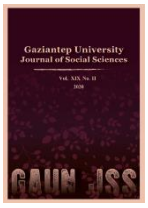

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The Causal Relationship Between Tax Revenues and Economic Growth in OECD Countries

OECD Ülkelerinde Vergi Gelirleri ile Ekonomik Büyüme Arasında Nedensellik İlişkisi

Suna KORKMAZ[a] Musa BAYIR[b] Hüseyin GÜVENOĞLU[c]*

[a] Prof. Dr., Bandırma Onyedi Eylül University, Faculty of Economics and Administrative Sciences, Department of Economics, Bandırma-Balıkesir / TURKEY
ORCID: 0000-0001-6221-2322
[b] Assoc. Prof. Dr. Bandırma Onyedi Eylül University, Faculty of Economics and Administrative Sciences, Department of Economics, Bandırma-Balıkesir/ TURKEY
ORCID: 0000-0002-6877-4032
[c] Asst. Prof. Dr., Bandırma Onyedi Eylül University, Faculty of Economics and Administrative Sciences, Department of Economics, Bandırma-Balıkesir / TURKEY
ORCID: 0000-0002-5220-3657

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ÖZ

Hükümetler ulaşmak istedikleri ekonomik amaçlara ulaşmak için çeşitli politikalar uygulayabilmektedir. En sıklıkla başvurdukları politikalar arasında para ve maliye politikaları yer almaktadır. Maliye politikaları arasında vergiler önemli bir politika aracı olarak yer almaktadır. Toplanan vergilerden elde edilen vergi gelirleri kamu tarafından yapılan harcamaların finansmanında kullanılmasının yanında ekonomik hedeflere ulaşmada da kullanılan maliye politikası aracı olarak önem taşımaktadır. Politika yapıcıların ekonomik büyüme hedefine ulaşmak için uyguladığı maliye politikası araçlarından biri de vergi gelirleridir. Vergi gelirlerinde meydana gelen değişmeler çeşitli kanallar üzerinden doğrudan veya dolaylı olarak ekonomik büyümeyi etkileyebilmektedir. Çalışmada, rassal olarak seçilen 9 OECD ülkesinde (Fransa, Almanya, Yunanistan, Macaristan, İtalya, Polonya, İspanya, Türkiye ve Birleşik Krallık) 2010-2019 dönemine ait yıllık verilerle, vergi gelirleri ile ekonomik büyüme arasında ilişki olup olmadığı panel nedensellik testi ile araştırılmıştır. Panel nedensellik testi sonucunda vergi gelirlerinden ekonomik büyümeye doğru tek yönlü bir nedensellik ilişkisi olduğu tespit edilmiştir.

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ABSTRACT

Governments can implement various policies to achieve the economic goals they want to achieve. Among the policies they most often apply to are monetary and fiscal policies. Among fiscal policies, taxes are an important policy tool. Tax revenues are one of the fiscal policy tools that policymakers apply to achieve the goal of economic growth. Changes in tax revenues can directly or indirectly affect economic growth through various channels. In this study, randomly selected in 9 OECD countries (France, Germany, Greece, Hungary, Italy, Poland, Spain, Turkey and United Kingdom) with annual data from the period 2010-2019, were investigated to find the relationship between tax revenues and economic growth using panel causality test. As a result of the panel causality test, it was determined that there is a unidirectional causality relationship from tax revenues to economic growth.

* *Sorumlu yazar/Corresponding author*.

e-posta: hguvenoglu@bandirma.edu.tr

Introduction

The main objectives of economic policies include various economic elements such as economic growth, price stability, full employment, balance of payments, budget balance, and fairness in income distribution. An important part of the economic policies used to achieve these goals is fiscal policy. In fact, the adoption of fiscal policy as a means of intervention in the economy is based on the World Economic Depression of 1929. Until this period, the economic literature took shape in accordance with the views of the Classics. However, the inability of classical economic views to produce a solution in the face of economic and social negatives experienced in the Economic Crisis of 1929 led to the popularization of Keynesian economic views. One of the differences between Classics and Keynesians is the principle of whether the state should interfere in the economy. While the Classics do not accept any external intervention in the economy, Keynesians argue that the achievement of full employment level in the economy will occur when the state intervenes in the economy and takes an active role in the economy. Accordingly, Keynesians claimed that the exit from the Economic Crisis of 1929 was possible with an increase in aggregate demand. For this, they stressed that fiscal policy is needed and mandatory.

