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ARAŞTIRMA MAKALESİ / RESEARCH ARTICLE

THE RELATIONSHIP BETWEEN FOREIGN TRADE AND ECONOMIC GROWTH: AN ECONOMETRIC ANALYSIS FOR TURKEY AND POLICY RECOMMENDATIONS

DIŞ TİCARET VE EKONOMİK BÜYÜME İLİŞKİSİ: TÜRKİYE İÇİN EKONOMETRİK BİR ANALİZ VE POLİTİKA ÖNERMELERİ

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Abstract

The aim of this study is firstly to examine the relationship between economic growth and foreign trade, which is one of the most important issues in the literature of economics, and secondly to raise alternative policy proposals related to Turkey's economy. Economic growth, export and import between 1980 and 2019 in Turkey have been selected as the variables for the research. Johansen cointegration test was used for models based on economic growth-export and economic growth-import. After identifying the relationship between the series, Granger causality test was employed. According to the results obtained from Johansen cointegration analysis, the relationships between export and economic growth and between import and economic growth have been identified. According to Granger causality test result, it was seen that both the export and import caused economic growth. According to these results, it can be said that foreign trade increases economic growth in Turkey.

Keywords: Foreign Trade Policies, Economic Growth, Export, Johansen Cointegration Test, Granger Causality Test

Jell Classification: F40, F41, F43

Öz

Bu çalışmanın amacı iktisat yazınının en önemli konularından biri olan ekonomik büyüme ve dış ticaret ilişkisini araştırmak ve bu doğrultuda Türkiye ekonomisine ilişkin alternatif politika önermeleri ortaya koyabilmektir. Türkiye için 1980-2019 yılları arasında ekonomik büyüme, ihracat ve ithalat değişkenleri seçilmiştir.

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Ekonomik büyüme-ihracat ve ekonomik büyüme-ithalat şeklinde kurulan modeller için Johansen Eş Bütünleşme Testinden yararlanılmıştır. Seriler arasında ilişki tespit edildikten sonra Granger Nedensellik Testine yer verilmiştir. Johansen Eşbütünleşme Analizinden elde ettiğimiz sonuçlara göre hem ihracat ve ekonomik büyüme arasında hem de ithalat ve ekonomik büyüme arasında ilişki tespit edilmiştir. Nedensellik testi sonucuna göre ihracat ve ithalatın her ikisinin de büyümeye neden olduğu görülmüştür. Bu sonuçlar doğrultusunda Türkiye'de dış ticaretin ekonomik büyümeyi artırdığı söylenebilir. Başka bir ifadeyle dış ticaret ekonomik büyüme üzerinde olumlu etki yaratmaktadır.

Anahtar Kelimeler: Dış Ticaret Politikaları, Ekonomik Büyüme, İhracat, Johansen Eşbütünleşme Testi, Granger Nedensellik Testi

Jell Sınıflandırması: F40, F41, F43

Introduction

For economists, foreign trade is a concept that grows in importance every day from the mercantilist period to the present day. Foreign trade, which was seen as a way to increase the stock of gold in the mercantilist period, takes place under the governmental control. Liberalism is known as an approach to commercial capitalism that emphasizes the importance of trade; accordingly, Adam Smith articulates that all countries as stakeholders of the international business will benefit from this trade.

The relationship between foreign trade and growth dates back to the birth of Economics. The common opinion of classical economists on this issue is the idea that foreign trade is the engine of growth (Gül and Kamacı, 2012: 82).

With the phenomenon of globalization in all areas, foreign trade becomes important for all countries because the globalization process removes all barriers to international trade. Developing countries have attractive conditions in terms of labor force and raw materials in comparison to the developed countries. Therefore, developed countries are shifting their production bases towards developing countries. At this stage, developed countries provide technology and other factors of production are covered by developing countries. This structuring between developed and developing countries reveals that there is also an international division of labor (Yenisu, 2018:1176).

Particularly with globalization, the importance of foreign trade among countries is increasing day by day. Currently, the dominant opinion is that free trade agreements will have a positive impact on the economy in the long term (Özel, 2018: 74).

