



The Cost of Economic Growth in Turkey: Unavoidable Increase in Current Deficit

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ABSTRACT

In this study, the relationship between economic growth and current deficit is analyzed for Turkish economy with the annual data covering the period 1990-2015. Two variables; one is gross domestic product and the other one is current deficit, have taken place in the analyses. Time series data related to variables have been tested with ADF and PP Unit Root Tests, and it has been observed that the variables are stationary in the first level. In order to determine the causality relationship between variables, Granger Causality Test has been applied, and a unidirectional causality relationship from economic growth to current deficit has been found. Finally, Regression and Correlation Analyses have been applied in order to determine the direction and the degree of the relationship. The Regression Analysis has revealed that 1% increase in economic growth causes 3.43% increase in current deficit. In other words, the increase in growth causes increase in current deficit by affecting the balance of current account in a bad way.

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1. Introduction

Economic growth defines the increase in the amount of final goods and services produced in a country for a particular period (Czech, 2000:4). Also, economic growth defines the long-term increases in production capacity, which concerns lodgment part of economy, as a reflection of the increases in per capita real income (Kuznets, 1973: 247). Although the macroeconomic variables which affect and are affected by economic growth vary, their relationship with balance of current account has become an interesting subject for the researches for the last few years. The balance of current account is defined as the account group in which funds flows between two countries in a particular time in order to purchase or sell goods, services or financial assets are followed (Madura, 2008: 22).

In the balance of current account, which consists of goods-service, factor income and giro, the export of goods and services' being more than their import, the increase in investment income and the increase caused by the surplus of obtained unrequited transfers are called current account surplus. On the contrary, current account deficit represents the import of goods and services' being more than their export, the decrease in investment income and the decrease in balance of current account caused by surplus of unrequited transfers made with other countries. In this regard, balance of current account's being negative means that the domestic spending is more when compared to income (Carbaugh, 2009:348).

Economic growth is one of the most important factors causing current account deficits or causing expansion in existing deficits. Since current account deficits emerge depending on the decreases in saving rates or the increases in investment scale, the investment capacity will rise due to the increase in expected profit level as a result of increases in growth rate. The expectation of profit level increase in the future leads to decrease in savings. Thus, rapid economic growth will play a role that increases current account deficits. On the contrary, the current account deficits tend to decrease due to the contradirectional movement of savings and incomes in the periods when economic activities slow down (Roubini and Wachtel, 1998:6).

In the study, the annual data of Turkish economy between 1990 and 2015 have been used. In the content of this sample, the causality relationship and correlation relationship between economic growth and current account deficit have been analyzed by using time series techniques. The study consists of five sections. Following introduction; the second section is The Relationship between Economic Growth and Balance of Current Account in Turkey, and the third section is Literature Review. In the fourth section, the methodology used in the study is explained and in the fifth section, the results of econometric analysis take place. The study has been completed with the conclusion section in which there is a general evaluation.

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2. Literature Review

The relationship between economic growth and current account deficit, and how they affect one another has been a conspicuous subject for the researchers for the last few years and many studies have been made on this subject. In this section, a literature review of previous local and foreign studies involving economic growth and current account deficit are presented.

Eken (1990) analyzed the key determinants of balance of current accounts for 1980-1988 periods with three-month data by using Least Squares Method and found out that there is not a very strong relationship between balance of current account and growth rate. However, Eken determined that high income elasticities existing for import was an indicator of the dependency on import and indicated that the subject situation would lead to decays in balance of current account at the high growth speed.

