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The Relationship Between the Deposit Dollarization in the Turkish Banking Sector with USD/TRY Exchange Rate and Consumer Confidence Index: 2012:01 – 2022:01

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Abstract

Deposit dollarization is defined as resident people's preference for foreign currencies instead of national currency when accumulating value. Turkish banking sector's foreign currency deposits/total deposit ratio has increased rapidly, especially in recent years, and has exceeded 60%. Determining the factors that cause deposit dollarization is important in terms of measures to be taken for dollarization. In this research, the relationship between the foreign currency deposit / total deposit ratio in the Turkish banking sector with the consumer confidence index and the USD/TRY exchange rate was analyzed using monthly data between 2012:01 - 2022:01. The Engle-Granger cointegration test was used to analyze the relationship between the variables, and the Granger causality test was implemented to determine the direction of the relationship between variables. There is a long-term reciprocal relationship between the USD/TRY exchange rate and consumer confidence index variables with deposit dollarization detected in the Engle-Granger cointegration test. Besides, no mutual causality relationship between deposit dollarization and consumer confidence index was detected in the Granger causality test. In addition, it has been determined that there is a one-way causality relationship from deposit dollarization to USD/TRY rate, but there is no causality relationship from USD/TRY rate to deposit dollarization.

Keywords: *Banking, Deposit Dollarization, USD/TRY exchange rate, Consumer Confidence Index, Granger Causality Test*

Jel Codes: *B22, B23, E52, E58*

Türk Bankacılık Sektöründeki Mevduat Dolarizasyonu ile USD/TRY Döviz Kuru ve Tüketici Güven Endeksi Arasındaki İlişki: 2012:01 – 2022:01

Öz

Mevduat dolarizasyonu yerleşik kişilerin değer biriktirirken ulusal para birimi yerine yabancı para birimlerini tercih etmesi olarak tanımlanmaktadır. Türk bankacılık sektörünün yabancı para mevduat/toplam mevduat oranı özellikle son yıllarda hızla artarak %60 seviyesini aşmıştır. Mevduat dolarizasyonuna neden olan unsurların belirlenmesi dolarizasyona yönelik alınacak tedbirler açısından önem arz etmektedir. Bu araştırmada 2012:01 – 2022:01 tarihleri arasındaki aylık verilerden yararlanılarak Türk bankacılık sektöründeki yabancı para mevduat/toplam mevduat oranı ile tüketici güven endeksi ve USD/TRY döviz kuru arasındaki ilişki analiz edilmiştir. Değişkenler arasındaki ilişkiyi analiz etmek için Engle-Granger eşbütünleşme testi, değişkenler arasındaki ilişkinin yönünü belirlemek için ise Granger nedensellik testi uygulanmıştır. Engle-Granger eşbütünleşme testinde mevduat dolarizasyonu ile USD/TL kuru ve tüketici güven endeksi değişkenleri arasında uzun dönemli karşılıklı bir ilişki olduğu tespit edilmiştir. Buna karşılık Granger nedensellik testinde mevduat dolarizasyonu ile tüketici güven endeksi arasında karşılıklı bir nedensellik ilişkisi olmadığı tespit edilmiştir. Ayrıca mevduat dolarizasyonundan USD/TRY kuruna doğru tek yönlü bir nedensellik ilişkisi olduğu ancak USD/TRY kurundan mevduat dolarizasyonuna doğru bir nedensellik ilişkisi olmadığı tespit edilmiştir.

Anahtar Kelimeler: *Bankacılık, Mevduat Dolarizasyonu, USD/TRY döviz kuru, Tüketici Güven Endeksi, Granger Nedensellik Testi*

Jel Kodu: *B22, B23, E52, E58*

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INTRODUCTION

With the financial liberalization process in the 1990s, the banking sector had a dual-currency system in which foreign currencies were also included in addition to national currencies. Since developing countries, including Turkey, are faced with the risk of high inflation, savers have tended to prefer foreign currencies instead of national currency in order to protect the value of their savings. This tendency, which is defined as dollarization, means that residents see the national currency as risky as their purchasing power decreases due to the uncertainties in the exchange rates, and they prefer foreign currencies as a store of value in addition to the national currency (El-Erian, 1988:87). According to another definition, dollarization is defined as the use of foreign currency as a valuable tool by residents (Calvo and Gramont, 1992:1).