The main objective of our study is to examine the relationship between foreign trade and economic growth for the Turkish economy by considering the period between 1980 and 2019. At this point, two models are established in the study. In the first model, export and economic growth variables are included in the analysis, while in the second model, import and economic growth variables are included in the analysis. For these models, Johansen Cointegration analysis is used to determine whether there is a relationship between the variables. Granger causality analysis is then included to determine the causal relationship between both export and economic growth and import and economic growth.

This study consists of four sections. In the first section, the relationship between economic growth and foreign trade is explained conceptually. In the second section, previous studies on this topic are discussed. Later, analyses are made using econometric methods for models established in the form of export-economic growth and import-economic growth. Finally, conclusions are drawn and the corresponding evaluation is made.

1. Theoretical Framework of the Relationship in terms of Export, Import and Economic Growth

One of the main factors of economic growth is foreign trade. In order for the countries to have economic relations, they should engage in activities that will provide inflow of foreign currency, such as export. Therefore, the main goal of foreign trade is to ensure and accelerate economic growth.

The concepts of import, export and economic growth can influence each other. Many theories have emerged in the literature on this subject. There are a number of hypotheses in the literature to determine the direction of the interaction between these economic concepts (Korkmaz and Aydın: 2015: 50). These are as follows:

1. Export-Led Growth: There is a causality relationship from export to growth.
2. Import-Led Growth: There is a causality relationship from import to growth.
3. Growth Led Export: There is a causality relationship from growth to export.
4. Growth Led Import: There is a causality relationship from growth to import.
5. Export Led Growth and Growth Led Exports: There is a mutual causality between export and growth.
6. Import-Led Growth and Growth-Led Import: There is a mutual causality relationship between import and growth.
7. Export-Based Import: There is a causal relationship from export to import.
8. Import-Based Export: There is a causality relationship from import to export.
9. Export-Based Import and Import-Based Export: There is a mutual causality relationship between export and import.
10. There may not be any causal relationship between export, import and growth (Korkmaz and Aydın: 2015: 50).

When the literature on growth theories is reviewed, it is seen that various factors affect growth. Among the theories, there is an assumption that foreign trade also affects economic growth. In these theories, it is stated that export has a positive impact on economic growth. In other words, the theory of "export-based economic growth" can be defined as the more the export increases the more the growth increases. In addition, it is also assumed that the countries that export the vast majority of manufactured products grow more. The increase in growth together with the increase in export can be associated with technological development (Karabulut, 2018: 426).

Export-Led Growth (ELG) is a hypothesis, which argues that there is a causal relationship from export to growth. With this hypothesis, it is aimed to ensure the accumulation of human and physical capital through foreign trade and thus to gain economic growth by increasing production. Therefore, ELG is among the basic sources of growth.

Import-Led Growth (ILG) is a hypothesis, which argues that there is a causal relationship from import to growth. On the one hand, the technology is in the production function, on the other hand, import has an important place in terms of the supply of capital goods that are used in production and are not available or sufficient in the country. In terms of accessing the new developing technologies in the world, import is a tool and it can affect the economic growth in this way. According to ILG hypothesis, imports create more capacity to increase the country's production. Additionally, for developing countries, importing technology is high of importance for productivity in terms of GDP.

2. Literature Review

Economic growth is the ultimate purpose of developing and developed countries. However, economic growth depends on multiple factors. One of these factors is foreign trade. There are many studies that determine the effect of foreign trade on economic growth. In the related literature, several studies argue that there is a relationship between foreign trade and economic growth, as well as studies arguing that there is no relationship between foreign trade and economic growth. Studies that examine the relationship between economic growth-export-import are summarized with the related results in Table 1 below.