Debelle and Faruquee (1966), who analyzed the determinants of balance of current account for twenty-one developed countries for 1971-1993 periods by using cross-section and time series methods, ascertained that the countries which have a rapid economic growth rate tended to have current account deficit with a high rate. Bagnai and Manzochi (1998) designated the transformations in the balance of current account of forty-nine developing countries for 1965-1994 periods via structural break tests and tested the relationships between these transformations and basic macroeconomic variables by using panel data analysis. The obtained results showed parallels with Debelle and Faruquee (1966)'s results. Hereunder, the increases in growth rate cause increases in current account deficit. Chin and Prasa (2000), who studied balance of current account for seventy-one developed and developing countries for the 1971-1995 periods by using Least Squares Method and Fixed Effects Model (FEM), suggested that there was a rather weak relationship between growth rates and balance of current accounts in the developed and developing countries in contrast to the study made by Debelle and Faruquee (1996).

Milesi-Ferreti and Razin (1999) ascertained that there is not a systematical relationship between increases in growth rate and changed in balance of current account by using Least Squares Method and Probit Model for 105 countries belonging to low and middle income groups for the 1971-1992 periods. Calderon et.al. (1999), who analyzed the relationship between basic macroeconomic variables and balance of current accounts for forty-four developing countries with data involving the 1966-1994 periods by using Generalized Moment Method (GMM) and found that there was a inverse and weak relationship between growth rate and current account deficit. The researchers determined that a 1% increase in growth rate caused a 0.33% increase in current account deficit.

Kandil and Greene (2002) studied the sensitivity of balance of current account against cyclical movements in the United States of America with the data of 1960-2000 periods by using Johansen-Juselius co-integration and Vector Error Correction Models and they ascertained a long-term and inverse causality relationship between growth rate and balance of current account. Aristovnik (2002) analyzed determinants of current account deficits of thirteen Central and Eastern Europe countries owning economies in transition with the annual data of 1992-1999 periods by using FEM method and found a weak relationship between growth rate and current account deficit. Aristovnik determined that a 1% increase in growth rate caused a 0.30% increase in current accounts deficit.

Tarı and Kumcu (2005) approached the relationships between economic growth and some macroeconomic indicators for the 1983-2003 periods in Turkey; and found that in the periods when rapid growth rates occurred, the current account deficits increases, and also current account surpluses appeared in the periods when economic recessions happened. Erkiılıç (2006), who analyzed the key determinants of current account deficit for Turkey for the periods 1980-2005 and 1987:4-2005:4, confirmed in his study, for which Least Squares Method and VAR (Vector Autoregressive Model) were used, that there was a causality relationship from growth rate to current account deficit in the three-month data. The researcher drew the attention additive effect of economic growth on current account deficit by suggesting that relatively high growth rate occurred with the effect of dependency of growth highly on the import in the periods when increasing current account occurred.

Erbaykal (2007) studied the causality aspect of current account deficit by using the data of GDP, real effective exchange rate and balance of current account belonging to the periods of 1987:01-2006:03 of Turkey. In the study, economic growth was found to be the cause of current account deficit; however, a causality relationship from current account deficit towards economic growth couldn't be acquired. Telatar and Terzi (2009) tested the relationship between economic growth and balance of current accounts with the data of three-months involving the period 1991:04-2005:04 for the Turkish economy. The authors, who analyzed the relationship between variables via Granger causality and VAR analysis, concluded that there was a unidirectional causality from growth rate to balance of current account. In other words, an increase occurring in growth rate led to decays in balance of current account.

Yılmaz and Akıncı (2011) analyzed the relationship between economic growth and balance of current account for the 1980-2010 periods of Turkish economy. In order to determine the causality relationship between variables, Granger causality test was applied and a unidirectional causality relationship from gross domestic product towards balance of current account was found.

3. The Relationship Between Economic Growth and Balance of Current Account in Turkey

There are two different approaches in the relationship between economic growth and balance of current account. According to the first approach which is commonly accepted, there is an inverse and strong causality relationship between economic growth and balance of current account (Debelle-Faruqee, 1996, Bagnai, 1998, Kandil-Greene, 2002). According to this approach which claims that the increase in growth rate causes decays in balance of current accounts, it is possible to find the traces of this inverse relationship between economic growth and balance of current account in many developing countries, especially Turkey is the in first place. As a significant part of developing countries grow depending on import, decays in balance of current account emerge as a consequence of the increases in the rates of economic growth. According to the second approach, there isn't a weak or systematical causality relationship between the increase in growth rate and current account deficits (Telatar, Terzi, 2009: 119).

