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# Testing The Taylor Rule: The Case of Turkey

## *Taylor Kuralının Sınanması: Türkiye Örneği*

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ÖZ

Bu çalışmanın amacı 2005:1-2019:1 dönem için aylık verilerle ARDL yöntemi kullanarak TCMB'nin faiz kararlarını Taylor Kuralı'na uygun bir şekilde alıp almadığını sınamaktır. Bulgular; uzun dönemde, Türkiye Cumhuriyet Merkez Bankası'nın politika faizi kararlarını hem çıktı açığına hem de enflasyon açığına göre aldığını ancak politika faiz kararının enflasyon açığıyla ilişkisinin daha güçlü olduğunu göstermektedir. Kısa dönemde ise sadece enflasyon açığıyla arasında ilişki bulunmuş olup çıktı açığıyla arasında herhangi bir anlamlı ilişki bulunamamıştır. Sonuç olarak TCMB, uzun dönemde hem fiyat istikrarına hem çıktı istikrarına göre karar alırken kısa dönemde sadece fiyat istikrarına odaklanmaktadır.

A B S T R A C T

The aim of this study is to test whether the TCMB makes interest rate decisions in accordance with Taylor Rule by using ARDL method with monthly data for 2005: 1-2019: 1 period. The results show that the Central Bank of the Republic of Turkey has taken policy interest rate decisions both in terms of the output gap and the inflation gap in the long term, but the policy interest rate decision is stronger in relation to the inflation gap. In the short term, there was only a relationship between the inflation gap and the output gap. As a result, the TCMB has decided on both price stability and output stability in the long run, while focusing only on price stability in the short run.

## 1.    Introduction

The Central Bank of the Republic of Turkey's (CBRT) policies that implemented between 1990-1999 and that aimed at ensuring stability in the financial markets was transformed into a price stability program based on the exchange rate target

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regime in 2000 due to the inability to control inflation, but reduced confidence in policymakers and the crisis in 21 February 2001 caused the program to cease. In February of the same year, exchange rates were left to fluctuate. Then on April 25, 2001, significant amendments were made to the CBRT law. According to the law; "the main purpose of the Bank is to provide price stability. The bank directly determines the monetary policy it will implement to ensure price stability and the monetary policy instruments it will use. The bank supports the government's growth and employment policies, provided they are not contradicted in order to ensure price stability." provision has been made (CBRT Law, 2001). This law provides the Central Bank with two options. These; the main objective of monetary policy is to achieve price stability or to ensure output stability that supports growth and employment without compromising price stability. If the bank chooses price stability as its sole target, it will be called the "strict inflation targeting regime." He would have preferred a "flexible inflation targeting regime" if he had set his goal of supporting government policies in addition to his main goal. The CBRT, which is independent in its monetary policy instruments, uses policy rates as an effective tool like any modern central bank (Özatay, 2015, pp. 245-277). If the central bank reduces its "weekly repo interest rates", which it chooses as policy interest rates, a rise in output will occur and this will have an upward effect on inflation. This is called" expansionary monetary policy". Conversely, if the Central Bank thinks that the economy is overheating, it will increase policy interest rates, decrease in output will occur and this will have an effect on lowering inflation.  This is also called "tightening monetary policy". In line with policy interest rates, it is an optimization model for which regime the CBRT would prefer. According to Svensson, the Taylor Rule-like monetary policy-like rule is a good minimization equation for central banks in inflation- intermediate targeting (Svensson, 2000, pp. 155-183). The aim of this study is to determine whether the CBRT follows a Taylor Rule-type rule that respects price stability and prefers flexible inflation targeting or is rigid inflation targeting, based on 169 observations in 2005: 1-2019: 1. In the later part of the study, theoretical infrastructure will be given first, econometric analysis will be carried out, and what the findings mean for Turkey will be given in the conclusion part.

## 2.    Theoretical Infrastructure

According to Article 4 of the CBRT Law, the first target is price stability. However, in the literature and in practice, there are two different views as to whether inflation targeting can be regarded as a rule-like monetary policy. Svennson was the first of those who expressed an opinion that it was acceptable. In his article, Svensson compared inflation targeting reaction functions to other monetary policy targeting, he found inflation targeting to be more realistic and appropriate (Svensson, 2000, pp. 155-183). According to him, this assumption is based on the minimization of the resulting loss function given the goals of central banks. Again, Svensson explains why inflation targeting is a better intermediate target for central banks, and why exchange rate and money growth

targeting lags behind it (Svensson, 1997, pp. 1111-1146). Moreover, what this article states is that the Taylor Rule is a good optimization function for central banks that do inflation targeting. The common practice today is that modern central banks adopt inflation targeting as a rule, although those on the opposite side agree that inflation targeting cannot be regarded as a rule-like monetary policy. However, there is a variety of criticism and criticism in this direction. Since Modern central banks have objectives, it is possible to demonstrate these objectives on a target basis in the form of a function. How much the central bank has deviated from its purpose can be said by looking at this function. The purpose function of the central bank, which assumes that the purpose is a general economic stability, can be written as follows:

$$L = (\pi_t - \pi^h)^2 + \lambda(y_t - y_n)^2 \tag{1}$$

Since the central bank, which targets inflation, will not want to disturb price stability indirectly, it will not want the output level to move away from its normal rates. The aim of the Central Bank is to keep the $L$ value in Equation (1) as minimum as possible (Özatay, 2015, pp.393-436). The Taylor Rule says similar things to this equation and optimizes for some kind of goals. But differently, variables are not squared, it tells us at what rate central banks should set policy interest rates by predicting how far they will diverge from their natural levels or set targets.

$$i = (r_n + \pi^h) + \theta(\pi_t - \pi^h) + \beta(y_t - y_n) \tag{2}$$

It is also possible to express the Taylor Rule, such as Equation (3), if we accept $(r_n + \pi^h)$ as a constant number.