Table 1: National and International Studies Addressing the Relationship between Economic Growth and Foreign Trade

Author(s) Country/ Country Group	Period – Method	Findings
Ramos (2001) Portugal	1865-1998 Granger Causality Analysis	None of the export-import and economic growth variables used in the study are the cause of each other.
Demirhan (2003) Turkey	1990-2004 Johansen Cointegration and Integration and VECM	According to the results of the study, it is concluded that exports increase economic growth in the long term. In addition, a causal relationship from imports to economic growth has been identified.
Awokuse (2006) Japan	1960-1991 Toda Yamamoto Causality	The export variable and economic growth variable used in the study are the cause of each other.
Erdoğan (2006) Turkey	1923-2004 Johansen Cointegration and Integration and VECM	A two-way relationship is found according to the results of the study. In other words, it has been determined that there is a relationship between export and economic growth both in the short term and in the long term.

Tang (2006) China	1970-2001 Cointegration and Granger Causality Analysis	In the study, no relationship was found for export, import and economic growth variables in the short term or long term. In addition, only a relationship from growth to imports was found in the study.
Bozdağlıoğlu (2007) Turkey	1990-2007 Cointegration	The results of the study show that there is no relationship between exports and economic growth.
Kurt and Berber (2008) Turkey	1989-2003 VAR	In the study, the relationship from imports to exports and from exports to economic growth has been found. In addition, it has been revealed that there is a two-way relationship between economic growth and imports.
Çetintaş and Barışık (2009) Transition Economies	1995-2006 Panel Cointegration	Economic growth is the cause of export.
Nişancı, Karabıyık and Uçar (2011) Countries with Upper Middle Income	1970-2009 Panel Data Analysis	According to the results of the study conducted for the upper middle income group, it is concluded that there is a relationship between exports and economic growth in these countries. In other words, export is the guiding reason for growth.
Gül and Kamacı (2012) Developed and Developing Countries	1980-2010, 1993-2010 Pedroni's Cointegration and Granger Causality Analysis	The study conclude that there is a one-way relationship. The direction of causality is towards economic growth from exports and imports.
Gül, Kamacı and Konya (2013) Turkish Republics and Turkey	1994-2014 Panel Data Analysis	According to the results of the study, the two-way relationship is between exports and growth in the long run. One-way causality relationship is from import to growth. In the short run, there is no relationship between variables.
Göçer (2013) Asian countries	1980-2012 Panel Cointegration	According to the Panel Cointegration analysis, it is concluded that there is a positive relationship between export and economic growth.
Çamurdan (2013) Turkey	1999-2013 Johansen Cointegration Analysis and Granger Causality Analysis	According to the findings of the study, import-based export and export-based growth are concluded. It can also be concluded that import is necessary for growth.
Uçan and Koçak (2014) 1990-2011 Turkey	Cointegration Analysis and Error Correction Model	In the study, it was revealed that there is a relationship between foreign trade and economic growth in the long term. In addition, the study show that deviations that occur in the short run can be balanced after 7 periods.
Özgür (2015) Turkey	1980-2014 ARDL	In the study, two-way causality between import and GDP is identified for the short and the long run. In addition, there is no causality between exports and GDP in the short run. In the long run, there is a causal relationship from GDP to export.
Sağlam and Egeli (2015) Turkey	1999-2013 Granger Causality Analysis	According to the results, a two-way relationship between export and economic growth in the short run was found in the study. In the long run, it is seen that there is a one-way relationship from export to economic growth.

Korkmaz and Aydın (2015) Turkey	2002Q1:2014Q2 VAR	According to the results obtained from the study, while no relationship was observed in the analysis for export and economic growth, it is concluded that there is a two-way relationship between import and economic growth.
Şerefli (2016) Turkey	1975-2014 Granger Causality Analysis	No causality relationship was found between foreign trade and economic growth in the study.
Ata and Eren (2017) Iran	1997-2015 Granger Causality Analysis	Export and import cause economic growth.
Akcan and Metin (2018) Turkey	2000Q1-2017Q2 VAR	Export and import were found to be the cause of economic growth in the 2000-2007 period. Howevr, a causality relationship between variables was not found in the 2008-2017 period.
Karabulut (2018) Turkey	1970-2016 VAR	According to the results of the study, it has been observed that there is a one-way relationship between economic growth and export. The direction of causation is from growth to export.
Öztürk and Özel (2018) E7 countries	1990-2016 Panel Data Analysis	According to the study, the findings reveal signs of import-supported economic growth.
Balkanlı (2019) Turkey	2006-2018 Granger Causality Analysis	The study showed no correlation between export-growth and import-growth. The findings revealed that imports are the reason for exports.
Yenisu (2019) Turkey	1980-2016 ARDL	A relationship between short and long-term variables was found.

