THE TRIPLE DEFICIT HYPOTHESIS AND ITS EFFECTS ON ECONOMIC GROWTH: CASE OF TURKEY

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Abstract

The condition, in which the current account deficit, the budget deficit, and the saving-investment deficit come together in any economy, is called the triple deficit. This paper presents a scientific application of the triple deficit hypothesis and an appreciation of the relationship among the triple deficit components and the economic growth in Turkey within the period 1985-2019. In this paper, ARDL model, bounds test, Error Correction Model and Toda-Yamamoto Test were applied to determine the relationships among the current account deficit, the budget deficit, and the saving-investment deficit. For the triple deficit hypothesis test, the results of the bounds test were significant at a statistical significance of 10%. The results showed that each of the ARDL model and the error correction Model confirmed is the presence of a long-term relationship between the three deficits. As the results of the Toda-Yamamoto Test clarified the existence of a relation tends from the budget deficit and the saving-investment deficit to the current account deficit with a statistical significance at 1%. For the appreciation of the relation among the components of the triple deficit and the economic growth, the results of ADRL model and error correction model pointed out to a co- integration relationship among the current account deficit, the budget deficit, and the saving-investment deficit and fixed capital formation in one side, and the economic growth from the other side. It was found that there are statistically significant long-term relationships between the current account deficit, fixed capital formation, and the rate of economic growth.
Keywords: Triple Deficit, Economic Growth, Toda-Yamamoto Causality Analysis, ARDL.

INTRODUCTION

The triple deficit hypothesis reflects the situation in which the current account deficit, budget deficit, and the savings-investment deficit occur during the same period, with existent impacts of these deficits on each other. While the balance of the budget and the savings-investment balance reflects the internal balance of the economy, the balance of the current account reflects the external balance of the economy. Achieving economic balance and raising the rate of economic growth is one of the most important macroeconomic objectives of countries, especially developing countries. However, some of the policies pursued by countries may lead to some economic imbalances, which is, in fact, due to the country's productive structure and the diverse sources of government revenue. This paper aims to describe both the twin deficit hypothesis and the triple deficit hypothesis, to analyze the existence of the triple deficit hypothesis in the Turkish economy as well as to measure the effects of the components of the triple deficit (the current account deficit, the budget deficit, the savings-investment deficit) on economic growth in Turkey during the period 1985-2019.

THEORETICAL FRAMEWORK
The Current Account Deficit

The current account is the most important account in the balance of payments as it has a strong influence on the level of national income. The occurrence of any surplus or deficit in this account will lead to an increase or decrease in the level of national income. The current account consists of the foreign trade balance of goods and services (exports - imports), the international investment revenue and expenditures account, and the unilateral transfer account. In case the inflows and outflows of foreign exchange during a given year are equal, then the current account is in balance. The current account achieves a surplus if inflows into a state are greater than the outflows. As for current-account deficit, it occurs when the foreign cash inflows from a country are greater than the inflows entering the country.

The current account deficit phenomenon is interpreted as one of the most important problems facing developing countries and many developed countries except for some countries that are rich in natural resources such as oil. The difficulties countries face in financing the current account deficit lead to a financial crisis (Ahmed, 2019: 52).

The current account deficit shows that the country spends more than its income and consumes more than it produces, i.e. it makes negative savings. While the current account deficit is an important problem, there is a problem of even greater importance in reducing or financing this deficit (Saçık ve Alagöz, 2010: 114).

In developing countries, especially in non-oil and natural gas-poor countries that rely on these raw energy materials, current account deficits can occur and this deficit can lead to major economic crises. Because developing countries want, on the one hand, to facilitate their development to reach higher growth rates, on the other hand they want to reach the level of developed countries. In order to achieve these goals, it can be said that developing countries are particularly in need of intermediate and investment goods. Their external dependency therefore is at a very high level. This association with the outside results in current account deficit. In addition, developing countries do not have sufficient resources for the investments needed to achieve the required growth rates. This deficit, which is described as a savings-investment deficit, can only be closed by foreign borrowing, which in turn leads to the deficit of current account. (Akın, 2013: 5-6).

