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Pass-through effects of exchange rate on inflation: The case of Turkey

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ABSTRACT

In this study, the effect of the exchange rate on inflation in Turkey is examined. ARDL Boundary Test is preferred for the 2010-2018 period. Domestic producer price index (PPI) were used as the dependent variable and weighted nominal exchange rate (EXC), world crude oil prices (OIL), domestic money supply (M3) and the capacity utilization rate (CUR) was used as the independent variables. According to the results, a 1% increase in the nominal exchange rate, a 0.11% increase in the domestic producer price index and 1% increase in world oil prices increase the producer price index by 0.07%. Similarly, a 1% increase in M3 money supply, a 0.28% increase in the producer price index and a 1% increase in the capacity utilization rate lead to a 0.31% increase in the producer price index. It is also understood that all variables in the model increase inflation. However, according to the findings, the long-term effects of the exchange rate effect on domestic prices remain low. In addition, the lowest transition effect on producer prices is attributable to crude oil prices. The other two variables, M3 and the capacity utilization rate, have a stronger effect on domestic prices than the exchange rate effect. The other two variables, M3 and the capacity utilization rate, have a stronger effect on domestic prices than the exchange rate effect.

I. Introduction

In a country that is open to capital and trade feel the effects of the developments in foreign countries on the local markets stronger. Therefore, the collapse of Breton Woods system and especially the liberalization of trade and capital movements in recent years have increased the studies on the effect of exchange rate system and exchange rate changes on local inflation in a country. The exchange rate can affect inflation because of the price of commercial goods and imported intermediate, capital goods and inflationary expectations. The effect of the change in the exchange rate, called reflection or pass-through, on local prices is particularly important for central banks, which are obliged to ensure price stability.

Exchange Rate Pass-through on Prices is defined as the effect of a one-unit change in the nominal exchange rate on import and export prices (Menon, 1996). In other words, a 1 percent change in the exchange rate pass-through between exchange and importing countries is the percentage change in the value of imported prices in national currencies (Goldberg & Knetter, 1996). Low pass-through, the effect of exchange rate changes on local prices, allows monetary policy to be more liberal in terms of facilitating price stability. Law of One Price and its extension, the purchasing power parity, is the basis of the pass-through studies. According to these theories, the prices of a product or a basket of products should be equivalent in two countries where trade is not hindered.

The pass-through effect from exchange rate to domestic prices can be imported through consumer goods, capital goods and imported input prices, or through domestic goods / services prices in foreign currencies. On the other hand, the increase in exchange rates may have an impact on inflation by increasing inflation expectations and wage demands. At this point, the current situation of the country in terms of inflation and its targets and whether the monetary authority follows a policy such as inflation targeting will be decisive for the level of intervention of the monetary authority in exchange rates. For example, the monetary authorities of inflation targeting in a country like Turkey will expect domestic prices to rise to control the level of exchange rates. Of course, the frequency and breadth of policies to suppress exchange rate increases are the country's export (growth) target, the level of foreign exchange reserves, the current account balance, money demand in the market, public investments / expenditures and budget balance, domestic / foreign debt level, interest (investment) policies. will vary depending on various macro balances such as national/global economic conjuncture. In this study, domestic producer prices in Turkey's economy with the nominal exchange rate, world crude oil prices, the domestic money supply and domestic income level (demand conditions) are examined representing the relationship between the industrial production indices.

In this study, the effect of the exchange rate on inflation in Turkey is examined. Studies related to the subject generally focus on the VAR model. This paper focuses on the ARDL model. Another specificity of this study is that it was conducted with the data of recent years.

2. Theoretical infrastructure of the pass-through effect between the exchange rate and inflation

The analysis of the relationship between the exchange rate and inflation focuses on the changes in the macroeconomic indicators caused by domestic and foreign market instability. That means that any shock or negativity in the other country's economy causes negative effects on domestic economic indicators in an open economy. Exchange rate, which is one of the two main macroeconomic indicators focusing on pass-through effect studies, represents foreign economic changes, while inflation represents the domestic economic situation. Therefore, any change in the exchange rate affects the domestic price level through various channels. In the literature, the pass-through effect is defined as passivity. Particularly developing countries' economies depend heavily on their imports, resulting in changes not only in consumer prices but also in production costs. According to Woo (1984), the relationship between the domestic price level and the exchange rate is explained in four different ways. These are;

