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The Impact of Commercial and Corporate Credits on Savings in Turkey*

Türkiye'de Tüketici ve Ticari Kredilerin Tasarruflar Üzerinde Etkisi

Gülçin Tapşın [a, **]& Güneş Tosik [b]

[a] Prof.Dr., Istanbul Commerce University, Faculty of Management, Department of Economics, 34, İstanbul/Türkiye
ORCID: 0000-0002-2763-3049
[b] Istanbul Commerce University, Social Science Institute, Department of Economics, 34, İstanbul/Türkiye
ORCID: 0000-0002-0371-2033

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ÖZ

Bu çalışma, 1986-2019 yılları arasında Türkiye'de hanehalkına verilen toplam krediler ile finans dışı kuruluşlara verilen kredilerin özel tasarruflar üzerindeki etkisini eşbütünleşme analizi yoluyla incelemektedir. Analizlerden elde edilen bulgulara göre Tüm sektörlerden Hanehalkına Verilen Toplam Kredi/GSYİH ve Mali Olmayan Kuruluşlara Verilen Krediler/GSYİH değişkenleri istatistiksel olarak anlamlıdır. Hanehalkına Tüm sektörlerden/GSYİH'den Verilen Toplam Kredilerdeki %1'lik artış Özel Tasarrufları %0,55 oranında azaltmaktadır. Finansal Olmayan Kuruluşlara Verilen Kredilerde/GSYİH'deki %1'lik artış Özel Tasarrufları %0,21 oranında artırmaktadır.

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ABSTRACT

This study examines the effect of total credits given to households and credits given to non-financial institutions on private savings in Turkey for the years between 1986-2019 by means of cointegration analysis. According to the findings obtained from the analyses, Total Credits Given to Households from all sectors/GDP and Credits Given to Non-Financial Institutions/GDP variables are statistically significant. 1% increase in Total Credits Given to Households from all sectors/GDP decreases Private Savings by 0.55%. 1% increase in Credits Given to Non-Financial Institutions/GDP increases Private Savings by 0.21%.

1. Introduction

Savings constitute the source of funds required for investment. Lack of domestic savings required for the financing of investments increases the dependency of economies on external savings and paves the way for the current account balance to deteriorate. In order to increase economic wealth and provide a strong real exchange rate and price stability, it is important to transfer savings to productive investment areas as well as providing enough savings. As a matter of fact, the goal of developing countries had been to increase savings and investments since 1980's.

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** *Sorumlu yazar/Corresponding author*.
e-posta: *gtosik@ziraatbank.com.tr*

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However, some of the funds flowing to the developing countries within the framework of liberal policies were used in consumption expenditures postponed by households during the credit restriction periods, and as the access to the credit increased, the tendency to precautionary savings decreased.

Small and medium-sized enterprises, on the other hand, used increasing amounts of external saving in order to finance their investment expenditures and increase their profitability. In the relevant literature, it is generally mentioned that corporate credits increase the savings of enterprises. In addition, the depreciation of the local currency causes the balance sheets of firms with a debt structure in foreign currency to deteriorate. These kinds of firms are more likely to be exposed to foreign currency risk than large-sized enterprises that have the power of creating fund through stocks and bonds. During economic recessions, country's risk premium increase, and supplying the required credit to finance expenditures makes procyclical monetary policies obligatory (Sargent and Wallece, 1981:1-2). On the other hand, as risk perception increases depending upon credit expansion, financial stability is tried to be ensured with macroprudential policies.

While private savings in Turkey's economy decreased as of 1990's, the share of credits given to households and companies in GDP increased. In this study, the effect of the ratio of credits given to households and non-financial companies from all sectors to GDP in Turkey on private savings was analyzed for the years 1986-2019 by means of cointegration analysis. In the second part of the study, private savings and credit development in Turkey is discussed while the third part provides a theoretical framework. In the fourth part, literature review is given. In the fifth part, data, model and empirical findings are provided while results are mentioned in the sixth part.

2. Development of Private Savings and Credits in Turkey

The monetarist ideas that gave importance to private enterprise in 1980's gained significance especially in developed countries. One of the aims of the statist policies applied in Turkey towards the end of 1970's was to create and protect the private enterprise. These goals were also supported by the applied IMF policies because of foreign debts. As a matter of fact, pricing (interest) policy was applied. High credit interests negatively affected big firms and holdings whose internal resources reached to higher amounts because of negative interest applications before 1980. However, it is not possible to mention same results for savings deposit holders (Bulutay, 1981).

The negative interest applications during the period of 1980 caused the savings to remove from the banking system and move towards alternative markets and foreign currency. In July 1980, interests were set free, and the interests that increased with this application hardened the conditions of credit-using firms. Not only inter-bank competition, but also the role bankers is responsible for the increase in interest rates. During this period, deposit interests increased more because of the increase in non-redeemable credits. During the period when free interest was applied for 18 months, 5 banks and a lot of mediator institutions went bankrupt and savers had some loss (Binay and Kunter, 1998).

The banker crisis experience during 1981-1982 caused a trust problem in banking system and an excessive recession occurred in deposits and credits in real terms. After this period, it is seen that the movements in credit and deposit volume displayed a fluctuating course (Akçay, 1997: 100, 158). I n 1989, capital movements were totally set free. The increasing interest rates after 1989 caused decrease in public savings and increase in private savings. Public saving deficit and inflation got higher during this period. Turkey faced a huge amount of external debt payments. As a result, the public saving deficit was compensated with private saving surplus (Özcan and Günay, 2012). As of this date, even though real rate of return of foreign currency account was lower than the real rate of return of the assets in terms of Turkish currency, dolarization continued because of high inflation (Serdengeçti, 2005).