Values deposited in a foreign currency deposit account by residents are defined as deposit dollarization, and borrowing of residents in a foreign currency is defined as credit dollarization. Governments and central banks closely monitor the amount of dollarization because in case of increased dollarization, the national currency may lose its functions such as being the dominant currency (Togay, 1997:91) or accumulating value (Yamak and Yamak, 1997:3; Quispe, 2000:173), may cause currency substitution after a while (Savastano, 1996:2) or cause a decrease in the effectiveness of monetary policy (Demidenko, 2017; Kolcu and Yamak, 2022:482). Therefore, it is very prominent to control dollarization for decision makers and policy-makers to ensure economic stability and healthily implement monetary policies.

Before the crisis in 2001, the Turkish economy had been exposed to high inflation for a long time; therefore, the preference level for foreign currencies increased significantly. As a result of the measures taken by the decision-makers in the post-crisis period, excessive fluctuations in exchange rates decreased, confidence in the national currency increased, and the level of deposit dollarization decreased (Akşehirli, 2020:66). However, after the exchange rate shock in 2018, deposit dollarization showed an upward trend again, and especially in 2021Q3, it increased rapidly and exceeded the 60% level. In other words, the value accumulation function of TL showed a decreasing trend again (Şanlı, 2021:140).

Many factors such as macroeconomic instability, inflation, volatility in exchange rates (Sever, 2012:205), risk and confidence in the national currency (Craig and Waller, 2004:671), increase in international transaction volume, interest rates applied to currencies cause dollarization. The phenomenon of dollarization occurs in the form of a preference for a foreign currency as a result of the decline in consumers' trust in the national currency. Considering that deposit dollarization may cause volatility in exchange rates and destabilize monetary policy in developing countries, the relationship between deposit dollarization with exchange rates and consumer confidence index analysis becomes more important.

Consumer confidence indices, which are closely followed by the financial community and politicians (Kaya, 2020:599), were created to measure the future expectations of consumers about the country's economy (Ferrer, Salaber and Zalewska, 2014:195). The consumer confidence index, which is also used to measure the expectations of people's economic situation and the course of the country's economy in Turkey, is the most useful in analyzing expectations for the economy (Durgun Kaygısız, 2019:316). That is why it is aimed to analyze the relationship between deposit dollarization in the Turkish banking sector with the USD/TRY exchange rate and consumer confidence index and make recommendations to policy-makers based on the results of the analysis in this research.

1. LITERATURE REVIEW

Most national and international studies examining the relationship between dollarization and different variables are related to interest rates, inflation or only the exchange rate. Moreover, most of the researches are aimed at investigating the determinants of dollarization. The only research in the literature in which the relationship between deposit dollarization with the consumer confidence index and the exchange rate was examined together is the research conducted by Kolcu and Yamak (2022). Additionally, researches on the relationship between deposit dollarization and exchange rate or consumer confidence index variables in the literature are as follows;

Özkaramete (1996); carried out a VAR analysis using the data between 1990 and 1995 in his study to determine the factors affecting dollarization in Turkey. It is stated that deposit dollarization and exchange rate have a positive relationship at the end of the analysis.

Akçay, Alper and Karasulu (1997); using the E-GARCH model and the data between 1987 and 1996, investigated the effect of dollarization on exchange rate volatility in the Turkish economy. It is stated that dollarization increased exchange rates and volatility in exchange rates in the analysis result.

Elkhafif (2003); using the error correction model, investigated the exchange rate and dollarization's relationship in Egypt and South African countries between 1991 and 2001. A short and long-term relationship between the exchange rate and dollarization in both countries as a result of the analysis has been detected.

Serel and Darıcı (2006); investigated the factors causing dollarization in Turkey by using the Least Squares method with the data between 1990 and 2002. It has been defined that the increase in foreign currency rate was the main cause of dollarization.

Honohan (2007); has investigated exchange rate and deposit dollarization intercourse, using the data of 133 countries between 1990 and 2006. There is a bidirectional relationship between the foreign currency rate and deposit dollarization. The dollarization is permanent, and the floating exchange rate regime has a more reducing effect on the dollarization than the fixed exchange rate regime.

Yinusa and Akinlo (2008); using the multi-perspective limited portfolio model, have investigated foreign currency rate volatility and deposit dollarization intercourse in Nigeria between 1986 and 2005. Foreign currency rate and deposit dollarization have mutual intercourse, and a strong causal relationship between dollarization and exchange rate volatility has been stated.