- Imported input prices directly affecting domestic product costs
- Consumer goods imported and directly influenced the consumer price index
- The effect of the prices of products produced as a competitor to domestic imports from the increase in the prices of goods in foreign countries
- The effect of exchange rate changes on total demand through the current account and the transition to domestic prices

In light of this information, the pass-through effect cannot be mentioned in case the effect of the change in exchange rates cannot change the domestic prices. In addition, if the fluctuations in exchange rates reflect in the same way on one-to-one domestic sales prices, it is possible to mention the full pass-through effect. Similarly, if some of the fluctuations reflect in the domestic prices, we can mention the partial transition effect (Yang, 1997).

Especially, exchange rate activities may distress domestic prices through indirect and direct channels (can be seen from Chart 1). Under the direct channel assumption, exchange rate movements may affect internal prices through changes in imported input and imported goods prices (Hyder & Shah, 2004).

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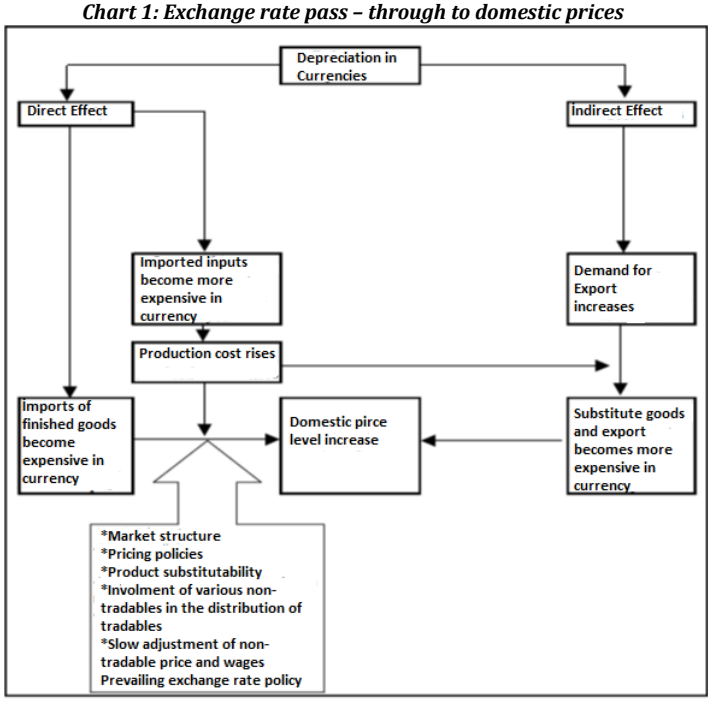
Chart 1: Exchange rate pass – through to domestic prices



Source: Hyder and Shah (2004)

In the case of direct channel, exchange rate movements may affect domestic prices with changes in imported finished goods and imported input prices. In general, when an exchange depreciation decreases, it will result in higher import prices, while lower import prices will result from the appreciation of the countries receiving the price. Potentially higher costs of imported raw materials and capital goods associated with the depreciation of the exchange rate increase marginal costs and cause the prices of domestic goods to rise. In the event of indirect effect, the exchange rate depreciation affects the net exports, which in turn influence the domestic prices with the change in aggregate demand, putting upward pressure on domestic prices. However, the extent and the speed of exchange rate pass-through depends on several factors such as pricing policies, general inflationary environment, the relative share of imports in WPI and CPI basket market structure, the involvement of non-tradable in the distribution of tradable, etc.

Some theories that explain this situation, which is known as the incomplete reflection (partial transition) of the exchange rate on prices. When these theories are analysed, different factors that determine the reflection effect between the exchange rate and prices vary according to periods and conditions. Burstein et al., (2003) claim that transportation costs arising during the domestic distribution and sale of imported goods, taxation and so on. domestic value-added reduces the impact of exchange rate changes on prices. Goldberg (2006) says that if the elasticity of the demand curve faced by exporters is high, the exchange rate will reduce the transition effect on prices.