3. Empirical Analysis

3.1. Data Set Sources

The aim of our study is to examine the relationship between export, import and economic growth for Turkey by using data of the period between 1980 and 2019. The variables used in the analysis are retrieved from the "World Development Indicators" (WDI) database. The definition of the variables is presented in Table 2.

Table 2: Definition of Variables

Vairables included in the analysis	Description of the variables	Source and Period of the Data
LGDP	Logarithmic Gross Domestic Product (Current $)	World Bank (1980-2019)
LIH	Export (Current $)	World Bank (1980-2019)
LIT	Import (Current $)	World Bank (1980-2019)

The data used in the study is annual. All variables included in the analysis are variables with a logarithm. Two models were used in the analysis. Prediction models that investigate the impact of foreign trade indicators on economic growth in Turkey are defined as follows:

$$GDP = f(export)$$

$$LGDP_t = \alpha_0 + \alpha_1 LIH_t + \delta_t$$

For the first established model, the dependent variable $LGDP_t$ shows economic growth, while the independent variable LIH_t shows exports. Additionally, δ represents the error term of the predictive model.

$$GDP=f(import)$$

$$LGDP_t=\beta_0+\beta_1+LIT_t+\delta_t$$

In the second established model, the dependent variable $LGDP_t$ represents economic growth, while the independent variable LIT_t represents import. δ represents the error term of the predictive model.

Before conducting the analysis, the stationaries of the series, whose logarithms were taken, were examined by performing an ADF unit root test. In addition, Johansen cointegration analysis was tested to see any relationship between variables. Once the relationship was found, Granger causality analysis was performed to identify the direction of the relationship.

3.2. Unit Root Analyses

Table 3: ADF Unit Root Test Results

	Level Values			Primary Differences			
Variables	Values with Constant Terms	Values with Constant and Trend	Values without Constant and Trend	Values with Constant Terms	Values with Constant and Trend	Values without Constant and Trend	
LGDP	-0.86 [0.7897]	-1.76 [0.7025]	-1.48 [0.9962]	-6.18 [0.0000]	-6.15 [0.0000]	-5.40 [0.0000]	**I(1)**
LIH	-2.86 [0.069]	-2.61 [0.2744]	5.02 [1.0000]	-6.29 [0.0000]	-6.56 [0.0000]	-4.52 [0.0000]	**I(1)**
LIT	-1.24 [0.6439]	-1.82 [0.6744]	2.94 [0.9988]	-7.07 [0.0000]	-7.15 [0.0000]	-5.74 [0.0000]	**I(1)**
1%	-3.61	-4.21	-2.62	-3.61	-4.21	-2.62	
5%	-2.93	-3.52	-1.94	-2.94	-3.53	-1.94	
10%	-2.60	-3.19	-1.61	-2.60	-3.19	-1.61	

[] **Probability Statistics**

In the study where the ADF unit root test was performed, it was examined whether the variables are stationary or not, and the results are summarized in Table 3. ADF unit root test is a method used to determine the stationarities of series. As seen in Table 3, according to the ADF test in which the level values are analyzed, it is seen that the variables are not stationary at the corresponding level. According to the ADF unit root test, it is seen that the level values evaluated as absolute values are less than the Mac Kinnon Critical value. Therefore, by applying the ADF test to the primary difference of the variables, all variables are stabilized at the primary difference. It can be stated that all variables are integrated in I (1).

3.3. Johansen Cointegration Analysis

In order to determine the lag lengths in the VAR model in the tables below, the appropriate lag levels have been decided by using some criteria shown in Table 4.

Table 4: Lag Lengths (GDP and Export)

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-32.87435	NA	0.022581	1.885100	1.972176	1.915798
1	59.57793	169.9123*	0.000189*	-2.896105*	-2.634875*	-2.804009*
2	60.64503	1.845786	0.000223	-2.737569	-2.302186	-2.584076

* It refers to the criteria by which lag lengths are identified.