The reasons of current account deficit in Turkey are based on the factors such as economic growth, overvaluation of Turkish Lira, not attaching enough importance to the new strategies in industry, tourism and the other service sectors that supplies foreign exchange, and foreign-source dependency for energy. While it can be observed that there is a recovery in many economic indicators in Turkish economy in the last term, the increase in current account deficit attracts the attention as a serious problem. The current account deficit, which was \$ 3 million in 2002, reached the level of \$ 15.3 million in 2004, \$22.4 million in 2005, \$39 million in 2007, \$76 million in 2011 and \$53.4 million in 2015 by increasing constantly. Especially, since 1990 economic crisis' having been caused by payment balance; and before the years of crisis, Current Account Deficit/Gross Domestic Product (GDP) ratio's exceeding 4-5% threshold value suggested in the literature bring the concern that these are the indicators of a possible economic crisis into question. Especially, it is observed that Current Account Deficit/GDP ratio frequently exceeded 4-5% threshold value in the period 2000-2006. Another aspect attracting attention in 2000-2006 periods is the constant increase in economic growth rate. The impact of rapid and high rated increase in import is quite a lot on the increase in growth rate. High amount of import inputs used by developing countries in their productions leads to decrease in the rate of export's satisfying import, and also it leads to the decay in the balance of foreign trade and current account. The inverse relationship between growth rate and balance of current account can be observed in the economies of many developing countrie; in addition to this, Debelle and Faruqee (1996) found out that the developed countries as well were at risk of decay in balance of current account caused by rapid economic growth (Telatar, Terzi, 2009: 120-122).

The inverse relationship between economic growth and balance of current account began to become explicitly outcrop in Turkish economy starting from 1990s. The only exceptions of this situation are the crisis periods of 1993-1994 and 2000-2001. In the subject periods, balance of current account became surplus because of the devaluations.

Table 1. Current Deficit and Economic Growth in Turkey

| Years | Current Deficit (million \$) | GDP (million \$) |
|-------|------------------------------|------------------|
| 2001 | 773 | 196736.2 |
| 2002 | -3.059 | 230494.2 |
| 2003 | -8.574 | 304901.3 |
| 2004 | -15.315 | 390386.8 |
| 2005 | -22.434 | 481496.9 |
| 2006 | -32.982 | 526429.4 |
| 2007 | -39.02 | 648753.6 |
| 2008 | -41.611 | 742094.4 |
| 2009 | -13.691 | 616703.3 |
| 2010 | -46.091 | 731608.4 |
| 2011 | -76.121 | 773979.7 |
| 2012 | -49.367 | 766292.6 |
| 2013 | -64.814 | 819562.4 |
| 2014 | -44.959 | 813316.9 |
| 2015 | -53.455 | 896458.1 |

Source: IMF (International Monetary Fund)

It can be seen that in the periods when the economic growth increases in Turkey, the current account deficit increases, as well; and in the contrary situation, in the periods when the growth decreases, the current account deficit decreases, as well (Table 1). Low growth rates emerging generally in the crisis periods when the current account surplus occurs is and indicator of that situation. In the short-term, it is notably hard to change this production structure based on import input in Turkey. As a result, Turkey's obtaining high-rated

growth figures in the following periods will depend on the prerequisite of having current account deficit as it was in the recent years (Telatar, Terzi, 2009: 133).