3. Literature

Various vector auto-regression (VAR) methods are frequently used in the studies on the effect of exchange rate transition at the macroeconomic level. Taylor (2000) shown that low infection in many countries over the last few years may reduce firms' measured transit rate or pricing power. Hyder & Shah (2004) analysed assessing the extent to which exchange rate movements affect local wholesale and consumer prices in Pakistan by the VAR method. According to the findings of the study, exchange rate movements have a moderate effect on domestic market prices, and exchange rate pass-through effect is low. Arı (2010) claimed that the degree of transition effect can vary depending on many factors. Imported goods, increasing in the shares of consumer price index (CPI) and producer price index (PPI) in the inflation basket, pricing at overseas prices, product differentiation can increase the pass-through effect. Pass-through effect also decreases when firms can make market pricing and adjust profit margins and exchange rate volatility and demand elasticity increase. Kara & Öğünç (2012) investigated the effect of the exchange rate and import prices on consumer prices with the help of data obtained from 2002-2011 period using the VAR model. They found that the passivity was about 15 percent for both variables over a period of one year. In this study, the reasons for the decrease in the effect of the change in the exchange rates after 2001 are that the volatility in the nominal exchange rate is high and economic activity using imported inputs may shrink during the economic crisis. Sheefeni & Ocran (2014) examined the pass-through effect on Namibia for the periods between 1993 and 2011 by the VAR method. According to the results of the study, the effect of the exchange rates on inflation was significant and long-term. Alptekin at al.(2016) examined the exchange rate pass-through effect in the light of producer price index (PPI) and consumer price index (CPI) for Turkey. In the analysis for the 2005-2015 period, the effect of transition from the exchange rateto prices is calculated separately for CPI and PPI. According to the obtained results, the effect of the pass-through from the exchange rateto CPI tended to decrease. Currency CPI response to one-unit shock in the exchange rateis lower than the response to PPI. Kaygısız (2018) analysed the past-through effect of the exchange rate on inflation by VAR analysis over the 2002-2016 period in Turkey. According to the impact-response analysis, it was concluded that the response of inflation to the exchange rate ceased after 16 periods. In addition to the VAR methods, Özdamar (2015) examined the pass-through effect by ARDL method and reached the result that the long-term effect of the exchange rate on the domestic producer prices was low.

4. Empirical analysis of the pass-through effect in Turkey

In this study, which is based on the examination of the effect of the exchange rate on domestic prices at the macroeconomic level; Ito and Sato (2007), Carranza et al. (2009) and Özdamar (2015) found that the effect of the exchange rate depreciation on domestic prices (inflation) is investigated using control variables. In this study, the relationship between the various macro-economic factors and inflation in Turkey's economy are analysed using monthly data over the 2010: 01-2018: 12 period in the axis of changes. In this context, domestic producer price index (PPI) was used as the dependent variable and weighted nominal exchange rate (EXC), world crude oil prices (OIL), domestic money supply (M3) and the capacity utilization rate (CUR) were used as independent variables. All variables included in the analysis can be seen from Table 1 below.

Table 1: Symbols, Variables and Sources of the Analysis

Symbol	Variable	Source
PPI	Producer price index	Turkish Statistical Institute
EXC	Nominal weighted exchange rate	Central Bank of Turkey
OIL	World crude oil price	OPEC Annual Statistical
M3	M3	Central Bank of Turkey
CUR	Capacity utilization rate	Turkish Statistical Institute

In Table 1, world oil prices used as control variables represent supply shocks, the capacity utilization rate represents domestic demand (income) effect and M3 money supply represents monetary policy effect.
The basic model of the study is as in equation (1).

$$lnPPI_t = c_t + \alpha_1 lnEXC + \alpha_2 lnOIL_t + \alpha_3 lnM3_t + \alpha_4 lnCUR_t + \varepsilon_t \quad (1)$$

In equation (1) c, ε_t and ln respectively represent the constant term, error term and the natural logarithm. The calendar-adjusted the capacity utilization rate was seasonally adjusted using the TRAMO/SEATS method and included in the analysis.

4.1. Unit Root Tests

In the time series analysis, first, the stationary levels of the series should be determined. Spurious regression problem is encountered in the models estimated by non-stationary series. The trend characteristics of the series were examined before proceeding to the unit root tests and obtained results showed that all the series exhibited trend characteristics. For this reason, trend and constant model was chosen as the test equation in unit root tests. Augmented Dickey-Fuller (ADF) and Phillips Perron (PP) Tests also is preferred to determine the stationary level of the time series. Dickey & Fuller (1981) formulates the ADF test as in equation (2), (3) and (4).