Fiscal policy instruments used by the public authority as an economic policy instrument are basically expressed in the form of public expenditures, taxes and public borrowing (El-Khouri, 2002, p. 201; Tanzi 2006, p. 2; Ocran, 2011, p. 2; Ebimobowei, 2010, p. 39). Governments are trying to achieve their goals by implementing a fiscal policy that widens or narrows, taking into account economic and financial conditions.

Economic activities of the public sector, more specifically decisions about public expenditures and public revenues, have a very strong effect on the behavior of economic units. For this reason, public spending and tax and borrowing policies, which are the source of funding for these expenditures, are very important (Abata et al., 2012, p. 76). It is known that one of the most important financial instruments used in achieving the set goals of fiscal policy is taxes. Because taxes have the largest share among public revenues (Juhandi et al., 2019, p. 21). Another financial tool among public revenues is public borrowing, which is not much preferred by politicians. The reason for this is that borrowing has an increasing effect on borrowing costs and, accordingly, can lead to the exclusion of private investment in the economy. Thus, increases in public borrowing levels can have a negative impact on economic growth (Gale and Samwick, 2014, p. 11).

Economic growth has a very important place among the goals of fiscal policy. Because ensuring economic growth both increases the level of production in the economy and therefore the level of income created, and has a positive effect on other important indicators in the economy. For this reason, the relationship between taxes, which occupy an important place among the instruments of fiscal policy, and economic growth, which is among the main goals of fiscal policy, has been a very interesting topic in the economic literature. When the economic literature is examined, it is seen that the relationship between tax policy and economic growth is evaluated more within the framework of the Neoclassical growth model and the internal growth model.

In the Neoclassical growth model developed by Solow (1956), it was suggested that countries would reach a stable equilibrium level in the long term. In addition, factors that have long-term effects on the level of output measured by gross domestic product (GDP) are marked as population growth and technological developments.

Accordingly, the change in physical and human capital inputs and their efficiency have an impact on economic growth in the long term. In this context, the fiscal policy implemented by the public sector and therefore the tax policies of the public do not have any effect on economic growth in the long term. However, applied tax policies can have an impact on economic growth in the short term by revealing various changes in labor, investments and savings. Yet this effect is temporary. In the Neoclassical growth model developed by Solow (1956), tax policies are not expected to have any long-term impact on economic growth (Solow, 1956).

In internal growth models, emphasis is placed on the importance of the state's place and share in the economic system. In these models, economic growth is affected by internal (endogenous) factors such as fiscal policies applied instead of external factors, rational decisions of economic units, human capital accumulation. At this point, the role of the state and its share in the system are important for economic growth. The model states that the state can use various fiscal instruments, such as spending and tax policies, to be able to influence economic growth. Countries can mobilize the dynamics that will trigger economic growth by increasing government spending or lowering tax rates. Economic developments in which fiscal policy will support economic growth can be evaluated under various headings. Accordingly, these policies can produce some results that will increase economic growth, such as encouraging R&D spending and technology transfer, providing qualified services in education and health, and protecting property rights. In addition, changes in public spending or tax rates allow economic units to review their decisions such as consumption, savings and investment. These above mentioned changes can directly or indirectly affect economic growth through various channels. In internal growth models, it is argued that the stable growth rate over a long period is determined by the accumulation of reproducible capital. For this reason, public expenditures and tax policies that will be implemented play a role in determining the course of economic growth by affecting the accumulation of physical and human capital in the long term (Romer, 1986-1990; Lucas, 1988; Barro, 1996).

