TÜRKİYE SOSYAL ARAŞTIRMALAR DERGİSİ
YIL: 26 SAYI 2 – Ağustos 2022
Makalenin Geliş Tarihi: 08.11.2019 Makalenin Kabul Tarihi: 28.10.2021 Sayfa: 369-380

HOW DID THE GLOBAL CRISIS AFFECT YOUTH UNEMPLOYMENT? A PANEL DATA ANALYSIS ON THE EUROPEAN REGION

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ABSTRACT

The 2008 global crisis, that had a profound impact on production and labour markets all over the world, had its negative effects on the European countries to a great extent after the United States. These impacts were even more negative for young people, one of the weakest links in the labour market. The object of this study is to dissect the effects of the global crisis on youth unemployment in 32 European countries for the period of 2000-2018 using panel data estimation methods. The study can be seen as a precursor since the studies on the subject are scarce and the content of the study is comprehensive. The empirical analyses reveal that the youth unemployment rate in Europe has had a positive shift of about 3.75 percentage points after the global crisis. Growth rate, inflation rate and trade openness have negative relationship with youth unemployment. Lastly, the research unearths that when analyzed on the basis of gender, young men are more impressed by the crisis than young women in the region.

Keywords: Global crisis, youth unemployment, Europe, labour markets, panel data analyses

KÜRESEL KRİZ GENÇ İŞSİZLİĞİNİ NASIL ETKİLEDİ? AVRUPA BÖLGESİ ÜZERİNE BİR PANEL VERİ ANALİZİ

ÖZ

Tüm dünyada üretim ve işgücü piyasaları üzerinde önemli etkileri bulunan 2008 küresel krizi negatif etkilerini Amerika Birleşik Devletlerinden sonra büyük ölçüde Avrupa ülkeleri üzerinde göstermiştir. Söz konusu etkiler, işgücü piyasasının en zayıf halkalarından olan genç bireyler açısından daha olumsuz olmuştur. Bu çalışmanın amacı küresel krizin genç işsizliği üzerindeki etkilerini 32 Avrupa ülkesi ve 2000-2018 dönemi için panel veri analizi yöntemini kullanarak analiz etmektir. Bu konuda literatürdeki çalışmalar oldukça sınırlı olduğundan ve çalışma ile konu kapsamlı biçimde ele alındığından, bu çalışma ilgili alanda öncü bir çalışma olarak görülebilir. Çalışma kapsamında gerçekleştirilen ampirik analiz, Avrupa'da genç işsizlik oranının küresel krizden sonra yaklaşık 3,75 yüzdelik puanlık pozitif bir değişim gösterdiğini ortaya koymaktadır. Büyüme oranı, enflasyon oranı ve dışa açıklık genç işsizliği ile olumsuz yönde bir ilişki sergilemektedir. Son olarak cinsiyete göre analiz edildiğinde, çalışma, bölgedeki genç erkeklerin krizden genç kadınlara kıyasla daha fazla etkilendiğini açığa çıkarmaktadır.

Anahtar Kelimeler: Küresel kriz, genç işsizliği, Avrupa, işgücü piyasaları, panel data analizi

INTRODUCTION

Youth unemployment is one of the major challenges for the world. Various countries, both developed and developing, have been facing this problem for many decades. The high density of young population in the total population, the limitations in the employment creation capacity of countries, the macroeconomic situation, the disadvantages of young individuals in entering the labour market (such as insufficient work experience and lack of financial resources) induce the relevant problem and make young people one of the weakest links in the labour market. Moreover, recession periods and financial crises trigger the general unemployment rates and aggravate the youth unemployment rates in many

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regions. Subject to the labour market's structure and the protection of employment, the dimension of which young workers are impressed by crises varies from country to country. In developing countries, which are often shaken by debt crises, the problem of youth unemployment becomes more severe and it is observed that a significant portion of the young population in the relevant countries are struggling with this problem. Another issue that should be underlined when discussing the youth unemployment problem is the youth who are neither in education nor in employment (NEET). NEET rates remain high in many countries regardless of the level of development, but as mentioned earlier, it is also striking that the related rates are higher in developing countries, which are often hit by crises. When the problem is analyzed in terms of gender, it is seen that women exhibit higher NEET rates compared to men. The statistics of OECD and ILO confirm the relevant situation (OECD, 2018, OECD, 2019 and ILOSTAT 2019). Although many factors seem to be effective in explaining the gap, gender-based discrimination and segregation are the primary factors that create this gap (EUROSTAT, 2019b).