Hekim (2008); to determine the factors causing dollarization in Turkey, has used the data from 1992 to 2007 and the Least Squares method. It is stated that foreign currency rate changes affect dollarization at the end of the analysis.

Honig (2009); analyzed the effects of exchange rate regime and government management quality on dollarization by regression analysis of data from 66 countries between 1988 and 2000. As a result of the research, it was stated that the exchange rate regime does not directly affect the local dollarization, the dollarization is caused by the lack of trust in the national currency, and high-quality government administrations reduce the dollarization.

Dumrul (2010); using the data between 1988 and 2009, has examined the relationship between dollarization in the Turkish

economy with the expected exchange rate, expected inflation, the difference in interest rates between Turkey and the USA, and the CBRT's gross foreign exchange reserves. Dollarization was most affected by the expected exchange rate factor has been stated.

Sever (2012); investigated the intercourse of foreign currency rates and dollarization by subjecting the data between 1989 and 2010 in Turkey to Granger causality analysis. A mutual causality between exchange rate and dollarization uncertainty has been detected.

Lay, Kakinaka and Kotani (2012); to analyze the exchange rate and dollarization's relationship in Cambodia, used the GARCH method with the help of data between 1998 and 2008. The devaluation of the national currency and the instability in exchange rates were the causes of dollarization that were detected.

Hijazeen and Al-Assaf (2018); to examine the exchange rates and dollarization's relationship in Jordan, used the quarterly data between 1994 and 2006. It has been stated that exchange rates did not have any significant effect on deposit and debt dollarization.

Ağaslan and Gayaker (2019); to determine the factors causing dollarization in Turkey, used the data between 2003 and 2018 with the help of threshold autoregressive models. The variable that best explains the dollarization process is the change in exchange rates that have been stated.

Udoh and Udeaja (2019); to analyze nominal exchange rate and financial dollarization intercourse in Nigeria, used the data between 2009 and 2018 with the TARCH model. They stated that financial dollarization increased the nominal exchange rate's volatility and made this volatility permanent. In addition, they stated that the devaluation in the nominal exchange rate increased the preference for foreign currency.

Erdoğdu and Baykut (2019); to analyze the relationship between deposit dollarization with USD/TRY exchange rate, market interest rate, and VIX index in Turkey, have used weekly data between 2012 and 2018. Deposit dollarization is related to the USD/TRY exchange rate in the long run, has been detected.

Tweneboah, Gatsi and Asamoah (2019); to determine the macroeconomic factors that cause dollarization in Ghana, used the data between 2002 and 2006 with the ARDL model. It is stated that exchange rates are associated with dollarization in the short and long run.

Kal (2019); to analyze the relationship between the dollarization, the short-term capital movements and foreign currency rate volatility in the Turkish economy, used data between 2013 and 2018 with the E-GARCH-M model. The deposit dollarization had an upward effect on foreign currency rate volatility, and the economy was affected negatively for this have been stated.

Yusuf and Okur (2019); to determine dollarization and the USD exchange rate's relationship in Somalia, have carried out a time series analysis with the daily USD exchange rate data between 2009 and 2018. The Somali Shilling has completely lost its functions, and there is no significant effect between exchange rate volatility and dollarization has been stated.

Bărbuţă-Mişu, Güleç, Duramaz and Virlanuta (2020); in their research on the short and long-term effects of foreign currency

and interest rates on dollarization in Turkey, used weekly data between 2012 and 2018 with a VAR analysis. They detected that the variables affected the dollarization in the opposite direction and that was due to political reasons.

Tufaner (2021); to investigate the factors causing dollarization in Turkey, used regression and causality analysis with data between 2013 and 2021. As a result of the research, it was stated that a negative relationship between dollarization and exchange rate, and a one-way causality relationship from dollarization to exchange rate.

Hussein, Abd Rahi and Abdul Amir (2021); to analyze the exchange rate and dollarization's relationship in the Iraqi economy, have used the VAR model with the data between 2003 and 2019. Dollarization has an unfavorable effect on foreign currency rates, and the Iraqi economy has been stated.