Financial instruments such as public expenditures and tax policies used within the framework of fiscal policy in internal growth models can positively or negatively affect economic growth in line with the effects they will have on physical and human capital inputs. At this point, the tax policies applied are classified as disruptive taxes and non-disruptive taxes according to their impact on economic growth (Benos, 2009, pp. 2-3). Disruptive taxes cover direct taxes levied on income and wealth. Such taxes can negatively affect economic growth by reducing the desire of economic units to invest in physical and human capital. Non-disruptive taxes include taxes levied on expenses, which are, in other words, indirect taxes. These taxes, on the other hand, can have a positive impact on economic growth, since it is assumed that they will not have an impact on the decisions that economic units will make on investment (Chugunov and Pasichnyi, 2018, p. 55).

Literature Review

The relationship between taxes and economic growth, which is one of the instruments of fiscal policy, is one of the subjects that has an important part in the economic literature. The fact that the tax systems, economic structures and cyclical situations of countries differ has led to different tax policies in the economies. It is believed that this causes the relationship between tax policies and economic growth to differ between countries. Studies examining the relationship between tax policy and economic growth are included in this section.

Padovano and Galli (2001) examined the relationship between tax rates and economic growth in 23 OECD countries through annual data for the period 1951-1990 using the panel

data analysis method. As a result of the analysis, they found that the increase in high marginal tax rates negatively affected economic growth over the long term. Lee and Gordon (2005) investigated the relationship between corporate tax and economic growth in a total of 70 underdeveloped, developing and developed countries using annual data from the period 1970-1997. In a study using horizontal cross-section and panel data analysis methods, they found that a 10% reduction in the corporate tax rate would increase the annual growth rate by 1% to 2%. Anastassiou and Dritsaki (2005), analyzed the relationship between tax revenues and economic growth in Greece with annual data for the period 1965-2002 using the error correction model and the Granger causality test methods. As a result of the analysis, they found that there is a unidirectional causality relationship between both tax revenues and the marginal direct tax rate towards economic growth. They also found a bidirectional causal relationship between the marginal direct tax rate and tax revenues. Koch et al. (2005) investigated the relationship between tax structure and economic growth in South Africa through annual data for the period 1960-2002 using the data envelopment analysis method. As a result of the analysis, they found that the reduction of the tax burden has a significant impact on economic growth, and that a decrease in indirect tax rates would also have a positive impact on economic growth. Romero-Ávila and Strauch (2008) examined the relationship between public finance and economic growth in 15 EU member states using annual data for the period 1960-2001 with the panel data analysis method. As a result of the analysis, they proved that direct taxation policy negatively affects economic growth. They also found that direct taxation affects private capital accumulation and has an effect on growth in the medium term. Benos (2009) conducted a panel data analysis with 14 EU member states using annual data for the period 1990-2006, which found that direct taxes suppress economic growth. Padda and Akram (2009) investigated the effects of tax policies on economic growth in Pakistan, India and Sri Lanka with annual data for the period 1973-2008. As a result of a study using regression and VAR analysis methods, they reached the conclusion that an increase in tax rates negatively affects economic growth. Stoilova and Patonov (2012) examined the impact of taxation on economic growth in 27 EU member states using annual data for the period 1995-2010 using the panel data analysis method. As a result of the analysis, they found that direct taxes have a significant and strong impact on economic growth. Veronika and Lenka (2012) investigated the impact of corporate tax on economic growth in 27 EU member states using the panel data analysis method based on annual data for the period 1998-2010. The results of the analysis showed that the increase in corporate tax in 15 EU member states had a negative impact on their economic growth. Szarowska (2013) investigated the impact of taxation on economic growth in 24 EU member states using the panel regression and Granger causality test method based on annual data for the period 1995-2010. As a result of the analysis, she found that consumption taxes have a positive effect on economic growth while labor taxes have a negative effect. She also found that there is a two-way causal relationship between economic growth and consumption and capital tax rates, and a unidirectional causality relationship between economic growth and labor tax rates. On the other hand, she observed that there is a two-way causal relationship between the change in consumer tax rates and economic growth, and a unidirectional causality relationship between economic growth and both the rate of change in labor tax rates and the change in capital tax rates. Yi and Suyono (2014) analyzed the relationship between tax revenues and economic growth for China's Hebei province with annual data for the period 1978-2011 using the polynomial delay model. As a result of the analysis, they found that tax cuts had a positive effect on economic growth. They also found that the negative impact of the increase in tax revenues on economic growth was delayed in appearing. Petru-Ovidiu (2015) investigated the relationship between tax revenues and economic growth for 6 Eastern European countries using annual data for the period 1995-2012 with the panel data analysis method. As a result of the analysis, he proved