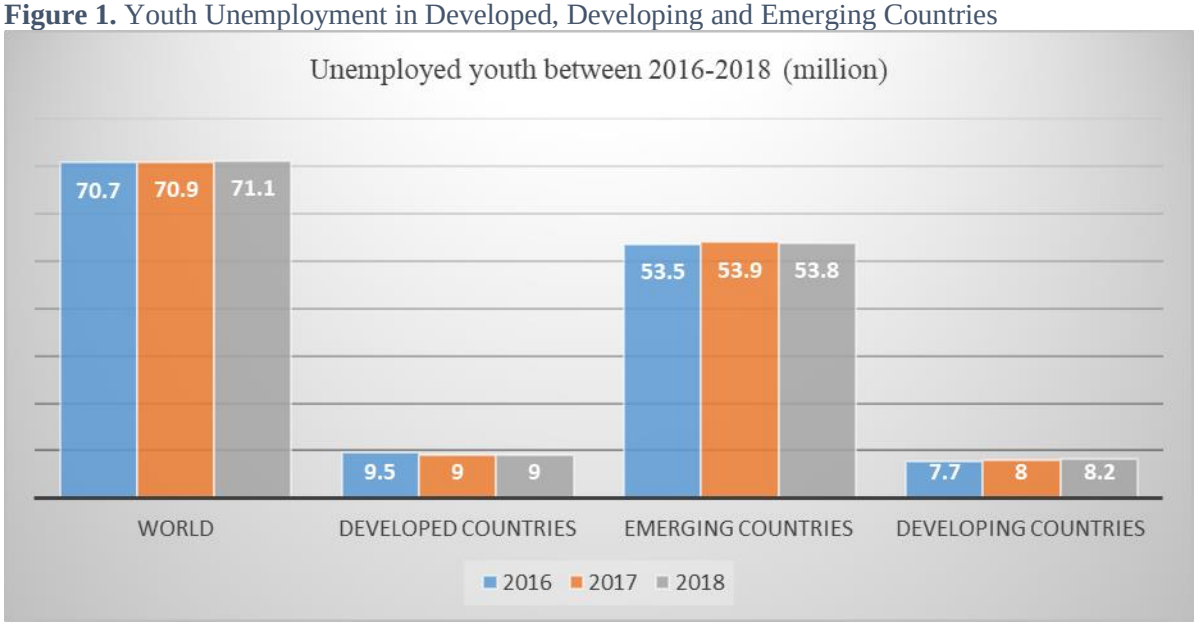
As is known, the 2008 global crisis that broke out in the United States of America and then spread around the world had a negative impact on production and employment in many countries. European countries are also among the countries most affected by the global crisis. Although European countries are the countries highly influenced by the crisis, the studies examining the impulse of the global depression in terms of unemployment of youth in the region are scarce in the literature. The target of this study is to dissect the impress of the global depression on youth unemployment in 32 European countries by panel data estimation methods for the period of 2000-2018. For this purpose, the study first examines the determinants of young unemployment and the situation of young unemployment in the global context in recent years. The studies related to the subject are mentioned in the literature review section. The following section includes the details of the empirical analysis. The study concludes with the results and discussion section.

OVERVIEW OF YOUTH UNEMPLOYMENT IN GLOBAL CONTEXT

The determinants of youth unemployment are several. Strength of the economy is one of the substantial determinatives of youth unemployment. High level of aggregate economic activity and high level of adult employment positively impact on youth employment. Youth employment is very sensitive to macroeconomic conditions, as it shows increase in boom periods and reduces in recession periods. The ratio of young people in the population is the other important determinant. According to the analysis of Freeman and Wise, the high proportion of the young population in the total population increases youth unemployment and causes the wages of young workers to be lower than adult wages. Moreover, the analysis determines that increases in minimum wages make young workers expensive and reduce youth employment. Hence high minimum wage can be considered as another determinant. Background characteristics also affects youth employment. It is revealed that children of poor families have less chance of employment than those of wealthy families, similarly blacks are employed less than whites. Besides, academic performance and labour market experiences in high school positively impact on youth employment (Freeman and Wise, 1981, p.3). Less work experience is a significant challenge for youth in labour markets because employers tend to hire employees with past experience. Thus, the fact is a major disadvantage for a young person who is introduced to the business world for the first time. Lack of financial resources is the other factor that makes it tough for young people to articulate the labor market (ILO, 2006, p.19).

