.

3.2. Yöntem

Bu kısımda ilk olarak değişkenlerin birim köke sahip olup olmadığı araştırılacaktır. Bunun için standart ADF ve Fourier ADF testleri kullanılacaktır. Sonra değişkenler arasındaki eşbütünleşme ilişkisi sınırlanacaktır. Bunun için ise son yıllarda Banerjee et al. (2017) tarafından literatüre kazandırılan Fourier ADL eşbütünleşme testi kullanılacaktır. Daha sonra Tamamen Değiştirilmiş En Küçük Kareler Yöntemi (FMOLS), Kanonik Eşbütünleşik Regresyon (CCR) ve Dinamik En Küçük Kareler (DOLS) testleriyle kısa-uzun dönem katsayı tahminleri yapılacaktır. Son olarak ise değişkenler arasındaki nedensellik ilişkisi Granger nedensellik testiyle araştırılacaktır.

3.3. Standart ADF ve Fourier ADF Durağanlık Testleri

Fourier ADF birim kök testi Enders ve Lee (2012) tarafından geliştirilen bir durağanlık testidir. Bu testte istatistikler bir serinin yapısal değişmeye sahip olabileceği düşüncesiyle geleneksel ADF testine fourier fonksiyonlarının eklenmesiyle elde edilmektedir. Bu şekilde bir seri herhangi bir dönemde sayısı önemli olmadan yapısal değişmeye sahip olduğunda fourier fonksiyonlarının bu değişmeyi dikkate alabileceği ifade edilmektedir. Bunun için ilk olarak

$$\Delta y_t = \rho y_{t-1} + \beta_1 + \beta_2 trend_t u_t \quad (2)$$

şeklindeki geleneksel ADF veri yaratım sürecini ele almışlardır. Dikkat edilirse (2) nolu denklemde herhangi bir yapısal değişme dikkate alınmamaktadır. Fourier ADF testinde ise aşağıdaki şekilde yapısal değişmeleri yakalayabilecek trigonometrik fonksiyonları eklenerek model revize edilmiştir.

$$\Delta y_t = \rho y_{t-1} + \beta_1 + \beta_2 trend + \beta_3 \sin\left(\frac{2\pi kt}{T}\right) + \beta_4 \cos\left(\frac{2\pi kt}{T}\right) + u_t \quad (3)$$

Burada t trend, T zaman, k bilinmeyen ve belirlenmesi gereken frekans değerini göstermektedir. Ancak bu test için önemli olan Minimum Hata Kareler Toplamı (MinSSR)'ye sahip uygun frekansı belirlemek olacaktır.

Değişkenler için durağanlık testleri yapılmış ve test sonuçları Tablo 1'de gösterilmiştir.

Tablo: 1
Standart ADF ve Fourier ADF Birim Kök Test Sonuçları

Değişken	Frekans	MINSSR	F test	Düzye		
				Uygun Gecikme	FADF	ADF
lnYOGUN	1	0,007	0,279	6	-1,074	-1,153
lnGDP	2	0,005	9,271**	2	-2,773	-1,559
lnSANAYİ	2	0,012	6,055	6	-3,695	-1,130
lnFOSİL	1	0,008	5,418	6	-3,298	-1,535
Birinci Fark						
Değişken	Frekans	MINSSR	F test	Uygun Gecikme	FADF	ADF
ΔlnYOGUN	5	0,005	2,170	1	-5,749	-4,023***
ΔlnGDP	2	0,003	5,171	1	-3,905	-5,704***
ΔlnSANAYİ	2	0,014	3,293	4	-1,364	-4,038***
ΔlnFOSİL	3	0,009	2,644	1	-3,187	-4,810***

Not: F test kritik değerleri %1=10,35, %5=7,58, %10=6,35, Fourier ADF k=1 kritik değerler %1=-4,42, %5=-3,81, %10=-3,49, ADF kritik değerler %1=-3,753, %5=-2,998, %10=-2,639, ***, ** ve * işaretleri sırasıyla %1, %5 ve %10 anlam seviyelerinde serilerin durağan olduğunu göstermektedir.

Tablo 1 incelendiğinde ekonomik büyüme fourier ADF ve diğer değişkenler ise standart ADF testine göre düzey değerlerinde birim köklü olduğu görülmektedir. Diğer taraftan tüm değişkenler için F testi anlamlı bulunmamasından dolayı fourier ADF yerine standart ADF testi yorumlanmış ve tüm değişkenlerin birinci farkı alındıktan sonra durağan halleri elde edilmiştir.

3.4. Eşbütünleşme Testi

Tüm değişkenlerin bütünleşme derecesinin I(1) olması değişkenler arasında uzun dönemli bir ilişki bulunabileceği düşüncesiyle eşbütünleşme ilişkisi araştırılacaktır. Bunun için Banerjee et al. (2017) tarafından Gecikmesi Dağıtılmış Otopregresif Eşbütünleşme (ADL) testinde sabit terim yerine deterministik bileşenler yerleştirilerek Fourier ADL eşbütünleşme testi aşağıdaki şekilde geliştirilmiştir.

$$\Delta y_t = d(t) + \beta_1 y_{t-1} + \gamma_1' x_{t-1} + \theta' \Delta x_t + u_t \quad (4)$$

$$d(t) = a_0 + \gamma_1 \sin\left(\frac{2\pi kt}{T}\right) + \gamma_2 \cos\left(\frac{2\pi kt}{T}\right) \quad (5)$$

Burada $d(t)$ deterministik bileşendir. Revize edilmiş modelde otokorelasyon sorununu gidermek için değişkenlerin gecikmeli değerleri modele dahil edilmiştir. Burada test edilen temel hipotez *değişkenler arasında uzun dönemli ilişki bulunmamaktadır* şeklindedir. Dolayısıyla burada uzun dönemli ilişkiyi test etmek için (4) nolu denklem tahmin edilmekte ve uygun frekans değeri elde edilerek bağımlı değişkenin gecikmeli değer katsayısının anlamlılığı standart t-testiyle

$$H_0: \beta_1 = 0 \quad (6)$$

şeklinde test edilmektedir. Burada elde edilen test istatistiği ise Banerjee et al. (2017)'nin makalesindeki kritik değerlerle karşılaştırılarak karar verilmektedir.

Macaristan için enerji verimliliği ile açıklayıcı değişkenler arasındaki eşbütünleşme ilişkisi sınanmış ve sonuçlar Tablo 2'de gösterilmiştir.

Tablo 2
FADL Eşbütünleşme Testi Sonuçları

Değişkenler	Gecikme Uzunluğu	Frekans	Min AIC	FADL Eşbütünleşme Test İstatistiği
lnYOGUN	4	3	-11,027	-13,844***
lnGDP	4			
lnSANAYI	4			
lnFOSİL	3			

Not: Fourier ADL eşbütünleşme için kritik değerler %1=-4,90, %5=-4,16, %10=-3,79 ve *** işaretleri %1 anlam seviyesinde anlamlı olduğunu göstermektedir.

Tablo 2 incelendiğinde Fourier ADL eşbütünleşme testi için uygun frekans değeri 3 bulunmuş ve test istatistiği %1 kritik değerlerden mutlak değerce daha büyük olduğu görülmüştür. Bu yüzden *değişkenler arasında eşbütünleşme ilişkisi yoktur temel hipotezi reddedilmektedir*. Dolayısıyla Macaristan ekonomisi için enerji verimliliği ile açıklayıcı değişkenler arasında uzun dönemli bir ilişkinin var olduğu tespit edilmiştir.

3.5. Eşbütünleşme Katsayılarının Tahmini

Bu bölümde açıklayıcı değişkenlerin bağımlı değişkenler üzerindeki etkisinin büyüklüğünü ve yönünü belirleyebilmek için eşbütünleşme katsayı tahmini yapılacaktır. Uzun dönem katsayı tahmini için yapısal değişimlerin kukla değişken olarak modelde yer almasına izin veren Phillips ve Hansen (1990) tarafından geliştirilen Tamamen Değiştirilmiş En Küçük Kareler (FMOLS) yöntemi kullanılacaktır. FMOLS tahmincisi açıklayıcı değişkenler ile kalıntılar arasındaki ilişki ve içsellik sorunundan dolayı meydana gelebilecek sapmaların giderilmesi için önemli bir tahmincidir (Nazlıoğlu, 2010: 99). Bir diğer uzun dönem katsayı tahmincisi olarak Park (1992) tarafından geliştirilen Kanonik Eşbütünleşik Regresyon (CCR) tahmincisi kullanılacaktır. CCR tahmincisinde uzun dönemde meydana gelebilecek korelasyondan kaynaklı içsellik problem asimptotik olarak bertaraf edilmektedir (Mehmood et al., 2014: 9). Son olarak Stock ve Watson (1993) tarafından geliştirilen Dinamik Sıradan En Küçük Kareler (DOLS) tahmincisi ile uzun-kısa dönem katsayı tahmini yapılacaktır. DOLS tahmincisi sürece dinamik unsurlar eklemekte ve statik denklemlerde ortaya çıkabilecek problemleri (bağımsız değişken(ler) ve hata terimi arasındaki içsellik ve hata terimindeki kendine bağlaşımlılık problemleri gibi) bertaraf etmektedir. Ayrıca heterojen yapıda bulunan ve gözlem sayısı çok olmayan serilerde de etkin sonuçlar göstermektedir (Mark & Sul, 2003: 654).

Modelde eşbütünleşme ilişkisine rastlanmış ve uzun dönem katsayı tahmini için FMOLS, CCR ve DOLS tahmin sonuçları Tablo 3'te gösterilmiştir.

Tablo 3
FMOLS, CCR ve DOLS Uzun Dönem Katsayı Tahmin Sonuçları

lnYOGUN	lnGDP	lnSANAYI	lnFOSİL	C
FMOLS	-0,650*** (0,048)	-0,164*** (0,046)	0,571*** (0,032)	-2,173*** (0,378)
CCR	-0,652*** (0,053)	-0,165*** (0,053)	0,585*** (0,031)	-2,310*** (0,341)
DOLS	-0,525*** (0,112)	-0,282*** (0,110)	0,601*** (0,064)	-1,755*** (0,540)

Not: *%10), **(%5), ***(%1) düzeyinde anlamlılık seviyeleridir. Parantez içindeki değerler standart sapma değerlerini ifade etmektedir.

Tablo 3 incelendiğinde tüm tahmin sonuçlarında katsayıların büyüklüğü ve işareti benzer sonuçlar göstermiştir. Enerji yoğunluğu enerji verimliliğinin tersi olduğundan model sonuçlarına göre enerji yoğunluğunu azaltan değişkenler enerji verimliliğinin artışına neden olmaktadır. O halde her üç tahminciye göre de ekonomik büyüme ve sanayileşme enerji verimliliğini artırırken fosil yakıt kullanımı ise enerji verimliliğini azaltmaktadır. Katsayı olarak incelendiğinde ekonomik büyümede meydana gelen %1'lik bir artış enerji verimliliğinde yaklaşık olarak %0,65 (FMOLS), %0,65 (CCR) ve %0,53 (DOLS) artış meydana getirirken sanayileşmede meydana gelen %1'lik bir artış enerji verimliliğinde yaklaşık olarak %0,16 (FMOLS), %0,17 (CCR) ve %0,28 (DOLS) artış meydana getirmektedir. Diğer taraftan Macaristan ekonomisi için ilgili dönemde fosil yakıt kullanımında meydana gelen %1'lik bir artış enerji verimliliğinde yaklaşık olarak %0,57 (FMOLS), %0,59 (CCR) ve %0,60 (DOLS) azalış meydana getirmektedir. Dolayısıyla Macaristan ekonomisi için artan ekonomik büyüme yenilenebilir enerji kullanımının artışına neden olurken sanayileşmede yaşanan artış ise sanayi sektöründe en çok maliyet getiren enerji girdisine yansımış ve kullanılan enerjinin tasarruflu kullanılmasının yanında verimli teknolojilerin kullanılmasıyla enerji verimliliğinde artış yaşanmıştır. Daha yüksek fosil yakıt kullanımı ise daha fazla enerji kayıplarına neden olmanın yanında dışa bağımlılığı azaltmakta, enerji maliyetlerini artırmakta ve çevresel kalitenin bozulmasına neden olmaktadır. Modelde kısa dönem katsayı tahmini için FMOLS, CCR ve DOLS hata düzeltme modelleri uygulanmış ve sonuçlar Tablo 4'te gösterilmiştir.

Tablo: 4
FMOLS, CCR ve DOLS Kısa Dönem Katsayı Tahmin Sonuçları

ΔlnYOĞUN	ECT _{t-1}	ΔlnGDP	ΔlnSANAYİ	ΔlnFOSİL	C
FMOLS	-0,550*** (0,134)	-0,890*** (0,063)	-0,067** (0,026)	+0,702*** (0,031)	0,002 (0,001)
CCR	-0,501*** (0,169)	-0,892*** (0,056)	-0,071** (0,034)	+0,704*** (0,038)	0,002 (0,001)
DOLS	-0,643*** (0,180)	-0,837*** (0,059)	-0,073** (0,032)	+0,681*** (0,037)	0,001 (0,001)

Not: *%10), **%5), ***%1) düzeyinde anlamlılık seviyeleridir. Parantez içindeki değerler standart sapma değerlerini ifade etmektedir.

Hatalar arasındaki uzun dönem ilişkiyi ifade eden hata düzeltme katsayısı (ECT) teorik beklentiye uygun olarak bulunmuş, negatif ve istatistiksel olarak anlamlıdır. Dolayısıyla bu durum enerji verimliliği ile açıklayıcı değişkenler arasında uzun dönemli bir ilişki olduğunu doğrulamaktadır. Hata düzeltme terimi (ECT) düzeltme oranını belirtir ve FMOLS (-0,550), CCR (-0,501) ve DOLS (-0,643) modellerine göre, t-1 dönemindeki bir varyantın sırasıyla yaklaşık %0,55, %0,50 ve %0,64'ünün t döneminde düzeltileceğini gösterir.

3.6. Granger Nedensellik Testi

Bu bölümde ise değişkenler arasındaki ilişkinin yönünü belirleyebilmek için nedensellik testi yapılacaktır. Zaman serisi özelliği gösteren iki değişkenin geçmiş ve hazır değerlerinin t anında bir sonraki dönemi için faydalı bilgi sağlamasına değişkenlerin birbirinin Granger nedenidir denilmektedir (Işığışık, 1994: 94). Yani kullanılan herhangi bir değişkenin geçmiş değerlerine bakılarak diğer bir değişken hakkında tutarlı ve güvenilir

bir şekilde öngörü yapılabilir veya tersine öngöründe bulunabiliyor ise bu değişkenler birbirinin Granger nedeni olarak denilebilmektedir (Takim, 2010: 326). Bu nedensellik testi literatürde pratiklik açısından kolay olduğundan çok yaygın bir şekilde kullanılmaktadır. Granger nedensellik için kullanılacak olan değişkenlerin durağan olmaları gerekmektedir ancak aynı dereceden eşbütünleşik olmasına gerek yoktur. Önemli olan uygun gecikme uzunluğunun seçimidir. Bu çalışmada kullanılan bütün değişkenlerin ise birinci farkı alındıktan sonra durağan hale geldiği görülmektedir.