4. Methodology

4.1. Stationarity Concept in Time Series and Unit Root Tests

Before analyzing the causality relationship between variables, the stationarity levels of series must be determined. Spurious regressions can occur in the studies made with non-stationary time series. Although high R^2 and significant t statistics values can come into question in spurious regressions, parameter estimations are economically insignificant. In this case, stationarity of the time series which will be used must be tested in order to avoid spurious regression in the studies made with time series (Ümit, 2007: 160).

$$X_t = c_0 + j.X_{t-1} + e_t \quad (1)$$

In the equation with the number (1), if $|j| < 1$, X_t series is stationary; if $|j| = 1$, X_t series is non-stationary. For most of the economic time series, autoregressive coefficient j must be equal or less than one. If $j > 1$, it is not economically logical. In the autoregressive equation with the number (1), $j=1$ is known as “the process whose differences are stationary” and most of the economic time series are observed as the process whose differences are stationary. In such process, when $j=1$, X_t series are called to be integrated in the first degree (Utkulu, 1993: 309). Dickey and Fuller (1987) suggested an easy and suitable method of the integration test of X_t in the equation (1) and it is known as Dickey Fuller Test (DF).

Although DF Test is an important step in measuring the integration degree, it does not take the autocorrelation in the error terms into consideration. If the error term is with e_t autocorrelation, DF test (Dickey-Fuller) will be void. In this case, Dickey and Fuller suggested adding the lagged values of dependent variable into the model as explanatory variable as a solution; and that way the autocorrelation will be removed. This test, which is named as Augmented Dickey-Fuller (ADF), is accepted as the most effective test among the tests that are used in order to determine the integration degree and it is applied commonly in practice (Charemza, Deadmen, 1999: 103-104).

Various methods have been offered with the aim of overcoming some deficiencies of Dickey and Fuller test. One of them is another alternative unit root test –Phillips Perron (PP) test. Dickey and Fuller rules out the effect of structural breaks on autoregressive process (AR). In order to eliminate this problem, by developing his own test in 1989, Perron aimed to prevent DF test from accepting the wrong hypothesis related to breaks. In addition to that, Dickey and Fuller’s hypothesis about error terms stating that they are statistically independent and they have constant variance was augmented by Phillips-Perron; and they included the effects of being different of the standard error of the error term into the process. With this object in mind, they developed a nonparametric unit root test. As a result, the obligation of not having autocorrelation between error terms takes place in this test (Kir, 2011: 64).

The regression used in Phillips-Perron unit root test is as follows (Enders, 1998: 239).

$$Y_t = \beta_0 + \beta_1 Y_{t-1} + \beta_2 \left(T - \frac{N}{2} \right) + \mu_t \quad (2)$$

In the equation with the number (2), “ N ” is the number of observation and “ μ ” is error term. In this test, “ $\beta_1 = 1$ ” hypothesis is tested. In order to accept or reject these hypotheses, the test statistics of Phillips-Perron unit root test are compared to the critical table values that are used for Augmented Dickey-Fuller (ADF) unit root test; and according to the results, zero hypotheses are either accepted or rejected. Accordingly, it is decided if the series are stationary or not (Altunç, 2008: 118).

In this study, Augmented Dickey-Fuller (ADF) and Phillips-Perron tests have been used in determining the stationarity situations of the series.

4.2. Causality Analysis

Granger suggests a causality analysis commonly used in the economic literature in order to reveal the direction of the causality between inspected variables. Granger put the concepts of causality and exogeneity forward. Accordingly, if adding information belonging to variable X into the model contributes to the estimation of variable Y , variable X is the cause of variable Y . Granger Causality analysis requires estimation of the regression established on the each endogenous variable’s own and the other variable’s lagged values (Granger, 1969: 553-560).