Global youth unemployment rate has been on an upward trend in the last years. ILO asserts that the rate is slightly risen to 13,1% in 2018. Further, statistics show that unemployed youth have increased more in developing countries than in developed countries in recent years (Figure 1).

Figure 1. Youth Unemployment in Developed, Developing and Emerging Countries



(Source: ILO, 2017, p.15) (*2008 figures are ILO estimates)

In the global context, the rate of youth unemployment is three times more than the rate of adult's. It is asserted that the rates of youth unemployment increased rapidly than adult unemployment rates in more than half of the analyzed regions. South Eastern Asia and the Pacific is the leading region in this context as mentioned rates are five times more than the adult unemployment rates in 2017. The ratios in Arab States and Southern Asia are respectively 4,5 and 3,9 in 2017, thus these two regions are the secondary and tertiary in the relevant aspect (ILO, 2017, p.16).

As mentioned earlier, youth unemployment is also an important problem for developed regions. Eurostat data reveals that unemployment rate for age class; 15-24 years is 15,2% while it is 6,1% for age class; 25-64 years in 2018 for EU-28 countries. In other words, the rate of youth unemployment is more than twice of the rate of adult's in EU nowadays (EUROSTAT, 2019a). Several European countries face the affair of youth unemployment, which has increased particularly in the last decades. Hernanaz and Jimeno emphasize that the Great Recession and European debt crisis had overpowered on youth unemployment rates in European countries (2017, p.4). Putun determines that, youth unemployment in southern countries of EU and in some countries like Ireland is above the tolerable level and endangers social peace. Social upheavals, protests underline the need for serious regulations in the relevant field (2017, p.116).

When examining youth unemployment, it is necessary to point out the NEET indicator; the ratio of youth in neither in education or training and nor in employment. This indicator is important for young people to identify the difficulties they face when looking for a job because it includes those who are not looking for work and those who are not actively employed (Valle et.al., 2015, p.33-34). NEET rates are disappointing in several countries regardless of development level. OECD average in terms of NEET is 14,5%, however, many countries exhibit higher NEET rates (Table 1).

Table 1. Percentage of 18-24 Years Old Neither in Education nor in Employment in 2017

Countries	NEET
Canada	12,2
Denmark	12,7
United Kingdom	13,6
United States	14,1
France	18,7
Spain	20,9

Mexico	22,1
Greece	23
Italy	26,6
Turkey	31,1
OECD average	14,5

(Source: OECD, 2018, p.66)

Females exhibit higher NEET rates in most of the world, thus gender gap is substantial in terms of NEET worldwide. Eurostat and OECD data reveal considerable difference between male and female in terms of NEET. According to the EUROSTAT data 20,9% of young women (whose ages are between 20-34) in the European Union were NEET's while 12,2% of young men in the EU were NEET's. Several factors can be attributed to the gap like social pressures (that put women into household and men into business), gender discrimination and segregation in labour markets (EUROSTAT, 2019b). OECD data reveals that Mexico and Turkey exhibits very high gender gap in terms of NEET rates especially for the youth between 20-24 years. NEET rate for 20-24 year old men is respectively 8,02% and 18,73% in Mexico and Turkey, however the same rate is respectively 39,15% and 47,13% for 20-24 year old women in the same countries as of 2017 (OECD, 2019).

LITERATURE REVIEW

Sironi investigated the economic status of young adults ahead of and following the 2008 crisis in five divergent countries; United States, United Kingdom, Norway, Germany and Spain and revealed that young men suffered more from the crisis. The economic conditions of young men deteriorated more when compared with young women. Since the services sector, where women's employment is concentrated, is less influenced by the crisis, women are less impressed by the crisis than men. The impact of global crisis on states having generous welfare state (like Norway) and strong vocational educational system (like Germany) were limited according to the study. The other outstanding finding of the study is that the group with high education significantly suffered from the crisis due to the probability of being low-paid (2018: 103-114).