$$i = \theta(\pi_t - \pi^h) + \beta(y_t - y_n) + \varepsilon_t \tag{3}$$

Assumptions accepted for Equation (3); $(r_n + \pi^h)$ is a fixed number. $i$ is the dependent variable determined by the CBRT based on the values that other variables will take. The remaining statements were accepted as independent variables. while $\pi^h$ is the inflation target set by the CBRT, $y_n$ gives the level of output (natural output ratio) that should be for the economic stability of the country.  The Equation (2) refers to the original Taylor Rule. Taylor is a prominent U.S. economist and worked during the George Bush era as the second man, undersecretary of the U.S. Treasury (Özatay, 2015, pp.393-436). In his work on interest rate, he shows the policy interest rate that the central bank must set because if there is a change in inflation changes or the difference between the natural level of output, it will create inflationary pressure (or vice versa) (Taylor, 1993, pp. 195-214). Applications related to interest, output and inflation and the findings obtained from these applications vary according to countries. Ongan tested the Taylor Rule with simple OLS and found a relationship between interest-inflation and interest – exchange rate but found no meaningful relationship between interest-production deficit (Ongan, 2004). One of the most notable among the studies carried out is that of Garnier & Wilhemsen. Thanks to Wickesel, they will put forward the idea that "there is a level where the real interest rate will be

consistent with the output in potential and constant inflation based on the use of a natural real interest rate in central bank estimates." The method proposed by Laubach and Williams to jointly estimate the natural real interest rate and output gap in the euro area in the last 40 years; They stated that the interest rate has decreased in the euro area in the last four decades, while it was a money stimulating factor between 1960 and 1970, it was used in 1980 and 1990 to soften the output gap and inflation (Garnier et. al, 2005). Another example of Turkey is Pehlivanoğlu study looked at whether short-term interest rates act based on a certain rule. In doing so, Taylor-type interest function was taken into account and GMM technique made forward estimates. During the analysis period, he determined the validity of Taylor Rule in Turkey. He made inferences that the central bank's efforts were not aimed at ensuring price stability but at minimising fluctuations in output (Pehlivanoğlu, 2014, pp.115-126). Unlike Ongan, Aklan et.al the study in which they used the GMM method for the period 2002-2006 shows that short-term interest rates changed to ensure price stability and that the CBRT reacted to the exchange rate and production deficit when making interest decisions (Aklan et. al, 2008, pp.21-41). Darıcı (2010, pp.39-66), In his article comparing the Interest Rate Smoothing Rule to the Classical Taylor Rule; Interest Rate Levelling was found to be more successful in explaining the real movement of the short-term interest rate. Alkın et. al In their study for 2006-2015 period, unlike the other studies in the literature, they used asymmetric causality to explain the relationship between interest, output gap, inflation and Exchange rate, and found asymmetric causality relationship between interest and inflation, but only negative shocks given to interest rate. output gap positively affected (Alkın et. al, 2018, pp.121-125).

## 3.    Econometric Analysis

This section will be discussed under three headings. In the first part, data set and variables will be given, then econometric method will be discussed and latest findings will be given.

### 3.1.    Data and Variables

The data includes monthly data for the period 01.2005-01-2019 and includes 169 observations in order to include the effects of the explicit inflation targeting in 2006. TRLIBOR was preferred as endogenous variable since the CBRT did not have an interest rate policy on the specified dates. So, we can call the Policy Interest and the first effects of the CBRT's decisions are seen in TRLIBOR. TRLIBOR is an acronym for the reference interest rate, which is determined as the Turkish Lira interbank sales rate. Transactions between 10:30-11.45 are announced in 8 separate terms, such as daily, weekly, monthly, by taking 5 random quotes entered between 10:45-11:45 hours and subtracting the smallest and highest quotes and taking the arithmetic mean of the remaining quotes. In this study, weekly maturity is preferred in order to be in line with the weekly repo rate selected by the CBRT as the policy rate. The Industrial Production Index was selected and adjusted for seasonal effects both in order to comply with the monthly data and to make a production-based analysis. Inflation and inflation target are derived from the same data source to be compatible with each other. The institutions, names and abbreviations of the variables mentioned in the article are as shown in Table 1. The "policy interest" decreased between 2005 and 2006 due to both the reduction in oil prices and the positive news from the EU regarding the Turkish economy. In 2008-2010, interest rates were decreased to reduce the effects of the U.S.-based mortgage crisis and to stimulate the shrinking domestic and to stimulate the shrinking domestic market. The interest rate, which maintained its optimistic behavior until 2016, started    to increase in order to suppress the effect of increasing inflationary pressure.
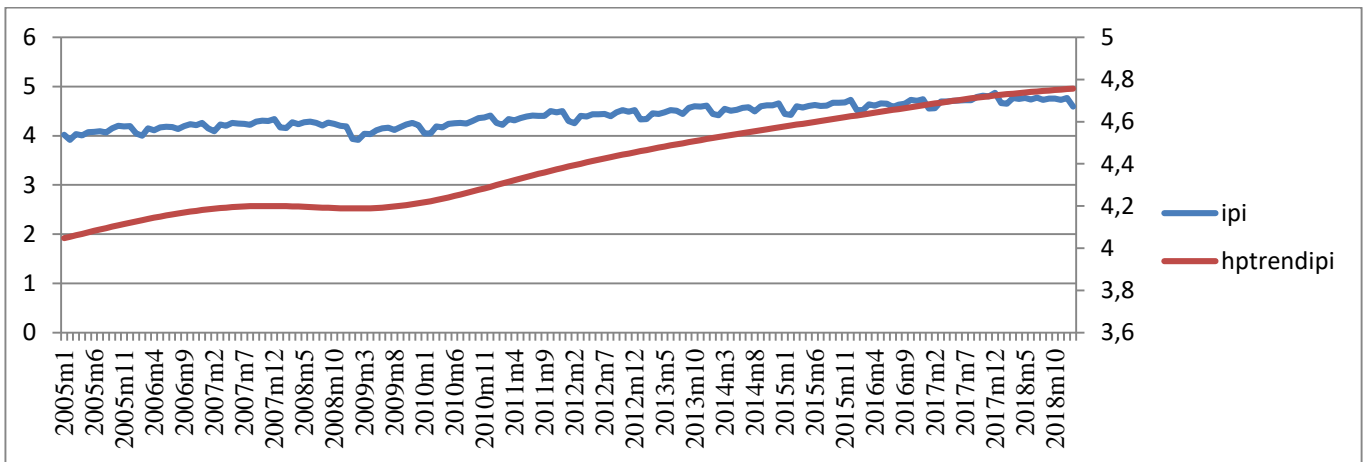
**Table 1.** Data and Data Sources

| Data Sources | Data Name | Acronym |
|---|---|---|
| TRLIBOR | Reference Interest Rate | i |
| TUIK | Industrial Production Index | ipi |
| CBRT | Inflation Target | $infh$ |
| CBRT | Nominal Inflation Rate | $inf$ |