As for the current account deficit financing process, defining a policy based on foreign currencies and short-term and high-interest borrowing policy that is implemented to attract foreign capitals to the country places the developing countries in a vicious and long-term cycle of debt and interest (Sen, 2007: 63). How to finance and sources of financing that are relied upon to cover the current account deficit are among the most important topics to be taken into account. For example, if the current account deficit is financed by short-term capital movements, investor confidence in the economy will decline. If, however, the deficit is financed by long-term foreign direct investment (FDI), international investors will be more confident in the economy because the current account deficit does not cause a major problem in the economy if it is financed directly from foreign capital investments. (Akın, 2013: 2). The current account deficit problem has also been an important problem for Turkey such as other developing countries since the second world war (Dilek, 2020, s.276-278).

The Budget Deficit

Budget deficits can be expressed as the difference between government expenditures and government revenues during a given year. In other words, when government revenues from taxes and other sources of government income are unable to cover expenditures, the so-called budget deficit appears. The budget deficits problem is one of the problems experienced by developed and developing countries alike, where the budget deficit causes macroeconomic imbalances, and in order to eliminate the negative effects caused by the budget deficit on the economic balance, the causes that led to this deficit must be reduced.

The reasons for the budget deficit differ from one country to another according to the economic conditions, the economic structure of the state and the extent of government interference in economic activity. According to (Şen vd. 2007: 61), it is possible to divide the causes of the budget deficit into two main parts. The first section deals with the causes of the budget deficit in developed countries, namely, increased spending on social security, the increase in the number of people benefiting from public services, changes in the understanding of state administration and financial policy, the sense that access to public services is a natural and mandatory responsibility of the state, the emergence of structural unemployment and its increase, stagnation, and productivity low growth. The other section deals with the causes of the budget deficit in developing countries, such as, the low level of economic development, the slow rise in public revenues, the marked instability in public revenues, the dominance of the state and control of spending, and the extent and efficiency of the state in the economy.

As for the sources of budget deficit financing, they can be summarized as follows: First, monetization. Here, the central bank prints an amount of cash equal to the value of the bonds issued by the government in order to finance the budget deficit, which leads to an increase in cash supply and create inflationary pressures (Ünsal, 2001: 420). Second, borrowing from the private sector. In this process, the government borrows from individuals, institutions and banks that fall within the borders of the state by selling bonds, which in turn leads to higher interest rates and thus a decrease in the level of private investment and productivity, which will lead to a decrease in the growth rate. Third, borrowing from overseas. In this case, the government borrows from global financial markets or other governments, and as a result of the direct correlation between debt payments and their interest abroad at the exchange rate, the exchange rate will be affected at the time of offshore loan repayment. Fourth, using of foreign exchange reserve, which will lead to a decline in foreign exchange reserves and the devaluation of national currency. Therefore, the government can finance some or all of the sources, taking into account the impact of each source, and weighting among the least sources that negatively affect the macroeconomic indicators (Yaşar, 2014; 28).

The Savings-Investment Deficit
Savings is defined as the remaining part of income after consumption while Investment is the part of savings that is used in capital formation for the purpose of generating income in the future, where the process of capital formation is the main engine for economic development and economic growth. The accumulation of capital is achieved by increasing savings and allocating them to investments. Therefore, economic growth can be seen as a function of savings. The domestic savings in a country is the sum of public savings resulting from the surplus of the public budget with the savings of the private sector. Similarly, the domestic investment is the sum of the public investment and the private sector investment. In the case where the savings are greater than or equal the investment, there is no need for external borrowing. But if the private sector's investment is greater than the private sector's savings, it shows what is called a savings-investment deficit and is financed by external borrowing, which in turn increases the current account deficit. There are many factors that contribute to the savings-investment deficit, notably monetary and fiscal policies, foreign trade policy and some government social policies. Thus, the interest rate is one of the factors that play the most effective role in the savings – investment deficit. Low interest rates may lead to the increase of investments and reduce private savings. Besides, changes in the income level also affect savings. Low income levels keep savings low (Altiner & Bozkurt, 2019, 85).