In this study, Granger Causality Analysis has been used in order to analyze the causality relationship between economic growth and current account deficit. This analysis is carried out with the following two equations.

$$Y_t = \alpha_0 + \sum_{i=1}^{k_1} \alpha_i Y_{t-i} + \sum_{i=1}^{k_2} \beta_i X_{t-i} + u_t \quad (3)$$

$$X_t = X_0 + \sum_{i=1}^{k_3} \chi_i X_{t-i} + \sum_{i=1}^{k_4} \delta_i Y_{t-i} + v_t \quad (4)$$

Granger causality analysis is carried out by testing if the coefficients of the lagged values of the independent variable, which take place before the error term in the model above, are equal to zero as a group or not. If the β_i coefficients in the equation (3) are found different from zero in a certain level of significance, it is concluded that X is the cause of Y. Similarly, if the δ_i coefficient in the equation (4) is found different from zero in a certain level of significance, it indicates that that Y is the cause of X. In this case, there is a mutual causality relationship between Y and X. Provided that only β_i coefficients in the equation (3) are different from zero, there is a unidirectional causality from X to Y; and provided that only δ_i coefficients in the equation (4) are different from zero, there is a unidirectional causality from Y to X. In case, both β_i coefficients and δ_i coefficients are not different from zero, there is not any causality relationship between these two variables. In the original Granger Causality Analysis, k_1 , k_2 , k_3 , and k_4 , show the length of lagging; and u_t and v_t show the error terms (Işığık, 1994: 93).

4.3. Regression and Correlation Analysis

Regression and correlation methods are beneficial in analyzing the relationship between two or more variables. Regression analysis is divided into two; simple regression analysis revealing the relationship between two variables, and multiple regression analysis revealing the relationship among the variables that are more than two. Generally, the basis of regression and correlation analysis is related to determining and measuring the shape, direction and degree of the relationships between two or more variables. While the regression analysis tries to determine the shape of relationships between variables numerically, correlation analysis reveals the degree of these relationships.

The linear relationship between two variables can be formulated as one dependent variable and one independent variable; as it is shown below:

$$Y = \alpha + \beta X + \varepsilon \quad (5)$$

In the equation (5); Y is dependent and X is independent variable; and ε is error term. In order to decide which one of the observations to represent dependent variable and which one of the observations to represent independent variable, it is necessary to decide which one affects the other. This requires having information about the observations. The method generally used in obtaining the regression equation is Least Squares Method. The basis of Least Squares Method is related to total amount of the squares of the deviation from regression straight line of the variable Y's being minimum. In this sense, regression straight line means the same with arithmetic mean (Çakıcı et.al, 2003: 139-167).

The correlation coefficient is a measurement that shows the degree of the relationship between variables. When the value of it is between 0 and 1, it is positive correlation; when the value is between 0 and -1, it is negative correlation. When the correlation coefficient is zero, there is not any relationship between variables; when it is 1 or -1, there is a complete correlation. If the correlation coefficient is between 0 and 0.49, the relationship is weak; and if it is between 0.50 and 0.74, the relationship is average; and finally, if it is between 0.75 and 1, the relationship is strong. The notation of the correlation coefficient depends on the notation of the β coefficient in the regression equation. If β is positive, correlation is positive; and if β is negative, correlation is negative (Akkaya and Pazarlıoğlu, 1998: 85-86).