**Graph 1.** Policy Rate
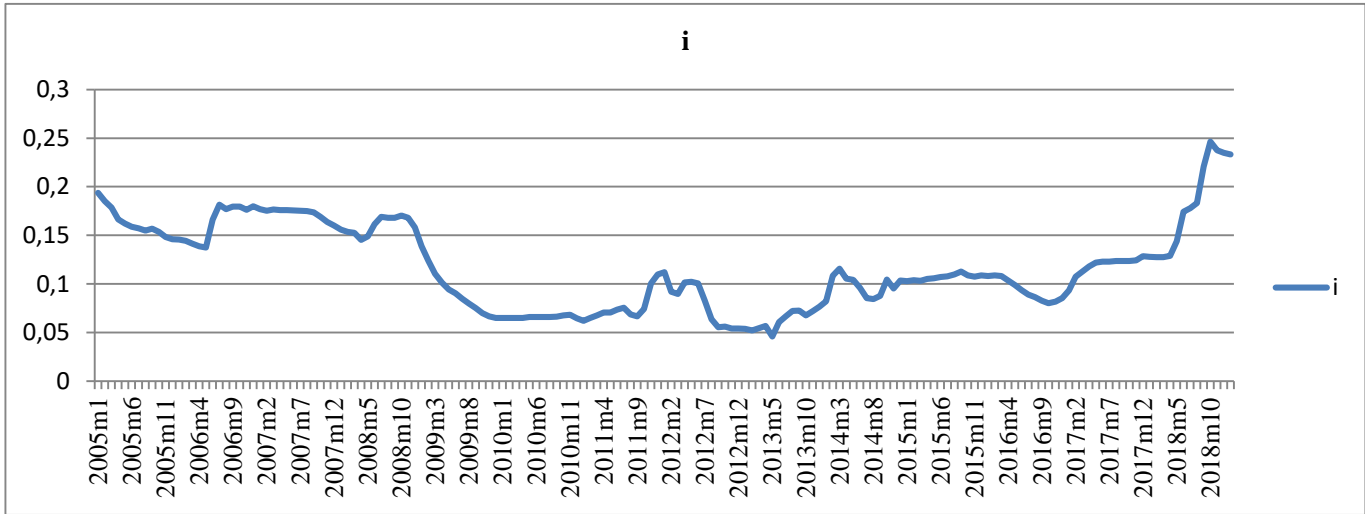


**Graph 2.** Output and HP Filter Output



"Industrial Production Index (Output)" series has been converted to output deficit as in Graph 3 by passing "hp filter" to become suitable for use in the model. The Graph 3 gives important clues that the output deficit curve series is stationary, fluctuating around zero.

**Graph 3**. Output Deficit
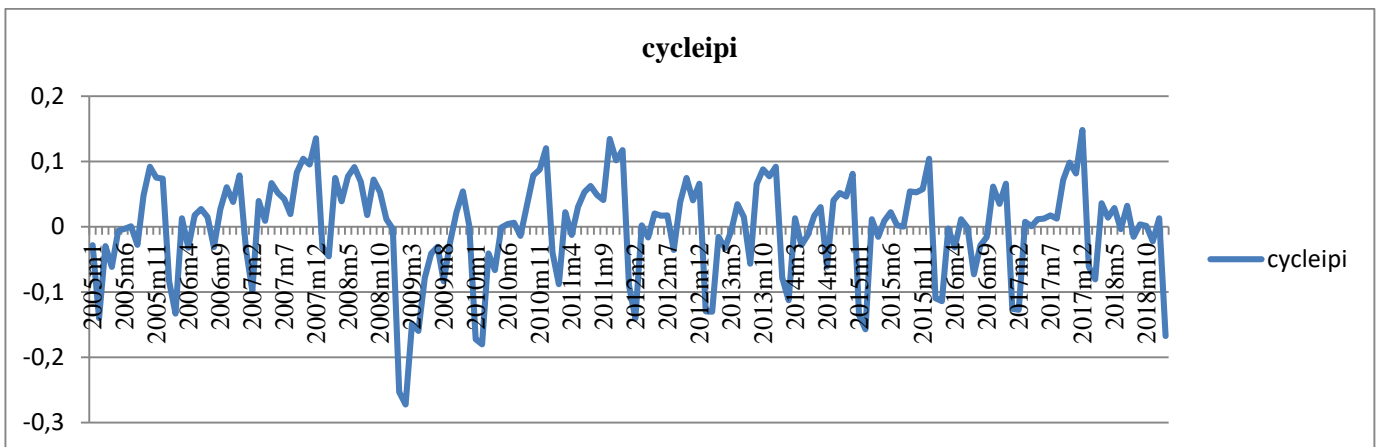
In order to comply with the predicted model, the inflation targets of the CBRT were removed from the current inflation and the inflation deficit was achieved. Inflation, which remained in the single digits until 2016 as seen in Graphs 4

and 5, showed a big increase after 2016. Similarly, according to Graph 5, it is observed that the difference between the inflation forecast of the CBRT and the realization is opened, especially after 2016.