The Twin Deficit Hypothesis
The twin deficit hypothesis expresses the positive relationship between the budget deficit and the current account deficit. The twin deficit hypothesis is one of the most discussed topics among economists, especially since the 1980s, where the emergence of high current account deficit in conjunction with the high budget deficit in the United States raised the question of whether these deficits affect each other. Many economists' research and studies have been directed to ascertain the fact that

there is a relationship between these two deficits. Given the results of the research and studies carried out, a generally positive relationship was found between these two deficits, known in economic literature as the twin deficit hypothesis.

Interest in studying these deficits has increased in both developed and developing countries. In developed countries, the study of these two deficits aimed at determining the effectiveness and effects of foreign financial, monetary and trade policies adopted by successive governments in the United States and Western European countries to ensure continued economic growth. In developing countries, interest in these two deficits and the assumed relations between them is a result of the persistence of these two deficits for long periods in many developing countries, and the suffering of their economies from chronic economic problems that impeded the development process and led to structural imbalances in the performance of those economies (Ahmed, 2019; 1). With the emergence of the twin deficit hypothesis, two different approaches have emerged to explain the relationship between these two deficits.

The first approach is the Keynesian approach: According to this approach, it is the state budget deficit that causes the deficit of the current account. In the event of a budget deficit, the state will borrow from the private sector or the outside world, thus reducing domestic savings, leading to higher domestic interest rates, which leads to the entry of foreign capital into the state, which in turn leads to increased demand for the national currency and its appreciation, which makes the value of the commodities lower than the prices of locally produced goods, increasing the demand for imports and in return the demand for exports, and the result is an increase in the current account deficit.

The other approach is the Ricardian Equivalence Hypothesis, which states that there is no relationship between the budget deficit and the deficit of the current account, and that they are independent of each other because tax cuts or increased expenditure will not affect the spending behavior of the private sector. According to the Ricardian Equivalence hypothesis, individuals are rational and therefore they expect that the government's tax cut or the issuance of government bonds to finance the increase in spending will result in a tax burden on future income, thus individuals will increase savings to offset this tax burden in the future. The shortfall in government savings will be offset by an increase in private savings and therefore national savings will not change and there will be no impact of the budget deficit on the current operations account deficit (Alkaswani, 2000).

Many of the literature and research have addressed the two previous assumptions as the main assumptions of the relationship between the two deficits, and it should be noted here that there are two other assumptions regarding the twin deficit: the first assumption is that the deficit in the calculation of current operations is the cause of the state budget deficit, considering that the decrease in exports as a result of any factors other than the budget deficit forces the government to increase spending leading to the emergence of the budget deficit. The second assumption is that the causal relationship is two-way between the two deficits, i.e. they cause each other and are affected by it.

The Triple Deficit Hypothesis

The triple deficit is defined as the situation in which the savings-investment deficit is associated with the twin deficits in the same period. In other words, the situation in which the budget deficit, the current account deficit and the savings-investment account deficit occur in a particular economy during the same period. After the emergence of the twin deficit hypothesis, several studies were conducted to test the relationship between the budget deficit and the current account deficit in many countries. However, despite the recent decline in the budget deficit in many countries, the current account deficit continued to rise, which led to the addition of the savings-investment deficit as one of the components of the internal economic balance alongside the budget deficit, as a result of which the so-called triple deficit hypothesis emerged.

In order to say that there is a triple deficit in the economy, these deficits must affect each other. In other words, if there is a current account deficit, a budget deficit and a deficit in the savings-investment balance in an economy, with no causal relationship between these deficits, we cannot say that there is a triple deficit hypothesis (Kamacı & Kara, 2019;145).