Junankar studied on the youth labor market and its reply to global financial crisis in Australia and determined that young labour market was more volatile than the adult labour market. According to his study, young people were more impressed by the crisis because they were more concentrated in sectors sensitive to cyclical changes and part-time casual employment. In the event of crisis, young people were more disadvantaged because they were employed vulnerably and vulnerable workers were fired more quickly. The study also unearthed that the youth unemployment rates scaled up notably more than that of adults despite the wages of youth had been decreasing relative to wages of adult (2014: 2-26).

Choudhry et.al. tried to investigate the influence of financial depressions on labour market exclusion of youth's by using fixed effects panel model estimation technique. They focused on several countries (around 70) during 1980-2005 period. The fundamental outcomes of their econometric estimates are as follows; financial depressions significantly impress on the unemployment rate ahead of the effect arising from GDP variances and secondly, the impact on youth unemployment is higher than the impact on aggregate unemployment. Moreover, the impact is greater in high-income countries. The outcomes also unearth that the impacts are occured in the five years succeeding the outbreak of the depression and the most negative effects comprise in the second and the third year following the depression (2012: 76-87).

Bruno et.al. researched the impress of financial depressions on the rate of youth unemployment comparatively with aggregate unemployment rate in OECD countries during 1981-2009 period. They used bias-corrected dynamic panel data estimators of short- and long-run coefficients. The substantial finding of their econometric analyze is that financial crisis has large and statistically significant effect on the rate of youth unemployment likewise in the short and long run. By comparison with the overall unemployment rate; it is deduced that the impact is higher for youth unemployment. The impact is 1.9

times higher concerning the short-run and between 1.5 and 1.7 times higher concerning the long run (2017: 3372-3384).

Demidova and Signorelli (2010) tried to estimate the impact of 1998 and 2008 crises concerning youth unemployment occured in several Russian regions. Their analysis was based on the panel of 78 Russian regions during 1997-2008 period. Their results showed that huge regional differences in terms of general unemployment and youth unemployment was prevalent in the country, as the development level of the region increases, the general and youth unemployment rate decreases. The first crises (1998-1999) created more serious consequences in terms of youth unemployment than general unemployment. South and Siberian federal districts are more disadvantaged in terms of general unemployment and youth unemployment. Due to the fact that the necessary data for 2009 could not be reached exactly, the analysis after the global crisis could not be performed. However, national statistics assert that the impact of second crisis has been significant especially on the unemployment of youth.

Marelli et.al. (2013) studied on the influence of institutions and policies on youth and total unemployment for developed countries in the last three decades by using fixed effect panel analysis. They concluded that beside the economic growth, reforms of labour market, economic freedom, a significant ratio of part time employment, active labour market policies alleviate unemployment. As young people are in more difficult conditions compared to the elderly, the relevant factors have a more positive impact on unemployment of youth.

Bruno et.al. (2014) explored the influence of recent depression on the NEET rate and youth unemployment rate in EU by using Employing Generalized Method of Moments (GMM) as well as bias-corrected Least Squares Dummy Variables (LSDV) dynamic panel data estimators. They revealed that NEET rates are robust and the stated robust increased during the depression years (2009-2010). According to their findings; southern regions have the highest persistence of NEET rates and have smallest answer to changes in GDP. Continental and Northern regions hosted best operating labour markets both during and afterwards the crisis (2009-2011) while Southern region and New EU member states hosted the worst performing labour markets. The performance of Anglo-Saxon regions was intermediate (592-613).

O'Higgins investigated the influence of the Great Recession (2008 crisis) on youth in terms of labour market experiences in the European Union by applying cross-section and time-series rolling regression models. It is concluded with the study that the recession hit young people hardly in the region, additionally, long-term unemployment among youth increased more than adults. During the recession, temporary employment of young people increased, and even in some countries, it was the only form of employment for youngs. This situation is worrying for youth, as the cross-section and time series analyses unearth that youth employment deprivation due to recession reduced in countries having strong Employment Protection Legislation (EPL), not the weak EPL (2012:395-410).

MATERIAL AND METHOD (DATA SET AND EMPIRICAL ANALYSIS)

In the analysis we use panel data estimation methods. Prior to the estimation process, we investigate for the stationarity of the variables. In panel data literature, two types of unit-root tests are applied for cross-sectionally dependent and independent variables. In order to make this distinction, we first apply cross-section dependence test.