5. Results and Discussion

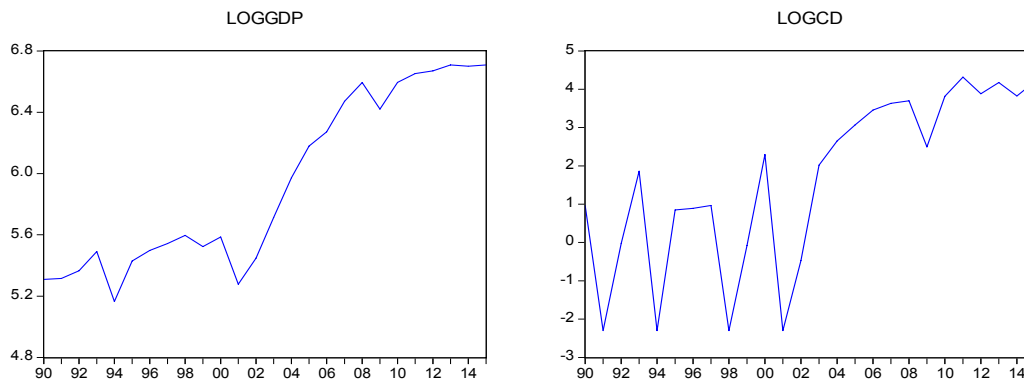
5.1. Data Set and Variables

In this study, the relationship between economic growth and current account deficit for the years between 1990 and 2015 have been researched by using time series analysis and the numerical results have been evaluated. Initially, in order to avoid the small fluctuations that time series can show, the logarithms of the values have been taken in the study. Later, Augmented Dickey-Fuller Test (ADF) and Phillips-Perron Test (PP) have been applied in order to determine if the values belonging to two variables are stationary or not. After that, Granger Causality Test has been applied in order to determine the causality relationship between variables and finally, Regression Analysis and Correlation Analysis have been applied in order to determine the direction and the degree of the relationship.

In the study, how the changes happening in economic growth in Turkey between 1990 and 2015 affected current account deficit has been studied. In order to do that, the annual economic growth data and annual current account deficit data of the subject period have been used. The variables used in the practice have been compiled from the website database of IMF (International Monetary Fund) and CBRT (Central Bank of The Republic of Turkey).

In Figure 1, the changes of these data in time can be seen. GDP stands for Economic Growth; and CD stands for Current Account Deficit in the analyses.

Figure 1. GDP and Current Account Deficit Graphs



When the series showing GDP and CD data between 1990 and 2015 are analyzed, the results are as follows: Both of the graphs have an increasing trend in a similar manner especially in the recent years. Except for 1994, 2001 and 2009; it attracts attention that each year GDP increases when compared to previous year. Similarly, except for the sharp drops and sharp increases in 3-4 years between 1990 and 2001, it is seen that CD tends to increase.

5.2. Unit Root Tests Results

The time series used in the model must be tested in order to determine if they are stationary or not. As Granger and Newbold (1974) shows, spurious regression problem can occur in case the researchers work with non-stationary time series. In that case, the result obtained with regression analysis does not reflect the real relationship (Gujarati, 1999).

Series' having unit root indicates that it is not stationary. When the fixed data of the ADF and PP statistics are analyzed, the following can be said for GDP and CD series: it is seen that they do not stationary structure in the level and they do not show a distribution around a certain average. When the first differences are taken, it is seen that the test statistics are bigger than the critical values determined by Mackinnon as absolute value. Thus, when the first differences of GDP and CD are taken; that is, in $I(1)$, it ensures the stationarity hypothesis (see. Table 2 and Table 3). In Figure 2, the graphs of stationary series whose first differences are taken are given.