The theoretical basis for the triple deficit phenomenon can be obtained by using the domestic income equation in an open economy as follows (İpek & Ayvaz Kızılgöl. 2016; 427)

$$\square = \square + \square + \square + (\square - \square) \tag{1}$$

As an alternative to equation 1, which shows the total spending volume, equation 2 showing the income size is obtained as follows

$$\square = \square + \square + \square \tag{2}$$

By combining equation 2 with equation 1 we get the following equation

$$\square = \square + \square + \square + (\square - \square) = \square + \square + \square \tag{3}$$

Using this equation, the basic principle of equalizing inflows and outflows can be achieved;

$$\square + \square + \square = \square + \square + \square \tag{4}$$

The left side of the equation indicates the total outflows, while the right side equals the total inflows. The triple deficit equation can be achieved by modifying equation No. 4, which also shows the sources of external disability

$$(\square - \square) = (\square - \square) + (\square - \square) \tag{5}$$

Equation No. 5 shows the relationship between public and private sector accounts (internal balance) with external balance. Where the right part of the equation shows the balance of the public sector (T-G) Which reflects the balance of the budget, and the balance of the private sector (S-I) It reflects the balance of savings - investment. While the left party expresses the balance of foreign trade, which is the most important item in the current account. From here we can say that a deficit in the external balance is due to a budget deficit or a savings - investment account or both. In the event that the current account deficit is associated with the budget deficit only, it can be said that the hypothesis of the twin deficit exists. In the event that the current account deficit coincides with the budget deficit and the savings-investment deficit in the same period, this case indicates the existence of the triple deficit hypothesis.

METHODOLOGY AND DATA SOURCES

In this paper, the existence of the triple deficit hypothesis has been studied, along with analyzing the relationship among the components of triple deficit and economic growth in the Turkish economy during the period between 1985-2019 The annual data was used for four variables: the current account deficit, the budget deficit, the saving-investment deficit, and the economic growth. The investment was expressed in fixed capital formation, and the economic growth was expressed in the real GDP growth rate. Deficits were also used as a percentage of the GDP variable for easy interpretation. In addition, fixed capital formation was used as a percentage of GDP as a variable affecting economic growth. The data were expressed in Turkish lira, and the data was obtained from the Turkish Ministry of Development and the World Bank.

Long-term relationships between variables are usually tested with the co-integration tests of Johansson 1988 and Angel-Granger 1987. However, the prerequisite for these tests is that the time series of the variables included in the model to be integrated at the same degree.

In this article, the autoregressive distributed lag (ARDL) bounds co-integration technique which was developed by Pesaran and Shin (1999) and Pesaran et al. (2001) will be applied to determine the relationship among the current account deficit and the budget deficit and the saving-investment gap, as well as analyzing the

relationship among these deficits and the economic growth in the Turkish economy. In our model, a linear estimation equation given in eq. (1) is created. This equality gives the long-term relationship.

$$CA_t = \alpha_0 + a_1 BD_t + a_2 S\dot{I}G_t + \epsilon_t ....(1).$$

Error correction model short-term dynamics are shown in eq. (2).

$$\Delta CA_t = \beta_0 + \sum_{j=1}^{p} \beta_{1j}\Delta CA_{t-j} + \sum_{j=0}^{q} \beta_{2j}\Delta BD_{t-j} + \sum_{j=0}^{m} \beta_{3j}\Delta S\dot{I}G_{t-j} + \theta\epsilon_{t-1} + \mu_t ....(2).$$

ARDL model was created by combining eqs. (1) and (2) and shown in eq. (3).

$$\Delta CA_t = \varphi + \omega_0 CA_{t-1} + \omega_1 BD_{t-1} + \omega_2 S\dot{I}G_{t-1} + \sum_{j=1}^{p} \beta_{1j}\Delta CA_{t-j} + \sum_{j=0}^{q} \beta_{2j}\Delta BD_{t-j} +$$
$$\sum_{j=0}^{m} \beta_{3j}\Delta S\dot{I}G_{t-j} + \theta\epsilon_{t-1} + \mu_t ....(3).$$