Lag lengths are determined with the VAR model, which is a method that is highly sensitive to lag lengths. As can be seen in Table 4, it was seen that the length of the lag was 1 according to all information criteria.

Table 5: Lag Lengths (GDP and Import)

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-21.94785	NA	0.012510	1.294478	1.381555	1.325177
1	52.35919	136.5643*	0.000280	-2.505902	-2.244672*	-2.413806*
2	56.92204	7.892507	0.000272*	-2.536327*	-2.100943	-2.382834

* It refers to the criteria by which lag lengths are identified.

The VAR Model is a very sensitive method to lag lengths. As can be seen in Table 5, it is seen that the lag length is 2 according to the FPE and AIC criteria and 1 according to the SC and HQ information criteria.

Table 6: Diagnostic Tests (GDP and Export)

VAR Autocorrelation Test Values		
Lag Length	LM statistics	Prob.
1	1.396500	0.8448
2	6.159827	0.1875
VAR Variance Test		
Chi Square Statistics	14.40046	
Prob.	0.2759	

Table 7: Diagnostic Tests (GDP and Import)

VAR Autocorrelation Test Values		
Lag Length	LM statistics	Prob.
1	2.355417	0.6707
2	5.474497	0.2420
VAR Variance Test		
Chi Square Statistics	34.82287	
Prob.	0.0711	

After determining the appropriate lag lengths in the VAR model, any autocorrelation problems and/or variable variance problems are summarized in Table 6 and Table 7. As can be seen from the results, there

is no autocorrelation problem in both models. At the 5% significance level, probability values were found to be 0.6707 and 0.2420. Again in the VAR Model, it was determined as a result of the test that the variance is also constant, and the problem of changing variance was not encountered in both models.

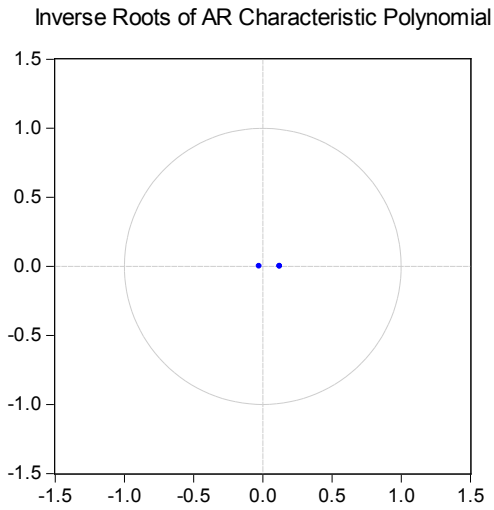

Figure 1. Representation of Inverse Roots of Characteristic Polynomials of GDP and Export Model

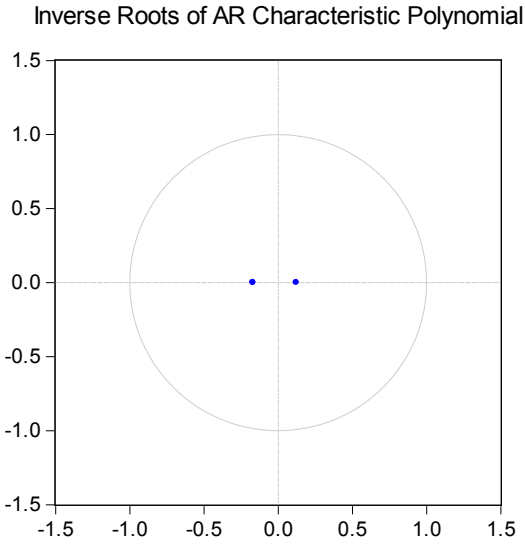

Figure 2. Representation of Inverse Roots of Characteristic Polynomials of GDP and Import Model

As shown in Figure 1 and Figure 2, the inverse roots of the characteristic polynomials are located in the circle in both models. The fact that the inverse roots of these characteristic polynomials are in circles shows that the VAR Model is a stationary model.

