THE IMPACT OF IMPORTS ON EXPORTS OF TURKEY

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ABSTRACT

Turkey implemented programme based on import substitution in the 1960s and turned to domestic production and consumption by restrictions on bringing in foreign trade. Following the stagflationary process in the 1970s, Turkey aimed to follow the export-led growth model of the developing countries in the 1980s to reach the developed countries. In this context, the government shifted into export promotion strategy following the progressed made by newly industrialized countries. Accordingly, import restrictions were removed and exports were aimed at increasing. From the 1990s onwards, foreign trade has increased enormously. This increase has continued in the 2000s but imports have permanently increased more than exports. Import dependence of Turkey has risen considerably as a result of the openness of domestic markets. For this reason, imports of capital and intermediate goods have been a critical factor in the development of the Turkey's economy. The main aim of this study is to examine the causal relationship between export and import.

The dependency of import to the export in Turkey tested with a Dynamic Ordinary Least Squares (DOLS) and Fully Modified Ordinary Least Squares (FMOLS) method by using monthly data 1992-2019 periods. Following empirical findings were reached in the study investigating: There are causality both from export to import and import to export. According to Engle-Granger (1987) test, cointegration has been detected between export and import. As a result of DOLS and FMOLS method made long term analysis, export is highly dependent on import.

Keywords: Foreign Trade, Export-Led Growth, Dependency, Import.

JEL Kodları: F13, F43, O24.

TÜRKİYE'DE İTHALATIN İHRACATA ETKİSİ

ÖZET

Türkiye, 1960'lı yıllarda ithal ikamesine dayalı bir program izlemiş ve dış ticarette getirilen kısıtlamalar ile yerli üretim ve tüketime yönelmiştir. 1970'lerde yaşanan stagflasyonist sürecin ardından Türkiye, 1980'li yıllarda gelişmiş ülkelerin seviyesine ulaşabilme hedefiyle gelişmekte olan ülkelerin ihracata dayalı ekonomik modelini uygulamaya başlamıştır. Bu bağlamda, yeni sanayileşmiş ülkelerin

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kaydettiği ilerlemenin ardından devlet ihracatı geliştirme stratejisini benimsemiştir. Buna göre ithalat kısıtlamaları kaldırılmış ve ihracatın artırılması hedeflenmiştir. 1990'lı yıllardan itibaren dış ticarette önemli artışlar yaşanmıştır. Bu artış 2000'li yıllarda da devam etmiş, ancak ithalat artışı sürekli olarak ihracattan daha fazla gerçekleşmiştir. Türkiye'de iç piyasanın ithalat bağımlılığının da önemli ölçüde artması söz konusu olmuştur. Sonuçta sermaye ve ara malların ithalatı, Türkiye'nin ekonomik gelişimi için kritik bir faktör olmuştur. Bu çalışmanın temel amacı, ihracat ve ithalat arasındaki nedensel ilişkiyi incelemektir.

Türkiye'de ihracatın ithalata bağımlılığı, 1992-2019 dönemleri aylık verilerini kullanarak Dinamik En Küçük Kareler (DOLS) ve Tamamen Değiştirilmiş En Küçük Kareler (FMOLS) yöntemiyle test edilmiştir. Araştırmada şu ampirik bulgulara ulaşılmıştır: Hem ihracattan ithalata, hem de ithalattan ihracata nedensellik vardır. Engle-Granger (1987) eştümleşme testine göre, ihracat ve ithalat arasında eştümleşme tespit edilmiştir. DOLS ve FMOLS yöntemleri kullanılarak yapılan uzun dönem analizleri sonucuna göre ihracat büyük oranda ithalata bağımlıdır.

Anahtar Kelimeler: *Dış Ticaret, İhracata Dayalı Büyüme, Bağımlılık, İthalat.*

Jel Kodları: *F13, F43, O24.*

1. INTRODUCTION

Social life, which started with the coexistence of people, created the social division of labor as a result of the development of the means of production and methods of production. Firstly, the social division of labor, which is divided into two branches as agriculture and animal husbandry, has enabled these areas to develop day by day. Some societies have focused on animal husbandry and others have focused on agriculture and specialization has started in these fields. As people specialize in production, productivity has increased due to productivity.