that direct taxes have a negative impact on economic growth, while indirect taxes have a positive impact on economic growth. Atems (2015) examined the relationship between tax revenues and economic growth in 48 states of the United States using the dynamic spatial panel model, based on annual data for the period 1965-2005. As a result of the analysis, he found that a 1% increase in taxes of led to a 0.37% decrease in GDP in the short term and 0.33% in the long term. Ahmad vd. (2018) analyzed the relationship between indirect taxes and economic growth in Pakistan with annual data for the period 1974-2010 using the ARDL model. As a result of the analysis, they found the effect of indirect taxes on economic growth to be negative and statistically significant over the long term. Tanchev (2016) investigated the effect of flat-rate income tax and progressive income tax on economic growth in Bulgaria using quarterly data for the period 2004:Q1-2012:Q4 using the OLS method. As a result of the analysis, he found that there is an inverse relationship between proportional taxation and economic growth, and a directly-related relationship between increased proportional taxation and economic growth. Stoilova (2017), as a result of a panel data analysis for 28 EU member states with annual data for the period 1996-2013, found that selected consumption taxes, personal income taxes and property taxes are the ones that most spark economic growth. McNabb (2018) investigated the relationship between tax revenues and economic growth in 100 countries using data from the period 1980-2012 using the panel data analysis method. Empirical findings have shown that increases in income tax rates have a negative impact on economic growth over the long term, while reductions in commercial tax rates have not always had a positive impact on economic growth. Andrašić et al. (2018) investigated the impact of taxes on economic growth in 35 OECD countries with annual data for the period 1996-2016 using the panel fixed effects model. As a result of the analysis, they found that a 1% increase in tax revenues increased economic growth by 0.29%. They also observed that a 1% increase in property tax increased economic growth by 0.21%, while a 1% increase in taxes on goods and services decreased economic growth by 0.60%. Owino (2019) examined the relationship between customs duties and excise duties and economic growth in Kenya using data from the period 1973-2010 using the methods of cointegration and error correction model. The analysis showed that a 1% increase in customs duties increased economic growth by 0.12% and a 1% increase in excise taxes increased economic growth by 0.37%. Korkmaz et al. (2019) as a result of their ARDL analysis using quarter data for the period 2006Q1-2018Q3, found that indirect taxes had a positive effect on economic growth and direct taxes had a negative effect on economic growth. Stoilova and Patonov (2020), as a result of their regression analysis for Bulgaria with annual data for the period 1995-2018, found that income from value added tax positively affects economic growth, and that reductions in corporate tax rates improve economic performance. They have also proven that personal income tax has a negative impact on economic growth. Hakim (2020) examined the impact of both direct and indirect taxes on economic growth and total tax revenue in 51 countries using annual data for the period 1992-2016 using the dynamic panel generalized moments method. As a result of the analysis, he proved that direct taxes have a negative and significant effect on economic growth, while indirect taxes have a positive but insignificant effect. On the other hand, the effect of direct taxes on total tax income was found to be more important and positive compared to indirect taxes.