**Graph 4.** Inflation Rate
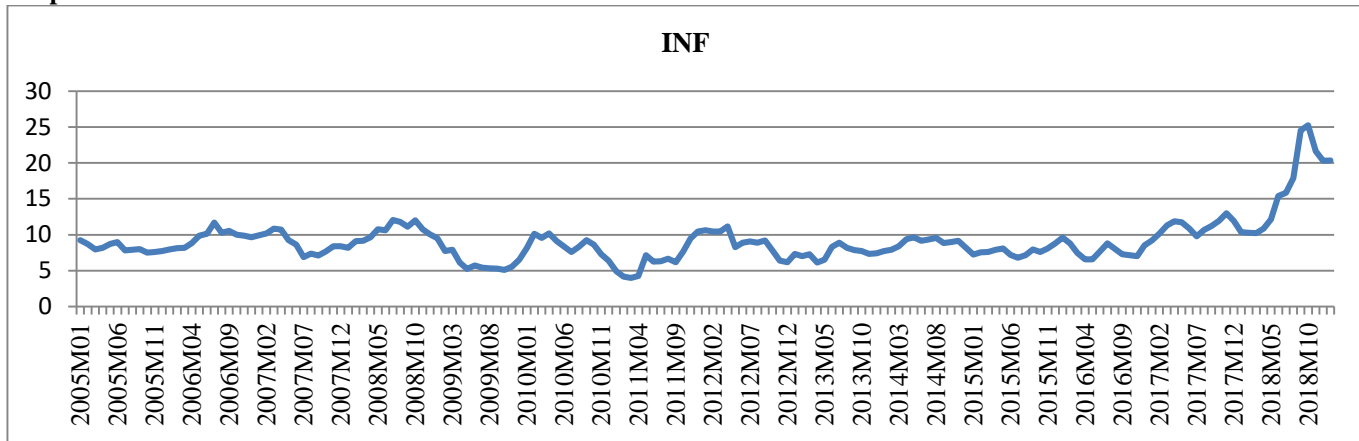


**Graph 5.** Inflation Gap
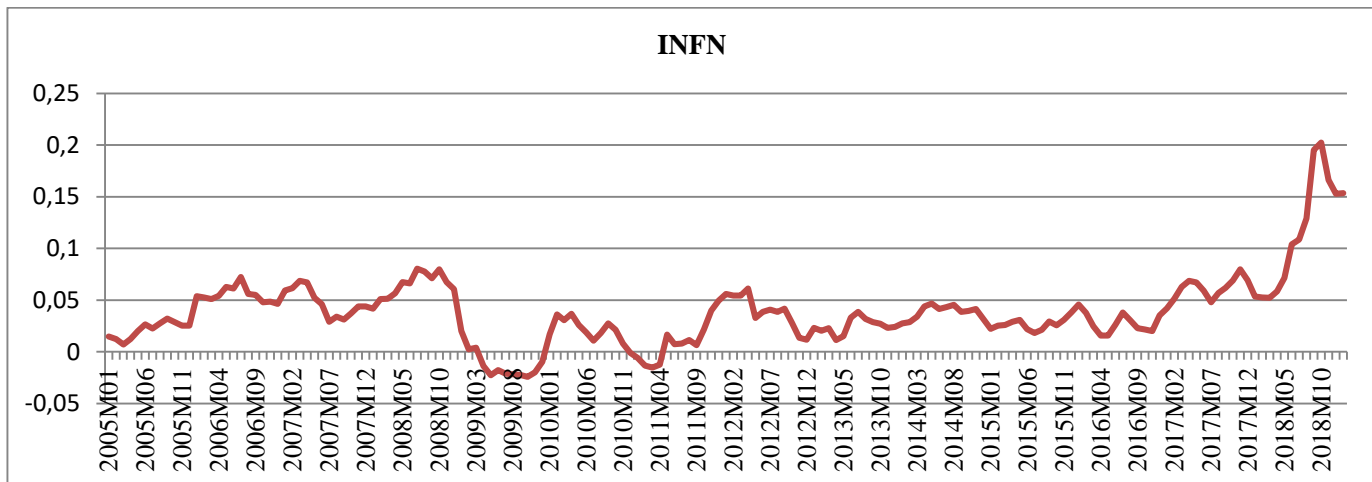


### 3.2.    Econometric Method

The Taylor Rule was tested to see the effect of interest rates on both price stability and output stability in the study. First, the Zivot-Andrews Unit Root Test was used to test the stationarity of the series. When unit root tests are examined, the Simple Dickey Fuller test, which tests for a delay in one, should be considered. However, this test is useless for situations where the delay is not one. The model and its hypotheses are written as follows.

$$\Delta y_t = \beta_0 + \theta_0 y_{t-1} + u_t \qquad (4)$$
$$H_0: \theta_0 = 0 \ do \ not \ reject \ unit \ root$$
$$H_a: \theta_0 < 0 \ \ do \ reject \ unit \ root$$

The Augmented Dickey Fuller (ADF) unit root test includes a period delay of the dependent variable as well as the delays of the difference of the dependent variable to solve the autocorrelation problem in the error term. The number of delays is not important, so it is more advantageous than Simple DF. It is assumed that errors are i.i.d.

$$\Delta y_t = \beta_0 + \beta_1 t + \theta_0 y_{t-1} + \sum_{i=k}^{k} \delta_i \Delta y_{t-i} + u_t \qquad (5)$$

In Equation (5), the term $\beta_0$, $t$, $\sum_{i=k}^{k} \delta_i \Delta y_{t-i}$, $u_t$ refer constant, trend, the delays added to the equation to solve the autocorelation, and error term with the white noise. The hypotheses of the test are as follows.

$$H_0: \theta_0 = 0 \ do \ not \ reject \ unit \ root$$
$$H_a: \theta_0 < 0 \ \ do \ reject \ unit \ root$$

Perron's model does not ignore the situation which error terms isn't i.i.d.. Moreover, it is not necessary to add the delays of the dependent variable to the model to solve the autocorrelation problem. Instead, it makes the problems caused by errors according to the single delay with GLS method. Thus, it does not cause loss of observation. In this respect, it can be said to be superior to ADF.