Macaristan için enerji verimliliği ile ekonomik büyüme, sanayileşme ve fosil yakıt kullanımı arasındaki ilişkinin yönünü belirlemek için nedensellik ilişkisi araştırılmış ve sonuçlar Tablo 5'te gösterilmiştir.

Tablo 5
Granger Nedensellik Test Sonuçları

Nedenselliğin Yönü	İstatistik	Olasılık	Nedenselliğin Yönü	İstatistik	Olasılık	Uygun gecikme uzunluğu
$\Delta \ln GDP \rightarrow \Delta \ln YOĞUN$	3,400*	0,065	$\Delta \ln YOĞUN \rightarrow \Delta \ln GDP$	2,935*	0,087	1
$\Delta \ln SANAYİ \rightarrow \Delta \ln YOĞUN$	6,651**	0,036	$\Delta \ln YOĞUN \rightarrow \Delta \ln SANAYİ$	1,267	0,531	2
$\Delta \ln FOSİL \rightarrow \Delta \ln YOĞUN$	2,419	0,298	$\Delta \ln YOĞUN \rightarrow \Delta \ln FOSİL$	1,910	0,385	2

Not: *(%10) ve **(%5) düzeyinde anlamlılık seviyeleridir. Serilerin birinci farkı alındıktan sonra durağan olması nedeniyle Δ ile serilerin birinci farkı gösterilmektedir. H₀: Granger nedeni değildir, H₁: Granger nedeni.

Tablo 5 sonuçlarına göre ekonomik büyüme ile enerji verimliliği arasında nedensellik yoktur olan temel hipotezi %10 anlamlılık düzeyinde reddedilmekte ve ekonomik büyüme ile enerji verimliliği arasında çift yönlü bir nedensellik ilişkisi bulunduğunu göstermektedir. Diğer yandan sanayileşmeden enerji verimliliğine doğru nedensellik yoktur olan temel hipotez %5 anlamlılık düzeyinde reddedilmekte ve tek yönlü bir nedensellik ilişkisi bulunmaktadır. Ancak fosil yakıttan enerji verimliliğine doğru herhangi bir nedensellik ilişkisi bulunmadığı elde edilmiştir.

4. Sonuç ve Değerlendirme

Financial Times ve Londra borsasının ortak bir kuruluşu olan FTSE yatırım kararı verme aşamasında olan yatırımcılara yardımcı olabilmek için yükselen ekonomileri ileri yükselen piyasa ekonomileri ve ikincil yükselen piyasa ekonomileri olarak ikiye ayırmıştır. Macaristan ekonomisi ise sosyal ve ekonomik potansiyeli bakımında ileri piyasa ekonomileri arasında yer olan önemli bir ekonomidir. Macaristan ekonomisi yatırım yapılabilir ekonomilerin ilkleri arasında bulunmanın yanında 1990-2020 döneminde yükselen ekonomiler arasında enerji verimliliğini en fazla artıran ekonomi olarak da ilk sırayı almaktadır. Dolayısıyla bu çalışmada Macaristan ekonomisi için 1990-2020 döneminde enerji verimliliği ile kişi başı GSYH, sanayileşme ve fosil yakıt kullanımı arasındaki uzun dönemli ilişki araştırılmaktadır. Çalışmada değişkenler arasında eşbütünleşme ilişkisi sınanmadan önce durağanlık testleri kullanılmıştır. Bunun için standart ADF ve Fourier ADF testleri ile durağanlık sınanmış ve bütün değişkenlerin düzey değerlerinde birim köklü, birinci farklarında durağan oldukları tespit edilmiştir. Değişkenler arasındaki eşbütünleşme ilişkisi ise son yıllarda literatüre Banerjee et al. (2017) tarafından kazandırılan Fourier ADL eşbütünleşme testi ile araştırılmış ve eşbütünleşme ilişkisinin

varlığına ulaşılmıştır. Açıklayıcı değişkenlerin enerji verimliliği üzerindeki etkisinin büyüklüğünü ve yönünü belirleyebilmek için FMOLS kısa-uzun dönem katsayı tahmini yapılmıştır. Sağlamlık testi olarak ise CCR ve DOLS kısa-uzun dönem tahmincileri kullanılmıştır. Her üç tahminciye göre de değişkenlerin büyüklüğü ve işareti birbirine benzer sonuçlar göstermiştir. Son olarak değişkenler arasındaki ilişkinin yönünü görebilmek için Granger nedensellik testi kullanılmıştır. Bulgular enerji verimliliğini en fazla artıran faktörün ekonomik büyüme olduğunu; en fazla azaltan faktörün ise fosil yakıt kullanımı olduğunu ortaya koymuştur. Ayrıca daha yüksek sanayileşme de Macaristan ekonomisi için enerji verimliliğinde artışına neden olduğu tespit edilmiştir. Katsayı olarak incelendiğinde enerji verimliliğini en fazla olumlu etkileyen değişken olan ekonomik büyümede meydana gelen %1'lik bir artış enerji verimliliğinde yaklaşık olarak %0,65 (FMOLS), %0,65 (CCR) ve %0,53 (DOLS) artışa, enerji verimliliğini en fazla olumsuz etkileyen değişken olan fosil yakıt kullanımında meydana gelen %1'lik bir artış enerji verimliliğinde yaklaşık olarak %0,57 (FMOLS), %0,59 (CCR) ve %0,60 (DOLS) azalışa sebep olduğu görülmektedir. Ayrıca sanayileşmede meydana gelen %1'lik bir artış enerji verimliliğinde yaklaşık olarak %0,16 (FMOLS), %0,17 (CCR) ve %0,28 (DOLS) artış meydana getirmektedir. Bununla beraber ekonomik büyüme ile enerji verimliliği arasında çift yönlü bir nedensellik ilişkisi bulunurken sanayileşmeden enerji verimliliğine doğru ise tek yönlü bir nedensellik ilişkisi bulunmaktadır. Ancak fosil yakıt ile enerji verimliliği arasında herhangi bir nedensellik ilişkisi bulunmadığı elde edilmiştir.

Kullanılan değişkenler için tahmin edilen parametrelerin işareti ve büyüklüğü teorik olarak beklentileri karşılamaktadır. Ekonomik büyümede yaşanan artış enerji ithalatçısı olan Macaristan ekonomisi için yenilenebilir enerji yatırımlarını artırmaktadır. Diğer yandan çevre odaklı alınacak olan enerji politikalarının hayata geçirilmesiyle hem fosil yakıt kullanımının azaltılması sonucu çevre kalitesinin artışı sağlanmış olacak hem de kullanılan enerjinin daha verimli kullanılmasıyla enerji alanında dışa bağımlılığın azaltılmasının yanında daha az ek enerji kaynak yatırımlarına ve daha az enerji maliyetlerine neden olmayacaktır. Sanayileşmede yaşanan artış ise sanayi sektöründe en yüksek maliyet getiren enerji girdisine de yansyarak daha verimli teknolojiler kullanımının yanında enerjide tasarrufun ve kayıpların azaltılmasına neden olmaktadır. Fosil yakıt kullanımında yaşanan artış ise enerji ithalatçısı ekonomiler için yaşanan enerji fiyat artışlarından olumsuz etkilenerek daha fazla maliyet getirmekte veya üretimi kısımayla sonuçlanmasının yanında daha fazla karbon salınımıyla çevre kalitesini olumsuz etkilemektedir. Özellikle Covid-19 küresel salgını sonrası dünya artık daha fazla temiz ve sağlıklı bir dünyaya ihtiyaç duymanın yanında daha fazla çevre odaklı enerji politikalarına ihtiyaç duymaktadır. Sonuç olarak ileri piyasa ekonomileri arasında önemli bir konuma sahip Macaristan ekonomisi için ilgili dönemde ekonomik büyümenin, sanayileşmenin ve fosil yakıt kullanımının enerji verimliliği üzerinde önemli bir etkisinin olduğu görülmektedir. Bu çalışmada elde edilen bulgular Sadorsky (2013), Şener ve Karakaş (2019), Antonietti ve Fontini (2019), Fitriyanto ve Iskandar (2019), Malik (2019), Farajzadeh ve Nematollahi (2018) ile Şener ve Karakaş (2019) tarafından yapılan çalışmalardaki ekonomik büyüme ve sanayileşme de yaşanan artışın enerji verimliliğini artırdığı sonuçlarıyla örtüşmektedir.

Çalışmada elde edilen bulgular ışığında Macaristan ekonomisi için politika yapıcılara önemli görevler düşmektedir. Macaristan ekonomisinde ekonomik büyümede yaşanan artışın enerji verimliliđini olumlu etkilemesi Macaristan ekonomisinin genel enerji görünümünden de görüleceđi gibi yenilenebilir enerji alanında yatırımların artması ve fosil yakıt kullanımının azalmasıyla ilişkilendirilebilir. Bu yüzden fosil yakıt kullanımına en önemli alternatif olabilecek yenilenebilir enerji kullanımının artırılması için bu alanda yatırımların daha fazla artırılması ve teşvik edilmesi gerekmektedir. Sanayileşmenin enerji verimliliđini olumlu etkilemesi ise sanayi sektöründe önemli dönüşümlerin gerçekleştiđini göstermektedir. Sanayi sektörü ekonomilerin büyümesinde ve küresel rekabet gücünün artırılmasında önemli bir çark görevini görmektedir. Bu yüzden artan sanayileşme sanayi sektöründe en fazla maliyet getiren enerji girdisine de yansarak enerji verimli teknolojilerin daha fazla kullanımı sağlanmakta ve kullanılan enerjinin daha verimli ve daha tasarruflu kullanımı sağlanmaktadır. Fosil yakıt kullanımının enerji verimliliđini olumsuz etkilemesi ise enerji kaynakları arasında hala yüksek oranda paya sahip enerji ithalatçısı Macaristan ekonomisi için yenilenebilir enerji kaynak kullanımının hayati önem taşıdığı göstermektedir. Artan fosil yakıt kullanımı daha fazla enerji talebi, daha fazla enerji ithalatı, daha fazla döviz ihtiyacı, daha fazla cari açık ve daha fazla kırılğan bir ekonomiye neden olmaktadır. Ayrıca daha yüksek fosil yakıt kullanımı daha yüksek karbon salınımına, daha fazla çevre kalitesinin bozulmasına ve var olan daha yaşanılabilir bir dünya tehdidinin şiddetini artırmasına neden olmaktadır.

Bu çalışmada enerji verimliliđinin sadece ekonomik deđişkenlerle araştırılması çalışmanın önemli bir kısmını oluşturmaktadır. Dolayısıyla bu çalışmayı izleyecek araştırmalar için sosyal ve politik deđişkenlerin enerji verimliliđi üzerindeki etkisi araştırılabilir. Enerji fiyatlarının da modele dâhil edilmesi önemli bulguları ortaya koyabileceđi deđerlendirilmektedir. Ayrıca sektörel olarak araştırılacak olan enerji verimliliđi ise Macaristan ekonomisi için daha ayrıntılı bilgi vereceđi düşünölmektedir.

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Rekabete Dayalı Serbest Elektrik Piyasasına Doğru: Türkiye Elektrik Üretim A.Ş. İçin Bir Özelleştirme Planı¹

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Towards Competitive Free Electricity Market: A Privatization Plan for The Turkish Electricity Generation Company²

Abstract

Privatisation of public assets and gradual withdrawal of the state from the market is one of the essential reforms to liberalise Turkey's electricity market. This study presents an analytical approach for planning the privatisation of state-owned power generation plants. The privatisation process was considered capacity reduction, and a Capacity Reduction Planning Model was developed. The model was applied to power plants owned by Electricity Production Inc., and the results were compared to privatisation decisions. It has been observed that the results are pretty consistent with the realised situation. Market power and competition analysis were performed to investigate the model's contribution to liberalisation. Thanks to the proposed privatisation plan, it was concluded that the market reached a competitive structure earlier. In this context, the study guides electricity market decision-makers regarding privatisation.

Keywords : Privatization Plan, Capacity Reduction Planning Model, Liberal Electricity Market, Competition Analysis.

JEL Classification Codes : P28, Q48, Q49.

Öz

Türkiye'de elektrik piyasasının serbestleştirilmesi adına yapılan önemli reformlardan biri kamu varlıklarının özelleştirilerek devletin zamanla piyasadan çekilmesidir. Bu çalışmada kamu mülkiyetindeki elektrik üretim santrallerinin özelleştirilme sürecini planlayan analitik bir yaklaşım sunulmaktadır. Özelleştirme süreci kapasite azaltımı olarak ele alınmış ve bir Kapasite Azaltım Planlama Modeli geliştirilmiştir. Model Elektrik Üretim A.Ş. santralleri için uygulanmış ve sonuçlar gerçekleşen özelleştirme kararlarıyla karşılaştırılmıştır. Sonuçların gerçekleşmiş durumla oldukça tutarlı olduğu gözlemlenmiştir. Modelin serbestleşmeye katkısını incelemek için piyasa gücü ve rekabet analizi yapılmıştır. Önerilen özelleştirme planıyla piyasanın daha erken tarihlerde rekabetçi yapıya ulaştığı sonucuna varılmıştır. Bu bağlamda çalışma elektrik piyasalarındaki karar vericilere özelleştirme süreci hakkında rehberlik etmektedir.

Anahtar Sözcükler : Özelleştirme Planı, Kapasite Azaltım Planlama Modeli, Serbest Elektrik Piyasası, Rekabet Analizi.

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1. Giriş

Elektrik piyasaları hemen hemen dünyanın her yerinde dikey olarak bütünleşmiş ve genellikle devlete ait coğrafi tekellerle ortaya çıkmıştır (Joskow, 2008: 10). Bu tekel yapı elektriğin üretimi, iletimi ve dağıtımından piyasaya giriş düzenlemesine kadar ilgili tüm faaliyetlerden uzunca bir süre tek başına sorumlu olmuştur. Zamanla nüfus ve elektrik talebindeki artışın yanı sıra teknolojideki gelişmelerle birlikte söz konusu doğal tekel yetersiz kalmıştır. Bununla birlikte, bahsi geçen tekel ortamda tüketicilerin tedarikçileri seçme konusunda seçenekleri olmaması nedeniyle elektrik enerji fiyatları ve hizmetlerinin yanı sıra rekabet gücü olumsuz etkilenmiş ve bu durum piyasada belirli düzenlemeleri gerekli kılmıştır. (Necoechea-Porras et al., 2021: 2). 1980 sonrası reform süreci olarak nitelendirilen dönemde sanayileşmiş pek çok ülke piyasalarını yeniden düzenlemek suretiyle rekabete dayalı serbest yapıya geçiş hareketini başlatmıştır. (Çetintaş & Bicil, 2015: 14). O tarihten bu yana, dünya elektrik endüstrisi Şili, İngiltere, Galler ve Norveç'in öncülük ettiği bir dizi reform ile karşı karşıya kalmıştır (Gencer vd., 2020: 1). Başta Avrupa olmak üzere pek çok ülkenin deregülasyon hareketine özelleştirme faaliyetleri eşlik etmiştir. (Pera, 1989: 165). Yapılan reformlar arasında kamu kuruluşlarının veya faaliyetlerinin özel mülkiyete tamamen özelleştirilmesi, bazı piyasa düzenlemelerinin ve elektrik fiyat mekanizmalarının yeniden yapılandırılması yer almaktadır (Necoechea-Porras et al., 2021: 2).