Khabibullin and Ponomarenko (2022); have comparatively analyzed exchange rate regimes and deposit dollarization intercourse in the Russian economy. The level of dollarization decreased when the floating exchange rate regime was used in the Russian economy has been stated.

Kolcu and Yamak (2022); investigated the effects of exchange rate and consumer confidence index on deposit dollarization in Turkey between 2012 and 2021 using the non-linear ARDL bounds test. It has been stated that consumer confidence index, exchange rate and deposit dollarization have a long-term relationship, and deposit dollarization has a permanent effect in the long run. Furthermore, it was determined that although the consumer confidence index affects deposit dollarization in the long term, it has no effect in the short term.

2. EXAMINATION OF CURRENCY DEPOSIT / TOTAL DEPOSIT, USD/TRY EXCHANGE RATE AND CONSUMER CONFIDENCE INDICATORS

Below are the graphs showing the changes in foreign currency deposits / total deposits, USD/TRY exchange rate and consumer confidence index for the period 2012:01 - 2022:01.

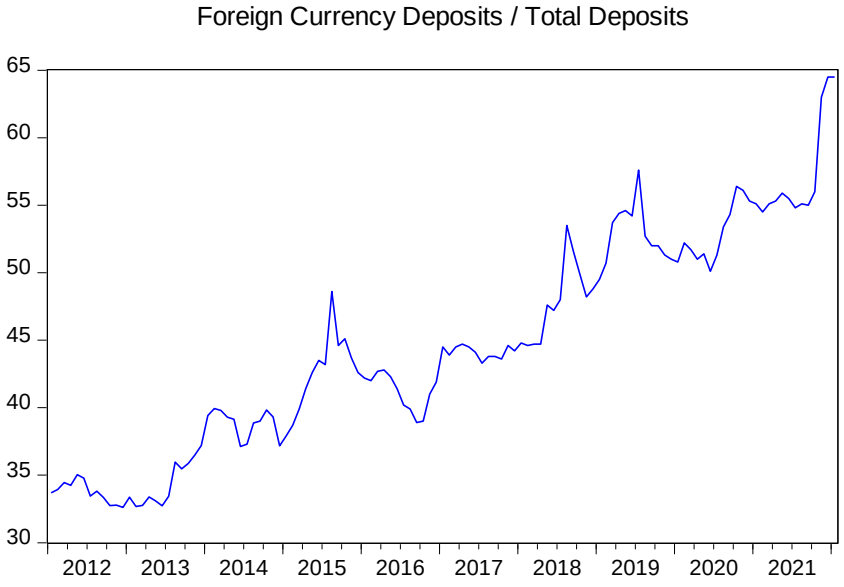

Figure 1: Foreign Currency Deposits / Total Deposits (%)

Source: Banking Regulation and Supervision Agency (BRSA)

Figure 1 is shown that the ratio of foreign currency deposits/total deposits in the Turkish banking sector has shown an

increasing trend over the years, has remained above 50% since the exchange rate shock in 2018Q3, and reached 64% in 2021.

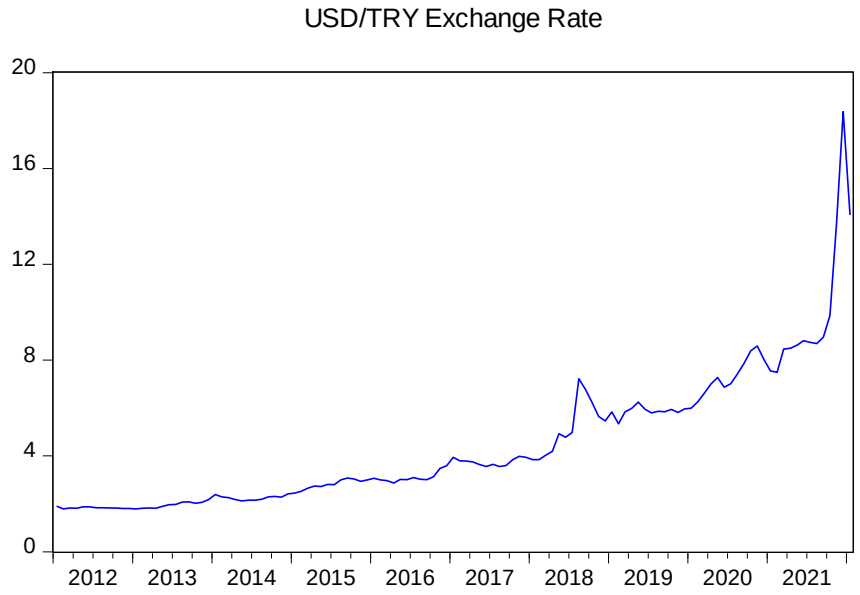

Figure 2: USD/TRY Exchange Rate

Source: Investing (https://tr.investing.com/currencies/usd-try)

Figure 2 is shown that the USD/TRY exchange rate generally tends to increase and has shown a very rapid upward, especially in the 2021Q3.