$$\Delta y_t = \beta_0 + \theta_0 y_{t-1} + u_t \tag{6}$$
$$H_0: \theta_0 = 0 \; do \; not \; rejet \; unit \; root$$
$$H_a: \theta_0 < 0 \;\; do \; reject \; unit \; root$$

The Tests mentioned above are models in which structural breakdowns are not included. Perron said that structural breaks can change the averages, trends, or both of the series to make the stationary series appear as if they are not stationary. He mentioned three different models suitable for $H_0$ and $H_a$ for the solution of this problem. He used dummy variables to incorporate breakages into models. The models put forward for $H_0$ are as follows. The Equation (7) is in trend, The Equation (8) is in level, and The Equation (9) is the model that involves breaking both in trend and level (Perron, 1989, pp.1361-1041). Models and dummy variables are constructed as;

Model A:
$$y_t = \mu + dD(TB) + y_{t-1} + e_t \tag{7}$$

Model B:
$$y_t = \mu_1 + y_{t-1} + (\mu_2 - \mu_1)Du_t + e_t \tag{8}$$

Model C:
$$y_t = \mu_1 + y_{t-1} + dD(TB) + (\mu_2 - \mu_1)Du_t + e_t \tag{9}$$

$$t = TB + 1 \Rightarrow D(TB) = 1$$
$$t \neq TB + 1 \Rightarrow D(TB) = 0$$

$$t > TB \Rightarrow Du_t = 1$$
$$t \leq TB \Rightarrow Du_t = 0$$

Zivot-Andrews said that the series may contain structural breaks, like Perron, but differently, these breaks are internal of the model, rather than external. Zivot-Andrews proposed three different models, as in Perron. t = 1,2,3… T and λ = TB / T, T is the time interval of the series and TB is the breaking date. For each series; Models (10), (11) and (12) are estimated by OLS by λ. Since Zivot-Andrews is sensitive to the number of regressors (k); the number of extra regressors is determined separately using the model selection criterion (similar to Perron). The hypothesis $H_0: \alpha = 1$ is then tested (Zivot et. al, 1992. pp.251-270).

Model A:
$$y_t = \mu + \theta DU(\lambda) + \beta t + \alpha y_{t-1} + \sum_{j=1}^{k} c_j \Delta y_{t-j} + e_t \tag{10}$$

Model B:
$$y_t = \mu + \gamma DT(\lambda) + \beta t + \alpha y_{t-1} + \sum_{j=1}^{k} c_j \Delta y_{t-j} + e_t \tag{11}$$

Model C:
$$y_t = \mu + \theta DU(\lambda) + \gamma DT(\lambda) + \beta t + \alpha y_{t-1} + \sum_{j=1}^{k} c_j \Delta y_{t-j} + e_t \tag{12}$$

$$t > T\lambda \Rightarrow DU(\lambda) = 1$$
$$t \leq T\lambda \Rightarrow DU(\lambda) = 0$$

$$t > T\lambda \Rightarrow DT(\lambda) = t - T\lambda$$
$$t \leq T\lambda \Rightarrow DT(\lambda) = 0$$

Following unit root tests, under the assumption that all series contain the same degree of unit root, the Cointegration test is usually referenced. Often time series contain a unit root, and error terms in a regression analysis with series containing a unit Root also contain a unit root. The relationship between error terms and variables arises. The basic assumptions of OLS fall. Such a situation leads to false regression and this regression analysis cannot be relied upon. In order to overcome the false regression, the series need to stabilize. The simplest thing to do is to take the difference of the series. Only then do two fundamental problems arise. First, analysis with such series does not give long-term information. Second, the error Terms move away from normality, as the error terms will also take the difference. In order to avoid such problems, it is checked whether the series are moved together in the long run. The combination of series moving together is linear. The error terms derived from the analyses made with these series are stable and do not lead to a false regression problem. In this case, analysis with OLS can be trusted.

$$y_t = \beta_0 + \beta_1 x_t + e_t \tag{13}$$
$$y_t \sim I(1), \; x_t \sim I(1), \; e_t \sim I(0) \tag{14}$$
$$\Rightarrow \theta_1 y_t + \theta_2 x_t = e_t$$

Considering the situation of the series, ARDL was preferred for this model. The biggest advantage of ARDL is that the series can be used at different level values. This is an important advantage over other cointegration tests. Because in order to test the model in others, the series must become stationary from the same degree. This also can destroy long-term knowledge. Such a model can only give short-term information. In ARDL, the series contains both long and short term information, and grade I(0) and/or I(1) is sufficient for the test to be performed. However, in some applications, the situation in which the dependent variable has a unit root of degree I(1) has been prioritized. Another advantage of ARDL is that it can provide both short and long term information together with ECM. Finally, the method can give reliable results even if the observation range of the series is narrow (Yayla et. al, 2017, pp.185-198). ARDL model;

$$y_t = \alpha z_t + \theta_1 x_{1t} + \theta_2 x_{2t} + \cdots + \varepsilon_t \tag{15}$$

$$y_t = \alpha z_t + \sum_{i=1}^{k} \theta_i x_{it} + \varepsilon_t \tag{16}$$

$$y_t = \delta z_t + \sum_{j=1}^{p} \phi_j y_{t-i} + \sum_{i=1}^{k} \sum_{j=0}^{qi} \beta_{ij} x_{t-j} + e_t \tag{17}$$

$$y_t = c_0 + c_{1t} + \delta z_t + \sum_{j=1}^{p} \phi_j y_{t-i} + \sum_{i=1}^{k} \sum_{j=0}^{qi} \beta_{ij} x_{t-j} + e_t \tag{18}$$

$$\Delta y_t = c_0 + c_{1t} + \delta z_t - \varphi \widehat{\varepsilon_{t-1}} + \sum_{j=1}^{p-1} \phi_j \Delta y_{t-i} + \sum_{i=1}^{k} \sum_{j=0}^{qi-1} \beta_{ij} \Delta x_{t-j} + e_t \tag{19}$$

$$\varepsilon_t = y_t - \alpha z_t - \sum_{i=1}^{k} \theta_i x_{it} \tag{20}$$

Here $\varphi$ provides the adjustment coefficient $\beta_{ij}$ and $\phi_j$ for short-term information and $\theta_i$ for the long-term cointegration parameters matrix. For the $H_0$ hypothesis, F statistics are used (Peseran et. al, 2001, pp.289-326).