The work tools made of stone were replaced by metal in the following periods and the difficulty of processing the metal provided the emergence of craftsmanship. The use of money in the purchase and sale of goods caused the emergence of merchandise and social division of labor has increased. As a result of the diversification of the social division of labor, the amount of production has increased and the need to replace surpluses with other needed goods has emerged. As a result, trade has ceased to be local and has become regional → national → international → global.

Economic trends have brought different interpretations to international trade which has developed rapidly thanks to the establishment of major trade routes and the development of maritime trade. Mercantilists emerged in Western Europe in the 16th century, arguing that the global trade volume is stable and that the welfare of a nation depends on the amount of wealth. According to Mercantilists, the higher the precious metals and commercial values of the state, the higher the amount of economic wealth

or capital. In order to achieve this, the government must be protective and implement policies that increase exports and reduce imports.

Physiocrats, who advocated the idea that the economic situation can act with its own dynamics just as nature creates and maintains its own balance, refused to assume a protective role of the government and reached the conclusion that the economy would self-balance. Therefore, the release of foreign trade was seen as a necessity. The Classical Economics was based on the idea of the Physiocrats, "Let do and let pass, the world goes on by itself". They stated that the government must not restrict the circulation of goods and capital by customs and similar methods for whatever reason. According to classical economists, with the application of this philosophy, it will be possible for the producer to earn more money and to make the consumer pay less to buy goods at the same time through foreign trade.

Keynesian Economics, which emerged after the 1929 crisis, imposed important roles on the government and adopted the policies of the government to increase foreign trade. It argued that the decrease in demand due to the decreases in domestic and foreign trade as a result of economic crisis must be compensated by the government.

Institutional Economics, which emerged in the first half of the 20th century and whose intellectual foundations were laid by Veblen, Commons and Mitchell, focused on governmental failure. According to this economic trend, the government must not play a direct role in the economy, including foreign trade, but be only in a regulatory way.

Although their perspectives on foreign trade are different, all economic movements have agreed that exports are welfare enhancing. Accordingly, the increase in exports, which means foreign demand, leads to an increase in the amount of currency flowing and expansion of the market. However, in order to achieve this effect clearly, it is important that the dependence of exports on imports is low. If the dependence of exports on imports is low, the economic values obtained due to exports remain in the country and export income increases welfare. Otherwise, if exports are highly dependent on imports, the economic meaning of overseas sales lost. If the dependence of exports on imports is too high, the income to be generated from the increase in exports will be lower than the expenses to be incurred due to the increase in imports to be made to ensure this export. In such a case, the increase in foreign trade may lead to a decrease in welfare in the country.

In this study, the import dependency of exports in Turkey is intended to be measured using monthly data for the years 1992-2019. In the first part of this study, developments in the field of foreign trade in Turkey will be examined briefly; in the second part, literature research will be conducted on the subject and the empirical analysis results will be evaluated in the last section.

2. DEVELOPMENT OF FOREIGN TRADE IN TURKEY

In the early years of the republic in Turkey, liberal policies were aimed and the government was asked to assume only a regulatory role in the economy. For this purpose, at the Izmir Economic Congress held in 1923, it was decided that the government should assist private enterprises and operate in the market only when the private sector was not able to afford it. However, these liberal policies adopted by the government could not be sustained due to the inadequacy of domestic savings, lack of entrepreneurialism, deficiencies in social and technical infrastructure as well as the Great Depression that emerged in 1929 and from the 1930s to the end of the Second World War, a state-handed development strategy was adopted. In the period between 1950 and 1960, it was aimed to end the statist policies and to implement the liberal economic system. Although this system aims to reduce the role of the government in the economy, the implemented policy results have not been realized in parallel with this and there has not been any decrease in the share of public expenditures in GDP. Moreover, in the mentioned period the number of State Economic Enterprises doubled in Turkey.

Import substitution system was adopted start from the 1960s in Turkey. For this purpose, the country has imposed restrictions on foreign trade and turned to domestic production and consumption. However, in order to eliminate the effects of the global stagflationary crises in the 1970s, an intensive liberalization process has started in the world since the 1980s and Turkey abandoned import substitution policies due to these developments and remove the customs restrictions.