Data

In the empirical analysis, we examine the determinatives of youth unemployment with a balanced panel constructed with annual data from 32 countries in Europe for the period 2000-2018. The cross-section dimension of the panel consists of 28 EU countries, 3 EFTA members (Liechtenstein is excluded for missing data and extreme value issues) and Turkey. Using the panel data set, we estimate three models for female, male and the total youth unemployment rates (FYUR, MYUR and TYUR respectively) as the dependent variables. ILOSTAT (2019) defines the rate of youth unemployment as the proportion of the number of persons who are unemployed to the total population

for those between 15-24 ages. GDP growth rate (GRO) is defined as the annual growth rate of the chain linked volumes indices of which the base year is 2010. Inflation rate (INF) is the annual change of the 2015 based consumer price indices. Trade openness (TO) is derived as the total of the exports and the imports of goods and services as a percentage of GDP. Data for the youth unemployment rates are taken from the International Labour Organization (ILO). GDP growth, inflation rate and the components of the trade openness data (exports, imports, GDP) are obtained from EUROSTAT (2019c).

Evaluating Cross-sectional Dependence

Concerning panel data analysis, ordinary least squares (OLS) estimators that don't take cross-sectional dependence into account are known to be inconsistent. Thus, cross-sectional dependence has to be tested before the analysis (Hsiao, 2014). For this purpose, we apply a Lagrange Multiplier (LM) test recommended by Breusch and Pagan (1980) and also Pesaran's cross-section dependence (Pesaran-CD) test (Pesaran, 2004). In both tests, the null hypothesis of no cross-section dependence is rejected which indicates that all the variables have cross-sectional dependence (Table 2).

Table 2. Cross-Sectional Dependence Test Results

	Breusch-Pagan LM Test		**Pesaran-CD Test**	
Variables:	***Test Statistic***	***Probability***	***Test Statistic***	***Probability***
Youth unemployment rate (total)	2237.5130	≈0.00	22.9959	≈0.00
Youth unemployment rate (male)	2153.5630	≈0.00	23.5918	≈0.00
Youth unemployment rate (female)	2055.7700	≈0.00	19.6361	≈0.00
Growth Rate	3945.6730	≈0.00	59.6019	≈0.00
Inflation	3075.5160	≈0.00	49.0316	≈0.00
Trade Openness	5125.8830	≈0.00	65.4785	≈0.00

Unit Root Tests

As the cross-section dependence tests strongly prove that the cross-section units are not independent, we apply the unit root tests assuming individual unit root processes. For this purpose, Pesaran (2007) proposes two testing procedures. First of them is a cross-sectionally augmented ADF test (CADF-CIPS), which is a modified version of IPS test, proposed by Im, Pesaran and Shin (Im, Pesaran and Shin, 2003). The second test (Fisher-CADF) is a Fisher-type test based on the Maddala and Wu (1999) ADF test. In the analysis, we use both CADF-CIPS and Fisher-CADF tests which both use the null hypothesis of unit root for cross-section units. Table 3 reports the test results showing none of the variables have unit roots.

Table 3. Unit Root Test Results

	CADF-CIPS		**Fisher-CADF**	
Variables:	***Test Statistic***	***Probability***	***Test Statistic***	***Probability***
Youth unemployment rate (total)	-4.4041	≈0.00	112.2700	0.0002
Youth unemployment rate (male)	-3.5097	0.0002	98.9751	0.0033
Youth unemployment rate (female)	-3,7196	0.0001	100.1680	0.0026
Growth Rate	-7.4683	≈0.00	170.232	≈0.00
Inflation	-6.3261	≈0.00	149.879	≈0.00
Trade Openness	-3.5105	0.0052	105.809	0.0008

Models and Estimation

As all the variables are found to be stationary, the coefficient estimates of the following models can give us long-term information about the determinants of the youth unemployment rates and the impacts of the global depression on it:

Youth Unemployment Rate (female):

$$FYUR_{it} = \alpha_{1i} + \beta_{11}GRO_{it} + \beta_{12}INF_{it} + \beta_{13}TO_{it} + \gamma_1 D08_t + \varepsilon_{1it} \quad (1)$$

Youth Unemployment Rate (male):

$$MYUR_{it} = \alpha_{2i} + \beta_{21}GRO_{it} + \beta_{22}INF_{it} + \beta_{23}TO_{it} + \gamma_2 D08_t + \varepsilon_{2it} \quad (2)$$