$H_0: \theta_i = 0$     (Reject Co-integration)

$H_a: \theta_i \neq 0$     (Don't reject Co-integration)

**Table 2.** Co-integration Decision Table

| I(0) Lower Limit | Unstable Area | I(1) Upper Limit |
|---|---|---|
| Reject Co-integration | | Don't reject Co-integration |

## 3.3. Findings

Table 3 contains the unit root results and critical values of the series. The test results in Table 3 show that the $H_0$ hypothesis, except cycleipi, is don't reject, in other words that the series contains unit roots except cycleipi. The realization period of the break in the output deficit is 2016m11, where political events are taking placevariable infn stabilize at the I (1) level, the output gap (cycle) is stable at I (0). As in the original Taylor Rule, the model was tested with a direct output gap. While the dependent variable i and the independent Table 4 contains the unit root

information of the first order differences of policy interest rate (di) and inflation deficit (dinfn). According to statistical findings, series are first order stationary.

**Table 3.** ADF with One Break (Zivot-Andrews) Unit Root Test Result

| Variables | Lags | Breaking Periods | Test Statistic | Critical Value %1 | %5 | %10 |
|---|---|---|---|---|---|---|
| i (interest rate) | 1 | 2008M10 | -3.1916 | -5.34 | -4.80 | -4.58 |
| infn (Inflation Gap) | 12 | 2008M11 | -2.2012 | | | |
| cycleipi (Output Gap) | 1 | 2016M11 | -56.071*** | | | |

*Test statistics and critical values were calculated according to level breakage. (Model A)

**Tablo 4.** First Order Unit Root Statistics

| Variables | Lags | Breaking Periods | Test Statistic | Critical Value %1 | %5 | %10 |
|---|---|---|---|---|---|---|
| dinfn | 11 | 2008M9 | -6.8830 | -5.3400 | -4.8000 | -4.5800 |
| di | 1 | 2008M8 | -8.5885 | | | |

Because the series is not stationary of the same degree, ARDL (Boundary Test) has been performed. The main advantage of the ARDL is that it can analyze series that cannot be stationary from the same order and give both long and short term information in a consistent manner with few observation numbers. Table 5 contains the co-integration relationship for the ARDL (Boundary Test). The result is that the series is co-integrated for probability values of %1. The series moves together in the long run. Looking at Graph 6, which shows the relationship between policy interest and inflation, it is seen that the two series moved together after 2008, especially since 2016. In models involving co-integration, the dependent variable and the long-term series obtained from the model are expected to act on each other. Graph 7 shows that since 2008, policy interest and long-term series have converged on each other and started to move on each other after 2016.

**Table 5**. ARDL Co-integration Findings

| Probility Percentage | I(0) | I(1) | F Test Statistic |
|---|---|---|---|
| %10 | 3.17 | 4.14 | |
| %5 | 3.79 | 4.85 | 8.1716 |
| %2.5 | 4.41 | 5.52 | |
| %1 | 5.15 | 6.36 | |