Data Set and Methodology

In this study, annual data of 9 selected OECD countries (France, Germany, Greece, Hungary, Italy, Poland, Spain, Turkey, United Kingdom) from the period 2010-2019 was examined using panel causality analysis to find whether there is a relationship between tax revenues and economic growth. Since the relationship between tax revenues and economic growth has been investigated, and here tax revenues derived from both indirect and direct taxes

are taken as tax revenues, all 9 of these selected countries were selected because their tax structures are close to each other. Tax income in this study consists of income collected from taxes on income and profit, social security contributions, taxes on goods and services, payroll taxes, taxes on property ownership and transfer, and other taxes. Tax revenue collected as a percentage of GDP indicates the share of a country's production collected by the government through taxes. It is considered a measure of the degree to which government controls the resources of the economy. For this reason, in our study, tax revenue was taken as the measurement of a percentage of GDP. Tax revenue (TR) data is taken from the OECD's electronic data distribution system. Economic growth is taken as an annual percentage. Economic growth (GDP) data is taken from the World Bank's electronic data distribution system.

Panel Unit Root Tests

Performing a unit root test in time series studies is becoming widespread among researchers and it becomes important for the series to be stationary in order to make the results significant in the econometric analysis. In the literature, various panel unit root tests were developed mainly by Levin et al. (2002), Quah (1994), Maddala and Wu (1999), Choi (2001), Kao (1999), Hadri (1999), Breitung (2000) and Harris and Sollis (2003) and so on (Baltagi and Kao, 2000).

Apart from that, Bhargava, Franzini and Narendranathan (1982), Boumahdi and Thomas (1991), Breitung and Meyer (1994) proposed a new test in the Fixed Effective Dynamic Model. They intended Durbin Watson (DW) statistics as a new modified form of test statistics based on fixed effect residues and differentiated Ordinary Least Squared (OLS) residues. In micro panels, they suggested their own DW statistics as N approaches infinity. In addition to this, Quah (1994) suggested a unit root test in the panel data model where the N/T ratio is constant, N and T values approach to infinity and have no constant effects.

Levin et al. (2002) have developed this model to allow fixed effects, individual determining trends, and heterogeneous serial correlated errors. Levin et al. (2002) admit that the values of N and T approach to infinity. However, as the N/T ratio approaches to zero, T approaches to infinity at a higher rate than N (Maddala and Wu, 1999, p. 633). Im et al. (2003) determined that T value approaches to infinity while N value tends to infinity. When the N/T ratio is equal to k, under the assumption of a finite and non-negative k constant, the T and N values approach to infinity as a result of the cross convergence.

In this study, stationarity of the variables is determined by running Levin et al., Im, Pesaran and Shin (IPS), Augmented Dickey Fuller (ADF), and Phillips-Perron (PP) stationarity tests. From these tests, which are among the first generation stationarity tests, it is seen that GDP and TR series have only a constant and no trend as a result of all the tests. According to the results of the unit root test, while TR data is stationary at the 5% significance level to LLC and PP-Fisher Chi-square test, it is not stationary according to IPS and ADF-Fisher Chi-square test. On the other hand, the GDP data is stationary at the 5% significance level at LLC, IPS, ADF-Fisher Chi-square, while it is not stationary according to PP-Fisher Chi-square test. Since the series must be stationary in all test results, the series have become stationary at their first difference at the 5% significance level. These results are given in Table 1.

Table 1: Panel Unit Root Tests

		I(0) (constant)		I(1) (constant)	
Variables	**Method**	**Statistic**	**Prob***	**Statistic**	**Prob***
TR	Levin, Lin and Chu t*	-2.816	0.002*	-6.011	0.000*
	Im, Pesaran and Shin W-stat	0.433	0.667	-2.497	0.006*
	ADF-Fisher Chi-square	19.876	0.339	37.983	0.003*
	PP-Fisher Chi-square	32.308	0.020*	39.028	0.002*
GDP	Levin, Lin and Chu t*	-5.462	0.000*	-13.514	0.000*
	Im, Pesaran and Shin W-stat	-1.936	0.026*	-6.165	0.000*
	ADF-Fisher Chi-square	31.828	0.023*	73.684	0.000*
	PP-Fisher Chi-square	18.125	0.447	63.924	0.000*

*Im, Pesaran and Shin; ADF-Fisher and PP-Fisher- Null Hypothesis: Unit root (Individual unit root process), Levin, Lin & Chu Test- Null Hypothesis: Unit root (Common unit root process). Automatic lag lenght selection based on Modified Schwarz Criteria and Bartlett Kernel.