Turkey has embraced export-dependent growth strategy together with the liberalization process. In this direction Turkey joined the Customs Union in 1995. According to this agreement, Turkey guaranteed that there will be no customs restrictions on trade with the EU, but a common policy on trade with third countries. Turkey's foreign trade figures are given in Figure 1 since the 1990s.

Figure 1. Turkey's Foreign Trade, 1992 – 2019 (Million Dollar)
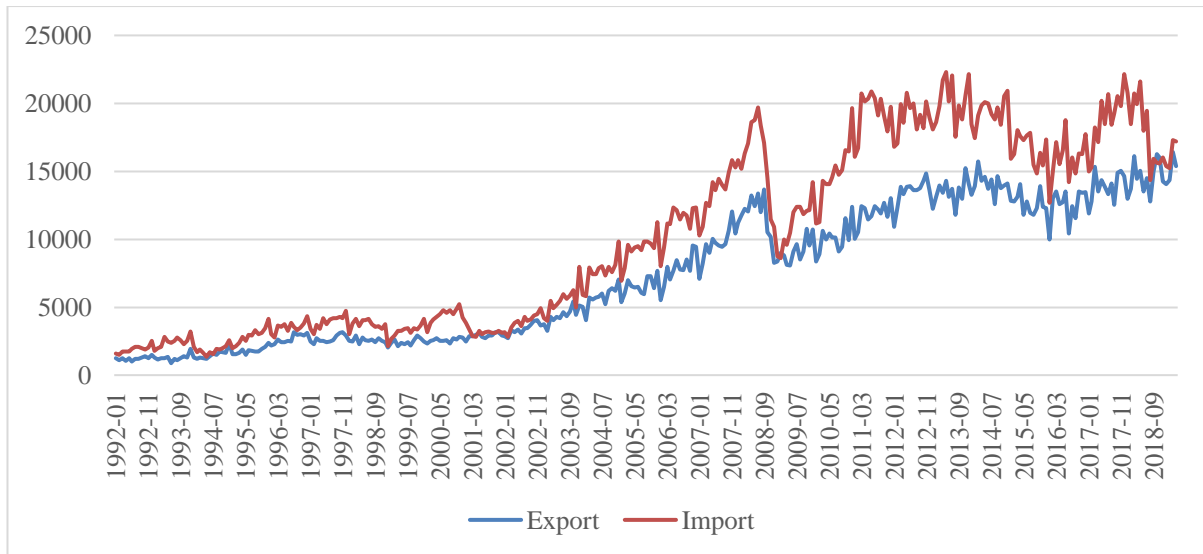
Source: It was created by author with the data obtained from Central Bank of Turkey.

According to the export and import figures given in Chart 1, the volume of foreign trade, which entered in an uptrend since the 1990s, has increased more than 10 times from 1992 to 2019. However, as can be seen from the figure, the import figures are consistently higher than exports. Although this situation, which means that there is a chronic foreign trade deficit, is not expected to have a negative impact on the economy provided that it is sustainable, if the export is highly dependent on imports, it can be said that the economy is not dependent on exports but rather an import dependent growth approach. In this context, the analysis of import dependence of exports in Turkey will be useful.

3. LITERATURE REVIEW

Foreign trade has gained a vital importance for Turkey economy with the liberalization process in 1980s. In this economic system, in which is taken as a basis to export-led economic model, it has been discussed dependence of exports in Turkey and still could not find a definitive solution.

Although there are claims that exports are dependent on imports so economic growth is originated to import, empirical studies on this subject are quite limited.

Esfahani (1991) conducted cross-section analysis on 31 developing country for 1960-73, 1973-81 and 1980-86 periods. In his study, Esfahani expanded Feder's (1982) methodology to include intermediate goods imports. As a result of the addition of intermediate goods to the model, it has observed that the effect of exports, which have a significant and positive effect on growth, has disappeared.

Tuncer (2002) evaluated with a vector autoregressive model to causality relation between export, import, investment and GDP in Turkey by using quarterly period of 1980-2000. It is concluded that there is a two-way and strong relationship between imports and GDP, and a one-way relationship between imports and exports from imports to exports. In the study, it is confirmed that there is an import led growth in Turkey instead of export led growth.