**Graph 6.** Policy Interest Rate and Inflation Gap Relationship
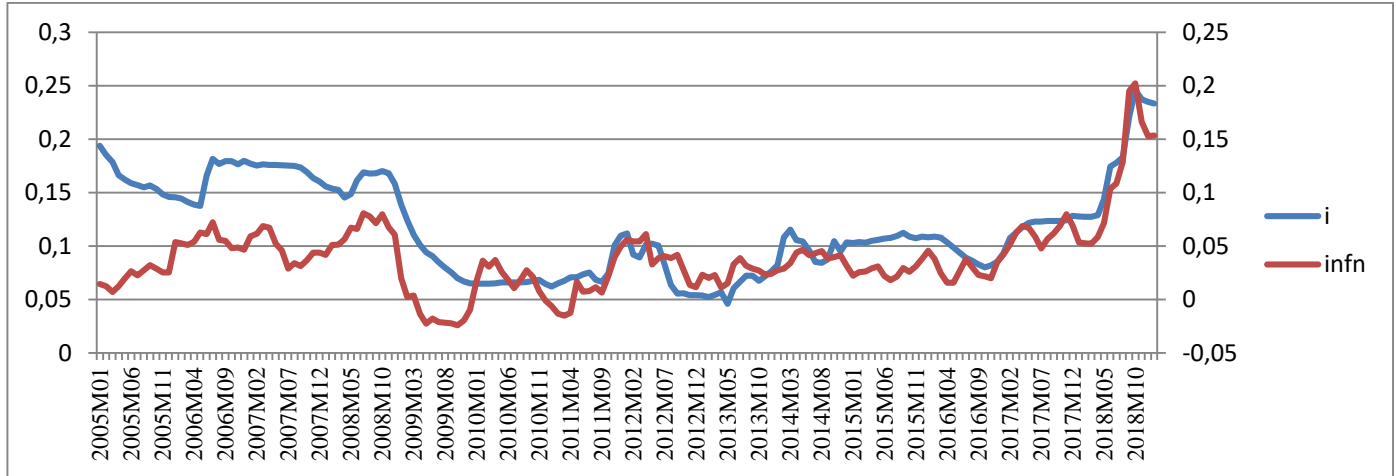


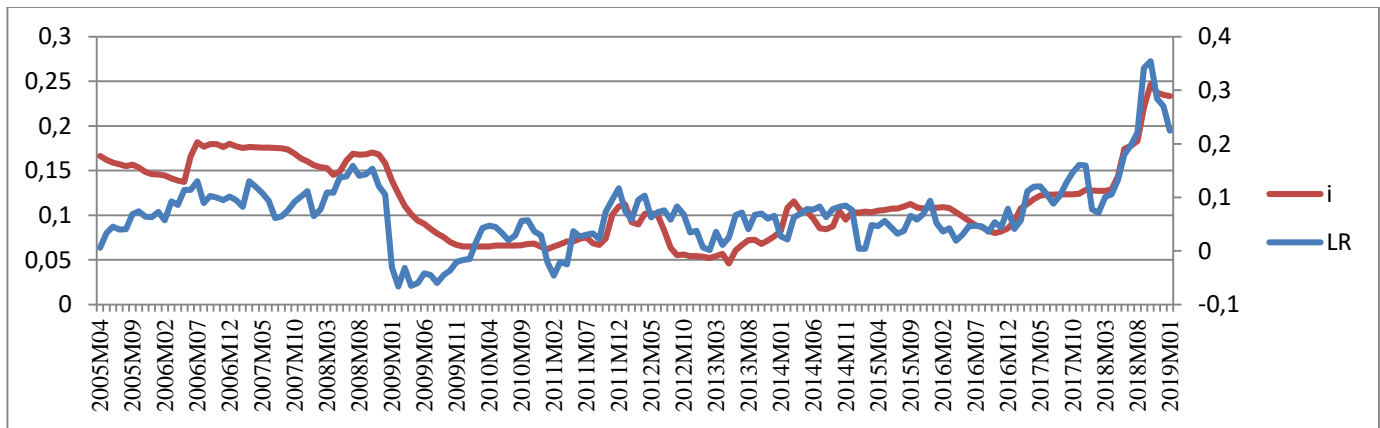**Graph 7**. Policy Interest Rate and Long-Run Relationship



Table 6 looking at long-term coefficient estimates, cycleipi was significant at 10% probability, while infn was significant at 1% probability. According to this situation, when the inflation deficit changes by 1% in the long term, the CBRT policy interest rate changes by 1.74%. Again, the response of CBRT to the 1% change in output deficit in the long term was to change policy interest rates by 0.25%. In the short term, cycleipi is not included in the model, whereas in Table 7, all variables are significant. Based on the error correction coefficient, 0.05% of the shock to the model is eliminated in one period. The model description percentage of explanatory variables is reasonable 42%, and according to the F test the model is meaningful.

**Table 6.** Long-Run Coefficient Estimation

| Variables | Coefficient Estimation | Probability |
|-----------|------------------------|-------------|
| cpin      | 1.7466                 | 0.0000      |
| cycley    | 0.2590                 | 0.0622      |

Graphs 8 and 9 show the relationship between the independent variables and the error correction series. According to these graphs, independent variables and correction coefficients move opposite to expectations. This is another proof that the error correction series is working.

**Table 7.** Short-Term Coefficient Estimates According To Error Correction Model

| Variables | Coefficient Estimation | Probability |
|-----------|------------------------|-------------|
| C         | 0.002                  | 0.0003      |
| D(r(-1))  | 0.3219                 | 0.0000      |
| D(r(-2))  | -0.1467                | 0.0297      |
| D(cpin)   | 0.2993                 | 0.0000      |
| CointEq(-1) | -0.0555              | 0.0000      |
| $R^2 = 0.44$ | $adjR^2 = 0.42$ | $Prob\ F = 0.000$ |