In this study, all variables are stabilized in the 1st difference, and appropriate lag levels are determined by VAR Analysis. In addition, the established models do not have any autocorrelation and changing variance problems. At the last stage of the model, the relationship between variables has been determined by the Johansen Cointegration Analysis and it has been revealed that there is a long-term relationship. The results are summarized below.

Table 8: Johansen Cointegration Test for GDP and Export (Trace and Maximum Statistics Values)

Trace Statistical Values				Eigenvalue (Maximum) Statistical Values			
Cointegrate Vector Number (Hypothesis)	Test Statistics	5% Critical Values	Probability	Cointegrate Vector Number (Hypothesis)	Test Statistics	5% Critical Values	Probability
None*	19.17425	15.49471	0.0133	None*	15.78604	14.264460	0.0285
At most 1	3.388213	3.841466	0.0657	At most 1	3.88213	3.841466	0.0657

Table 8 shows the cointegration relationship between GDP and export. The fact that the values of trace and Eigenvalue (Maximum) statistics in VAR model are greater than 5% critical values indicates that the variables are cointegrated. In other words, there is a long-term relationship in the GDP and export model for the first VAR model examined in the study, and there is at least one cointegrated vector between these series. The cointegration equation results of the model are as follows:

Table 9: Normalized Cointegration Vector (GDP and Export)

LGDP	LIH
1.000000	-0.813246
	(0.03217)

* Value in parenthesis represents standard error.

Table 9 shows that the coefficient in the vector showing the long-term relationship between GDP and export was found to be statistically significant. An increase of 1% in export increased GDP by 0.813246%. In other words, a positive relationship has been found between GDP and export. In the given period, export growth of Turkey is boosting the economic growth. In other words, increase in exports in the long run affects economic growth positively.

Table 10: Johansen Cointegration Test for GDP and Import (Trace and Maximum Statistics Values)

Trace Statistical Values				Eigenvalue (Maximum) Statistical Values			
Cointegrate Vector Number (Hypothesis)	Test Statistics	5% Critical Values	Probability	Cointegrate Vector Number (Hypothesis)	Test Statistics	5% Critical Values	Probability
None*	18.37281	15.49471	0.0179	None*	16.20180	14.26460	0.0244
At most 1	2.171005	3.841466	0.1406	At most 1	2.171005	3.841466	0.1406

Table 10 shows the cointegration test results between GDP and import. The fact that the values of Trace and Eigenvalue (Maximum) statistics in VAR model are greater than 5% critical values indicates that the variables are cointegrated. In other words, for the second VAR model examined in the study, there is a long-term relationship between GDP and import, and there is at least one cointegrated vector between these series. The cointegration equation results of the model are as follows:

Table 11: Normalized Cointegration Vector (GDP and Import)

LGDP	LIH
1.000000	-0.827752
	(0.01579)

***Value in parenthesis represents standard error.**

Table 11 shows that the coefficient in the vector showing the long-term relationship between GDP and imports was found to be statistically significant. An increase of 1% in import caused an increase of 0.827752% in GDP. In other words, a positive relationship has been found between GDP and import.

3.4. Granger Causality Test Results

Granger causality analysis is an econometric analysis method used to determine the direction of causality between time series. In econometric studies, Granger causality analysis has gained a prominence in the literature in terms of the fact that the series are the causes of each other and the direction of this cause can be identified.

In this study, Granger causality analysis was used to determine the direction of the relationship between variables. The results are summarized in Tables 12 and 13.

Table 12: Granger Causality Analysis between GDP and Export

Dependent Variable	LGDP		
	Chi-Square	Df	Significance
LIH	8.001979	1	0.0047
ALL	8.001979	1	0.0047
Dependent Variable	LIH		
	Chi-Square	Df	Significance
LGDP	2.233076	1	0.1351
ALL	2.233076	1	0.1351

Table 12 shows that there is one-way causality from exports to economic growth. In other words, we can say that export is the Granger Cause of economic growth. The fact that the direction of unidirectional causality is from export to economic growth is described as the "export-driven economic growth hypothesis" in the literature. Also, foreign trade contributes to the increase of production and it does so by encouraging the accumulation of physical and human capital. Exports accelerate economic growth by allocating resources effectively. Therefore, in the export-driven economic growth hypothesis, the increase in exports is considered as one of the most important determinants of economic growth.