Li, Greenaway and Hine (2003) examined, in their study which consist of 20 developed and 62 developing country, the impact of services imports on economic growth through a dynamic panel approach. As a result of this study, it was found that service imports had a positive and significant effect on economic growth in developed countries, while the impact in developing countries was proved to be negative.

Alam (2003) examined the effects of manufacturing industry exports and imports of capital goods on economic growth in Brazil and Mexico for the period 1955-1990 and 1959-1990. He concluded that imported capital goods, not exports, had significant effects on economic growth.

Gerni, Emsen and Değer (2008) evaluated the interaction of export and economic growth in the Turkish economy in the light of annual data for the period 1980-2006. Although exports have an addictive effect on economic growth, it has been shown that with the addition of imports to the model,

exports have lost their statistical significance. According to study, economic growth originates from import in Turkey.

Aktaş (2010), investigates the relationships among real exchange rate, exports, and imports on a quarterly basis over the period 1989:1 to 2008:4 using the VAR analysis. it is found that import constraints affect exports negatively.

İnançlı and Konak (2011) analyzed the dependence of exports on imports through the automotive sector in Turkey. They observed that the dependency of exports to imports increased in the automobile and related sectors between 1995 and 2002 and that the increase continued between 2003 and 2007. Especially in 2003 and 2004, they argued that most of the inputs required for production were obtained from foreign markets due to the high import / total supply ratios in these years. In 2008, the dependence of exports declined compared to the previous year and in 2009 and 2010 due to the stagnation in foreign trade as a result of the global crisis, the dependence of exports on imports became stagnant.

Chakrabartya and Chakrabartya (2012) analyzed the export and import of black gold (oil) with respect to the Indian scenario. cointegration analysis was done to show that the bivariate relation between exports and imports of oil is negative.

Yıldırım and Kesikoğlu (2012) empirically investigates import-export-real exchange rate causality relationships for Turkey in the period of 2003:1-2011:9 it was used a leveraged bootstrap-corrected MWALD test suggested. Study findings implied that dependence between import and export lead to neutrality of exchange rate policy.

Akbaş and Şentürk (2013) analyzed that import and export transactions, which carried out with France, Germany, Holland, Italy, Spain, Great Britain, Belgium, Luxemburg, Denmark, Russia, the U.S., Iran, Saudi Arabia, China, United Arab Emirates and Iraq whether are dependent one another, in the period 1990:M01-2012:M09. It was concluded that there is a dependence in transactions of import and export, which is the subject of study of Turkey carried out these 16 countries.

Ayan (2018) try to determine the theoretical and empirical relationship between foreign trade and employment variables by using the monthly data from 2005:M01-2014:M02 for Turkish economy. As a result of the study, it was found that exports had a positive effects on employment level, however imports negatively affected employment level for Turkey.

4. DATA, METHODOLOGY AND EMPIRICAL FINDINGS

In order to test the stationarity of the series, firstly, unit root tests were performed with Augmented Dickey Fuller (ADF), Phillips-Perron (PP) and Zivot-Andrews (ZA) test. Then, the causality relationship between the series was examined by using Granger (1969) Causality Analysis. Finally, the cointegration test was conducted and long-term relationship was tested.

4.1. Data

In this study, monthly data for the period between 1992-2019 were used to measure the dependence of exports on imports in Turkey. X represents exports, M represents imports, and basically two variables are used. Exports are considered as dependent and imports as independent variables. Data used in the study were obtained from Central Bank of the Republic of Turkey Electronic Data Dissemination System and adjusted for seasonal effects using moving averages method.

4.2. Method

The closed formula of this study is expressed in the form of $X = f(M)$ the causality relationship between the series was examined by Granger (1969) Causality Analysis, and the cointegration relationship was examined by Engle-Granger (1987) Cointegration Test and the cointegration coefficients were examined by DOLS and FMOLS and in order to examine the dependence of exports on imports.

The reason for using the Engle-Granger method is that all the series included in the analysis are non-stationary at the level values, but are stationary when the differences of the same order are taken, ie $I(1)$, $I(1)$. In addition, the fact that a single cointegration analysis was sufficient to examine the relationship between exports and imports was effective in selecting the Engle-Granger (1987) method.