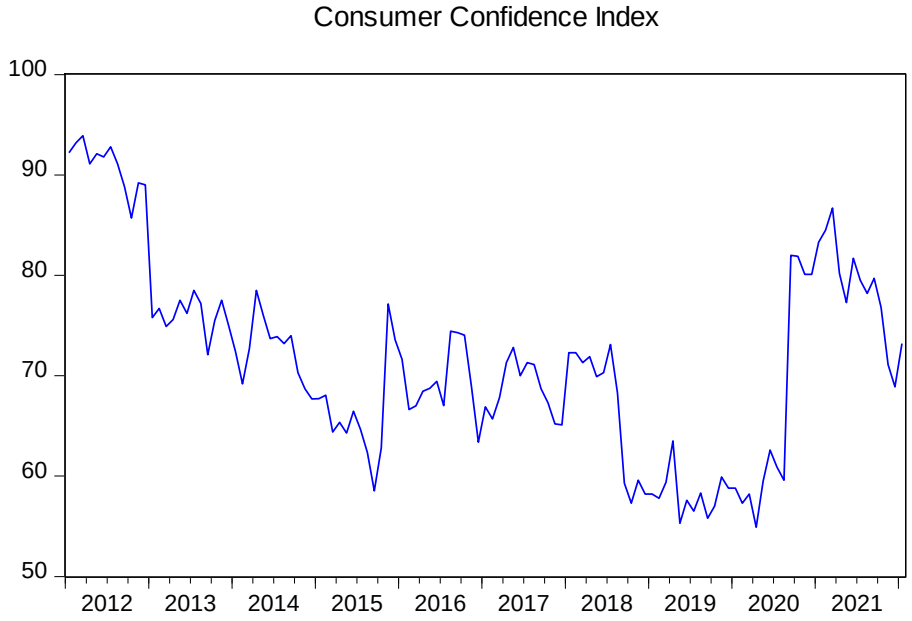

Figure 3: Consumer Confidence Index

Source: Turkish Statistical Institute

Figure 3 is shown that the consumer confidence index decreased with the exchange rate shock in 2018Q3, increased sharply in 2020Q1, and showed a downward trend again when the USD/TRY exchange rate increased.

3. EMPIRICAL ANALYSIS AND RESULTS

3.1. Dataset and Methodology

In the research, monthly data from 2012:01 to 2022:01 periods were used to analyze the relationship between deposit dollarization with the USD/TRY exchange rate and the consumer confidence index. For deposit dollarization, the monthly foreign currency deposit / total deposit ratio in USD currency published by the BRSA (Deposit dollarization=DD) was used. For the USD/TRY exchange rate, the maximum values of the monthly USD/TRY exchange rates published by Investing have been used. For the consumer confidence index, monthly consumer confidence index data (CCI) published by the Turkish Statistical Institute has been used.

In this research, which examines the relationship between deposit dollarization with USD/TRY exchange rate and consumer confidence index, unit root tests of Augmented Dickey-Fuller (1981) and Phillips-Perron (1988) were applied to the series. In the second stage, the series were subjected to the Engle-Granger cointegration test to test whether there is an integration relationship between the series. In the third stage, the direction of the relationship was determined by applying the Granger causality test to the series.

3.2. Unit Root Tests

In econometric analyzes using the time series technique, it is important to perform stationarity analyzes of the series before testing the relationships between variables. In this research, deposit dollarization in banking sector (DD), consumer confidence index (CCI) and USD/TRY exchange rate (USD/TRY) series were firstly subjected to the Fourier unit root test, which takes into account structural breaks. Since the trigonometric terms in the Fourier unit root test were not significant, the series were subjected to Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) unit root tests. A brief of the Fourier unit root test and Fourier unit root test results of the series are below.