Sanayileşmiş ülkeler doğal tekel ağırlıklı yapıdan rekabetçi regülasyonlara (deregülasyon ve özelleştirmeye) geçişi 1980'li yılların sonlarında tamamlamıştır. Deregülasyon hareketinde gelişmiş ülkelerde amaç piyasanın ekonomik ve finansal performansını arttırmak iken, gelişmekte olan ülkelerdeki temel etkenler elektrik sektöründe maliyetlerin yüksek olması, arz güvenliğinin tehlikede olması, kamu kesiminin artan enerji talebini karşılayacak yatırımları gerçekleştirmede sorunlar yaşaması gibi etkilerin varlığı olmuştur (Çetintaş & Bicil, 2015: 2). Bununla birlikte, deregülasyon sürecinin ayrıntıları ve temel motivasyonları ülkeler ve endüstriler arasında farklılık gösterse de bu süreci motive eden ilkeler aynıdır: sektörün özel sektör katılımına açılması ve piyasa tarafından belirlenen fiyatların getirilmesi piyasada rekabeti ve böylece verimliliği artıracak ve fiyatları düşürecektir (MAcKay & Mercadal, 2022: 6; Zenginobuz, 2000: 111). Deregülasyon ile birlikte serbestiyet kazanan yeni yapıda, kamuya ait santraller özelleştirilmiş ve elektrik üretimi yeni özel firmaların girişine tamamen açılmıştır (Zenginobuz, 2000: 105).

Tekelci bir yapı ile faaliyetlerine başlayan Türkiye elektrik piyasası ise sektörde rekabetin sağlanması amacıyla 2001 yılında deregülasyon hareketine dâhil olmuştur. Piyasa yapısının düzenlenmesini içeren yeniden yapılanma süreci 4628 sayılı Elektrik Piyasası Kanununun yürürlüğe girmesi ve Elektrik Piyasası Düzenleme Kurumunun (EPDK) kurulmasıyla resmî olarak başlamıştır. Piyasanın dikey bütünleşik yapısı ilk olarak üretim, iletim ve dağıtım faaliyetlerinin ayrıştırılmasıyla birlikte değişime uğramıştır (Koç & Gülşen, 2018: 46). Ardından dağıtım sektörünün özelleştirilmesi, organize enerji piyasasının kurulması ve perakende piyasasının açılması gibi elektrik piyasasında bazı yapısal düzenlenmeleri ve elektrik fiyatlarının yeniden yapılandırılmasını içeren kapsamlı bir reform gerçekleştirilmiştir (Şenerdem & Akkemik, 2020: 390). Tüm bu reformların nihai

amacı, devletin piyasada aktif bir katılımcı olmaktan ziyade kurumları aracılığıyla yalnızca rekabeti tesis eden ve tüketici haklarını koruyan, iletim gibi rekabetin mümkün olmadığı kademelerde ise denetleyici ve düzenleyici olarak hizmet verdiği liberal bir sistem yaratmaktır.

Türkiye elektrik piyasası serbestleşme sürecinde önemli bir ilerleme kaydetmiş olsa da üretim ve özellikle de iletim faaliyetlerinde arzu edilen rekabet düzeyine henüz ulaşamamıştır. Elektrik üretim sektöründe hâkim konumdaki kamu şirketinin payının azaltılması ile bu piyasada rekabetçi bir ortamın sağlanabilmesi mümkünken, iletim faaliyeti için bu durum doğası gereği zordur. Çünkü iletim ağı, inşa edilmesi ve işletmesi bakımından bir doğal tekel durumu oluşturmaktadır (Zenginobuz, 2000: 106).

Serbest piyasa ekonomisinin en önemli unsuru olan rekabet mekanizmasının işlerlik kazanabilmesi özelleştirme ile doğrudan bağlantılıdır. Özelleştirmenin giderek artan bir rekabeti, rekabetin ise verimliliği, rasyonel kaynak kullanımını ve kaliteyi getireceği şüphesizdir (Kurum, 2010: 30). Bu doğrultuda, Türkiye’de 2004 yılında Elektrik Piyasası Reformu ve Özelleştirme Strateji Belgesinin yayınlanmasıyla kamu mülkiyetinde olan üretim ve dağıtım varlıklarının özelleştirme süreci resmîyet kazanmıştır. Bununla birlikte, devletin elektrik üretim arzındaki katılımını azaltmak adına 2006 yılında başlamak üzere çeşitli kamu santrallerinin özelleştirilmesi için Özelleştirme İdaresi Başkanlığına (ÖİB) yetki verilmiştir. Serbestleşmenin sağlanması açısından büyük bir önem taşıyan özelleştirme süreci dağıtım sektörüyle başlamıştır. 2013’te 21 dağıtım bölgesi oluşturularak bu sektör tamamen özelleştirilmiştir. Ne yazık ki, gerekli yasal ve hukuki düzenlemeler bir bütün halinde geliştirilemediğinden dağıtım sektörünün özelleştirilmesinde yaşanan gecikmeler, üretim sektörünün özelleştirilmesinde daha fazla gecikmeye neden olmuştur (Başaran & Bağdadioğlu, 2010: 146; Özkan, 2011: 109).

2020 yılı itibarıyla, özelleştirilen ve bünyesine yeni dâhil olan santrallerle birlikte kamuya ait Elektrik Üretim A.Ş. (EÜAŞ) toplam 21.588 MW kurulu gücü ile Türkiye elektrik üretim kapasitesinin %22,5’ine sahiptir (EÜAŞ, 2020). Bu durum, 2008 yılından beri özelleştirmeler neticesinde piyasadaki payı giderek azalsa da kamuya ait elektrik üretim şirketinin günümüzde halen elektrik üretim sektörünün en büyük oyuncusu olduğu gerçeğini doğrulamaktadır. Gerek kurulu gücü gerekse yıllık üretimi açısından (özelleştirmelere rağmen) elektrik üretim piyasasına hâkim durumda olan EÜAŞ’ın mülkiyetindeki santrallerin özelleştirilmesi suretiyle üretim sektörünün daha rekabetçi bir yapıya kavuşacağı açıktır. Bu amaçla, bu çalışma da Türkiye elektrik üretim sektörünün serbestleşmesi adına önemli bir adım olarak kabul edilen kamu sahipliğindeki varlıkların (EÜAŞ santrallerinin) özel sektöre devredilmesi süreci analitik bir yaklaşımla modellenmiştir. EÜAŞ’ın sahip olduğu santrallerin özelleştirilmesi suretiyle elden çıkarılması bir kapasite azaltım süreci olarak ele alınmıştır. Bu amaçla Kapasite Azaltım Planlama Modeli (KAPM) adını verdiğimiz bir optimizasyon modeli geliştirilmiştir. Geliştirilen model ile belirlenen zaman diliminde mevcut kurulu güç kademeli olarak azaltılırken, geriye kalan/özelleştirilmeyen kurulu güç ile şirketin kârını optimize eden bir plan sunulmaktadır. Çünkü söz konusu şirketin bu devir sürecinde ikili anlaşmalardan doğan yükümlülüklerini yerine getirebilmesi

için en uygun santral kombinasyonu ile elektrik üretmeye devam etmesi gerekmektedir. Diğer bir deyişle KAPM, belirlenen zaman diliminde hangi santralin hangi yılda özelleştirileceğine karar vermektedir. Bununla birlikte model geriye kalan/henüz özelleştirilmeyen santraller ile gerek ikili anlaşma miktarlarını karşılamak gerekse de spot piyasada satmak üzere şirkete maksimum kârı verecek bir elektrik üretim planı sunmaktadır. Modelin etkinliğini ve uygulanabilirliğini test etmek amacıyla KAPM 2010-2020 yılları arasında EÜAŞ sahipliğindeki santraller için uygulanmıştır. KAPM'nin önerdiği özelleştirme planı ile o dönemde gerçekleştirilen özelleştirme kararları karşılaştırılmıştır. Öte yandan özelleştirmenin Türkiye elektrik üretim sektörünün serbestleşmesine olan katkısını analiz etmek adına literatürde sıklıkla kullanılan Piyasa Payı Endeksi (PPE), Herfindahl-Hirschman Endeksi (HHE), Arz Payı Tahlili (APT) ve Artık Tedarik Endeksi (ATE) gibi çeşitli endeksler kullanılarak piyasa gücü ve rekabet analizi yapılmıştır. Endeksler aracılığıyla 2010 yılından günümüze Türkiye elektrik üretim sektörünün rekabet durumu analiz edilmiştir. Piyasa gücü ve rekabet analizi hem gerçekleşen özelleştirme uygulamaları hem de modelin önerdiği özelleştirme planı neticesinde sektörün durumu için yapılmış ve sonuçlar her bir endeks özelinde karşılaştırılmıştır.

Özetle çalışmanın başlıca katkıları arasında (i) politika yapıcılara analitik bir temele dayalı özelleştirme planı sunan bir Kapasite Azaltım Planlama Modeli (KAPM) geliştirilmesi, (ii) hem gerçek durum hem de modelin önerdiği plan neticesinde oluşan durum için literatürde kullanılan çeşitli endeksler aracılığıyla Türkiye elektrik üretim sektörü için piyasa gücü ve rekabet analizi ve (iii) piyasadaki özel katılımcılara özelleştirilmiş elektrik santrallerinin sahipliğini edinmek adına önemli yatırım sinyallerinin sağlanması bulunmaktadır. Bunlara ek olarak, sunulan özelleştirme planı metodolojisi geliştirmekte olan ülkeler için elektrik enerjisi sektörlerinde reform yapmayı planlayan politika yapıcılara süreç hakkında analitik bir yaklaşım sunmaktadır. Öte yandan, geliştirilen model sadece kamu varlıklarının özelleştirme sürecine rehberlik etmekle kalmayıp gerek devletin gerekse bir veya birkaç şirketin sahip olduğu piyasa gücünü kısıtlamak için kapasite azaltımının gerekli olduğu durumlarda da önemli bir yol gösterici niteliğindedir.

Çalışmanın geri kalanı şu şekilde organize edilmiştir: Bölüm 2, Türkiye elektrik piyasasının gelişim sürecini ele almaktadır. Bölüm 3 literatürdeki çalışmalara değinmekte ve Bölüm 4'te geliştirilen matematiksel model formülasyonu verilmektedir. Modelin uygulandığı örnek çalışma, bulgular ve tutarlılık analizi beşinci bölümde tartışılmıştır. Piyasa gücü ve rekabet analizi Bölüm 6'da sunulmuştur. Son bölüm, çalışmanın ana bulgularını ve önerileri özetlemektedir.

2. Türkiye'de Elektrik Piyasasının Gelişimi

Türkiye'de ilk elektrik üretimi 1902 yılında 2 kW'lık bir hidroelektrik jeneratörü ile Tarsus'ta başlamış ve 1914 yılında ilk kayda değer elektrik üretim tesisi olan Silahtarğa Santrali hizmete girmiştir. Ülkenin elektrik piyasası o tarihten bu yana önemli dönüşümler geçirmiştir. Önceleri piyasada hem kamuya hem de özel sektöre ait iletim ve dağıtım şebekeleri hizmet verirken, 1970 yılında üretim, iletim, dağıtım ve perakendeden sorumlu

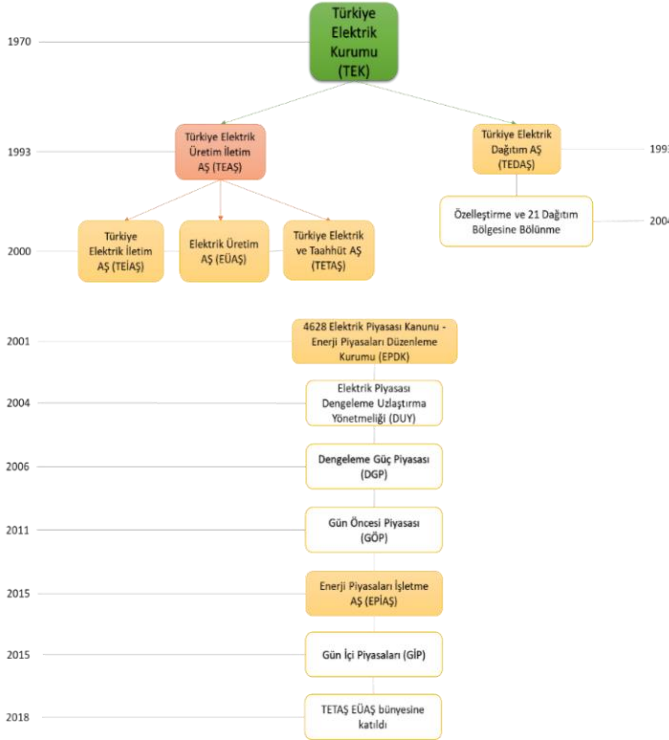
dikey bütünleşmiş bir teşebbüs olan Türkiye Elektrik Kurumu (TEK) kurulmuştur. O tarihten itibaren hem iletim hem de dağıtım olmak üzere güç sisteminin çoğunluğunun mülkiyeti ve kontrolü TEK'e geçmiştir. 1980'lerde tüm dünyayı etkisi altına alan deregülasyon hareketi doğrultusunda Türkiye'de elektrik piyasalarını serbestleştirmeye yönelik adımlar atılmıştır. İlk olarak sektörel yapılandırmaya gidilmiş ve 1993 yılında TEK, üretim ve iletim (TEAŞ) ve dağıtım (TEDAŞ) işlevlerinin ayrıştırılması suretiyle iki kısma ayrılmıştır. Böylece, Türkiye Elektrik Dağıtım A.Ş. (TEDAŞ) dağıtım ve perakendeden sorumlu olurken, Türkiye Elektrik Üretim ve İletim A.Ş. (TEAŞ) üretim ve iletimin sahibi ve işletmecisi olmuştur. Bununla beraber birbirini izleyen hükümetler özel sektörün elektrik piyasasında faaliyet göstermesi adına Yap-İşlet-Devret (YİD) ve İşletme Hakkı Devri (İHD) modelleriyle alternatif yollar denemişlerdir. Bu modeller sanayide yeterli yatırımı sağlayamadığı için 1997 yılında Yap-İşlet (Yİ) modeli uygulamaya koyulmuştur (Akkemik & Oğuz, 2011: 3284).