4.3. Unit Root Tests

Unit root test was performed in this section in order to determine the stationary of the series. According to Gujarati (2000: 797-798), if a series has a constant mean, variance and autocovariance over time, the series is stable. Otherwise, the series are called nonstationary. In other words, if one or more of the mean, variance or covariance of a time series changes with time, this series is nonstationary. Otherwise, the t and F test results are no longer valid in the models constructed with non-stationary series and the results of the analysis are false due to spurious regression problem (Granger and Newbold, 1974).

Firstly, Augmented Dickey Fuller test and Phillips Perron test were used to check the stationary of the series and the results are given in Table 1. Accordingly, it is seen that X and M series are non-stationary in their level values and when first difference of series are taken, they become stationary at 1% significance level, in other words, they are $I(1)$.

Table 1. ADF and PP Unit Root Test Results

	ADF Unit Root Test	**PP Unit Root Test**
X	-0.206 (2) [0.934]	-0.485 (33) [0.890]
M	-0.969 (7) [0.764]	-1.147 (9) [0.697]
D(X)	-18.381 (1) [0.000]	-37.073 (6) [0.000]
D(M)	-8.194 (6) [0.000]	-27.297 (5) [0.000]
Critical Values	%1: -3.45 %5: -2.87 %10:-2.57	%1: -3.45 %5: -2.87 %10: -2.57

Note: The values in parentheses in the ADF test indicate the appropriate lag lengths determined according to SIC. In the PP test, the values in brackets represent the Bandwith values, reflecting the appropriate lag lengths determined according to Newey-West.

On the other hand, in case of structural changes such as crisis periods and policy changes, the explanatory power of these tests decreases. In this case, unit root tests that take structural breaks into account give more effective results. For this reason, Zivot-Andrews unit root test, which considers single structural break, was used in the analysis of the stationarity of the series. According to ADF and PP unit root test results, export and import variables contain unit root. Zivot-Andrews unit root test also confirms that the variables are non-stationary under structural break. Regression results with non-stationary variables may often lead to spurious regression. In this case, it is necessary to determine the cointegration relationship between the variables. If there is cointegration between the variables, the regression results with the level values of the variables will not be spurious. In this case, cointegration analysis is required.

Table 2. Zivot-Andrews Unit Root Test Results

Variables	Zivot-Andrews Test					
	Model A		**Model B**		**Model C**	
X	-3.770 (2)	2006:2	-2.793 (2)	1998:10	-3.629 (2)	2006:2
M	-4.448 (4)	2006:2	-3.738 (4)	2013:3	-4.430 (4)	2010:7
Critical Values						
	%1		**%5**		**%10**	
Model A	-5,34		-4,93		-4,58	
Model B	-4,80		-4,42		-4,11	
Model C	-5,57		-5,08		-4,82	

Note: Model A: Intercept Break, Model B: Trend Break, Model C: Regime (Intercept + Trend) Break. Values in parentheses indicate lag lengths.

4.4. Determination of Lag Length

One of the points to be considered while performing the analysis is what is the lag length in the analysis. For these reasons, after the unit root tests of the variables, the lag length of the model was determined. Since the lag length to be used in the study is not known in real life, the lag length is

determined by an appropriate method. If the lag length is set to be longer or shorter than it should be, the variables will have higher or lower values than they are (Katos, Lawler and Seddighi, 2000: 300).

Likelihood Ratio Test (LR), Akaike Information Criterion (AIC), Schwarz Information Criterion (SIC), Final Prediction Error (FPE) and Hannan-Quinn Information Criterion (HQ) are the most preferred test to determine the appropriate lag length to avoid problems. The results obtained for the optimal lag length are given in Table 3.