Youth Unemployment Rate (total):

$$TYUR_{it} = \alpha_{3i} + \beta_{31}GRO_{it} + \beta_{32}INF_{it} + \beta_{33}TO_{it} + \gamma_3 D08_t + \varepsilon_{3it} \quad (3)$$

where $FYUR_{it}$, $MYUR_{it}$ and $TYUR_{it}$ are the female, male and total youth unemployment rates in country i, in year t respectively. GRO_{it}, INF_{it} and TO_{it} are the independent macroeconomic variables indicating GDP growth rate, CPI based inflation rate and trade openness. $D08_t$ is a dummy variable indicating the global crisis in 2008 that takes the value of zero until 2008 and one afterwards. As seen in the correlation matrix (Table 4) independent variables in the models are not highly correlated.

Table 4. Correlation Matrix of the Independent Variables

	GRO	INF	OPEN
GRO	1	0.09113	0.1297
INF		1	-0.1436
OPEN			1

The models are estimated by random effects model with a balanced panel of 32 European countries over the period 2000-2018. Estimation results are summarized in Table 5. In Model 1, Model 2 and Model 3, dependent variables are female, male and total youth unemployment rates respectively. Estimation results show that the growth and inflation rates both have inverse relationships with youth unemployment. Yet, the inverse relationship between inflation rate and youth unemployment is not significant for male youth unemployment model. Trade openness also has, as expected, negative relationship significant in all three models. Dummy variable that is used for reflecting the shift led by the 2008 global crisis has positive and significant impact in all three models. The coefficient of the dummy variable in model 3 indicates that youth unemployment rate in Europe has had a positive shift of about 3.75 percentage points after the global crisis. When we focus on the coefficients of the dummy variable in models 1 and 2, it is clear that the global crisis in 2008 has led to a larger shift on the unemployment rate of the young male labour force than of the young female labour force.

Table 5. Random Effects Model Estimates

	Model 1 (female youth unemployment)	Model 2 (male youth unemployment)	Model 3 (total youth unemployment)
Constant	24.334***	23.0085***	23.6903***
	(2.1964)	*(2.0405)*	*(2.094)*
Growth Rate	-0.2266***	-0.4366***	-0.3446***
	(0.0816)	*(0.0967)*	*(0.0864)*
Inflation Rate	-0.1512***	-0.0452	-0.0878**
	(0.0347)	*(0.0435)*	*(0.0388)*
Trade Openness	-0.0512***	-0.046***	-0.0495***
	(0.0121)	*(0.0136)*	*(0.0128)*
Dummy for 2008 crisis	2.8295***	4.5166***	3.7553***

	(0.5393)	*(0.5926)*	*(0.555)*
Number of Observations:	*608*	*608*	*608*
R^2*:*	*0.1054*	*0.1774*	*0.1494*
F-statistic:	*17.7672****	*32.5153****	*26.4881****

*Note: Robust standard errors are given in parentheses. *, ** and *** specify significance at 10%, 5% and 1% respectively.*

RESULTS AND DISCUSSION

Youth unemployment is an affair that the entire world is struggling with today. As total economic activity is one of the factors that directly affect youth unemployment, financial crises directly affect youth unemployment. And youth unemployment problem is deeper in fragile economies that are often shaken by financial crises. As it is known, the global crisis that started in the United States of America in 2008 and then affected the whole world significantly affected European countries. EUROSTAT also confirms that youth unemployment in the region is more than twice of the level of adult unemployment nowadays (EUROSTAT, 2019). It has also been verified by academic studies (such as; Putun, 2017) that the relevant problem, especially in the southern parts of Europe, has exceeded the tolerable level and caused social unrest and problems in the recent years.

In the study, the prominent determinants of youth unemployment in the European region, principally the influence of the global depression which is highly impressed by the global crisis, are analyzed within a panel data analysis framework for the period 2000-2018. In this context, 32 countries; 28 EU and 3 EFTA member countries (Liechtenstein is excluded for missing data and extreme value issues) and Turkey are included in the analysis. Youth unemployment rate in Europe is analyzed not only for the total population, but also for the female and the male youth population particularly. Prior to the panel estimation of the youth unemployment model, cross-sectional dependency and stationarity of the variables are tested, in order to be sure that the model offers long term information. The model is estimated by random effects model.