1980 sonrası gerçekleştirilen özelleştirme hamleleri ile başlayan deregülasyon süreci, Türkiye elektrik enerjisi sektöründe rekabetin sağlanması amacıyla 2001 yılında gerçekleştirilen yapısal düzenlemelerle hız kazanmıştır. 3 Mart 2001 tarih ve 4628 sayılı Elektrik Piyasası Kanunu'yla rekabete dayalı serbest elektrik piyasasının temellerini atılmıştır. Söz konusu kanun ile Türkiye elektrik piyasası dikey bütünleşik yapıdan üretim ve satış faaliyetlerinin rekabete açıldığı, doğal tekel niteliği taşıyan dağıtım ve iletim faaliyetlerinin düzenlemeye tabi tutulduğu bir yapıya dönüştürülmüştür (Çetintaş & Bicil, 2015: 11). TEAŞ; iletim, üretim ve ticaret faaliyetlerinin birbirinden ayrıştırılmasıyla söz konusu faaliyetlerden sorumlu olacak şekilde sırasıyla Türkiye Elektrik İletimi A.Ş. (TEİAŞ), Elektrik Üretim A.Ş. (EÜAŞ) ve Türkiye Elektrik Ticaret Taahhüt Anonim Şirketi (TETAŞ) olarak üç ayrı iktisadi devlet teşekkülüne ayrılarak yeniden yapılandırılmıştır. Yeni kanun elektrik piyasalarının tasarımı için yeni bir yasal çerçeve sağlamış ve piyasayı denetlemek üzere bağımsız bir düzenleyici olan Enerji Piyasası Düzenleme Kurumu'nu (EPDK) kurmuştur. Bahsi geçen kurum sektörün kalite standartlarını artırmaktan tavan fiyat uygulamak suretiyle tüketici haklarını korumaya kadar teknik ve ekonomik birçok sorumluluk alanına sahip olmuştur. EPDK'nın klasik anlamda sektöre yoğun kamu kesimi müdahalesi yapan bir düzenleyici değil, rekabeti tesis eden ve tüketici haklarını korumak gibi sorumlulukları olan bir kurum olması belirli düzenlemelerle sağlanmıştır. 2004 yılında TEDAŞ da yeniden yapılandırılmış ve dağıtım sistemi 21 bölgeye ayrılmıştır. Bu bölgesel dağıtım sistemleri 2008 yılından itibaren kademeli olarak özelleştirilmiştir. Türkiye, ikili sözleşmelere ek olarak 2011 yılında Gün Öncesi ve Dengeleme piyasalarını uygulamaya koymuştur (EPİAŞ). 2015 yılında ise tek enerji borsası olarak "Enerji Piyasaları İşletme A.Ş." (EPIAŞ) kurulmuş ve enerji piyasalarının etkin, şeffaf, güvenilir ve sürdürülebilir biçimde işletilmesi garanti altına alınmıştır.

Özetle Türkiye'de elektrik enerjisi sektörünün rekabetçi ve serbest piyasa yapısında olmasına yönelik düzenlemeler 2000'li yıllarda hız kazanmıştır. Eski sistemde dikey bütünleşik bir tekel vasıtasıyla sunulan hizmetin, son değişikliklerle birbirinden bağımsız kararlar alan aktörlerin yer aldığı ve kuralları açık bir şekilde belirlenmiş bir piyasa mekanizması ile sunulması sağlanmıştır. (Koç & Gülşen, 2018: 47). Bu düzenlemelerin

geliştirilmesi ve denetlenmesi amacıyla EPDK kurulmuştur. Türkiye elektrik piyasasının gelişimi Şekil 1'de özetlenmiştir.

Şekil: 1
Türkiye Elektrik Piyasasının Gelişimi



Türkiye elektrik piyasasının mevcut durumu şu şekilde özetlenebilir: Türkiye Elektrik Piyasasında mevcut durum itibarıyla elektrik enerjisi ticareti 6446 sayılı kanunla düzenlenmektedir. Üretim faaliyetleri lisans kapsamında kamu ve özel üretim şirketleri tarafından yerine getirilirken, iletim faaliyeti Türkiye Elektrik İletim A.Ş. (TEİAŞ) tarafından gerçekleştirilmektedir. Dağıtım faaliyetleri ise lisans kapsamında dağıtım şirketleri tarafından belirlenen bölgede sunulmaktadır. Toptan satış ve perakende satış faaliyetleri ise üretim şirketleri ile tedarik lisansı kapsamında kamu ve özel tedarik şirketleri tarafından 6446 sayılı kanun ve kanuna göre çıkarılmış olan yönetmelikler uyarınca yürütülmektedir. Üretim sektöründe özelleştirme süreci devam etmekle birlikte, dağıtım ve ticaret sektörlerindeki rekabet zaman içinde önemli ölçüde artmıştır. Ancak yalnızca iletim şebekesi doğal bir tekel olarak halen devlet kurumu olan TEİAŞ bünyesinde işletilmektedir. Bununla birlikte, TEİAŞ'ın da özelleştirme kapsam programına alındığı 2 Temmuz 2021 4222 sayılı Devlet Kararı ile bildirilmiştir.

3. Literatür Taraması

Başta gelişmiş ülkeler olmak üzere Türkiye gibi pek çok ülkede elektrik enerji sektörü dönüşüm sürecinden geçmiştir. Her ülkenin kendi enerji sektörünü yeniden yapılandırma süreci birbirinden farklıdır. Fakat elektrik piyasalarının yeniden yapılandırılarak serbest piyasa ortamının yaratılmasındaki ortak amaç sürdürülebilir bir sistem yaratmak ve piyasada rekabet ortamının oluşmasıyla birlikte rekabet koşulları altında belirlenen daha düşük fiyat ile elektrik enerjisi sunmaktır. Kuşkusuz ki liberal bir elektrik piyasası için gerekli olan kamuya ait varlıkların özel katılımcılara devredilerek devletin piyasada yalnızca rekabeti düzenleyici ve denetleyici bir otorite olarak yer almasıdır. Ancak göz ardı edilmemelidir ki kamu varlıklarının özelleştirilmesi elektrik piyasasının rekabetçi bir yapıya kavuşmasını her zaman garanti etmemektedir. Tamamen özel katılımcıların yer aldığı bir piyasada fiyatlar rekabet koşulları altında belirlenmiyorsa özelleştirmenin ekonomik verimlilik bakımından fazla bir anlamı kalmamaktadır (Zenginobuz, 2000: 112). Ayrıca özelleştirme bazen kendi içinde siyasi bir amaç haline gelmiş ise rekabet üzerindeki etkisi ikinci planda kalabilmektedir (Pera, 1989: 181). Buna karşın piyasada kurulu gücü bakımından hâkim durumda olan kamu ya da özel katılımcının varlığının rekabeti engelleyeceği açıktır. Bu sebeple elektrik üretim sektörünün rekabetçi bir hüviyet kazanması adına kamuya ait varlıkların özelleştirilmesi serbest bir elektrik üretim piyasası için gerekli bir adımdır. Bununla birlikte, özelleştirmenin başarılı sonuçlar vermesi için piyasaların serbest rekabet şartlarında düzenlenmiş olması dikkat edilmesi gereken önemli bir husustur (Kurum, 2010: 30).

Rekabete dayalı serbest bir elektrik üretim sektörü için piyasa hâkimiyetini elinde bulunduran kamu elektrik üretim şirketine ait varlıkların özelleştirilmesi gereği literatürdeki çalışmalarca da desteklenmektedir. Erdogdu'ya (2007) göre Türkiye Elektrik İletim A.Ş. (TEİAŞ) dâhil olmak üzere enerji sektörünün ve tüm hidroelektrik üretim tesislerinin özelleştirilmesi mümkün olan en kısa sürede ve uygun şekilde tamamlanmalıdır. Çalışmanın üzerinden uzun zaman geçmesine rağmen bahsi geçen özelleştirmeler henüz tamamlanamamıştır. Benzer şekilde, Bagdadioğlu ve Odyakmaz (2009) kamu kuruluşunun mevcut altyapı yatırımları gibi sistemden kaynaklanan maliyetleri karşılayabilmesi için büyük kapasiteli hidroelektrik santrallerinin devlet mülkiyeti altında kalmasını, ancak mevcut termik santrallerin ve daha küçük hidroelektrik santrallerin özelleştirilmesi gerektiğini ifade etmişlerdir. Özkan (2011) özelleştirmenin gerekliliğine ek olarak devletin enerji yatırımları için bütçesinin kısıtlı olması nedeniyle artan elektrik talebini karşılamak için gerekli ek yatırımların özel yatırımcılar tarafından yapılması gerektiğini ileri sürmüştür. Elbette tüm bu açıklamaların yanı sıra Özelleştirme İdaresi Başkanlığı'nın (ÖİB) aldığı kararlar, kamuya ait elektrik üretim tesislerinin özelleştirilmesine devam edileceğini açıkça göstermektedir (ÖİB, 2020).

Ayrıca literatürde elektrik piyasasında kamu varlıklarının özelleştirilmesini de içeren deregülasyon faaliyetlerinin ekonomik katkılarını sayısal olarak analiz eden çalışmalar da mevcuttur. Akkemik ve Oğuz (2011), Türkiye'nin elektrik piyasası deregülasyonun verimlilik ve rekabet üzerindeki potansiyel etkilerini analiz etmek adına Hesaplanabilir

Genel Denge (HGD) modelini kullanarak bir çalışma yürütmüşlerdir. Serbestleşmenin elektrik piyasasında verimliliğin artmasına, enerji fiyatlarının düşmesine ve tüketici fayda düzeyinde iyileşmeye katkı sağladığı sonucuna varmışlardır. Aynı şekilde Hasanov (2017), Türkiye doğal gaz piyasasının tam ithalat serbestleşmesinin ekonomik sonuçlarını Oyun Teorisi Yaklaşımı ile ortaya koymuştur. Çalışma elektrik piyasasından ziyade Türkiye doğal gaz piyasasına odaklanmış olsa da bulguları Akkemik ve Oğuz'un (2011) bulgularıyla paralellik göstermektedir. Araştırmacı, tam piyasa serbestleşmesinin doğalgaz sektöründe de tüketicilere önemli ekonomik kazanımlar sağlayacağı gerçeğini ortaya koymuştur. Kösedaglı ve Aydoğuş (2014) Türkiye'de elektrik sektörü reform sürecinin fiyatlar üzerindeki etkisini En Küçük Kareler (EKK) yöntemi kullanılarak analiz etmiştir. Yazarlar ele aldıkları 2001-2010 dönemi için özel sektör şirketlerinin elektrik üretim miktarlarının elektrik fiyatları üzerine etkisini incelemiş ve özel şirketlerin elektrik üretim miktarlarının artışının hane halkı ve sanayi elektrik fiyatlarının düşmesinde etkili olduğuna işaret etmektedir. Şenerdem ve Akkemik (2020), enerji sektöründeki reformların ekonomi üzerindeki etkisini HGD modelini kullanarak analiz etmiş ve reformların Gayri Safi Yurtiçi Hasıla'yı (GSYİH) %0,35 oranında artırdığını, yani ekonomiyi olumlu etkilediğini gözlemlemişlerdir. Ayrıca, devlet tarafından yerine getirilen kamu hizmetlerinin özelleştirilmesi ile ekonomik büyüme arasında pozitif bir ilişki olduğunu öne sürmektedirler. Necochea-Porras et al. (2021) elektrik enerji sektöründeki serbestleşmenin ekonomik etkisini analiz eden çalışmaları bir araya topladıkları bir literatür çalışması sunmuşlardır.

Söz konusu akademik çalışmaların yanı sıra, Türkiye elektrik piyasasının rekabete dayalı serbest bir piyasa yapısına kavuşması için özelleştirmenin gerekliliği konusunda bazı ulusal ve uluslararası kuruluşlar da benzer görüşler sunmaktadır. Rekabet Kurumu (RK), üretim özelleştirmelerinin geçtiğimiz yıl ivme kazandığını ve planlanan üretim özelleştirmelerinin tamamlanmasının piyasanın arz tarafının rekabetçi yapısı açısından önemli bir gelişme olacağını ifade etmiştir (RK, 2015). Uluslararası Enerji Ajansı'nın (IEA) en son yayınlanan enerji politikası raporuna göre, enerji arz güvenliğinin sağlanması ve yerli enerji üretiminin artırılmasının ardından, Türkiye'nin enerji stratejisindeki üçüncü adımı enerji piyasalarının serbestleştirilmesine devam edilmesidir (IEA, 2021).

Yapılan çalışmalar ve öneriler ışığında devletin kademeli olarak üretim varlıklarının mülkiyetini kamudan özel sektöre kaydırması gerektiği açıktır. Bunun yanı sıra, elektrik arz ve talebi arasında bir denge oluşturmak ve sürdürmek amacıyla yatırımcıları yeni yatırımlar yapmaya teşvik etmesi de gerekmektedir. Buna yönelik olarak Elmahi (2020) tezinde elektrik sektöründe tekel düzenden rekabetçi piyasaya geçiş sürecinde şirketlerin piyasa gücünü en aza indiren iki seviyeli bir elektrik üretim kapasite planlama modeli sunmuştur. Yazar şirketlerin piyasa gücü olma durumunu modele eklediği bütçe kısıtı ile engellemiştir. Bu durumda her bir şirket kapasite artırımına giderken en fazla kendisine sağlanan bütçe kadar yatırım yapabilecek ve böylece piyasada dengeli bir kapasite artışı meydana gelecektir. Yazarın ortaya koyduğu tezde kamu şirketine uyguladığı bütçe kısıtı ile kamunun piyasadaki hâkim durumu zamanla artan toplam kurulu güç içerisinde nispeten azalacaktır. Fakat çalışma piyasa gücünün kısıtlanmasına yönelik olsa da kamunun elektrik sektöründen çekilmesine ya da kapasite azaltımı yapmasına yönelik bir öneride bulunmamaktadır.

Elektrik piyasalarında dönüşüm süreci gerçekleşikten sonra piyasa gücü tespitine ve piyasaların rekabetçiliğinin incelenmesine yönelik çok sayıda çalışma bulunmaktadır. Çünkü söz konusu piyasada piyasa konsantrasyonunun yüksek olması durumunda deregülasyon faaliyetleri beklenildiğinin aksine her zaman düşük fiyatlar vermemekte ve piyasa gücü potansiyeli elektrik fiyat artışının temel sebebi olmaktadır (MacKay & Mercadal, 2022: 4). Mansur (2008) PJM toptan elektrik piyasasındaki firmaların davranışlarını modelleyen yeni bir teknik önererek piyasanın rekabetçiliğini gerçekleştiren veriler ile karşılaştırmıştır. Yazar kendi modelinin rekabet kıyaslama analizi modellerine göre daha doğru sonuçlar verdiğini iddia etmektedir. Nazemi ve Mashayekhi (2015) İran düzenlenmiş elektrik piyasasının serbestleşme sürecini değerlendirmek üzere reformların ilk yılı olan 2006 ve 2012 yılları için yüksek talep (puant) anlarındaki üretim verimliliğini rekabet kıyaslama analizi ile incelemiştir. Gerçekleşen durum ile kendi sonuçlarını karşılaştırmışlar ve piyasadaki belirli şirketler tarafından piyasa gücünün kullanılması ve üretimin stratejik firmalar tarafından manipüle edilmesi nedeniyle piyasadaki üretimin zamanla daha verimsiz hale geldiği sonucuna varmışlardır. Shukla ve Thampy (2011) Hindistan elektrik piyasasındaki rekabeti ve piyasa gücünü değerlendirmek için Konsantrasyon Oranı, Herfindahl-Hirschman endeksi, Fiyat-Maliyet İşaretlemesi, Artık Tedarik Endeksi (ATE) ve Arz Payı Tahlili (APT) gibi piyasa gücü ölçüm araçlarını kullanmışlardır. APT ve ATE gibi ölçüm araçları aracılığıyla her bir firmanın Hindistan'daki elektrik talebini karşılamada rolünü ve dolayısıyla firmaların piyasa gücüne sahip olup olmadığını ortaya koymuşlardır. Benzer şekilde, Sensoy (2019) Türkiye elektrik piyasasının piyasa gücü potansiyelini analiz ederek rekabet durumunu ortaya koymuştur. Yazar çalışmasında, EÜAŞ'ın da içinde yer aldığı Türkiye elektrik piyasasının en büyük dört tedarikçisini hem üretilen elektrik hem de mevcut kurulu güç bazında ele almış ve Toplam Pazar Payı, En Büyük Pazar Payı, Herfindahl-Hirschman Endeksi (HHI) ve Artık Arz Endeksine (RSI) göre değerlendirmiştir. Yazara göre yıllar içinde tüm yapısal endeks değerlerinde önemli bir iyileşme olmasına rağmen, yoğunlaşmamış ve tam rekabetçi bir piyasa yapısı henüz sağlanamamıştır. Yukarıdaki çalışmaların çoğunluğu piyasalar kurulup işlemeye başladıktan sonra, gerçekleşmiş durumda piyasa gücünün var olup olmadığını izlenmesine yöneliktir. Bu çalışmada geliştirilen kapasite azaltım planlama modeli ile EÜAŞ santrallerinin özelleştirme işlemi gerçekleştirilmeden piyasa rekabet durumu analiz edilebilecek ve alınacak özelleştirme kararlarının piyasa gücü ve serbestleşmeye etkisi önceden öngörülebilecektir.