Table 3. Lag Length Test Results

Lag	LogL	LR	FPE	AIC	SIC	HQ
0	-5185.954	NA	4.58e+11	32.52636	32.54996	32.53578
1	-5081.968	206.0163	2.45e+11	31.89948	31.97030*	31.92777
2	-5074.001	15.68373	2.39e+11	31.87461	31.99264	31.92175
3	-5065.477	16.67273	2.32e+11	31.84625	32.01150	31.91225
4	-5056.341	17.75702	2.25e+11	31.81405	32.02651	31.89890*
5	-5054.738	3.094855	2.28e+11	31.82908	32.08875	31.93278
6	-5053.541	2.297977	2.32e+11	31.84665	32.15353	31.96921
7	**-5043.657**	**18.83783***	**2.24e+11***	**31.80976***	**32.16386**	**31.95117**
8	-5042.611	1.980974	2.28e+11	31.82828	32.22959	31.98855

(*) It represents the most appropriate lag length determined according to the relevant criteria.

As a result of the established model, the appropriate lag length for the LR, FPE and AIC is 7, 1 for SIC and 4 for HQ. Therefore, (7) is determined as the appropriate lag length with the most consensus.

4.5. Causality Analysis

Granger causality analysis is used when the direction of the relationship between economic variables cannot be verified in terms of economic theory or if it is desired to specify the relationship between variables mathematically. There is no dependent independent variable separation in the Granger test, and the interactions of all variables can be tested simultaneously.

When we want to investigate the causality relationship between X and M, the model to be used in Granger causality analysis is as follows:

$$\Delta X_t = \sum_{i=1}^{m} \alpha_i X_{t-i} + \sum_{i=1}^{m} \beta_i M_{t-i} + u_t \tag{1}$$

The following hypotheses are evaluated according to the results of the equation:

$H_0: \beta_i = 0$, *M is not Granger causal of X.*

$H_1: \beta_i \neq 0$, *M is Granger causal of X.*

Regardless of whether it is a dependent or independent variable, it can likewise be tested with a similar equation to establish a causality relationship from X to M. The fact that the parameters of both equations to be established is non-zero means that both variables are mutually influencing each other, that is, a two-way causality relationship. If one of the two parameters is non-zero, there is a one-way

causality relationship. If both parameters are equal to zero, there is no causality between the variables. Granger (1969) test to determine the causality relationship between exports and imports is presented in Table 4.

Table 4. Granger Causality Analysis

Period	Direction of Causality	F Value	Probability
1992:01 – 2019:04	M → X	4.91	0.00003
	X → M	3.73	0.0007

Note: Granger causality analysis was performed with 7 delays determined by LR, FPE and AIC.

Table 4 shows that there is a Granger causality relationship from exports to imports and from imports to exports. Therefore, the null (H_0) hypothesis, which states that there is no causality, is rejected at 1% significance level. In addition, since the causality relationship between imports and exports is strong, it can be said that imports are quite effective in increasing exports. This relationship is shown in Figure 1.

Figure 2. Export-Import Causality Relationship
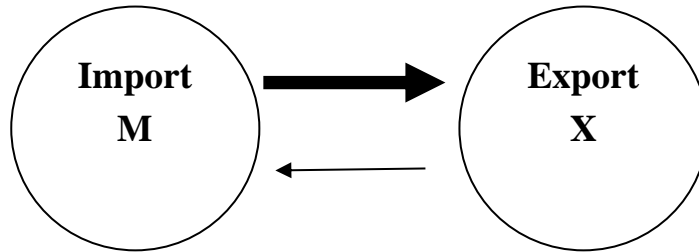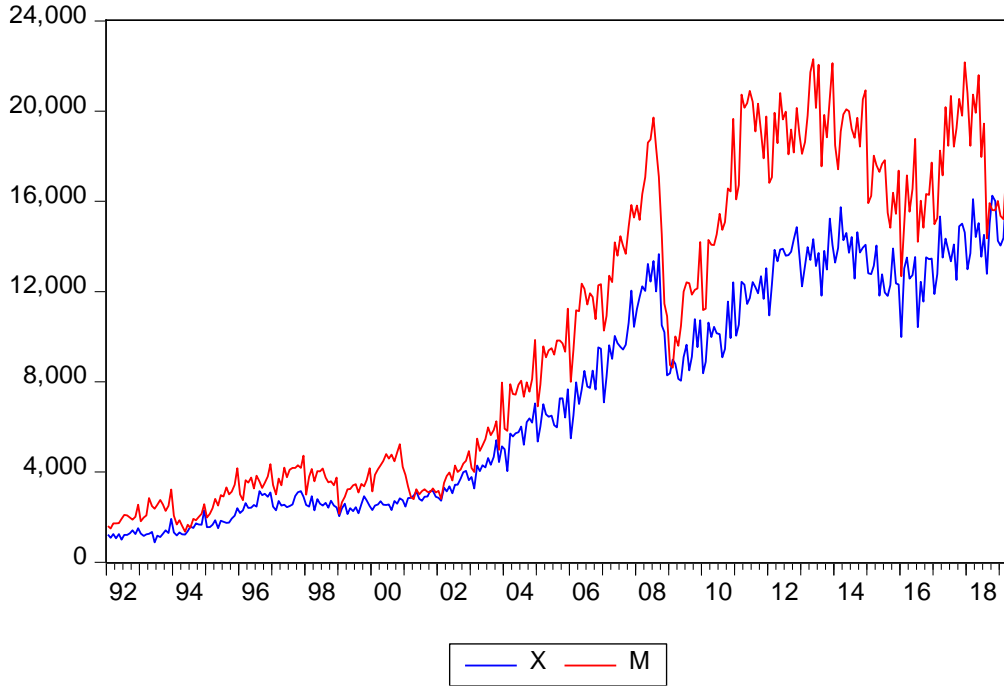