$$\Delta Y_t = PY_{t-1} + \sum_{i=1}^{k} \beta_i \Delta Y_{t-i} + \varepsilon_t \quad (2)$$

$$\Delta Y_t = \alpha + PY_{t-1} + \sum_{i=1}^{k} \beta_i \Delta Y_{t-1} + \varepsilon_t \quad (3)$$

$$\Delta Y_t = \alpha + \delta t + PY_{t-1} + \sum_{i=1}^{k} \beta_i \Delta Y_{t-1} + \varepsilon_t \quad (4)$$

In the equations (2), (3) and (4), ΔY_t represents the first difference of the variable subject to analysis. In addition, k is the lag length, t is the time trend, ΔY_{t-i} is the period delay difference and ε_t is the error term. In the ADF tests, two hypotheses as are constructed, and the null hypothesis claims that the series contains a unit-root. In the case of not rejecting the null hypothesis, it is possible to mention the existence of the unit roots.

Perron (1988) has developed a unit root model in which most of the time series cannot be characterized by unit root and the breaks are added to the model on the assumption that the time of important structural developments can be experienced. The regression equations of the ADF unit root test are used in the PP model as well. However, the auto correlation problem is eliminated and the result of the parameter of the previous term (δ) τ statistic is corrected.

Table 2**: **Results of Unit Root Test

Variables	*ADF (Constant and Trend)*	*PP (Constant and Trend)*
PPI	-3,87*	-4,11
ΔPPI	-	-8,19*
EXC	-3,17	-1,67*
ΔEXC	-7,18*	-
OIL	-2,87	-1,87*
ΔOIL	-8,19*	-9,01*
M3	-4,10*	-1.90*
ΔM3	-	-
CUR	-1,88	-2,30
ΔCUR	-9.76**	-8,81*

Note: Δ Denotes the first difference of the variables. The lag length the ADF test was determined automatically by the Schwarz information criterion (maximum 12 lag). * and **indicate that the series does not contain unit roots at 1% and 5% statistical significance levels, respectively.

According to unit root result seen from Table 1, the Autoregressive Distributed Lag (ARDL) Bound Test ARDL-bound test, which allows the investigation of the relationships between series with different stasis levels, is an appropriate method.

4. 2. Autoregressive Distributed Lag (ARDL) Bound Test

In case the stationary levels of the series are different, ARDL-Border test method developed by Pesaran & Shin (1995, 1999), Pesaran & Smith (1998) and Pesaran et al. (2001) is used because the ARDL approach allows the examination of the co-integration relationship when the explanatory variables are stationary at different levels such as level [I (0)] and first difference [I (1)]. As can be seen in the analysis section, it was determined that the variables in the empirical model were stationary at different levels, and decided that ARDL-Bound test method was an appropriate model for the study. The ARDL method is based on the standard least squares regression method, where the lagged values of both the dependent variable and the explanatory variable (s) are used as explanatory variables. The ARDL-Bound test equation which was established to determine the co-integration relationship between the variables in the model is as follows:

$$\Delta lnPPI_t = \alpha_0 + \sum_{i=1}^{m} \alpha_{1i} \Delta lnPPI_{t-i} + \sum_{i=0}^{n} \alpha_{2i} lnEXC_{t-i} + \sum_{i=0}^{p} \alpha_{3i} lnOIL_{t-i} + \sum_{i=0}^{r} \alpha_{4i} lnM3_{t-i} + \sum_{i=0}^{s} \alpha_{5i} lnCUR_{t-i} + \beta_1 lnPPI_{t-1} + \beta_2 lnEXC_{t-1} + \beta_3 lnOIL_{t-1} + \beta_4 lnM3_{t-1} + \beta_5 lnCUR_{t-1} + \varepsilon_t \quad (5)$$

The coefficients α in equation 5 show the short-term and β coefficients show the long-term dynamics. In order to ensure the stability conditions of the estimation, firstly the optimal lag length (m, n, p, r, s) of the variables in the equation 5 are determined with the help of information criteria and then the boundary test is carried out from the model estimated with the appropriate lag length. The equation (2) is estimated according to the lag lengths and F-statistic is calculated to test the validity of the null hypothesis ($H_0 = \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = 0$) that there is no co-integration relationship between the variables in the model.

In case the obtained F statistical value is less than the tabulated critical values in the works of Pesaran et al., it is concluded that there is no co-integration relationship between the series. Similarly, in case the F statistics reached above the upper critical value than the tabulated critical values in the works of Pesaran et al., there is a co-integration relationship between the series.