The following relationships are valid here.

$$\varphi = \beta_0 - \theta a_0, \omega_0 = \theta, \omega_1 = -\theta a_1, \omega_2 = -\theta a_2$$

In order to achieve long term results in the estimation results of the ARDL model, it is normalized with the help of the relations below.

$$\theta = \omega_0 , \alpha_1 = -\frac{\omega_1}{\theta}, \alpha_2 = \frac{\omega_2}{\theta}$$

Toda-Yamamoto causality test based on VAR model was used to examine the direction of the relationship between variables in the long -run. While the Granger (1969) test required the stationarity of series, there is no such requirement in the Toda-Yamamoto (1995) causality test. In other words, series was included in the analysis regardless of the degree of stationary. This ensures that the series contains more information and successful results (Çil Yavuz, 2006; 169).

In the Toda and Yamamoto test, since the degree of integration of the variables and the number of lags have been determined before, only the number of lags is added (k + dmax) to each variable (Toda, Yamamoto, 1995).

1. Appropriate Number of Lags

In co-integration tests, the appropriate number of lags should be determined in order to test the stationarity of time series. In the study, the optimal lag was determined using the VAR model according to the values provided by Schwarz Information Criterion (SC) and Akaike Information Criterion (AIC) standards.

Table 1. Results of the optimal lag .

lag	AIC	SC
0	31.35977	31.54836
1	27.84162	28.78458
2	28.03088	29.72821
3	28.21796	30.66967
4	27.11694	30.32301
5	26.46181	30.42225
6	20.49370*	25.20851*

* indicates lag order selected by the criterion

This table illustrates that the optimal lag is number 6, where the value of the criterion at this period is the minimum.

2. Unit Root Test:

In this test the stability of time series will be determined for all variables of the study. (Augmented Dickey-Fuller) test was applied, and the results were as follow:

Table 2. Results of (Augmented Dickey-Fuller)

		Econoic Growth	Current Account Deficit	Budget Deficit	Saving-Investment Deficit	Fixed Capital Formation
At Level						
With Constant	t-Statistic	-6.1101	-2.8815	-1.8474	-4.2898	3.7506
	Prob.	*0.0000*	*0.0580*	*0.3522*	*0.0018*	*1.0000*
		***	*	n0	***	n0
With Constant & Trend	t-Statistic	-6.0116	-3.7068	-1.9654	-3.9237	-0.4704
	Prob.	*0.0001*	*0.0355*	*0.5987*	*0.0218*	*0.9802*
		***	**	n0	**	n0

		D(Econoic Growth)	D(Current Account Deficit)	D(Budget Deficit)	D(Saving-Investment Deficit)	D(Fixed Capital Formation)
Without Constant & Trend	t-Statistic	-2.1035	-2.0704	-1.0511	-3.8082	6.2441
	Prob.	**0.0358**	**0.0385**	**0.2587**	**0.0004**	**1.0000**
		**	**	n0	***	n0
At First Difference						
		D(Econoic Growth)	D(Current Account Deficit)	D(Budget Deficit)	D(Saving-Investment Deficit)	D(Fixed Capital Formation)
With Constant	t-Statistic	-9.8531	-6.6121	-5.1624	-6.8098	-3.7296
	Prob.	**0.0000**	**0.0000**	**0.0002**	**0.0000**	**0.0081**
		***	***	***	***	***
With Constant & Trend	t-Statistic	-9.6966	-6.4938	-5.1041	-8.2396	-5.5326
	Prob.	**0.0000**	**0.0000**	**0.0012**	**0.0000**	**0.0004**
		***	***	***	***	***
Without Constant & Trend	t-Statistic	-10.0029	-6.7300	-5.2445	-6.7173	-2.7183
	Prob.	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0081**
		***	***	***	***	***

Note: *, **, *** indicate 10%, 5% and 1% significance respectively.