4.6. Cointegration Test

When the level values of many macroeconomic variables are taken into consideration, they are non-stationary, and unfortunately the problem of spurious regression arises in the analyzes made with non-stationary series. Although it is possible to differentiate the series in order to stabilize the series and thus avoid this problem, this method both reduces the effects of the series shocks and eliminates the characteristic features of the series. This makes it difficult to obtain useful information about the long-term relationship between the series.

The cointegration analysis was first designed by Engle-Granger in 1987, indicating that the analysis can be performed without taking the differences of the series. According to the cointegration analysis developed by Engle-Granger (1987), there is a linear combination of these series in case there is a cointegration relationship between the series even if the series values are non-stationary. In other words, provided that the series move together in the long run, it is accepted that the analyzes made with level values will not cause spurious regression problem (Pesaran, Shin and Smith, 2001: 290; Gujarati, 2000).

According to Engle-Granger (1987) cointegration theory, if the *ut* error term series obtained from the estimation made with the level values of the non-stationary series that becomes stationary when the

same amount of difference is taken, the long-term analyzes with the level values give reliable results. However, there are some important conditions for performing the Engle-Granger (1987) cointegration test. The first is the similarity of the trends of the series to be used in the analysis. In order to reveal this relationship, the group graph of *X* and *M* is given in Figure 2.

Figure 3. Export-Import Group Chart

The most important requirement of the Engle-Granger cointegration test is that all series have a unit root in their level values and must be stationary when the same degree of difference is taken. As can be seen from Table 1, they are non-stationary in both *X* and *M* series level values, but they become stationary at 1% significance level when the first differences are taken. In other words, since both series are *I(1)*, it is possible to perform the cointegration analysis of these series by Engle-Granger (1987) cointegration method.

In order to perform Engle-Granger cointegration tests of the series whose similarities are determined in the group graph and proved to be stationary when the difference is taken from the same order, the u_t error term series is obtained by estimating with the level values of the following model.

$$X_t = \beta_0 + \beta_1 M + u_t \qquad (2)$$

The ADF and CRDW (Cointegration Regression Durbin Watson) test statistics obtained by performing ADF unit root test in this series of error terms are compared with the critical values in Engle-Granger (1987: 269) Table II Model 1. If the obtained values are higher than the critical values, it is decided that there is a cointegration, and if it is small, there is no cointegration. The results of the cointegration test are given in Table 5.

Table 5. Engle-Granger Cointegration Test Results

ADF$_{cal}$	ADF$_{tab}$		
	%1	**%5**	**%10**
3.68	3.45	2.87	2.57
CRDW$_{cal}$	**CRDW$_{tab}$**		
	%1	**%5**	**%10**
2.03	0.51	0.38	0.32

In the Table 5, it is decided that there is a cointegration relationship between the series since the calculated test statistics are greater than the critical values in the first case. According to the Table 5, there is a cointegration relationship between the series at a significance level of 1%. Therefore, the series move together in the long run. In this case, the analysis with the level values of the series will not include a spurious regression problem. Long-term analysis can be carried out since the cointegration relationship between the series is determined.