The results of the analysis revealed that youth unemployment is affected negatively by economic growth, inflation rate and trade openness. In the study, it is unearthed that the dummy variable reflecting the shift led by the 2008 global crisis has positive and statistically significant impact in all three models. The findings of the analysis determine that youth unemployment rate in Europe has had a positive shift of about 3.75 percentage points after the global crisis. Moreover, when the analysis is investigated on the basis of gender, it is observed that young men are more impacted by the global crisis than young women in the research region.

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Uzun Öz

Genç işsizliği tüm dünyanın karşı karşıya olduğu önemli bir sorundur; hem gelişmiş hem de gelişmekte olan ülkeler ilgili sorunla farklı seviyelerde mücadele etmeye çalışmaktadırlar. Resesyon dönemleri ve finansal krizler tüm dünyada işgücü piyasalarını derinden etkilemekte, genel anlamda işsizlik sorununu büyütmektedir. İşgücü piyasasının zayıf halkalarından biri olan gençler de özellikle yaşadıkları ülkede istihdamın yapısına bağlı olarak ilgili konjonktürel hareketlerden önemli ölçüde etkilenmektedirler, ancak söz konusu etkinin boyutunun ülkeden ülkeye değişkenlik gösterdiğini de belirtmek gerekir. Uluslararası Çalışma Örgütü verilerinin de ortaya koyduğu üzere bugün dünyada genç işsizliği yetişkin işsizliğinin üç katından fazladır ve pek çok bölgede yetişkin işsizliğinden daha