In the case that the test statistic lies within the lower and upper critical bounds, a conclusive inference can only be made if the order of integration of each regressor is known. In other words, if there is a value between the two values, no comments can be made (Altunöz, 2018). The obtained F-statistic results are shown in Table 3 below.

Table 3**: **F Statistic Result

Critical Value (%1)			
k	**F Statistic**	**lower bound**	**upper bound**
5	5,21	4,18	5,10
Diagnostic Tests			
$R^2 = 0{,}599$		Breusch-Godfrey LM(12)=16,111 Probability (0,31)	
$D - W\ ist. = 2{,}541$		White ist.=87,817 Probability (0,56)	
Fist.(Probability)=12,871(0,000)		Jarque Bera ist.=2.651 Probability (0,28)	

According to Table 3, because F statistical value is above the upper critical value, there is a co-integration relationship between the variables at %1 significant value. Furthermore, whether the model is an autocorrelation problem or not, variance and distribution of error term were investigated with diagnostic tests. As a result, it was determined that there was no autocorrelation and heteroscedasticity problem in the model established for the boundary test, and the error term had a normal distribution.

Having determined the existence of co-integration relationship among variables, long and short-term relationships will be tested by ARDL method.

In this study, the ARDL model to be estimated to investigate the long-term relationship among the variables is as in equation 6 below:

$$\Delta lnPPI_t = \alpha_0 + \sum_{i=1}^{m} \alpha_{1i} \Delta lnPPI_{t-i} + \sum_{i=0}^{n} \alpha_{2i} lnEXC_{t-i} + \sum_{i=0}^{p} \alpha_{3i} lnOIL_{t-i} + \sum_{i=0}^{r} \alpha_{4i} lnM3_{t-i} + \sum_{i=0}^{s} \alpha_{5i} lnCUR_{t-i} + \varepsilon_t \quad (6)$$

To determine the long-term relationship among variables, the equation (6) will be estimated with the ARDL (4,3,2,1,0) model according to the appropriate lag lengths determined for the variables. Results can be seen in Table 4 below.

Table 4**: **Estimation Results of the ARDL (4, 3, 2, 1, 0) Long Term Model

Variables	**coefficent**	**Std. Dev.**	**t stat.**	**Probability**
constant	-0.389	0.167	-1.901	0.000
$lnPPI(-1)$	1.011	0.056	9.110	0.000
$lnPPI(-2)$	-0.071	0.109	-0.421	0.312
$lnPPI(-3)$	-0.148	0.031	-2.412	0.012
$lnPPI(-4)$	-0.116	0.011	-2.910	0.011
$lnEXC$	0.161	0.010	6.718	0.001
$lnEXC(-1)$	-0.121	0.012	-3.111	0.010
$lnEXC(-2)$	-0.061	0.021	-1.278	0.001
$\ln EXC(-3)$	0.051	0.021	3.178	0.018
$lnOIL$	0.071	0.004	-3.167	0.001
$lnOIL(-1)$	-0.011	0.001	-2.901	0.003
$lnOIL(-2)$	-0.010	0.056	-2.670	0.003
$lnM3$	-0.061	0.006	3.213	0.005
$lnM3(-1)$	-0.044	0.012	4.412	0.004
$lnCUR$	0.011	0.010	2.415	0.000
R^2: 0.96		$F\ Stat$: 2718(0.00)		$D.W$: 2.90

Following the Estimation Results of the ARDL (4,3,2,1,0) long term Model, Long-term estimation results calculated using ARDL (3,3,1,1,0) model are presented in Table 5.

Table 5**: **coefficients of the ARDL (4, 3, 2, 1, 0) Long Term

Variables	**coefficient**	**Std. Dev.**	**t stat.**	**Probability**
$lnEXC$	0.11	0.061	1.90	0.000
$lnOIL$	0.07	0.010	3.09	0.006
$lnM3$	0.28	0.021	6.19	0.016
$lnCUR$	0.31	0.081	1.99	0.000

According to Table 5, a 1% increase in the nominal exchange rate caused a 0.11% increase in domestic producer price index, while a 1% increase in world oil prices increased the producer price index by 0.07%. Similarly, a 1% increase in the money supply caused a 0.28% increase in the producer price index and a 1% increase in the capacity utilization rate led to a 0.31% increase in the producer price index. All of the coefficients were statistically significant, and the signs of the coefficients were consistent with the economic expectation. it is also understood that all variables included in the model increase inflation. Diagnostic tests have been performed for ARDL (4,3,2,1,0) model and can be seen in Table 6.