4.7. Long Term Analysis

Although the Least Squares Method is the simplest method to be used for long-term analysis, if the cointegration relationship between the series can be determined, using the Dynamic Ordinary Least Squares or Fully Modified Ordinary Least Squares method, which is developed to more accurately determine the cointegration vector between the series, will reveal better results (Gregory and Hansen, 1996).

The DOLS method was developed by Stock-Watson and this method can produce strong and consistent estimates, even in the case of internality and autocorrelation of the independent variables. (Esteve and Requena, 2006:118). In order to solve these problems in OLS method, it is recommended to include the level values of explanatory variables along with lag and lead of differences.

On the other hand, the FMOLS method provides a correction to deviations from the standard OLS estimator, such as autocorrelation and heteroscedasticity, taking into account the potential correlation between the constant term, the error term, and the differences of the independent variables (Phillips and Hansen, 1990).

Estimation results of study made with DOLS and FMOLS method are given in Table 6.

Table 6. DOLS and FMOLS Estimation Results

Independent Variables	DOLS		FMOLS	
	Coefficients	**t-statistics**	**Coefficients**	**t-statistics**
M	0.482	11.209	0.488	16.886
C	-410.410	-2.856	-432.471	-2.866
@Trend	17.774	3.150	17.434	8.437
R$_2$	0.98		0.97	
Engle-Granger Cointegration Test				
ADF Test Statistics		-3.68	**Critical Value**	-3.45*

* 1% indicates importance level.

According to the results in Table 6, there is a positive and statistically significant relationship between exports and imports in Turkey. When the DOLS results of the examined period are analyzed, one-unit increase in imports leads to an increase of 0.48 units in exports. According to FMOLS results, one-unit increase in imports leads to an increase of approximately 0.49 units in exports. Considering the fact that the import figures are higher in quantity than the export figures, the export, which has a high dependency on imports, increases less both in proportion and quantity in comparison to imports. The trend included in the model is statistically significant.

5. CONCLUSION

Globalization has led to the elimination of distances between countries, the increase in foreign trade volume and the diversification and acceleration of production-consumption behavior. For these reasons, the liberalization process, which is a necessity of globalization, began in the 1980s. Turkey has been almost completely under the influence of this process and has attempted to integrate into global markets. As a natural consequence of this, foreign trade figures started to increase. Due to the increase in foreign trade, the amount of exports also increased considerably. It cannot be denied that the increase in exports will have a positive effect on the economy and growth of the country at the beginning. However, if the dependency on imports is high, the contribution of the increase in exports to the national economy loses its significance. The main reason for this is that the increase of the imported goods in the form of raw materials or intermediates become a necessity in order to increase exports.

In this study, the dependence of exports on imports was tested in Turkey using DOLS and FMOLS methods with monthly data of 1992-2019. According to the unit root tests, it was found that the export and import series had unit root in their level values and when the first difference of both series was taken, it was determined that they were stationary. According to the results of causality analysis, a causality relationship was proved both from import to export and from export to import. The strong causality relationship from imports to exports is evidence of the magnitude of the impact of imports on export growth. Since *X* and *M* series were found to be *I(1)*, cointegration test was performed by Engle-Granger (1987) method and it was concluded that there was a cointegration relationship between the series. Finally, in the long-term analysis, the cointegration coefficients of the independent variable M are approximately 0.48, which is a strong basis for the high dependence of exports on imports. Accordingly, one-unit increase in imports can lead to an increase of only 0.48 units in exports. This leads us to the conclusion that increasing foreign trade may have negative effects aside from the positive consequences on the Turkey's economy. As a result, in order for the foreign trade outputs to become positive, it is necessary to reduce the import by using methods such as selecting the raw materials of export goods from the types that can be obtained through equity, giving importance to intermediate production, leaving the position of installer exporter, providing technological progress, accelerating the R & D investments and increasing the R & D investments.

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