hızlı artış gösterme eğilimindedir. İlgili işsizlik türü bilhassa yükselen ekonomilerde daha yaygındır; uluslararası verilerin ortaya koyduğu üzere 2017 yılında yükselen ekonomilere ev sahipliği yapan Güneydoğu Asya ve Pasifik bölgesinde genç işsizliği yetişkin işsizliğinin beş katı seviyesindedir (ILO, 2017, s.16). Toplam nüfus içinde genç nüfus yoğunluğunun fazlalığı, ülkelerin istihdam yaratma kapasitelerindeki sınırlılıklar, makroekonomik durum, genç bireylerin işgücü piyasasına girişte sahip olduğu dezavantajlar (yetersiz iş tecrübesi ve finansal kaynakların azlığı gibi) ilgili sorunu körüklemekte, gençleri işgücü piyasasının en zayıf halkalarından biri haline getirmektedir. Diğer yandan altı çizilmelidir ki, genç işsizliği sadece gelişmekte olan coğrafyalar için değil, gelişmiş coğrafyalar için de önemli bir tehdit unsuru haline gelmiştir. Yakın zamanda öncelikle Amerika Birleşik Devletleri'nde patlak veren ve ardından Avrupa başta olmak üzere tüm dünyaya hızla yayılan 2008 küresel krizi hem üretimi hem de istihdamı küresel ölçekte önemli ölçüde etkilemiştir. Makroekonomik koşullara önemli ölçüde duyarlı olan genç işsizliği de söz konusu krizden büyük ölçüde etkilenmiştir, zira literatürde de yer aldığı üzere genç istihdamı ekonominin canlanma dönemlerinde artış, daralma dönemlerinde hızlı düşüş gösteren bir istihdam türüdür. İşte Amerika Birleşik Devletleri'nden sonra küresel krizden en fazla etkilenen bölgelerden biri olan Avrupa bölgesinde kriz, genç işsizliğini önemli ölçüde etkilemiş, küresel krizle beraber gelen resesyon ve Avrupa Borç Krizi genç istihdamına önemli sekte vurmuş, genç işsizliğini tırmandırmıştır. Özellikle Avrupa'nın güney bölgelerinde ve İrlanda'da hızla artış gösteren genç işsizliği sosyal huzuru tehdit eder hale gelmiş, gerginlikleri ve protestoları artırmıştır (Hernanaz and Jimeno, 2017, s.4 & Putun, 2017, s.16). Genç işsizliğini irdelerken dikkate alınması gereken önemli bir gösterge de ne eğitimde ne de istihdamda olan gençlerin oranını gösteren NEET göstergesidir. NEET oranı gelişmişlik düzeyine bakılmaksızın pek çok ülke açısından hayal kırıklığı yaratacak düzeydedir. Birçok Avrupa ülkesi için ilgili oran son yıllarda %20'lerin üzerinde seyretmektedir, Türkiye için ise ilgili oran %30'ların üzerindedir. Dünyanın önemli kısmında genç kadınların NEET oranlarının genç erkeklerden daha yüksek olması ise ayrıca incelenmesi gereken bir husustur. Literatürde 2008 küresel krizinin istihdam üzerindeki etkilerini irdeleyen çalışmalar bulunmakla birlikte, söz konusu krizin genç işsizliği üzerindeki etkilerini geniş kapsamda irdeleyen çalışmalar oldukça sınırlıdır. Bu çalışmanın amacı küresel krizin, krizden en çok etkilenen coğrafyalardan biri olan Avrupa bölgesi üzerindeki etkilerini panel veri yöntemini kullanarak detaylı biçimde analiz etmektir. Çalışmanın ampirik analiz bölümünde Avrupa ülkelerindeki genç işsizlik oranının 2000-2018 dönemindeki gelişimi incelenmiştir. Cinsiyete dayalı farklılaşmanın da incelenmesi amacıyla toplam genç işsizlik oranının yanı sıra kadın ve erkek genç işsizlik oranlarının bağımlı değişken olduğu üç farklı model oluşturulmuştur. Her bir modelde ülkelere ait büyüme oranları, enflasyon oranları ve dışa açıklık oranları açıklayıcı değişken olarak kullanılmıştır. Tahmin aşamasında kullanılan panel veri seti 32 Avrupa ülkesine ait 2000-2018 dönemi yıllık verilerini içeren bir dengeli panelden ibarettir. Veri setini oluşturan ülkeler 28 Avrupa Birliği (AB) ülkesi, 3 Avrupa Serbest Ticaret Birliği (EFTA) ülkesi ve Türkiye'dir. Çalışmada kullanılan genç işsizlik oranı verileri Uluslararası İş Örgütü (ILO) veri tabanından, büyüme oranları, enflasyon oranları ve dışa açıklık oranı bileşenleri (ithalat, ihracat ve GSYH) ise EUROSTAT veri tabanlarından alınmıştır. Belirtilen veri kaynaklarında genç işsizlik oranı değişkeni 15-24 yaş aralığındaki toplam nüfus içinde çalışmayan nüfusun oranı olarak, büyüme oranı 2010 baz yılına sahip zincirlenmiş hacim endeksi değişim oranı olarak, enflasyon oranı ise 2015 bazlı tüketici fiyat endeksi değişim oranı olarak tanımlanmıştır. Dışa açıklık oranı verisi ise mal ve hizmet ihracatı ve ithalatının GSYH'ye oranı olarak tarafımızdan türetilmiştir. Panel veri analiz yöntemleriyle modeller tahmin edilmeden önce Breusch-Pagan LM testi ve Pesaran-CD testi ile değişkenlerin yatay kesit bağımlılık durumları incelenmiştir. Test sonuçlarında birimler (ülkeler) arasında yatay kesit bağımsızlığı söz konusu olmadığı tespit edilmiş ve değişkenlerin durağanlıklarının incelenmesinde bu durumu göz önüne alan CADF-CIPS ve Fisher-CADF testleri uygulanmıştır. Birimler arası bağımlılığı göz önünde bulunduran bu testlerde tüm değişkenlerin durağan olduğu sonucuna ulaşılmıştır. Belirtilen değişkenlerin yanı sıra 2008 küresel krizinin neden olduğu yapısal kırılmanın incelenmesi amacıyla modellere eklenen kukla değişken kullanılarak kadın, erkek ve toplam genç işsizlik oranlarına ilişkin rastsal etki modelleri tahmin edilmiştir. Tahmin sonuçlarında her üç modelde de büyüme oranları, enflasyon oranları ve dışa açıklık oranlarının genç işsizlik oranıyla ters yönlü ilişkide olduğu görülmektedir. Bununla birlikte, enflasyon oranının erkek genç işsizlik oranı üzerindeki ters yönlü etkisi istatistiksel olarak anlamlı değildir. Yapılan analizde küresel kriz etkilerini temsil eden kukla değişkenin her üç modelde de

istatistiksel olarak anlamlı olduğu görülmüştür. Buna göre Avrupa'da toplam genç işsizlik oranı küresel krizden sonra yaklaşık 3,75 yüzdelik puanlık bir artış sergilemiştir. Konu toplumsal cinsiyet bağlamında irdelendiğinde ise, genç erkek nüfusun küresel krizden genç kadın nüfusuna kıyasla daha olumsuz etkilendiği ortaya çıkmaktadır.