Table 13: GDP and Import Causality Relationship

Dependent Vairable	LGDP		
	Chi-Square	Df	Significance
LIT	8.345386	1	0.0154
ALL	8.345386	1	0.0154
Dependent Variable	LIT		
	Chi-Square	Df	Significance
LGDP	0.014422	1	0.9328
ALL	0.014422	1	0.9928

It is seen in Table 13 that there is one-way causality from import to economic growth. In other words, we can say that import is the Granger Cause of economic growth. The fact that the direction of unidirectional causality is from import to economic growth is expressed as the "import-driven economic growth hypothesis" in the literature. Import is achieved by both the technology factor in the production function and the ability to supply capital goods that are necessary for production, but are not sufficient in the country, thereby indirectly promotes growth. Especially within the scope of internal growth models, while import refers to research and development in the long term, it has an important place for growth as it is a channel of access to new information and technology in the world. Therefore, the causality relationship found in the results of the causality analysis in Tables 12 and 13 supports the literature.

The results obtained throughout the analysis are consistent with the studies in the literature. Among the studies discussed in the literature, Demirhan (2003), Erdoğan (2006), Çetintaş and Barışık (2009), Nişancı et al. (2011), Gül and Kamacı (2013) concluded that export increases economic growth. In addition, Gül and Kamacı (2012), Çamurdan (2013), Özgür (2015), Ata and Eren (2017), Öztürk and Özel (2018) concluded that there is a relationship from import to economic growth. According to these results, export and import in the Turkish economy increase economic growth.

Conclusions and Suggestions

According to classical economists, liberalization of trade along with liberal policies emphasizes that the share of countries from world welfare will increase with mutual gains in all countries. It is also particularly stated that foreign trade is the driving force of growth. According to the classical foreign trade theory, import is as much necessary as export for a country to grow. Therefore, classical economists argue that restrictions should be eliminated. Following classical economics, studies on growth and foreign trade kept up with the Heckser-Ohlin theorem Samuelson model. It is emphasized that commercial liberalization is of high importance in these models. In addition, Grossman and Helpman argue that foreign trade will increase productivity with technology, and therefore economic growth will occur.

There are many studies in the literature on the fact that economic growth will occur with commercial liberalization. Especially in recent years, many empirical studies have been conducted and studies have proven that export and import drive economic growth. This, in turn, supports our study.

It is incorporated differently in different studies in the literature. However, the reason for these differences is due to the country or country groups of the period covered.

In this study, two models were employed by using data relying on the period between 1980 and 2019 in Turkey. The relationship between exports and economic growth was examined in the first model while the relationship between imports and economic growth was investigated in the second model. Within the scope of these models, the relationship between the variables was identified using Johansen cointegration test. Subsequently, Granger causality test was performed to determine the direction of the relationship.

As a result of the analyses, it is possible to summarize the findings as follows: Granger cause is attributed to the economic growth in both export and import of Turkey between 1980 and 2019. In other words, we can say that export and import in Turkey in the period of 1980-2019 are the Granger cause of growth. According to the results of this study, it was found that the "export-based growth hypothesis" and the "import-based growth hypothesis" are valid in Turkey.

We can conclude that import-based export model has a positive impact on Turkey's economic growth. However, this level is not sufficient for Turkey. There are steps that need to be taken at the same time in this regard. The first is to increase labor productivity. Particularly in export sectors, labor productivity is high of importance in terms of foreign competetion. Another phenomenon is the creation and diversification of innovative and brand-value products based on R & D. In addition, making investment in technology and technological infrastructure is another issue that requires a particular consideration. There are very important steps to be taken within the scope of Industry 4.0 considering the extent that technology has reached today. In particular, it is an important requirement to give priority to areas where artificial intelligence, robot technology and robotic coding are important, and this scope increases the share of GDP allocated to these areas. In turn, all these factors will make it inevitable to get access to the new markets as well as diversifying the types of export. Obviously, education plays a major role in increasing our power of global competitiveness and covering all these elements. Therefore, countries that are relatively richer in terms of human capital will accelerate their economic growth with the gains they gain from productive sectors.