Table 2 shows that variables are different instability degrees, thus it is good to apply ARDL model for co-integration and Toda-Yamamoto causality test.

The result of the triple deficit hypothesis test:
ARDL Long Run Form and Bounds Test have been applied for the co-integration among the current account deficit, the budget deficit, the saving-investment deficit. The six lags were determined using the VAR model. The results are in table 3:

Table3. Bounds Test Results

F-Bounds Test		**Null Hypothesis: No levels relationship**		
Test Statistic	**Value**	**Signif.**	**I(0)**	**I(1)**
F-statistic	3.464643			
		10%	2.63	3.35
k	2	5%	3.1	3.87
		2.5%	3.55	4.38
		1%	4.13	5

Note: k is the number of independent variables in the equation.

From table 3 we understand that F-statistic value (3,464) is larger than the value of the highest limit at a significant level of 10%. Therefore, we reject the Null Hypothesis that says that there is no co-integration among the current account deficit, the budget deficit, and the saving-investment deficit. We accept the co-integration among the mentioned variables at a significant level of 10%. The long-term counterforce is as follow:

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
BUDGET DEFICIT	-0.657892	0.204615	-3.215275	0.0062
S-I	0.224822	0.380786	0.590416	0.5643
C	-5.206551	1.911417	-2.723922	0.0165

The counterforce shows that there is a negative long-term relationship between the current account deficit and the budget deficit. İf the budget deficit increased by 1%, this will lead to a decrease in the current account deficit in 0.65% at

1% significant level. There is no statistical significance for the relationship between the saving-investment deficit and the current account deficit.

Table 4. Error Correction Model Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(CA(-1))	0.159033	0.254454	0.624996	0.5420
D(CA(-2))	0.138624	0.245666	0.564277	0.5815
D(CA(-3))	0.799099	0.274072	2.915660	0.0113**
D(CA(-4))	0.323159	0.185578	1.741359	0.1035
D(CA(-5))	0.247670	0.155407	1.593679	0.1333
D(S-İ)	0.861544	0.145875	5.906036	0.0000***
D(S-İ(-1))	-0.141804	0.198805	-0.713280	0.4874
D(S-İ(-2))	-0.142679	0.180711	-0.789539	0.4430
D(S-İ(-3))	-0.770954	0.213532	-3.610476	0.0028***
D(S-İ(-4))	-0.305932	0.078633	-3.890617	0.0016***
D(S-İ(-5))	-0.115193	0.076179	-1.512132	0.1527
CointEq(-1)*	-0.871868	0.212535	-4.102227	0.0011***

Note: *, **, *** indicate 10%, 5% and 1% significance respectively.

From table 4, we notice that the value of Error Correction Term is negative and significant at level 1%. This represents the speed of adjustment towards long-run equilibrium.

Toda-Yamamoto Causality Test Results:
The causality relationship between the variables was examined by Toda-Yamamoto causality analysis. According to the unit root test results, the maximum stationary degree of the series (dmax) was determined as 1. The appropriate lag length (k) was determined as 6 lags based on the SC and AIC information criteria. Thus, [k + dmax = (6 + 1) = 7] causality analysis was applied within the framework of the 7th order VAR model. The causality test results are shown in Table 5.

Table 5. Toda-Yamamoto Causality Test Results

Dependent variable: Current Account Deficit		
Excluded	Chi-sq	Prob.
Budget Deficit	27.12224	0.0001
Saving- İnvestment Gap	13.97619	0.0299
All	33.51961	0.0008
Dependent variable: Budget Deficit		
Excluded	Chi-sq	Prob.
Current Account Deficit	7.137570	0.3083
Saving- İnvestment Gap	22.00890	0.0012
All	33.74261	0.0007
Dependent variable: Saving- İnvestment Gap		
Excluded	Chi-sq	Prob.
Current Account Deficit	17.39012	0.0080
Budget Deficit	20.76949	0.0020
All	46.25518	0.0000

Table 5 shows that there is a causal relationship from the budget deficit and the saving-investment gap to the current account deficit, and this relationship is statistically significant at the level of 1%. In addition, there is a causal relationship from the current account deficit to the budget deficit and at 1%level of significance. On the other hand, there is a statistically significant causal relationship at 1% from the current account deficit and the budget deficit to the saving-investment gap.