Özetle literatürdeki çalışmaların çoğu rekabete dayalı serbest elektrik piyasa yapısı için özelleştirmenin gerekliliği ve ekonomik faydalarına, hâlihazırdaki piyasa rekabet durumunun analizine ve serbestleşme sürecini hızlandırmak için daha fazla neler yapılabileceği üzerine yoğunlaşmaktadır. Ancak bilgimiz dâhilinde şimdiye kadar özelleştirme sürecinin planlanmasına yönelik analitik bir çalışma yapılmamıştır. Literatürdeki bu açığı kapatmak adına bu çalışmada elektrik üretim sektörünün rekabete dayalı serbest bir piyasa yapısına dönüşümü için gerekli olan özelleştirme sürecini planlayan bir matematiksel model sunulmuştur. Bu bağlamda, sunulan bu çalışma literatürdeki ilk çalışma niteliğindedir. Geliştirilen model sadece özelleştirme sürecine rehberlik etmekle

kalmayıp, piyasa gücünü kısıtlamak için kapasite azaltımının gerekli olduğu durumlarda da literatüre katkı sağlamaktadır.

4. Kapasite Azaltım Planlama Modeli

Bu çalışmada özelleştirme planlaması mevcut kapasitenin kademeli olarak azaltılması olarak ele alınmış olup süreç matematiksel olarak modellenmiştir. Geliştirilen optimizasyon modeline Kapasite Azaltım Planlama Modeli (KAPM) adı verilmiştir. KAPM planlama periyodu boyunca belirli kısıtlamalar altında santrallerin özelleştirilmesini içeren bir azaltım planı sunmaktadır. Daha açık bir ifadeyle, model hangi santralin hangi yıl özelleştirileceğine karar vermektedir. Bu kararı belirlerken ikili anlaşmalardan kaynaklanan yükümlülüklerini karşılayacak şekilde EÜAŞ'ın kârını maksimize etmeyi amaçlamaktadır. Bu yönüyle şirketin küçülürken bile eldeki varlıklar ile kârını en iyileyen bir plan sunması modeli işlevsel kılmaktadır.

Bu bölümde, Kapasite Azaltım Modelinin matematiksel formülasyonu ayrıntılı olarak açıklanmaktadır. Model EÜAŞ için bir özelleştirme planı sunmak amacıyla geliştirildiğinden, bu bölümdeki notasyonlar şirkete yönelik olarak hazırlanmıştır. EÜAŞ kurulduğu günden bu yana çeşitli kapasitelerde Hidroelektrik Santrali (HES), Doğal Gaz Kombine Çevrim (DGKÇ) santrali ve kömür yakıtlı (liniyit ve taş kömürü) termik santraline (TS) sahiptir. Teknoloji gruplarına göre dengeli bir kapasite azaltımı yapmak adına mevcut santraller yakıt türlerine göre gruplandırılmıştır. Bununla birlikte, bu çalışmada şirketin ürettiği elektriği yalnızca 3 şekilde satabileceği varsayılmaktadır: ikili anlaşmalar yoluyla (i) Görevli Tedarik Şirketlerine (GTŞ) ve (ii) Dağıtım Şirketlerine (DŞ), (iii) Gün Öncesi Piyasasında (GÖP).

4.1. Notasyonlar

İndisler

i	Santral tipi, $i \in I$
i^{HES}	Hidroelektrik santral grubu, $i^{HES} \in I$
$i^{DGKÇ}$	Doğalgaz kombine çevrim santral grubu, $i^{DGKÇ} \in I$
i^{TS}	Termik santral grubu, $i^{TS} \in I$
t	yıl, $t \in T$
f	yakıt tipi, $f \in F$

Parametreler

b_i	Mevcut i santralinin kapasitesi (MW)
d	İskonto oranı (Discount rate) (%)
α_{it}	i santralinin t yılındaki kapasite faktörü (%)
π_t	t yılındaki ortalama elektrik satış fiyatı (\$/MWh)
OM_{it}	i santralinin t yılındaki değişken işletme ve bakım maliyeti (\$/MWh)

FC_{ft}	f yakıtının t yılındaki birim maliyeti (\$/ton)
γ_{if}	i santrali tarafından birim elektrik üretimi için tüketilen f yakıt miktarı(ton/MWh)
Δ_t	t yılındaki toplam çalışma süresi
UL_t^{HES}	HES grubu için t yılında özelleştirilebilecek maximum kapasite miktarı(MW)
$UL_t^{DGKÇ}$	DGKÇ grubu için t yılında özelleştirilebilecek maximum kapasite miktarı(MW)
UL_t^{TS}	TS grubu için t yılında özelleştirilebilecek maximum kapasite miktarı (MW)
LL_t^{HES}	HES grubu için t yılında özelleştirilmesi gereken minimum kapasite miktarı (MW)
$LL_t^{DGKÇ}$	DGKÇ grubu için t yılında özelleştirilmesi gereken minimum kapasite miktarı (MW)
LL_t^{TS}	TS grubu için t yılında özelleştirilmesi gereken minimum kapasite miktarı (MW)
L_t^{HES}	HES grubu için özelleştirilmesi önerilen toplam kapasite miktarı (MW)
$L_t^{DGKÇ}$	DGKÇ grubu için özelleştirilmesi önerilen toplam kapasite miktarı (MW)
L_t^{TS}	TS grubu için özelleştirilmesi önerilen toplam kapasite miktarı (MW)
D_t	t yılındaki toplam elektrik talebi (MWh)

Karar Değişkenleri

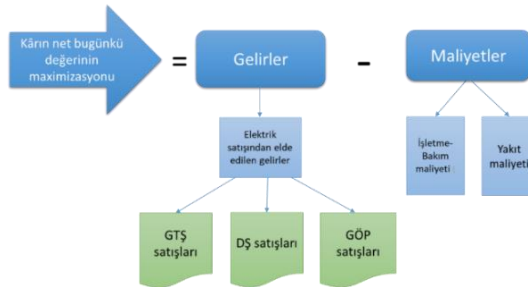
X_{it}	i tipi santral t yılında özelleştirilecekse 1, aksi halde 0
C_t	t yılındaki toplam kapasite (MW)
CC_{it}	i santralinin t yılındaki kapasitesi (MW)

4.2. Amaç Fonksiyonu

Amaç fonksiyonu, planlama periyodu sonunda kârın net bugünkü değerini en çoklayacak şekilde kurulmuştur. Eşitliğin ilk kısmı (a) elektrik satışından elde edilen gelirlerden oluşurken ikinci kısmı (b) işletme ve bakım maliyeti, (c) yakıt maliyeti kalemlerini içermektedir. Amaç fonksiyonuna santrallerin özelleştirilmesinden elde edilen "devir bedeli" dâhil edilmemiştir.

$$\max O = \sum_{t=1}^T (1+d)^{-t} \left[\sum_{i \in I} \pi_t CC_{it} \alpha_{it} \Delta_t - \sum_{i \in I} OM_{it} CC_{it} \alpha_{it} \Delta_t - \sum_{f \in F} \sum_{i \in I} \sum_{DGKÇ, TS} FC_{ft} \gamma_{if} CC_{it} \alpha_{it} \right] \quad (1)$$

Şekil: 2
Amaç Fonksiyonu Bileşenleri



4.3. Kısıtlar

i) Santral grupları için kapasite azaltım üst sınırı: Her bir teknoloji grubu gerek kullandığı kaynak gerekse teknolojik özellikleri bakımından bazı kısıtlar veya avantajlara sahiptir. Bu durum göz önüne alındığında, EÜAŞ'ın temel misyonu olan enerji arz güvenliğini sağlamak adına bazı santrallerin elden çıkarılmaması gerekmektedir. Bununla birlikte, şirketin GTŞ ve DŞ başta olmak üzere yapmış olduğu uzun vadeli ikili anlaşmalardan kaynaklanan yükümlülüklerini yerine getirebilmesi için sahip olduğu santralleri aşamalı olarak elden çıkarması uygun görülmektedir. Bu kısıt sayesinde her bir santral grubundan azaltım için bir üst sınır getirilmektedir.

$$\sum_{i \in i^{HES}} X_{it} * b_i \leq UL_t^{HES}, \forall t \in T \quad (2)$$

$$\sum_{i \in i^{DGKÇ}} X_{it} * b_i \leq UL_t^{DGKÇ}, \forall t \in T \quad (3)$$

$$\sum_{i \in i^{TS}} X_{it} * b_i \leq UL_t^{TS}, \forall t \in T \quad (4)$$

ii) Santral grupları için kapasite azaltım alt sınırı: Problem şirketin kârını ençoklamaya yönelik kurulduğu ve dolayısıyla mümkün olan en üst seviyede elektrik üretim ve satışı amaç fonksiyon değerini yükselteceği için model herhangi bir azaltım yoluna gitmeksizin sonuç verecektir. Serbestleşmeye katkıda bulunmak adına, bu kısıt ile her yıl belli miktarda kapasiteyi azaltmaya/özelleştirmeye zorlayacak bir alt sınır değeri getirilmektedir.

$$LL_t^{HES} \leq \sum_{i \in i^{HES}} X_{it} * b_i, \forall t \in T \quad (5)$$

$$LL_t^{DGKÇ} \leq \sum_{i \in i^{DGKÇ}} X_{it} * b_i, \forall t \in T \quad (6)$$

$$LL_t^{TS} \leq \sum_{i \in i^{TS}} X_{it} * b_i, \forall t \in T \quad (7)$$

iii) Toplam kapasite azaltım alt sınırı: Her bir santral grubu için planlama periyodu boyunca özelleştirilmesi gereken toplam kapasite belirli bir alt sınır değeri ile azaltılmaya zorlanmıştır. Aynı zamanda bu kısıt sayesinde planlama periyodu boyunca yapılan azaltım sonrasında geriye kalan santral kapasiteleri arasında denge garanti altına alınmıştır.

$$L^{HES} \leq \sum_t \sum_{i \in i^{HES}} X_{it} * b_i \quad (8)$$

$$L^{DGKÇ} \leq \sum_t \sum_{i \in i^{DGKÇ}} X_{it} * b_i \quad (9)$$

$$L^{TS} \leq \sum_t \sum_{i \in i^{TS}} X_{it} * b_i \quad (10)$$

iv) Kümülatif kapasite denge denklemi: Her yıl için yapılan kapasite azaltımıyla geriye kalan toplam kapasite güncellenmektedir.

$$C_t = \sum_{i \in I} CC_{it}, \forall t \in T \quad (11)$$

$$CC_{it} = CC_{it-1} - X_{it} * b_i, \forall i \in I \text{ ve } t \in T \quad (12)$$

v) Talep kısıtı: Şirket en az ikili anlaşmalardan kaynaklanan yükümlülüklerini yerine getirebilecek kadar üretim kapasitesine sahip olmalıdır.

$$\sum_{i \in I} CC_{it} \alpha_{it} \Delta_t \geq D_t, \forall t \in T \quad (13)$$

vi) Azaltım kısıtı: Her bir santralin zaman ufku boyunca yalnızca bir kere elden çıkarılabileceğini ifade eden kısıttır.

$$\sum_{t \in T} X_{it} \leq 1, \forall i \in I \quad (14)$$

vii) Tam sayı ve işaret kısıtları:

$$C_t, CC_{it}, Y_{it}^{GT\$,} Y_{it}^{D\$,}, Y_{it}^{G\ddot{O}P} \geq 0, \forall i \in I \text{ ve } t \in T \quad (15)$$

$$X_{it}, Z_{it} \in \{0,1\}, \forall i \in I \text{ ve } t \in T \quad (16)$$

5. KAPM Modelinin EÜAŞ Santrallerine Uygulanışı

Bu bölümde, geliştirilen modelin uygulanabilirliğini test etmek adına bir vaka çalışması sunulmaktadır. Kapasite Azaltım Planlama Modeli (KAPM) özelleştirme planı sunmak niyetiyle geliştirildiği için, çalışmada devlete ait elektrik üretiminin (EÜAŞ) sahipliğinde bulunan santraller ele alınmıştır. Planlama ufku 2010-2020 yıllarını kapsayacak şekilde 11 yıl olarak belirlenmiştir. Çalışmada azaltım kararının yıllık alındığı varsayılmıştır. Başka bir deyişle zaman adımı bir yıl olarak kabul edilmiştir. Aynı zamanda, eğer model bir santral için azaltım kararı vermiş ise özelleştirilen yıl dâhil olmak üzere o santralden üretim yapılamamaktadır. İskonto oranının zaman ufku boyunca %5 olduğu varsayılmıştır. Her santralin kapasite faktörü ilgili yıl için ayrı ayrı hesaplanmıştır. EÜAŞ, GTŞ ve DŞ ile ikili anlaşmalarının yanı sıra, Gün Öncesi ve Dengeleme Güç piyasasında elektrik satış ve alışı yapmaktadır. Bu piyasalarda yapılan alış ve satış işlemleri ikili anlaşmalara nispetle daha küçük miktarlar olduğu için çalışma kapsamına dâhil edilmemiştir. Sonuçlar ilgili yıllarda gerçekleşen özelleştirme kararlarıyla karşılaştırılmış ve böylece modelin tutarlılığı test edilmiştir.

5.1. Elektrik Üretim Santralleri

2010 yılında EÜAŞ bünyesinde 66 adet Hidroelektrik Santrali (HES), 4 adet Doğal Gaz Kombine Çevrim Santrali (DGKÇ) ve 13 adet Termik Santral (TS) bulunmaktadır. 2010 yılından bu yana 37 adet HES, 1 adet DGKÇ santrali ve 10 adet TS özelleştirilmiştir. Özelleştirilen santrallere ilişkin veriler Tablo 1’de listelenmiştir.