Panel Cointegration Tests

The panel cointegration test is then conducted to test the existence of a long-term relationship between the examined variables. One of the most frequently used tests in the literature is the Pedroni cointegration test. This test allows for heterogeneity in the cointegration vector, as well as different cointegrated vectors between sections under the alternative hypothesis. Pedroni cointegration is based on the Engle-Granger method. Its most general form is as follows (Pedroni, 2004: 599):

$$yi,t = \alpha i + \delta it + \beta 1iX1i,t + \beta 2iX2i,t + \cdots + \beta MiXMi,t + ei,t \quad (1)$$

t=1,…, T ; i=1,…, N ; m=1,2,…, M

for a time series panel of observables yit and Xit for members i=1,…,N, where t=1,…, T indicates the total number of observations during the time period and m=1,2,…, M indicates the number of variables in the regression. The parameters αi and δi allow for the possibility of member specific fixed effects and deterministic trends, respectively. The existence of a cointegration relationship between the variables is tested through the stationarity of the error terms above. For the non-parametric statistics estimate (Pedroni, 1999: 659):

$$e\ i,t = \gamma\ ie\ i,t-1 + u\ i,t \quad (2)$$

For the non-parametric statistics estimate (Pedroni, 1999: 662):

$$e\ i,t = \gamma\ ie\ i,t-1 + \gamma\ i,k\ Ki\ k=1\ \Delta e\ i,t-k + u\ i,t * \quad (3)$$

The H_0 hypothesis indicates no cointegration for all units, and the H_1 hypothesis indicates cointegration for all units. The alternative hypothesis does not assume a common first order autoregressive coefficient for all units and its test statistics have a normal distribution.

$$\frac{X_{N,T}-\mu\sqrt{N}}{\sqrt{\nu}} \Longrightarrow N(0,1) \quad (4)$$

$X_{N,T}$, T is the form of the test statistic. The μ and ν values correspond to the mean and variance of the test, respectively (Pedroni, 1999: 665). The Pedroni cointegration test results indicating a long-term relationship between the variables are shown in Table 2.

Table 2: Pedroni Cointegration Tests

(Within-Dimension)				
	Statistic	**Prob.**	**Weighted Statistic**	**Prob.**
Panel v-Statistic	-0.449	0.673	-0.538	0.704
Panel rho-Statistic	-1.853	0.032	-1.623	0.052
Panel PP-Statistic	-6.902	0.000	-5.542	0.000
Panel ADF-Statistic	-4.162	0.000	-4.871	0.000

Alternative hypothesis: individual AR coefs. (Between-Dimension)		
	Statistic	**Prob.**
Group rho-Statistic	0.106	0.542
Group PP-Statistic	-5.486	0.000
Group ADF-Statistic	-4.523	0.000
H_0 = No cointegration		
H_1 = Cointegration		

In this study, the Pedroni Cointegration test is employed to determine whether the economic growth and tax revenue variables move together in the long-term, and Pedroni Cointegration test investigates the long term relationship between economic growth and tax revenue. The probability values in Table 2 for, panel PP, panel ADF, group PP and group ADF are significance at the 5% level, confirming the long term relationship between the variables GDP and TR.