The Fourier unit root test, developed by Enders and Lee (2012), also takes structural breaks into account when analyzing the series for stationarity. The Fourier unit root test equation is as follows;

$$a(t) = a_0 + \sum_{k=1}^{n} a_k \, sin(2\pi kt \,/\, T) + \sum_{k=1}^{n} \beta_k \, cos(2\pi kt \,/\, T) \qquad (1)$$

In the equation "n" represents the number of frequencies in the approximation, "k" represents the unit root frequency, and "T" represents the number of observations. In the Fourier unit root test, the regression equation is estimated for all "k" values from 1 to 5. The smallest sum of squares residuals (SSR) is determined as the "k" value of the regression equation. In the second step of the test, the F-statistics of the trigonometric terms in the regression equation are examined. If the F-statistic of the equation is less than the critical values of the Fourier unit root test, the null hypothesis cannot be rejected, and in this case, ADF unit root test is recommended for the series (Enders and Lee, 2012:197).

Table 1: Results of Fourier Unit Root Test

		DD	CCI	USD/TRY
Sum squared residuals	1	265.9355	1705.486	65.10139
	2	266.3022	**1705.277**	65.25318
	3	**261.4350**	1725.001	**65.01183**
	4	265.7325	1734.071	65.45125
	5	265.6637	1729.435	65.25075
Lag Length		5	2	11
F-statistic		1.76	1.53	1.88
Critical values	1%		10.35	
	5%		7.58	
	10%		6.35	

Table 1 shows the Fourier stationarity test results of the series. It is observed that the F-statistics values of all series are smaller than the Fourier unit root test critical values (Enders and Lee, 2012:197). In other words, the trigonometric terms in the Fourier unit root test regression equation, which takes into account structural breaks, are not significant. For this reason, the series were subjected to ADF and PP unit root tests, in which structural breaks were not taken into account.

Table 2: Results of the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) Unit Root Tests

Augmented Dickey-Fuller (ADF) Unit Root Test				
	Level		**1st Difference**	
Dependents	**ADF t-Statistic**	**Test Critical Values**	**ADF t-Statistic**	**Test Critical Values**
DD	1.820 (0)	-1.943**	-10.955 (0)	-1.943**
DD[a]	-0.027 (0)	-2.885**	-11.229 (0)	-2.885**
DD[b]	-3.090 (0)	-3.447**	-11.264 (0)	-3.448**
CCI	-0.802 (0)	-1.943**	-9.675 (1)	-1.943**
CCI[a]	-2.787 (0)	-2.885**	-9.669 (1)	-2.886**
CCI[b]	-2.636 (0)	-3.447**	-9.773 (1)	-3.448**
USD/TRY	2.705 (2)	-1.943**	-10.448 (1)	-1.943**
USD/TRY[a]	1.787 (2)	-2.886**	-10.792 (1)	-2.886**
USD/TRY[b]	-0.547 (2)	-3.448**	-11.130 (1)	-3.448**
Phillips-Perron (PP) Unit Root Test				
	Level		**1st Difference**	
Dependents	**PP t-Statistic**	**Test Critical Values**	**PP t-Statistic**	**Test Critical Values**
DD	2.226 (7)	-1.943**	-10.956 (3)	-1.943**
DD[a]	0.296 (7)	-2.885**	-11.323 (6)	-2.885**
DD[b]	-3.317 (2)	-3.447**	-11.421 (7)	-3.448**
CCI	-0.859 (6)	-1.943**	-11.399 (5)	-1.943**
CCI[a]	-2.784 (1)	-2.885**	-11.379 (5)	-2.885**
CCI[b]	-2.636 (0)	-3.447**	-11.596 (7)	-3.448**
USD/TRY	3.893 (25)	-1.943**	-8.053 (12)	-1.943**

USD/TRY[a]	2.265 (20)	-2.885**	-7.991 (16)	-2.885**
USD/TRY[b]	-1.444 (8)	-3.447**	-7.880 (21)	-3.448**

Note: The fields marked with "a" show the values of the intercept model, and the fields marked with "b" show the values of the model where the trend and intercept are together. "**" is statistical significance at the 5% level. The maximum lag length of the ADF test was determined as 12 according to the Schwarz information criterion. Bartlett Kernell method was used in the PP unit root test, Bandwidth width was determined by the Newey-West method. The values in parentheses represent the ADF test's lag length and PP test's Bandwidth width.