Table 6: Diagnostic Test Results of Long − Term Relationship

Diagnostic Test	Test Statistic	Probability
Jarque − Bera Test	2.81**	0.16
Ramsey Reset Test (4)	0.331*	0.61
Breusch − Godfrey LM Test (10)	12.151*	0.18
White Test	58.17**	0.10

Note: *and ** indicate the significance level of 1% and 5%, respectively.

It is understood that in the model, there is no autocorrelation according to Breusch-Godfrey LM [with 10 lag] test, and there is no variance problem according to White test, the error term had normal distribution according to Jarque-Bera test and there is also no error of model building according to Ramsey Reset [with 2 added terms] test. The short-term relationship between the variables is examined with the error correction model based on the ARDL method. This model is as follows in equation (6):

$$\Delta lnPPI_t = \alpha_0 + \sum_{i=1}^{m} \alpha_{1i} \Delta lnPPI_{t-i} + \sum_{i=0}^{n} \alpha_{2i} lnEXC_{t-i} + \sum_{i=0}^{p} \alpha_{3i} lnOIL_{t-i} + \sum_{i=0}^{r} \alpha_{4i} lnM3_{t-i} + \sum_{i=0}^{s} \alpha_{5i} lnCUR_{t-i} + \varphi ECT_{t-1} + \varepsilon_t \quad (6)$$

ECT variable in the equation is the error correction term. The coefficient (φ) of this variable shows how soon it is possible to correct a short-term imbalance between dependent and explanatory variables in the model.

For the error correction mechanism, the coefficient of this variable is expected to be negative and statistically significant.

Table 7: ARDL (4,3,2,1,0) Error Correction Model Estimation Results

Variables	coefficent	Std. Dev.	t stat.	Probability
constant	-0.312	0.054	-3.809	0.000
$\Delta lnPPI(-1)$	0.181	0.067	2.901	0.000
$\Delta lnPPI(-2)$	0.141	0.09	2.121	0.024
$\Delta lnPPI(-3)$	0.148	0.008	2.412	0.034
$\Delta lnEXC$	0.120	0.016	5.811	0.007
$\Delta lnEXC(-1)$	-0.041	0.011	0.111	0.310
$lnEXC(-2)$	-0.063	0.034	-1.667	0.001
$\Delta lnOIL$	0.031	0.009	6.167	0.001
$\Delta lnOIL(-1)$	0.017	0.001	2.667	0.000
$\Delta lnM3$	-0.082	0.006	1.411	0.002
$\Delta lnCUR$	0.005	0.091	2.415	0.034
$ECT(-1)$	-0.251	0.071	-3.617	0.000

The results of the error correction model based on the ARDL (4,3,2,1,0) model are presented in Table 7. When the table is examined, it is understood that the coefficients in the model are mostly statistically significant. On the other hand, error correction term (ECTt-1) coefficient is negative as expected and statistically significant. Accordingly, 25% of the deviations from the long-term equilibrium due to short-term shocks will be corrected in the next period and the effect of shocks will be eliminated within 4 terms and the long-term equilibrium will be approached.

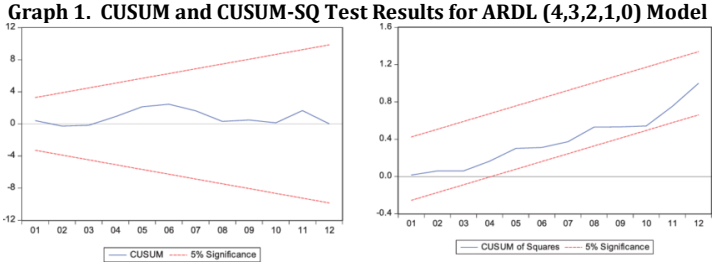
Table 8: Diagnostic Test Results of Short − Term Relationship

Diagnostic Test	Test Statistic	Probability
Jarque − Bera Test	2.94**	0.12
Ramsey Reset Test (4)	0.761*	0.39
Breusch − Godfrey LM Test (10)	17151*	0.11
White Test	77.17**	0.18

The short-term diagnostic tests followed in Table 8 also show that the stability conditions of the model are met. According to Laidler (1993), some of the instability problems may arise from under-modelling of short-term dynamics that characterize separation from long-term relationships.