Tablo: 1
2010-2020 Yılları Arasında Özelleştirilen Santraller

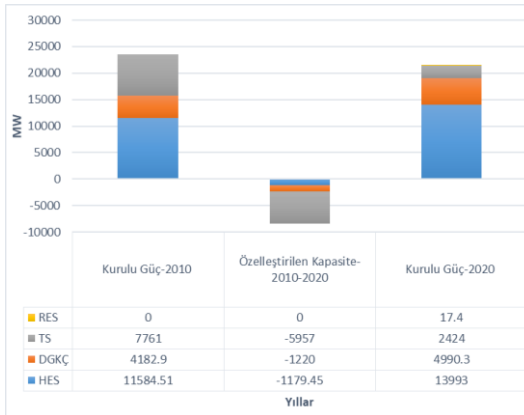
ÖZELLEŞTİRİLEN HİDROELEKTRİK SANTRALLER					
Elektrik Üretim Santrali Adı	Kurulu Güç (MW)	Yıl	Elektrik Üretim Santrali Adı	Kurulu Güç (MW)	Yıl
ADIGÜZEL HES	62	2017	KEMER HES	48	2017
AHIKÖY 1 VE 2 HES	4.4	2021	KILAVUZLU HES	54	2018
ALMUS HES	27	2017	KOÇKÖPRÜ HES	8.39	2012
ANAMUR HES	0.84	2018	KÖKLÜCE HES	90	2017

BERDAN HES	10.2	2013	KUZUCULU HES	0.27	2017
BOZYAZI HES	0.42	2018	KÜRTÜN HES	85	2016
ÇİNE HES	46	2019	MANAVGAT HES	48	2016
DEĞİRMENDERE HES	0.48	2017	MANYAS HES	20.3	2018
DINAR 2 HES	3	2019	MENZELET HES	124	2018
DOĞANKENT HES	75	2016	MUT-DERİNÇAY HES	0.88	2018
FETHİYE HES	17	2016	SİLİFKE HES	0.4	2018
GÖNEN HES	10.6	2018	SUÇATI HES	7	2017
HASANLAR HES	9.35	2013	SÜTÇÜLER HES	2	2018
HOŞAP HES	3.38	2012	ŞANLIURFA HES	51	2017
KADINCIK 1 HES	70	2016	TOHMA HES	12.5	2019
KADINCIK 2 HES	56	2016	TORUL HES	103	2016
KARACAÖREN 1 HES	32	2016	YENİCE HES	38	2017
KARACAÖREN 2 HES	46	2016	ZEYNE HES	0.33	2018
KARACAÇAY HES	0.38	2017			
ÖZELLEŞTİRİLEN TERMİK SANTRALLER					
Elektrik Üretim Santrali Adı	Kurulu Güç (MW)	Yıl	Elektrik Üretim Santrali Adı	Kurulu Güç (MW)	Yıl
AFŞİN ELBİSTAN A TS	1355	2018	SEYİTÖMER TS	600	2013
ÇATALAĞZI TS	300	2014	SOMA B TS	990	2015
KANGAL TS	457	2013	TUNÇBİLEK TS	365	2015
KEMERKÖY TS	630	2014	YATAĞAN TS	630	2014
ORHANLI TS	210	2015	YENİKÖY TS	420	2014
ÖZELLEŞTİRİLEN DOĞALGAZ KOMBİNE ÇEVİRİM SANTRALİ					
Elektrik Üretim Santrali Adı	Kurulu Güç (MW)	Yıl			
HAMİTABAT DGKÇ PLANT	1220	2013			

Kaynak: Özelleştirme İdaresi Başkanlığı, 3. Proje Grup Başkanlığı Portföyü.

2020 yılı itibarıyla, özelleştirilen ve yeni dâhil olan santrallerle birlikte EÜAŞ toplam 21.588 MW kurulu gücü ile Türkiye elektrik üretim kapasitesinin %22,5'ine sahiptir (EÜAŞ, 2020). Şirket bünyesinde 36'sı rezervuarlı olmak üzere 48 adet HES, 7 adet DGKÇ santrali, 4 adet linyit-yakıtlı TS ve 2 adet Rüzgâr Enerji Santrali (RES) bulunmaktadır. Santral grubu bazında 2010 ve 2020 yıllarına ait kurulu güç miktarları ve bu yıllar arasında özelleştirilen toplam kurulu güç miktarları Şekil 3'te özetlenmiştir.

Şekil: 3
Planlama Dönemine Ait Kurulu Güç ve Özelleştirme Miktarları



5.2. Santral Gruplarına İlişkin Diğer Veriler

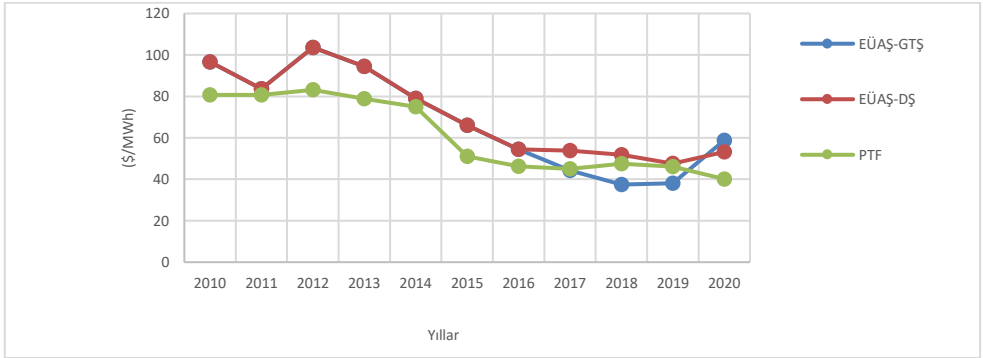
Çalışmada kullanılan parametrelere ilişkin diğer veriler Tablo 2’de verilmiştir. Çalışılan döneme ait Piyasa Takas Fiyatı (PTF) ile ikili anlaşma fiyatları Şekil 4’te ve EÜAŞ ile GTŞ ve DŞ arasında yapılan ikili anlaşma miktarları Şekil 5’te verilmiştir. Kolaylık sunması açısından fiyat ve talep verileri ortalama değerler olarak kullanılmıştır.

Tablo: 2
Santral Gruplarına İlişkin Veriler

Santral Grupları	UL_t^i (MW)	LL_t^i (MW)	Y_{tj} (Ton/\$)	FC_{ft} (\$/ton)	OM_{ft} (\$/MWh)
HES	11584	100	-	-	6.05
DGKC	4182	100	0.17	17	2.30
TS	7761	100	1.41	35	4.90

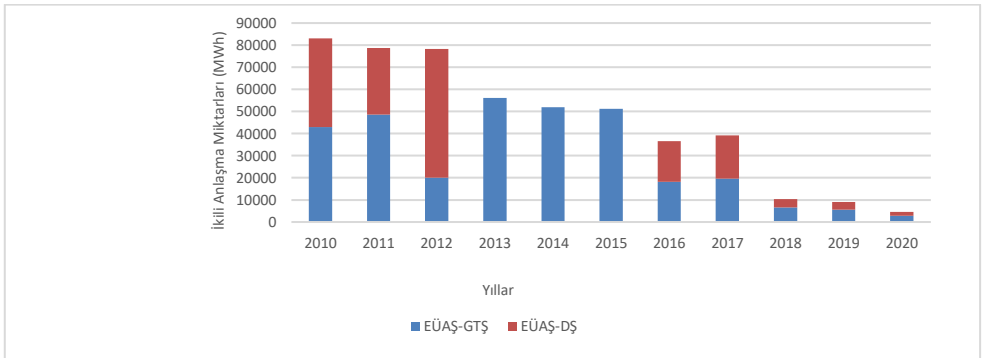
Kaynak: Ağralı et al., 2018.

Şekil: 4
Çalışma Dönemine Ait Fiyat



Kaynak: EPIAŞ; EÜAŞ.

Şekil: 5
Çalışma Dönemine Ait İkili Anlaşma Miktarları



Kaynak: EÜAŞ.

5.3. Uygulama Sonuçları

Modelin uygulanmasından elde edilen sonuçlar bu kısımda sunulmuştur. EÜAŞ'ın sahip olduğu santraller ve modelde kullanılan tüm veriler 2010-2020 yıllarına aittir. Ayrıca uygulama çalışması 2010 yılında EÜAŞ'ın henüz sahipliğinde olmayan, ancak planlama dönemi içerisinde sahip olunan ve yine bu dönem içerisinde özelleştirilen santralleri de kapsamaktadır. KAPM sonuçları kapasite azaltım planı, tutarlılık analizi ve elde edilen karı içermektedir. Model GAMS-ILOG CPLEX 12.5.1.0 çözücüsü kullanılarak çözülmüştür.

5.3.1. Kapasite Azaltım Planı

Planlama dönemi boyunca yıllık olarak azaltılması/özelleştirilmesi önerilen elektrik üretim santralleri Tablo 3'te gösterilmektedir. Özelleştirilmesi önerilen santrallerin isimleri, özelleştirme yılları ve bu santrallerin kapasitelerine ilişkin bilgiler aşağıda gösterilmiştir.

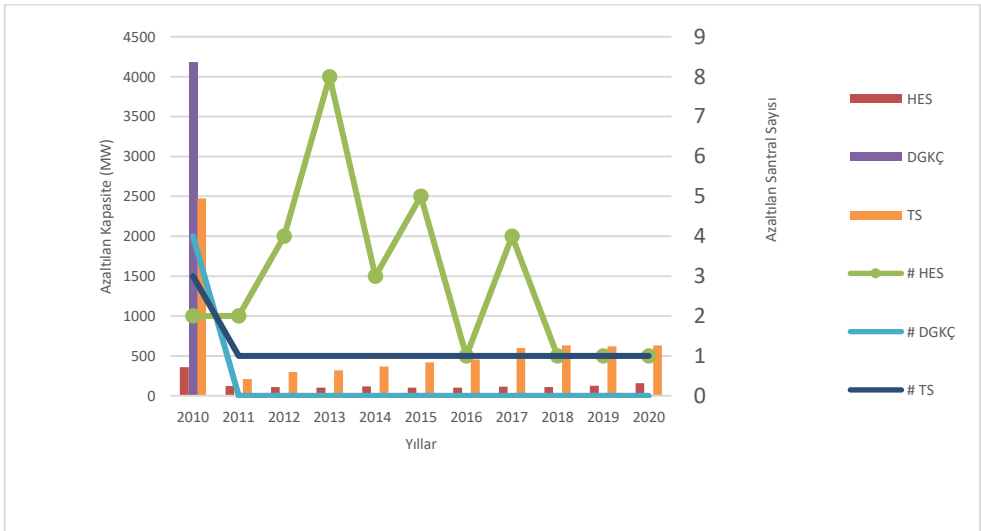
Tablo: 3
KAPM Tarafından Önerilen Kapasite Azaltım Planı

Kurulu Güç (MW)	Elektrik Üretim Santralleri	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
62	Adıgüzel HES					*						
4.4	Ahiköy 1 ve 2 HES								*			
27	Almus HES		*									
0.84	Anamur HES						*					
0.42	Bozyazı HES				*							
2.504	Çal HES						*					
46	Çine HES						*					
0.48	Değirmendere HES				*							
69	Demirköprü HES			*								
0.4	Dereciçi HES				*							
110	Dicle HES									*		
75	Doğankent HES	*										
12.33	Girvelek-İ-Mercan HES				*							
128	Hirfanlı HES										*	
3.38	Hoşap HES			*								
48	Kemer HES					*						
54	Kılavuzlu HES								*			
8.39	Koçköprü HES					*						
0.2	Koyulhisar HES		*									
94.5	Kralkızı HES		*									
0.27	Kuzuculu HES				*							
85.00	Kürtün HES				*							
48	Manavgat HES								*			
0.88	Mut-Derince HES				*							
160	Sarıyar Hasan Polatkan HES											*
283.5	Sır HES	*										
7	Suçatı HES								*			
2	Sütçüler HES						*					
51	Şanlıurfa HES						*					
103	Torul HES							*				
38	Yenice HES			*								
0.33	Zeyne HES				*							
1432	Bursa DGKÇ B Santrali	*										
180	Esenyurt DGKÇ Santrali	*										
1220	Hamitabat DGKÇ Santrali	*										
1350.9	İstanbul DGKÇ A Santrali	*										
320	18 Mart Çan TS				*							
1440	Afşin Elbistan B TS	*										
300	Çatalağzı TS			*								
620	Çayırhan TS										*	
457	Kangal TS							*				
630	Kemerköy TS											*

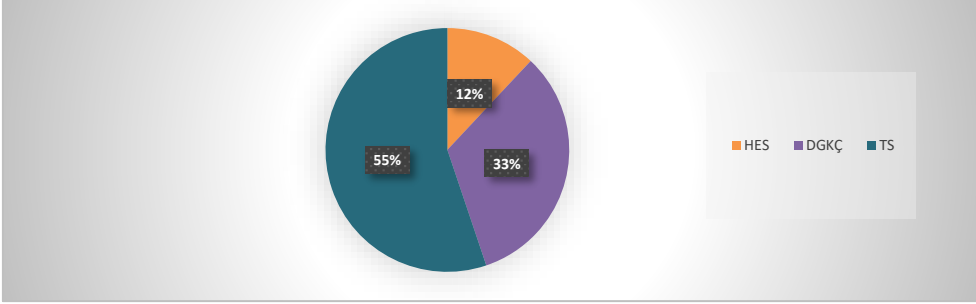
210	Orhaneli TS		*								
600	Sevitömer TS							*			
44	Soma A TS	*									
990	Soma B TS	*									
365	Tunçbilek TS					*					
630	Yatağan TS								*		
420	Yeniköy TS						*				

Kapasite azaltım planına göre 32 adet HES, 4 adet DGKÇ santrali ve 13 adet TS için 2010-2020 planlama periyodunun çeşitli yıllarında özelleştirilmesi önerilmiştir. Her gruptaki toplam azaltılan kapasite miktarı ve azaltılan santral sayısı yıllar itibariyle Şekil 6'da görülmektedir. Azaltımın en fazla ilk yıl yapıldığı ve ilerleyen yıllarda nispeten azaldığı açıktır. Bunun sebebi 2010'dan sonra DGKÇ grubundan azaltım yapılmamış olmasındandır. Şekil 7'den açıkça görüleceği üzere kapasite azaltımı en fazla termik santral grubundan yapılmıştır. Azaltılan kapasite miktarının aksine azaltılan santral sayısı bakımından incelendiğinde sayıca HES grubundan çok daha fazla özelleştirme yapıldığı açıkça görülmektedir. Bu durum TS ve DGKÇ grubu santrallerinin doğası gereği yüksek kapasitelerde kurulmasından kaynaklanmaktadır. Bu gruplardan özelleştirilmesi önerilen santral sayısı az olsa da kurulu güçleri gereği kapasite azaltımına etkisi HES grubuna göre çok daha fazla hissedilmektedir. Yıllar içerisinde yapılan kapasite azaltımıyla birlikte EÜAŞ'ın sahip olduğu toplam kurulu gücün giderek azaldığı Şekil 8'de açıkça görülmektedir.