Granger Causality Test

Panel causality test is based on the Granger (1969) method. Dumitrescu and Hurlin (2012) provide an extension designed to detect causality in panel data. The underlying regression are:

$$\Delta GDP_{1t} = \alpha_{11} + \sum_{l=1}^{P_1} \beta_{11l} \Delta GDP_{1t-l} + \sum_{l=1}^{P_1} \delta_{11l} \Delta TR_{1t-l} + \varepsilon_{11t}$$
$$\Delta GDP_{Nt} = \alpha_{1N} + \sum_{l=1}^{P_1} \beta_{1Nl} \Delta GDP_{Nt-l} + \sum_{l=1}^{P_1} \delta_{1Nl} \Delta TR_{Nt-l} + \varepsilon_{1Nt} \quad (5)$$

$$\Delta TR_{1t} = \alpha_{21} + \sum_{l=1}^{P_2} \beta_{21l} \Delta TR_{1t-l} + \sum_{l=1}^{P_2} \delta_{21l} \Delta GDP_{1t-l} + \varepsilon_{21t}$$

$$\Delta TR_{Nt} = \alpha_{2N} + \sum_{l=1}^{P_2} \beta_{2Nl} \Delta TR_{Nt-l} + \sum_{l=1}^{P_2} \delta_{2Nl} \Delta GDP_{Nt-l} + \varepsilon_{2Nt} \quad (6)$$

In the equations above, N refers to the number of countries in the panel (i = 1,2, 3, …,N), t time period (t = 1,2,3,…, T) and "l" lag length. The error terms ε_{1Nt}, ε_{2Nt}, ε_{3Nt} are assumed to be white noise (they have zero mean and constant variance).

Granger causality test results according to 3 lags are given in Table 3.

Table 3: Granger Causality Test

Null hypothesis:	**Obs**	**F-Statistic**	**Prob**
ΔTR does not Granger cause ΔGDP	54	7.019	0.000*
ΔGDP does not Granger cause ΔTR		2.193	0.101

As it can be seen in Table 3, the empty hypothesis stating that tax revenues are not the cause of economic growth has been rejected according to the significance level of 5%. The alternative hypothesis that tax revenues are the cause of economic growth has been adopted according to the significance level of 5%. The null hypothesis, which states that economic growth is not the cause of tax revenue, has been accepted according to the significance level of 5%. According to the causality result in Table 3, a unidirectional causality relationship was found from tax revenues to economic growth.

Conclusion

Taxes, on the one hand, are an important financial tool that provides financing for public spending, and on the other hand, plays a key role in the process of achieving economic and social goals. Public authorities can use taxes as a policy tool to achieve the goals they have set within the framework of fiscal policy, such as ensuring high employment levels, economic growth and development, balance of payments, fairness in the distribution of income and wealth, elimination of regional imbalances and implementation of regulations on environmental factors. In the Euro Debt Crisis of 2009 and its aftermath, many countries in the European

Economy faced economic instability. At that point, overcoming instability has become a very important goal. Within that period, various economic policies were applied in order to reverse the current price instabilities and to ensure the recovery of the economy. Accordingly, it can be said that fiscal policies also have an important place. In this process, especially in many European countries that have problems with the sustainability of public debt, the success of fiscal policy in achieving economic goals has become a very interesting topic. In this study, it was examined whether income from taxes, one of the instruments of fiscal policy, affects economic growth.

Among the 9 OECD randomly selected countries, there are France, Germany, Greece, Hungary, Italy, Poland, Spain, Turkey and the United Kingdom. The analyses were carried out with annual data for the period 2010-2019 and using the panel causality test method. As a result of the Granger causality test analysis, it was found that there is a unidirectional causality relationship from tax revenues to economic growth. As a result of the cointegration test conducted in this study, a long term relationship was found between tax revenues and economic growth. Empirical results show that economic growth was supported by tax revenues in the countries concerned for the analysis period. In other words, tax revenues affect economic growth. In addition, according to the obtained results, it is possible to say that tax revenues are an important dynamic in the process of economic growth for these countries. These findings also support the theories put forward by the internal growth model, which states that taxes are effective on economic growth. Based on these results, it is necessary to achieve economic and social goals, create an optimal tax component to increase the economic and social well-being of society, ensure stability in tax revenues, increase efficiency in tax collection, and use income from taxes in effective and efficient areas at the stage of economic growth.

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