Therefore, short-term dynamics should be considered in testing the stability of long-term parameters. Therefore, the stability of the long-term coefficients used to obtain the error correction term for short-term dynamics should be measured. In this context, Brown et al. (1975) recommended by CUSUM and CUSUMQ tests are used. The results obtained from the CUSUM and CUSUMQ tests are shown in Graph 12.

Graph 1. CUSUM and CUSUM-SQ Test Results for ARDL (4,3,2,1,0) Model



According to the aforementioned graphs, CUSUM and CUSUM-SQ statistics are within the critical limits of 5% significance level, it is understood that the long-term parameters calculated by the ARDL method and the residual variance of the model are stable and that the model can be estimated without using artificial variables due to the absence of structural changes.

5. Conclusion

In this study, the effect of the exchange rate on inflation in Turkey over the 2010-2018 period. For this purpose, the consumer price index was used as dependent variable and exchange rate, crude oil, the M3 money supply and capacity utilization ratio were included as independent variables. Boundary test showed a long-term relationship between variables.

According to the estimation results made by ARDL method, Capacity utilization rate and money supply have a relatively high and statistically significant effect on the domestic producer price inflation in the long run. World oil prices also had a statistically significant but low impact on domestic producer prices. Nominal exchange rates, on the other hand, have a statistically significant effect on producer price inflation in the long run, but have a relatively limited effect compared to the money supply and capacity utilization ratio.

Results mean that a 1% increase in the nominal exchange rate caused a 0.11% increase in domestic producer price index, while 1% increase in world oil prices increased the producer price index by 0.07%. Similarly, a 1% increase in the M3 money supply caused a 0.28% increase in the producer price index and a 1% increase in the capacity utilization rate led to a 0.31% increase in the producer price index. In the light of the result, economy and money management keep money supply under control, which is the main determinant of inflation in the long run. On the other hand, it is significant that the monetary authority, whose main purpose is to maintain price stability, focuses on exchange rate fluctuations and acts to limit exchange rate fluctuations as another major factor affecting inflation in both short and long term. In this context, if the interest rates are lowered by the Central Bank as a current topic of discussion, it can be considered that the shocks in the exchange rate will create serious pressure on domestic prices, especially in the short term.

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Utku ALTUNÖZ, 1979 Sinop Doğumludur. İlk orta ve lise öğrenimini Sinop'ta tamamlamıştır. Uluslararası Bankacılık ve Finans alanını Bireysel Emeklilik Sistemi ve makroekonomik etkileri adlı çalışması ile tamamlayan Altunöz, Finansal Krizler konusunda yapmış olduğu doktora tezi ile İstanbul Üniversitesi'nden doktor unvanını almıştır. Mesleki hayatına İşbankasında başlayan Altunöz, Groupama şirketinde 2 yıl MT, Finansbank'ta Bireysel Krediler Tahsis uzman yardımcısı (1 yıl) ve Uzmanı (2 yıl), Yapı Kredi Bankasında Ticari krediler Tahsis Uzmanı (2 Yıl) ve son olarak Genpower firmasında finans direktörü olarak çalışmıştır. 2013 Yılında Akademik kariyerine Sinop üniversitesi Boyabat İktisadi ve İdari Bilimler Fakültesi'nde Yardımcı doçent olarak başlayan Altunöz, 2015 yılında ekonomi doçenti unvanını almıştır. Aynı zamanda Para&Borsa Portalında ekonomi ve finans yazarı olan Altunöz'ün hakemli dergilerde yayımlanmış birçok ulusal ve Uluslar arası bilimsel makalesi, Ulusal ve Uluslar arası bilimsel kongrelerde sunulmuş tebliği bulunmaktadır Finansal Krizler, Erken Uyarı Sistemleri ve 2008 Krizi içi TR-ABD Örneği ve neoklasik İktisadın Eleştirisi: Post Otistik iktisat isimli iki kitabı olan Altunöz'ün İlgi alanları Makro ekonomi, Para politikaları, Para ve Sermaye Piyasaları ve Davranışsal İktisattır. Altunöz, Avrasya Ekonomistleri Derneği, İktisatçılar Cemiyeti, The National Bureau of Economic Research, American Economic Association ve World Economic Association üyesidir.