Table 2 shows that all variables contain a unit root at the level according to ADF and PP unit root tests. When the first-order differences are taken, the series become statistically stationary at the 5% significance level. Furthermore, the PP and ADF test results are consistent with each other, and all series become stationary at first difference.

3.3. Cointegration Test

The Engle-Granger cointegration test was used because the series used in the study became stationary when first-order differences (I_1) were taken. Engle-Granger cointegration test's first stage, the following models are created and error terms are obtained according to the Least Squares method, and then the ADF unit root test is applied to these error terms. If the error terms are stationary at the ADF test level, the variables are considered cointegrated in the long run.

$$y_t = \beta_0 + \beta_1 x_t + \varepsilon_{1,t} \quad (2)$$

$$x_t = a_0 + a_1 y_t + \varepsilon_{2,t} \quad (3)$$

For the error terms ($\varepsilon_{1,t}$ and $\varepsilon_{2,t}$) specified in the equations above, the ADF unit root test should be applied using the model without intercept and trend. If both error terms are stationary at the level, it is concluded that the variables are considered to be cointegrated in the long run (Engle and Granger, 1987:268).

Table 3. Engle-Granger Cointegration Test Results

1-Engle-Granger Cointegration Test Between DD and USD/TRY Exchange Rate				
Dependents	ADF t-statistic	Mac Kinnon critical value	Lag Length	Cointegration Degree
ε_1	-13.126	-1.943**	0	I (0)
ε_2	-11.022	-1.943**	0	I (0)
2-Engle-Granger Cointegration Test Between DD and CCI				
Dependents	ADF t-statistic	Mac Kinnon critical value	Lag Length	Cointegration Degree
ε_1	-11.341	-1.943**	0	I (0)
ε_2	-9.796	-1.943**	1	I (0)

Note: " ε_1" refers to the error term of the models in which DD is the dependent variable. " ε_2" in the first model represents the error term of the USD/TRY exchange rate, and " ε_2" in the second model represents the error term of the CCI. All variables were analyzed with the ADF unit root test, where there was no trend or intercept. "**" is statistical significance at the 5% level. The lag length t-statistic values were chosen based on the Schwarz information criterion.

Table 3 is shown that there is a long-term cointegration relationship between deposit dollarization with the USD/TRY exchange rate and the consumer confidence index.

3.4. Granger Causality Test

The Granger causality test was used to determine the direction of the relationship between the series in this research. Granger causality test is performed using equations (3) and (4) below. The "m" lag length shows that the error terms "u_{1t}"and "u_{2t}" are independent. Equation "3" indicates causality from variable X to variable Y, the equation "4" indicates causality from variable Y to variable X (Granger, 1969: 431).

$$Y_t = \sum_{i=1}^{m} a_i X_{t-i} + \sum_{j=1}^{m} \beta_j Y_{t-j} + u_{1t} \quad (4)$$

$$X_t = \sum_{i=1}^{m} \lambda_i Y_{t-i} + \sum_{j=1}^{m} \delta_j Y_{t-j} + u_{2t} \quad (5)$$

The results of the Granger causality test applied through the above equations are given in Table 3.

Table 4. Granger Causality Test Results

1-Granger Causality Test Between DD and USD/TRY Exchange Rate				
H_0	F-statistic	Prob.	df	Included Observations
ΔDD is not the cause of ΔUSD/TRY	9.3907	0.0027***	1	119
ΔUSD/TRY is not the cause of ΔDD	0.6852	0.4095	1	119
2-Granger Causality Test Between DD and CCI				
H_0	F-statistic	Prob.	df	Included Observations
ΔDD is not the cause of ΔCCI	0.7586	0.3855	1	119
ΔCCI is not the cause of ΔDD	0.1401	0.7088	1	119

Note: The appropriate number of delays have determined by checking the information criteria. The "Δ" symbol indicates that the analysis was performed by taking the 1st degree differences of the series. "***" is statistical significance at the 1% level.

As seen in Table 4, in the causality analysis between ΔDD and ΔCCI; for both "ΔCCI is not the cause of ΔDD" and "ΔDD is not the cause of ΔCCI" H_0 hypotheses were accepted. In other words, the consumer confidence index and deposit dollarization have no mutual causal relationship. In the causality analysis between ΔDD and ΔUSD/TRY; H_0 hypothesis that "ΔUSD/TRY is not the cause of ΔDD" was accepted. On the other hand, the H_0 hypothesis "ΔDD is not the cause of ΔUSD/TRY" was rejected at the 1% significance level.