Estimating The Long-term Relationship Between the Three Gaps and Economic Growth

Since the requirements to apply the ARDL model are satisfied (that the variables must be unstable at the same degree, and the dependent variable (growth) is stable in the first difference), this model will be applied to see if there is a long-term relationship between the triple deficit and the economic growth in Turkey.

Table 6. Bounds Test Results

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	7.615187	10%	3.03	4.06
k	4	5%	3.47	4.57
		2.5%	3.89	5.07
		1%	4.4	5.72

Note: k is the number of independent variables in the equation

Table 6 illustrates that the value of F-statistic (7,615187) is larger than the highest limit of the Null Hypothesis at a significance level of 1%. So we reject the Null Hypothesis that states the absence of a co-integration among the variables of the study, and we accept the existence of a co-integration at a significant level of 1%.

The long-term counterforce among the components of the triple deficit (as independent variables) and the economic growth (as a dependent variable) was as follow:

Table 7. ARDL Long Run Form

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Current Account Deficit	-1.000861	0.421984	-2.371797	0.0257
Budget Deficit	-0.359140	0.317377	-1.131589	0.2685
Saving- İnvestment Gap	-0.114625	0.122915	-0.932556	0.3600
Fixed Capital Formation	0.237753	0.113199	2.100303	0.0460

Table 7 shows that there is a long-term relationship with a statistical significance between the current account deficit and the rate of economic growth, and the relationship between them is a negative relationship. It also shows that there is a positive relationship in the long term between fixed capital formation and the rate of economic growth. As for the budget deficit and the saving-investment deficit, the relationship between them and economic growth was not statistically significant.

Table 8. Error Correction Model Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.179283	1.292815	4.779710	0.0001
TREND	-0.546959	0.094927	-5.761861	0.0000
D(Current Account Deficit)	-1.644413	0.195099	-8.428631	0.0000
D(Budget Deficit)	0.352396	0.250036	1.409378	0.1710
CointEq(-1)*	-0.909177	0.136802	-6.645907	0.0000

Table 6 shows that the value of Error Correction Term is negative and significant at the level of 1% and this expresses the speed of adjustment towards long-run equilibrium.

RESULT

The current account deficit is considered one of the most important benchmarks for investors because it expresses their confidence in the economy. Focusing on some studies, the increase of the current account deficit over 5% shows a benchmark of an economic crisis. İf there is also a deficit in the budget and a deficit in the savings-investment with the current account deficit, is the so called triple deficit problem appears.

This article studied weather the triple deficit hypothesis is existing or not. Moreover, it predicted the relationship among the components of the triple deficit and the Turkish economic growth within the period 1985-2019.

The applied tests confirmed the existence of common complementation among the triple deficit components and a long-term relationship with a statistical significance at 10%. Toda-Yamamoto Test clarifies that there is a causality relationship among the three deficits as follow:

There is a causal relationship from the budget deficit and the savings-investment gap to the current account deficit and this relationship is statistically significant at the level of 1%. Also, there is a causal relationship that tends from the current account deficit to the budget deficit and at the level of significance 1%. On the other hand, there is a statistically significant causal relationship at 1% that tends from the current account deficit and the budget deficit to the savings-investment gap.

The relationship among the components of the triple deficit, fixed capital formation and the real GDP growth rate was estimated, and there was a co-integration between the variables and a long-term relationship of statistical significance at 1%. The results were as follows: there was a long-term relationship with a statistical significance between the current account deficit and the rate of economic growth, and the relationship between them was a negative relationship. In addition, it has been shown that there was a positive long-term relationship between the fixed capital formation and the rate of economic growth. As for the budget deficit and the saving-investment deficit, the relationship among them and economic growth was not statistically significant.

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