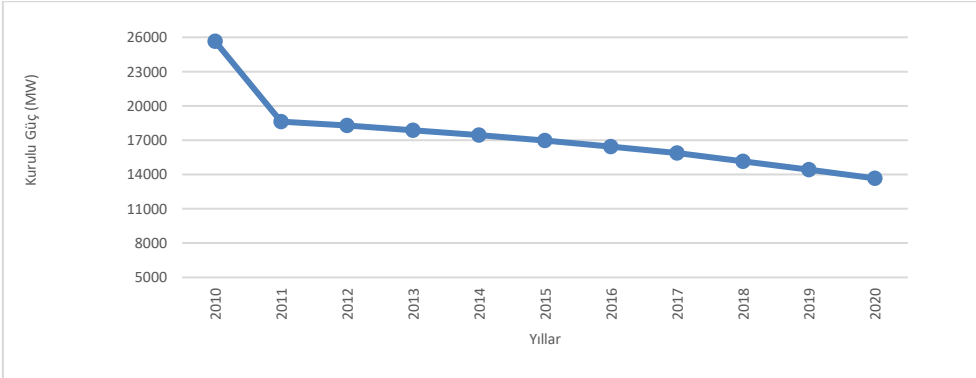
Şekil: 6
Azaltılan Kapasite Miktar ve Santral Sayıları



Şekil: 7
Santral Grupları İçin Kapasite Bazında Azaltım Oranları



Şekil: 8
EÜAŞ Kurulu Gücünün Yıllar İçerisindeki Değişimi



5.3.2. Tutarlılık Analizi

Modelin önermiş olduğu 32 hidroelektrik santralinin 4 tanesi Özelleştirme İdaresi Başkanlığı tarafından özelleştirme kapsam programına alınan santraller ile tutarlı, 23 tanesinin ise gerçekleşen özelleştirme kararları ile tutarlı olduğu görülmektedir. HES grubu için modelin tutarlılığı %84'tür. DGKÇ grubundan azaltılması önerilen 4 santralin biri ÖİB planıyla uyumlu iken, birinin gerçekleşen özelleştirme kararıyla tutarlı olduğu görülmektedir. Bu grup için tutarlılık oranı ise %50'dir. Son olarak TS grubu için baktığımızda, model tarafından önerilen 13 santralin 9'unun gerçekleşen durumla uyumlu olduğu görülmektedir. TS grubu ÖİB tarafından henüz plana dâhil edilmediği için burada bir karşılaştırma yapılamamıştır. Bu grup için tutarlılık oranı ise %69'dur. Tablo 4'te her bir grup için tutarlılıklar özetlenmiştir.

Tablo: 4
Tutarlılık Analizi Sonuçları

Santral Grubu	ÖİB ile uyumlu santral sayısı (#)	Gerçekleşen ile uyumlu santral sayısı (#)	Toplam azaltılan santral sayısı (#)	Tutarlılık oranı (%)
HES	4	23	32	84%
DGKC	1	1	4	50%
TS	-	9	13	69%

Sonuçlardaki küçük tutarsızlıkların nedenleri arasında; modelin yanlış karar almış olabileceği gibi, gerçekleşmiş durumda o günün ülke koşullarının makul olmayan özelleştirme kararı almayı gerektirmiş olabileceği de göz ardı edilmemelidir. Daha açık bir ifadeyle modelin özelleştirmeyi önerdiği santraller ile o dönemde özelleştirilmiş santraller birebir aynı değildir. Özelleştirilen fakat modelin özelleştirmeyi makul bulmadığı santrallerin yanı sıra modelin önerdiği ancak gerçek hayatta özelleştirme kapsamına alınmayan santraller de bulunmaktadır. Bu farklılıkların sebebi modelin sunduğu önerinin söz konusu santraller için hatalı olmasından kaynaklanabileceği gibi, o dönemki kararların bazı sebeplerle makul olmasa bile uygulanması gerektiğinden kaynaklanabilir.

5.3.3. Kâr

2010-2020 yılları periyodu için modelin önerdiği azaltım planına göre şirketin net bugünkü kârı 61,2 milyar dolardır.

6. Piyasa Gücü ve Rekabet Analizi

Bu bölümde sunulan modelin Türkiye elektrik üretim sektörünün serbestleşmesine olan katkısını değerlendirmek adına piyasa gücü ve rekabet analizi çalışması yapılmıştır. Analiz hem zaman içerisinde gerçekleşen özelleştirme uygulamaları hem de modelin önerdiği azaltım planı neticesinde EÜAŞ'ın 2010-2020 yılları içerisindeki kurulu güç değişimi ele alınarak yapılmıştır. Piyasa gücü ve piyasanın rekabet durumuna ilişkin sonuçlar gerçekleşen ve önerilen durum için karşılaştırmalı olarak sunulmuştur. Analiz için piyasa gücünün tespit edilmesi ve piyasaların rekabetçiliğinin incelenmesi amacıyla kullanılan Piyasa Payı Endeksi (PPE), Herfindahl-Hirschman Endeksi (HHE), Arz Payı Tahlili (APT) ve Artık Tedarik Endeksi (ATE) kullanılmış ve her bir endekse ilişkin sonuçlara ayrı başlıklar halinde yer verilmiştir.

6.1. Piyasa Payı Endeksi (PPE)

Bir piyasanın monopole veya rekabete yakınlığı o piyasadaki yoğunlaşma durumuna göre tespit edilebilir. Piyasa yoğunlaşması herhangi bir piyasadaki pazar payının az sayıdaki tedarikçi tarafından hâkimiyet altına alınması anlamına gelmektedir. Konsantrasyonu/yoğunlaşmayı ölçen endeksler aracılığıyla piyasadaki tedarikçiler arasındaki pazar payı ölçülebilir ve o piyasadaki rekabet düzeyi hakkında fikir sahibi olunabilir (Sensoy, 2019: 3). En yaygın olarak kullanılan yoğunlaşma endekslerinden biri Piyasa Payı Endeksidir (PPE). PPE uygulaması oldukça pratik olan sayısal bir göstergedir ve piyasadaki en büyük n şirketin pazar payının yüzdesi olarak tanımlanır. PPE

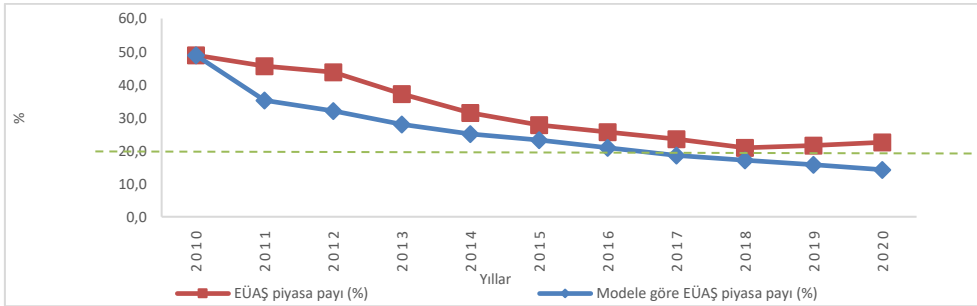
hesaplandıktan sonra bir referans noktasına göre ele alınan şirketin piyasa gücüne sahip olma durumu ile piyasada rekabetin yeterli düzeyde olup olmadığı belirlenmektedir. ABD Federal Enerji Düzenleme Komisyonu (FERC) en büyük PPE için bu oranı %20 olarak belirlemiştir (Twomey et al., 2005: 15). Daha açık bir ifadeyle, bir ya da birkaç firma pazar payının %20'sinden fazlasına sahipse piyasa gücünü kullanabilme potansiyeline sahiptir.

$$PPE_i = \frac{(Kurulu\ güç)_i}{Toplam\ kurulu\ güç} \quad (17)$$

EÜAŞ'ın gerçekleşen ve modelin önerdiği azaltım planı doğrultusunda sahip olduğu kurulu gücüne göre yıllık pazar payı değişimleri Şekil 9'da gösterilmiştir. Gerçekleşen durumda PPE'ne göre EÜAŞ'ın pazar payı özelleştirmeler nedeniyle yıllar içerisinde giderek azalmış ancak 2018 yılı itibarıyla tekrar artışa geçmiştir. 2018 yılında EÜAŞ ve TETAŞ'ın EÜAŞ'ın çatısı altında birleşmesiyle birlikte şirketin kurulu gücü artmış ve bu durum şirketi yeniden hâkim bir katılımcı haline getirmiştir. Şekil 9'dan da açıkça görüleceği gibi 2010-2020 yılları boyunca %20'lik sınırın üzerinde kaldığı için EÜAŞ'ın piyasa gücü konumunda olduğunu söylemek mümkündür.

Bununla birlikte, modelin önerdiği özelleştirme/azaltım planı doğrultusunda 2017 yılı itibarıyla EÜAŞ'ın piyasa gücü azalmakta ve Türkiye elektrik piyasası serbestleşme sürecine girmektedir. Buradan hareketle modelin önerdiği özelleştirme planının Türkiye elektrik piyasasını rekabetçi bir yapıya ulaştırması açısından etkili sonuçlar verdiği açıktır.

Şekil: 9
Gerçekleşen Durum ve Modele Göre EÜAŞ Piyasa Payı Endeksi



6.2. Herfindahl-Hirschman Endeksi (HHE)

Yoğunlaşma endekslerinin zayıf yönü pazar payı dağılımının geri kalan kısmında yer alan bilgileri kullanmamasıdır (Shukla & Thampy, 2011: 2706). Diğer bir deyişle, bir katılımcının pazar payının yüksek veya düşük olması, pazar gücü hakkında bir sonuca varmak için tek başına yeterli olmayacaktır. Bu dezavantajını gidermeye yönelik olarak elektrik sektöründe yaygın olarak uygulanan ve piyasa gücü potansiyelini daha anlamlı bir şekilde gösteren endeks Herfindahl-Hirschman Endeksi'dir (HHE). HHE bir piyasanın tekeli, oligopol veya rekabetçi yapısı hakkında fikir vermektedir. HHE'nin sifıra yaklaşan

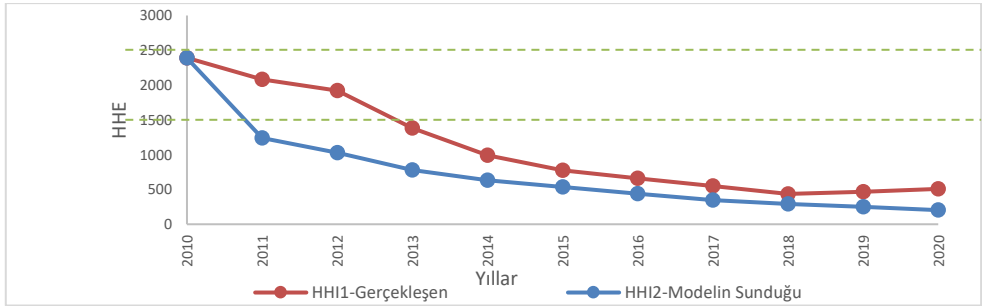
değerlerinde mükemmel rekabet olduğu kabul edilmektedir. HHE sektördeki tüm firmaların pazar paylarınının karelerinin toplamı olarak tanımlanır:

$$HHE = \sum_i^n (S_i)^2 \quad (18)$$

Burada S_i i firmasının piyasa payı ve n piyasadaki tedarikçi sayısıdır. Amerika Birleşik Devletleri Adalet Bakanlığı, HHE'nin 1500'den az olduğu piyasaları rekabetçi, 1500 ile 2500 arasındakileri kısmen yoğunlaşmış piyasa (oligopol) ve 2500 ve üstü olanları çok yoğunlaşmış piyasa kabul etmektedir (Kaminski, 2012: 141).

Şekil 10 incelendiğinde gerçekleştirilen özelleştirmeler ile birlikte 2013 yılı sonrasında serbest piyasa yapısına yaklaşırken, modelin önerdiği özelleştirme planı ile daha erken bir tarihte piyasadaki yoğunlaşmanın azaldığı görülmektedir. Gerçekleşen durum için HHE değerinin 2018 yılında tekrar artışa geçmesinin sebebinin EÜAŞ-TETAŞ birleşmesi olduğu göz ardı edilmemelidir.

Şekil:10
Gerçekleşen Durum ve Modelde Göre HHE



6.3. Arz Payı Tahlili (APT)

Rekabetin takip edilmesine yönelik olarak kullanılan endeksler genel olarak piyasada arz tarafında oluşan yoğunlaşmayı ve üreticilerin fiyata müdahale edebilme kabiliyetlerini ölçmektedir. Arz Payı Tahlili (APT) Endeksi ise piyasada oluşan puant talebi de dikkate alarak bir analiz yapma imkânı sunmaktadır. APT endeksi bir tedarikçinin üretim kapasitesi olmadan piyasada günlük puant talebinin karşılanıp karşılanmadığını analiz eder. APT endeksi aşağıdaki gibi hesaplanır:

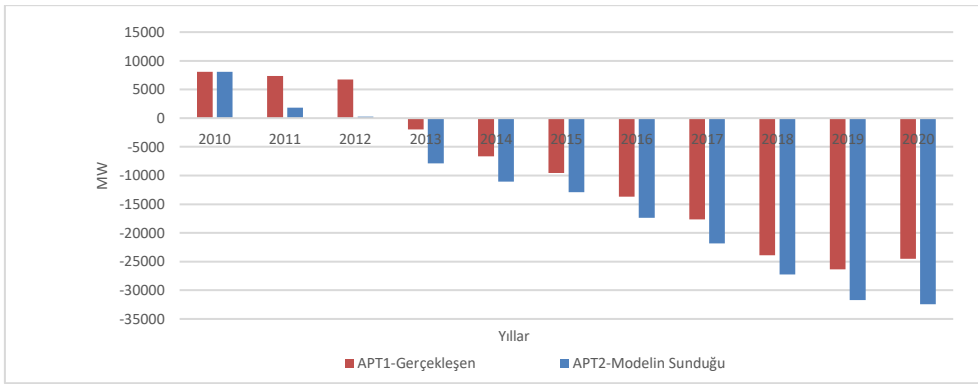
$$APT_i = D_p - \sum_i^n S_{-i} \quad (19)$$

D_p , piyasanın puant talebini ve S_{-i} i tedarikçisi haricindeki tüm tedarikçilerin üretim kapasitesini ifade etmektedir. APT herhangi bir tedarikçi için pozitif ise o tedarikçi piyasa gücüne sahiptir. Çünkü söz konusu tedarikçi olmadan puant talep karşılanamaz ve bu durumda söz konusu tedarikçinin piyasa gücü rekabeti bozacak seviyede demektir. Rekabetin sağlıklı işleme için hiçbir tedarikçinin piyasa gücü olmamalıdır. Tam rekabetçi

bir piyasa yapısı için her tedarikçinin APT endeksi mümkün olduğunca azaltılmalıdır (Elmahi, 2020).

Şekil 11 incelendiğinde her iki durumda da EÜAŞ'ın APT endeksi 2013 yılına kadar rekabeti bozacak seviyededir. Bu yıl itibarıyla özelleştirmelerle birlikte piyasada hâkim konumda bir tedarikçi olan EÜAŞ'ın piyasa gücü azalmaktadır. Gerçekleşen durum ile modelin önerdiği plana göre piyasanın serbestleşmeye başlaması aynı yıla denk gelse de modelin önerdiği plan doğrultusunda APT değerlerinin nispeten daha fazla azalmasıyla şirketin piyasa gücü nispeten daha da azalmaktadır.