Figure 2. Graph of GDP and CD with Differences Taken

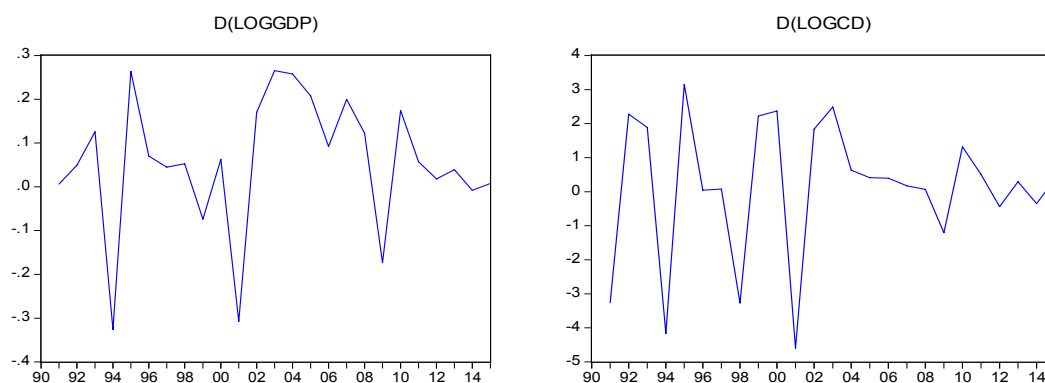


Table 2.: ADF Unit Root Test Results

| Variables | MacKinnon Critical Values | ADF – t Statistics | |
|-----------|----------------------------------------------|--------------------|------------------|
| | | Level Values | First Difference |
| GDP | %1=- 3.7240 %5 = -2.9862 %10= -2.6326 | -0.4001 (0) | -5.3001 (0)*** |
| CD | %1 = -3.7240 %5 = -2.9862 %10= -2.6326 | -2.3388 (0) | -7.7919 (1)*** |

NOTE: The values in brackets give the length of lagging chosen according to SCI criteria. The critical values for ADF were obtained by MacKinnon (1996). ***p<.01, **p<.05, *p<.1.

Table 3.: PP Unit Root Test Results

| Variables | MacKinnon Critical Values | PP – t Statistics | |
|-----------|----------------------------------------------|-------------------|------------------|
| | | Level Values | First Difference |
| GDP | %1= -3.7240 %5 = -2.9862 %10= -2.6326 | -0.4001 (0) | -5.2989 (1)*** |
| CD | %1 = -3.7240 %5 = -2.9862 %10= -2.6326 | -2.3575(4) | -7.0498 (11)*** |

NOTE: The values in brackets give the length of lagging chosen according to SCI criteria. The critical values for PP were obtained by MacKinnon (1996). ***p<.01, **p<.05, *p<.1.

5.3. Granger Causality Test Results

“Granger Causality Test” was developed by Granger in order to test if a variable is the cause of the other variable or not in a model which is formed in order to estimate a variable. With this test, the causality relationship between variables is explained. The length of lagging in the causality analysis is determined by using Akaike Information Criterion and the length of lagging is taken as 2. In Table 4, the obtained results are presented.

Table 4: Granger Causality Test Results

| Hypotheses | F-statistics | Probabilistic |
|-----------------------------|--------------|---------------|
| CD is not the cause of GDP. | 0.5773 | 0.5709 |
| GDP is not the cause of CD. | 7.1893 | 0.0047 |

According to the results of Granger Causality Test, Ho hypothesis stating that CD is not the Granger cause of GDP is accepted (with 0.5709). Ho hypothesis stating that GDP is not the Granger cause of CD is rejected in 1% significance level (with 0.0047). Thus, it is understood that there is a unidirectional causality relationship between economic growth and current account deficit which is from growth to current account deficit. As a consequence, it is concluded that economic growth is the cause of current account deficit and the changes happening in economic growth affect the current account deficit. This result corroborates the studies of Erkiliç (2006), Erbaykal (2007), Yılmaz and Akıncı (2001), and Telatar and Terzi (2009).

5.4. Correlation and Regression Analysis Results

Before starting regression analysis, the causality relationship between GDP and CD must be revealed. If there is not any causality relationship between these two series, the results of regression analysis is not meaningful in terms of economics; even if it is statistically significant. Also, it is necessary to determine the direction of causality in order to decide which series will take place as the dependent variable (result) and which series will take place as independent variable (cause) in the model that will be set up for regression analysis. As the causality relationship in the study is from economic growth to current account deficit, a regression analysis in which the current account deficit takes place as the result and economic growth takes place as the cause can be set up.

The regression analysis results between these two variables for the subject period are displayed below.