**Graph 8.** Error Correction Series and Inflation Gap Relation
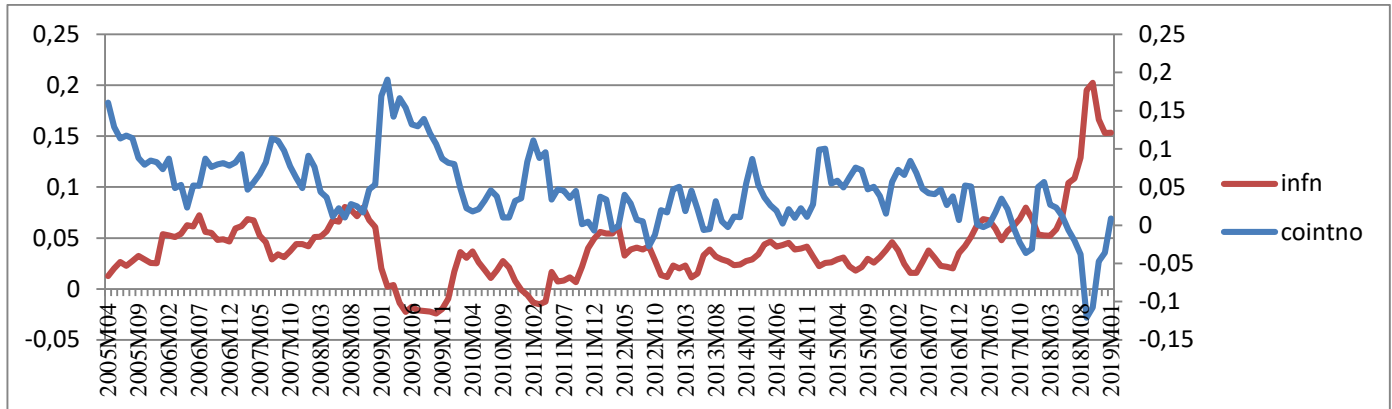


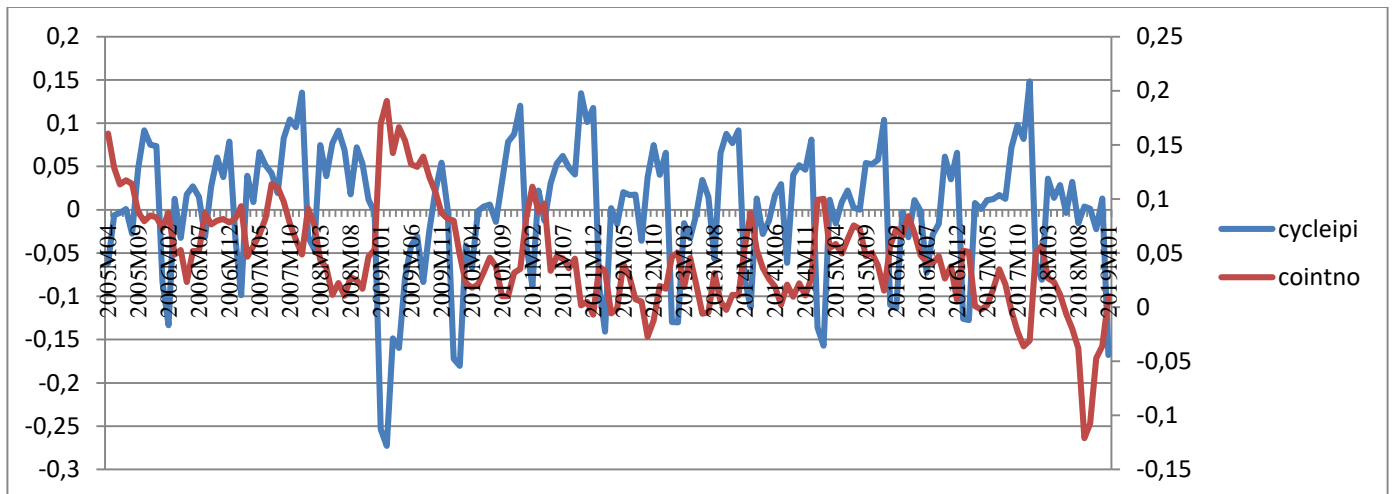**Graph 9.** Error Correction Term and Output Deficit Relation



**Table 8.** Diagnostic Tests Results.

| DIAGNOSTIC TESTS | | | | | |
|---|---|---|---|---|---|
| Breusch-Godfrey LM Test Results | | Breusch-Pagan-Godfrey Test Results | | Ramsey Reset Test Results | |
| F İstatistiği | 0.1240 | F İstatistiği | 1.2529 | F İstatistiği | 0.0150 |
| Prob(F) | 0.9458 | Prob(F) | 0.2823 | Prob (F) | 0.9027 |

* The appropriate lags number is set to three. According to diagnostic tests in Table 8, no problems of autocorelation, heteroscedasticity and model building were found.

**Graph 10.** Cusum Test Graph
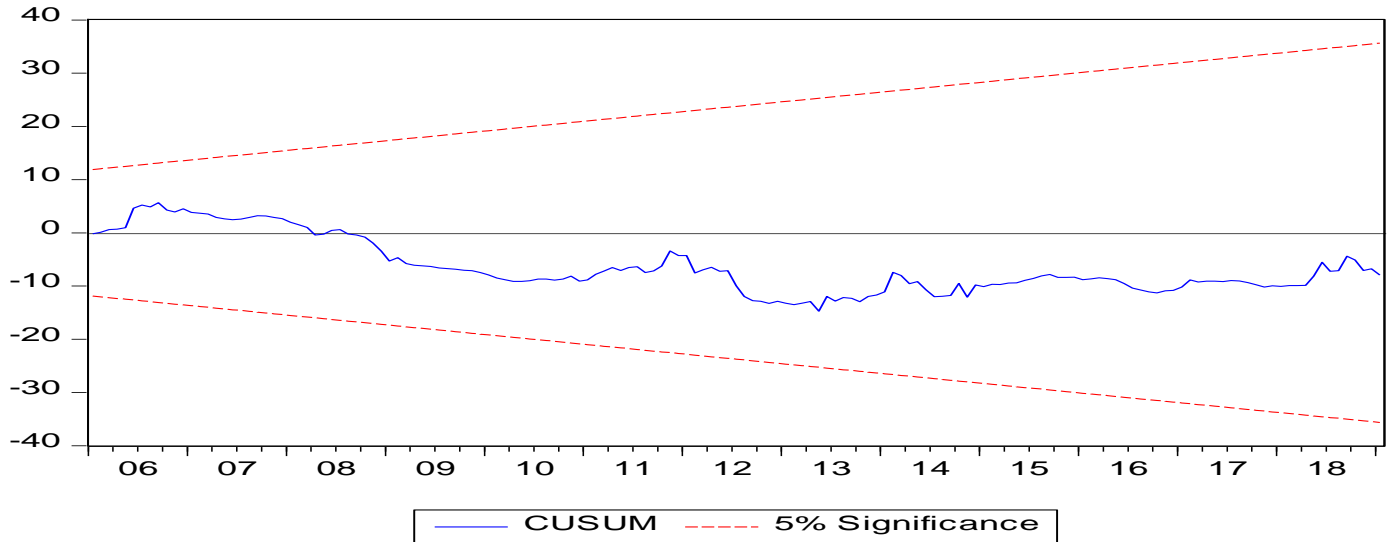


## 4.   Conclusion

Among the objectives of the monetary policy that the Central Bank is obliged to implement, there are stability in inflation and stability in output. In literature, these objectives are expressed by the "loss function". Central banks try to minimize this loss function as much as possible. Nowadays, modern monetary policy strategy is the inflation targeting regime and Svensson found the inflation targeting regime more appropriate and realistic, because of minimizing the loss function compared to other monetary policy targets (Svennson, 2000, pp. 155-183). Svennson also described a monetary policy-like rule, the Taylor Rule, as a suitable minimization model for central banks in inflation targeting. From this perspective, central banks acting in accordance with this rule will be able to minimize loss functions (Svennson, 1997, pp. 1111-1146). Taylor envisages central banks to change policy interest rates depending upon how far output moves away from its natural level and inflation moves away from its target value. Therefore, policy interest rate is used as the main monetary policy tool in the inflation targeting regime. If policy rates increase, contractionary monetary policy will be implemented and inflationary pressure would have been reduced by decreasing demand. In case of expansionary monetary policy, inflationary pressure will be created by stimulating demand. In line with this infrastructure, there is a long-term relationship between inflation deficit and output deficit and policy interest in Turkey according to the results of this study conducted by ARDL test with 169 observations. However, a stronger relationship has been identified between the inflation deficit and the policy interest rate compared to the output deficit. In the short term, while there is a relationship between the inflation deficit and the policy interest rate, there is no relationship with the output gap. The results show that the CBRT focuses on both price and output stability in the long term and only on price stability in the short term. Whether the CBRT considers financial stability in the country can be considered as a separate research topic.

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