CONCLUSION

The adoption and use of a currency other than the national currency for payment and storage of value are defined as financial dollarization. According to this definition, financial dollarization is divided into asset dollarization and liability dollarization. Deposit dollarization constitutes the liability side of financial dollarization and is determined by the foreign currency deposit/total deposit ratio in the banking sector.

The adoption and use of a different currency is due to distrust of the national currency and the depreciation of the national currency. It is known that if measures are not taken for dollarization, the national currency will lose its basic money functions such as being the dominant currency, accumulating value or being a means of payment. That is why it is important to determine the relationship between dollarization and different variables for decision makers to make decisions that will prevent dollarization.

Deposit dollarization in Turkey experiences ups and downs over time depending on the economic conjuncture and macroeconomic variables. Especially after the exchange rate shock in 2018, deposit dollarization increased rapidly and exceeded 64%. Therefore, in this research, the intercourse between deposit dollarization with the USD/TRY exchange rate and consumer confidence index was analyzed using monthly data between 2012.01 - 2022.01.

As a result of the Engle-Granger cointegration test, it has been determined that the deposit dollarization, the consumer confidence index and the USD/TRY exchange rate are cointegrated. In other words, these variables have a long-term relationship. The research finding that there is long-term intercourse between deposit dollarization and the USD/TRY exchange rate is similar to the results of the research conducted by Elkhafif (2003), Honohan (2007), Yinusa and Akinlo (2008), Erdoğdu and Baykut (2019), Tweneboah et al. (2019) and Kolcu and Yamak (2022). Moreover, the research finding indicating that the consumer confidence index and deposit dollarization have a long-term relationship is similar to the result of the research conducted by Kolcu and Yamak (2022).

The Granger causality analysis found no mutual causal relationship between the consumer confidence index and deposit dollarization. This research finding is not similar to the research finding made by Kolcu and Yamak (2022). In addition, while no causality relationship could be determined from USD/TRY exchange rate to deposit dollarization, a one-way causality relationship from deposit dollarization to USD/TRY exchange rate at the 1% significance level has been determined. While the research finding that there is no correct causal relationship between the USD/TRY exchange rate and deposit dollarization does not support the research findings of Serel and Darıcı (2006), Hekim (2008), Lay et al. (2012), and Ağaslan and Gayaker (2019) in the literature, it supports the research findings of Hijazeen and Al-Assaf (2018) and Yusuf and Okur (2019). The research finding that there is a causal relationship between deposit dollarization and USD/TRY exchange rate is supported by research findings by Akçay et al. (1997), Udoh and Udeaja (2019), Kal (2019), Tufaner (2021) and Hussein et al. (2021).

The research results show that deposit dollarization, USD/TRY exchange rate and consumer confidence index are in a long-term relationship and deposit dollarization is the cause of the USD/TRY exchange rate. Turkey has been struggling with rising exchange rates and dollarization, especially since 2018Q3, and is trying to prevent the increase in both exchange rates and deposit dollarization. Finally, to prevent deposit dollarization, “FX-protected TL deposit and participation accounts were introduced in the banking sector at the end of 2021, but no serious impact on deposit dollarization has been observed in the short term until now. If deposit dollarization cannot be prevented, further depreciation of the Turkish Lira is likely. The rapid depreciation of the national currency will cause the confidence in the national currency to be shaken and will increase the tendency to different currencies or precious metals as a means of accumulation. In this case, deposit dollarization is likely to increase further. It is recommended that decision-makers create products that encourage national

currency as a means of accumulating value, and create reserves that can interfere with exchange rate shocks. In addition, it is recommended to increase the confidence in the TL by controlling inflation and to create foreign exchange input by encouraging the production of value-added products. For this reason, it is recommended that decision-makers create different instruments to prevent deposit dollarization, taking into account the results obtained from the research.

ETHICAL STATEMENTS AND DISCLOSURES

Ethics Committee Approval Information Statement

The study is a study that does not require ethics committee approval.

Author Contribution Rate Statement

The author's contribution is 100%.

Conflict of Interest Statement

There is no potential conflict of interest in the study.

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