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THE RELATIONSHIP BETWEEN FOREIGN TRADE AND ECONOMIC GROWTH: AN ECONOMETRIC ANALYSIS FOR TURKEY AND POLICY RECOMMENDATIONS

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The importance of foreign trade movement for developing countries such as Turkey has paved the way for this study in an attempt to explain the causal relationship between economic growth and foreign trade through an econometric analysis. First of all, it should be emphasized that free trade and its development are high of importance for both developed and developing countries on a global scale. The underlying reason is to enable the country to use its economic potential more effectively and efficiently. Another issue is that as the production potential of the country increases, GDP value increases and per capita income increases. Therefore, in addition to the increase in national income, there is an increase in welfare. The phenomenon of growth is a situation that should be evaluated in terms of both export and import. Provided from a broader perspective each of the main determinants and sources of growth is crucial for each country. As highlighted in this study, the obtained data regarding the causal relationship between growth and foreign trade in Turkey have been discussed referring to the theoretical framework in the relevant literature.

The globalization process removes all barriers between countries. For this reason, with the globalization phenomenon that we encounter in every field, foreign trade is increasingly important for developed and developing countries. Developing countries have more attractive conditions in terms of labor and raw materials in comparison to those of developed countries. Therefore, developed countries moved their production plants to developing countries. The fact that developed countries produce in developing countries by using their technologies shows that a division of labor has been practised worldwide. Providing raw materials and workforce by developing countries and including their technologies in production in developed countries is important for country groups to benefit from maximization.

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One of the main sources of economic growth is foreign trade. In other words, foreign trade is among the determinants of economic growth. From this point of view, the main purpose of foreign trade is to achieve economic growth by providing foreign currency and technology input to the country. In other words, while countries realize export and import, their main goal is to achieve economic growth.

There are interrelationships between import, export and economic growth. There are a number of hypotheses in the literature to determine the direction of these relationships. These are as follows:

1. Export-Led Growth: finding a causal relationship from export to growth.
2. Import-Led Growth: finding a causal relationship from import to growth.
3. Growth Led Exports: causality from growth to export.
4. Growth Led Import: the causality relationship from growth to import.
5. Export Led Growth and Growth Driven Export: there is mutual causality between export and growth.
6. Import-Led Growth and Growth-Led Import: the existence of a mutual causality relationship between import and growth.
7. Export-Based Import: There is a causal relationship from export to import.
8. Import-Based Export: It is the existence of a causality relationship from import to export.
9. Export-Based Import and Import-Based Export: the existence of a mutual causality relationship between export and import.
10. There may not be any causal relationship between export, import and growth.

In this study, we wanted to highlight issues such as economic growth between the years of 1980-2019 in Turkey's economy, and the relationship between export and import variables and explain them theoretically and empirically. The Johansen Cointegration Test was used for models established as economic growth-export and economic growth-import. After determining the relationship between the series, Granger Causality Test was employed. According to the results we obtained from the Johansen Cointegration Analysis, a relationship between both export and economic growth and between import and economic growth has been determined. According to the causality test result, it was seen that both export and import caused growth. These results are in line with Turkey's foreign trade in terms of increase in economic growth. In other words, foreign trade has a positive impact on economic growth.

As a result of the analysis, it can be concluded that import-based export model implemented by Turkey has a positive impact on the economic growth, which is also evidenced in the relevant literature. However, we can assert that there can be several political measures to be taken by considering the position of Turkey in terms of economic conditions and political stability. First of all, structural problems and economic fragility should be supported by steps that can be taken in terms of political stability. In order for Turkey to sustain its growth steadily, policies that will increase foreign exchange revenues through robust and sound channels are needed. This issue is mentinoed comprehensively in the conclusion section of our study.