Table 5. Regression Analysis Results (Dependent Variable = CD)

| VARIABLES | COEFFICIENT |
|----------------|----------------------|
| FIXED | 18.7125 (4.9013)* |
| GDP | 3.4357 (5.6442)* |
| R ² | 0.7568 |
| DW | 2.042 |
| F stat.(Prob.) | 0.007 |

*Note: The numbers in brackets are t statistics. * mark expresses significance in 1% level.*

In Table 5, the results of regression analysis are given by using the equation (5). When the regression analysis results obtained as a consequence of solving the equation (5) are evaluated; as the coefficient probability values are less than 1%; H₀: rejected, H₁: accepted and the coefficients are significant. For the complete significance of the model, F probability is viewed and as it is less than 1 %; H₀: rejected and H₁: accepted and it can be said that the model is significant. It is seen that “t” value belonging to economic growth is statistically significant in a level which is close to 1% and the relationship is in the positive direction. Also, the rate of determination coefficient (R²) is 0.75 which close to be called a high rate. On the other hand, the value of D.W (Durbin-Watson) statistics (2.04) obtained from the regression analysis indicates that there is not any serial dependence problem between error terms of the model.

When the results of regression analysis are economically evaluated, it is understood that the relationship between growth and current account deficit in Turkey is in positive direction. The positive mark of the GDP coefficient shows that. In the periods 1990-2015, a 1% increase in economic growth is expected to create a 3.43% increase in current account deficit. Moreover, when the growth is fixed, current account deficit is expected to be 18.71. The positive relationship between variables obtained with regression analysis is seen in Correlation Analysis (see. Table 6). Correlation Analysis is an analysis applied in order to determine the direction and the strength of the relationship between two variables. The correlation coefficient is valued between -1 and +1.

Table 6. Correlation Analysis Results

| Variables | CD | GDP |
|-----------|----------|----------|
| CD | 1.000000 | 0.769997 |
| GDP | 0.769997 | 1.000000 |

When the data in Table 6 are evaluated, it can be said that the correlation between current account deficit and growth is positive (0.76) and there is a strong degree of relationship.

6. Conclusion

The current account deficit problem which emerges paralleled especially with the increasing import is the leading subject that is discussed in the economic literature. In today's world in which economic and financial globalization movements accelerates and in which all of the world's economies are trying to be integrated into each other, the increase in foreign trade volume and the accompanying current account deficit problem due to high growth rates in Turkish economy in the last decade have led more researches to be done and the relationship between growth rates and balance of current account to become a current issue (Yılmaz and Ekinci: 2011, 374).

In the study, the relationship between economic growth and balance of current account have been analyzed with the help of Granger Causality Test, Regression Analysis and Correlation Analysis by using annual data of 1990-2015 periods. In this regard, first of all, the subject variables have been subjected to ADF and PP Unit Root Tests and it has been detected that they are stationary in their first differences. As a result of Granger Causality Test of the study that includes the periods 1990-2015 for Turkey; it has been concluded that economic growth is the cause of current account deficit and the changes happening in economic growth affect the current account deficit. In the Regression Analysis, it has been found that a 1% increase in economic growth creates a 3.43% increase in current account deficit. Finally, in the Correlation Analysis, it has been detected that there is a positive and strong relationship between current account deficit and economic growth. When the literature is reviewed, the obtained results support Eken (1980), Debelle – Faruqee (1996), Bagnai – Manzochi (1998), Erkilic (2006), Erbaykal (2007), Yılmaz – Akıncı (2011) and many other studies. Also, the study supports the commonly stated situation that Turkish economy grows depending on the current account deficit.

Current account deficit's increase when compared to volume and GDP is an important risk factor for a country. In this regard, the people who are responsible for the economic policies cannot be expected to be indifferent to the current account deficit problem. However, dropping the share of current account deficit inside GDP is not a possible situation with short-term politics. The way to overcome this problem is to apply a steady economic policy and structural processes within medium and long term plans. Although it is not fully possible to remove the current account problem in the developing countries such as Turkey, encouraging the entry of short and long term portfolio and foreign direct investments into the country plays an important role for the problem to gain a sustainable qualification. In this context, gaining economic, political, social and administrative consistency in the country in order to minimize the subject problems becomes an important aim (Yılmaz and Ekinci: 2011, 374).

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