Şekil: 11
Gerçekleşen Durum ve Modele Göre EÜAŞ İçin APT Endeksi



6.4. Artık Tedarik Endeksi (ATE)

Piyasa payı endeksi ve Herfindahl-Hirschman Endeksi (HHI) en çok bilinen ve tercih edilen endeksler olmasına karşın bu endeksler talep düzeyi ve piyasanın mevcut durumu gibi rekabetin bazı yönlerini dikkate almamaktadır. Piyasadaki bazı katılımcılar nispeten küçük bir pazar payına sahip olsalar bile piyasa gücünü kullanmaya devam edebilmektedir (Sensoy, 2019: 4). Bu sebeple piyasa gücü analizi yaparken APT endeksinde olduğu gibi talep tarafının da göz önüne alınması daha doğru yorum yapabilmek açısından önemlidir. Bu ihtiyaç doğrultusunda California Bağımsız Sistem Operatörü (CAISO) tarafından geliştirilen Artık Tedarik Endeksi (ATE) piyasa gücünün potansiyelini belirlemek için kullanılmaktadır. ATE talep koşullarını (arz koşullarına ek olarak) potansiyel piyasa gücünün bir ölçüsüne dâhil etme girişiminin bir sonucu olarak ortaya çıkmıştır (Sensoy, 2019: 4). APT endeksinde benzerlik göstermekle birlikte burada puant talep yerine belirli bir saatte oluşan talep dikkate alınmaktadır. Ayrıca, APT endeksinin aksine ATE için yıllık olarak değerlendirme yanıtıcı sonuçlar vermektedir. ATE belirli bir tedarikçinin talebi karşılamak için gerekli olup olmadığını inceler. ATE her bir i tedarikçisi için o tedarikçi haricindeki tüm tedarikçiler tarafından sunulan toplam tedarik ile belirli bir saatte talep edilen miktar arasında bir oran olarak hesaplanır:

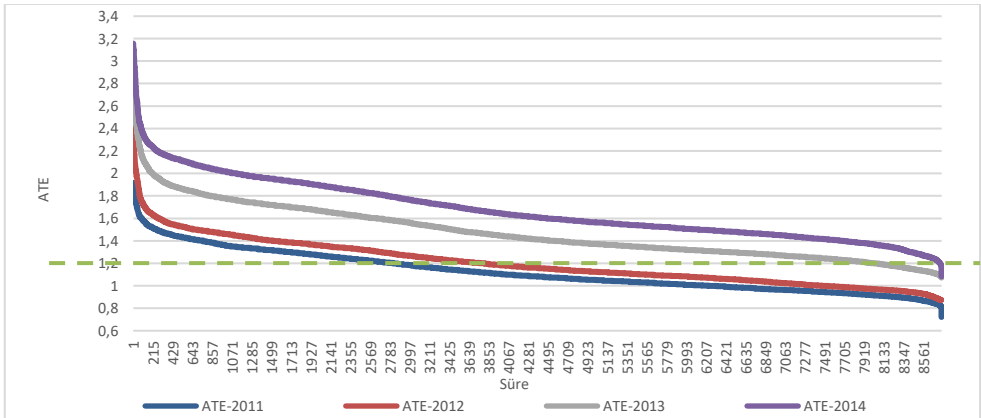
$$ATE_i = \frac{\sum_i^n S_{-i}}{D_t} \quad (20)$$

D_t , piyasada belirli bir t saatinde oluşan talebi ve S_{-i} i tedarikçisi haricindeki tüm tedarikçilerin üretim kapasitesini ifade etmektedir. Belirli bir tedarikçi için ATE 1'den büyük olduğunda i tedarikçisi dışındaki tüm tedarikçiler toplam talebi karşılamaya yeterlidir (Sheffrin, 2002: 13). Ancak 1'den küçük ise ilgili tedarikçinin kapasitesinin olmaması durumunda piyasada toplam talebi karşılayacak kurulu gücün olmadığı sonucuna varılır. Bu nedenle, tedarikçi i'nin talebi karşılama kapasitesine ihtiyaç vardır. ATE 1,2 veya daha fazlaysa, piyasayı makul ölçüde rekabetçi olarak değerlendirilmektedir.

Öte yandan Sheffrin (2002) ATE'nin belirli bir saatten ziyade tüm saatler için hesaplanması gerektiğini ifade etmektedir. Bu sebeple ATE sonuçları yük süre eğrisi temelinde saatlik olarak ATE-süre şeklinde sunulmuştur. APT endeksi sonuçları da göz önüne alınarak 2011-2014 yılları için gerçekleşen duruma ve modelin önerdiği özelleştirme planı neticesinde oluşan duruma göre ATE gelişimi saatlik olarak sırasıyla Şekil 12 ve Şekil 13'te verilmektedir.

Şekil 12'ye göre gerçekleşen durumda 2011 ve 2012 yıllarının önemli bir kısmında oluşan talep EÜAŞ'ın kapasitesi olmadan karşılanamamaktadır. Sheffrin (2002) rekabetçi bir pazar için ATE değeri bir yıldaki saatlerin %5'inden fazlası için (yaklaşık 438 saat) %110'dan az olmaması gerektiğini iddia etmektedir. 2011 yılında saatlerin %54'ü (4716 saat), 2012 yılında ise saatlerin %36'sı (3205 saat) için ATE %110'dan azdır. Gerçekleşen durumda ATE ancak 2013 yılında rekabetçi bir piyasayı yansıtacak değeri alabilmiştir.

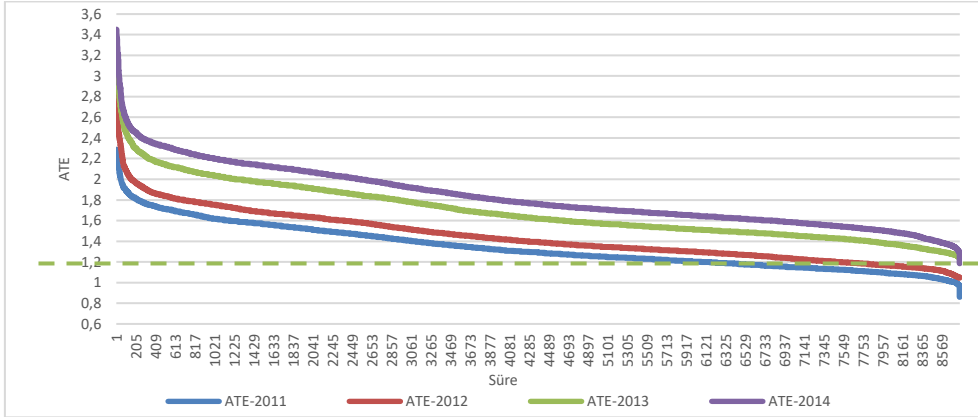
Şekil: 12
Gerçekleşen Duruma Göre ATE



Şekil 13'e göre modelin önerdiği durumda 2011 ve 2012 yıllarının belirli bir zaman diliminde oluşan talep EÜAŞ'ın kapasitesi olmadan karşılanamamaktadır. Fakat Sheffrin (2002)'in değerlendirmesine dayanarak önerilen modele göre 2011 yılında saatlerin %9,8'i

(861 saat) için ATE %110'dan azdır. Ancak 2012 yılında saatlerin yalnızca %1,5'i (136 saat) için ATE değerinin %110 değerinin altına düştüğü görülmektedir. Bu durumda modelin önerdiği plana göre talebi karşılama noktasında 2012 yılı itibarıyla EÜAŞ'ın piyasa gücü azalmış ve böylece piyasanın rekabetçi bir yapıya dönüşümü başlamıştır.

Şekil: 13
Modele Göre ATE



7. Sonuç

Dünyada pek çok ülkede yaşanan elektrik piyasasındaki yapısal dönüşüm sürecinin bir benzeri ülkemizde de yaşanmış ve piyasa yapısı son 30 yılda sürekli gelişime ve değişime uğramıştır. Enerji piyasasının serbestleştirilmesi ve kamu mülkiyetindeki varlıkların özelleştirilmesi uzun süredir Türkiye gündeminde olmasına rağmen ne yazık ki yeterince gerçekleştirilememiştir. 2006 yılından itibaren elektrik piyasasını rekabete açmak için özelleştirme süreci başlatılmıştır. Elektrik dağıtım sektörüyle başlayan özelleştirme süreci Elektrik Üretim Şirketine ait bir kısım santrallerin Özelleştirme İdaresi Başkanlığına devri ile devam etmektedir.

Elektrik piyasalarında yaşanan dönüşümle birlikte rekabete dayalı serbest bir piyasa yapısına erişmek için kamuya ait varlıkların özelleştirilmesinin gerekliliği, önemi ve ekonomik faydaları hakkında akademik yayınlar yapılmış ve halen yapılmaktadır. Ancak özelleştirme sürecinin planlanmasına ilişkin herhangi bir analitik çalışmaya veya matematiksel modele rastlanmamıştır. Bu amaçla, bu çalışma da Türkiye elektrik üretim sektörünün serbestleşme yolculuğuna hizmet edecek şekilde özelleştirme sürecini planlayan analitik bir model sunulmuştur. Bu bağlamda, bu çalışmada kamuya ait elektrik üretim santrallerinin özelleştirilme süreci söz konusu şirketin kapasite azaltımı olarak ele alınmış ve bu süreci modelleyen bir Kapasite Azaltım Planlama Modeli (KAPM) geliştirilmiştir. Geliştirilen model ile kamuya ait elektrik üretim santrallerinin yıllar içerisinde kademeli olarak azaltımı/özelleştirilmesi yapılmaktadır. Model belirlenen kısıtlar altında hangi yılda

hangi santralin özelleştirilmesi ile ilgili kararı şirketin kârını gözetenek vermektedir. Öte yandan, model geriye kalan/özelleştirilmeyen kurulu güç ile şirketin yapmış olduğu uzun vadeli ikili anlaşmalardan kaynaklanan yükümlülüklerini yerine getirecek şekilde en uygun planı sunarak arz güvenliğini de göz önüne almaktadır. Dolayısıyla bu çalışma elektrik sektörünün serbestleştirilmesi adına önemli bir reform olarak kabul edilen özelleştirme sürecinin planlanması için işlevsel bir araç sunmaktadır.

Geliştirilen Kapasite Azaltım Planlama Modelinin etkinliğini değerlendirmek ve uygulanabilirliğini doğrulamak adına EÜAŞ'ın 2010-2020 yılları arasında sahip olduğu kurulu gücü ele alınarak bir örnek çalışma sunulmuştur. Söz konusu dönem için model sonuçları gerçekleşen özelleştirme süreci ile karşılaştırılmış ve sonuçlar modelin gerçekleşen özelleştirme kararları ile yüksek oranda tutarlı olduğunu göstermiştir. Özellikle kurulduğu günden bu yana şirketin kurulu gücünün büyük bir kısmını oluşturan Hidroelektrik Santraller (HES) için modelin önerdiği özelleştirme planı ile gerçekleşen durumun büyük oranda uyumlu olduğu görülmüştür. Böylece model bulunduğumuz yıl itibarıyla EÜAŞ mevcut kurulu gücü için çalıştırabilir ve geleceğe yönelik santral özelleştirmeleri şirketin kârını korurken, arz güvenliğini de tehlikeye atmayacak şekilde planlanabilir.

Tutarlılık analizinin yanı sıra, sunulan modelin Türkiye elektrik piyasasının serbestleşmesine katkısını değerlendirmek adına piyasa gücü ve rekabet analizi yapılmıştır. Literatürde sıklıkla kullanılan Piyasa Payı Endeksi, Herfindahl-Hirschman Endeksi (HHE), Arz Payı Tahlili (APT) ve Artık Tedarik Endeksi (ATE) analiz için tercih edilmiştir. Her bir endeks özelinde rekabetçi piyasaya erişim için kabul görmüş sınır değerleri baz alınarak piyasanın durumu ve EÜAŞ'ın piyasa gücüne sahip olup olmadığı değerlendirilmiştir. Endeksler 2010-2020 yılları için EÜAŞ'ın gerçekte sahip olduğu kurulu gücü ve modelin sunduğu kapasite azaltım planı neticesinde geriye kalan kurulu gücü için uygulanmış ve sonuçlar karşılaştırmalı olarak sunulmuştur. Kullanılan dört endekse göre de modelin önerdiği özelleştirme planının uygulanması halinde piyasanın daha erken yıllarda rekabetçi bir yapıya ulaştığı gözlemlenmiştir. Yapılan analizler de bu çalışmanın Türkiye elektrik üretim piyasasının rekabete dayanan bir yapıya ulaşması adına önemli bir hizmet sunduğu ortaya koyulmuştur.

Özetle, Türkiye elektrik üretim sektörünün rekabete dayalı serbest bir yapıya dönüşmesi adına EÜAŞ sahipliğindeki santrallerin özelleştirilmesi gerekmektedir. Bu doğrultuda, geliştirilen KAPM başta Türkiye elektrik üretim sektörü olmak üzere serbestleşme yolunda olan elektrik piyasalarındaki karar vericilere özelleştirme süreci hakkında rehberlik etmektedir. Ayrıca model, özelleştirme sürecinin bir parçası olan devlete ait işletmelerin mevcut kurulu gücünü kullanarak kârlarını maksimize eden bir üretim stratejisi geliştirmesine de olanak tanımaktadır. Bu yönüyle çalışma politika yapıcılara özelleştirme sürecini planlayan analitik bir araç sunarken, özelleştirme kapsamında olan şirketin kârını koruyacak şekilde geriye kalan kurulu gücü ile üretime devam edebileceği bir plan ortaya koymaktadır. Tüm bunlara ek olarak, model sayesinde yapılacak özelleştirmenin sonucu ve etkileri önceden öngörülebilmektedir.

Geliştirilen KAPM sadece kamu varlıklarının özelleştirme sürecine rehberlik etmekle kalmayıp gerek devletin gerekse bir veya birkaç şirketin sahip olduğu piyasa gücünü kısıtlamak için kapasite azaltımının gerekli olduğu durumlarda da önemli bir yol gösterici niteliğindedir. Öte yandan, model piyasada hâlihazırda var olan ve yeni girecek özel katılımcılara özelleştirilmesi planlanan enerji santrallerinin mülkiyetini elde etmeleri yönünde önemli yatırım sinyalleri sunmaktadır.

Kapasite genişletme planlaması gibi belirli problemler için genel modeller olmasına rağmen, kapasite azaltma planlaması için bir çerçeve bulunmamaktadır. Bu yönüyle de geliştirilen KAPM, azaltım kararları ile ilgili çalışmalara temel oluşturmaktadır. Bu bağlamda model yalnızca özelleştirme kararları için değil sektördeki herhangi bir şirketin küçülme kararı için de kullanılabilir olacaktır.

Gelecekteki çalışma planları arasında modelin ayrıntılı üretim planı sunacak şekilde geliştirilmesi yer almaktadır. Bununla birlikte, daha fazla santralin olduğu büyük sistemlerde daha uzun planlama süreleri için KAPM bir sonraki çalışmada uygulanacaktır. Ayrıca elektrik üretim piyasasında var olan diğer katılımcılarında dâhil edildiği ve oyun teorisi kapsamında kapasite artırma ve azaltma kararlarının birlikte ele alındığı bir model gelecek çalışmalar arasında yer almaktadır.

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8. Kaynaklar’da web sitelerine yapılan atıflar muhakkak, gün, ay, yıl olarak alındığı tarih itibariyle ve tam adresleriyle birlikte belirtilmelidir.

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