During this period, the funds supplied with foreign borrowing negatively affected balance sheet structure of banks, and both interest and exchange rate risk increased to a big extent. As a consequence of this, the first serious banking crisis occurred in 1994 (Uluyol, 2019: 82-83). After the crisis of 1994 that was triggered by speculative capital movements, a significant decrease was observed in total savings. During this period, saving-investment gap increased for the public side while inflation increased as this gap was attempted to be decreased with Central Bank's money. On the other hand, high interest rates directed private savings towards funding public deficits instead of turning them into investments (TCMB, 2015: 17). While public disposable income had been negative since 1998, the private savings increased. At the end of 1999, a new stability program was started to be applied. At the beginning of the program, consumption expenditure increased, savings decreased and demand-pull inflation was triggerred as quick decrease was observed in interest rates because of high amounts of currency and Central Bank's non-intervention to the exchange rate (Özcan and Günay, 2012).

In the stability program and IMF stand-by contract carried out at the end of 1999, the monetary expansion was linked to net foreign assets of CBT. This application caused liquidity increase to slow down. As of November 2000, the private banks with liquidity deficit and the problems of public banks triggered speculations in the markets. The banks that had less funding opportunities because of the increase in short-term interests started to sell securities to a great extent. As of 22th November 2000, foreign exchange demand increased and, the reserves of the Central Bank decreased as a result of foreign investors' efforts to leave the country. In 2001, contraction in economic activity limited new deposit flows to the banking sector and caused some of

the current savings to dissolve while uncertainty and trust problem shortened the deposit terms more and caused it to be saved in terms of Turkish Lira rather than foreign currency (BDDK, 2010: 20-25).

After the crisis of 2001, decreasing interest expenditures increased public savings due to the increase in revenues generated within the scope of consumption taxes and privatizations as well as the achievement of high primary surplus targets in public finance. In contrast, the savings of the private sector decreased quickly. Improved expectations, positive developments in private sector's saving rate as well as deteriorating terms of trade between 2001-2006 can be considered as the reasons behind the deterioration observed in the saving rate of the private sector (Altuğ and Öz, 2012: 3). In order to prevent international fund flow from damaging financial stability, banks' net positions in terms of foreign currency was restricted in 2006. In addition, taking a loan in foreign currency was linked to amount and due date conditions (CBT, 2018: 81-82). After the financial crisis of 2008, improved expectations resulting from quick recovery, increasing foreign credit opportunities and re-increase in commodity prices that decreased during the crisis decreased private savings (Altuğ and Öz, 2012: 3).

After the global financial crisis of 2008-2009, an increase was observed in corporate credits, increasing liquidity and low leverage base. On the other hand, some precautions were taken for consumer credits, and households were prevented from taking loans in terms of foreign currency in 2009 (CBT, 2018: 81-82). As part of macroprudential measures taken by the BRSA since 2013 for the expansion of consumer loans, maturity limitations and loan/value ratio restrictions were imposed on vehicle, consumer and housing loans. In the same year, some restrictive precautions for credit cards such as sectoral installment ban and general installment ban were taken (Balcı and İşcan, 2016).

According to BIS data, the share of the corporate credits given from all sectors to institutions in GDP increased to 68.60% and reached to the highest rate of the last 34 years. On January 25, 2018, a regulation regarding credit usage in terms of foreign currency was formulated, and credit application indexed to foreign currency was terminated within this scope. According to the decision, Turkish residents who do not have foreign currency income will not be able to use foreign currency loan either domestically or abroad (CBT, 2018: 81-82). The corporate credits fell back to 65.40% in 2019. However, it is hard to mention whether the decrease in credit amount in terms of stock data results either from the decrease in newly-opened credit amount or the repaid loans.

3. Saving and Credit – Theoretical Framework

National saving refers to the part of the generated total income that is not used for private and public consumption and represents the amount of current local resources. Making saving and investments today increases the capital stock that will be used by the country in the future. For this reason, the national savings have the effect of increasing a country's future capacity of producing goods and services. The national savings are composed of the sum of public savings and private savings. The private savings consist of corporate savings and household savings (GAO, 2001: 47).

Household savings is the difference between household disposable income and household consumption expenditures. When the household consumption expenditures exceed the disposable income, the difference is financed with consumer credits. The consumer credits used by the household are the cash credits taken from the creditor to obtain goods or services. Vehicle loan is a free consumer credit. Consumer loan is a kind of free consumer credit. Tied consumer loan, on the other hand, is given by the bank for the aim of purchasing goods of specific brand. Installment sales, campaign sales, supply loans and even leasing are included in pre-allocation loans. Credit cards, installment sales cards, current account loans are called post-sale collectible loans (Öztek, 2008: 6-9).

Corporate savings, on the other hand, are composed of the sum of undistributed corporate profits and depreciation. The corporate savings provide a resource for the important parts of funds required for financing investments. The advances in the savings of enterprises diverge depending upon dividend amount and advances in profits (Dean, Durand, Fallon, and Hoeller: 26). After-tax profit, investment rate, availability of external resources, corporate tax rate, growth rate of the firm, equity cost and borrowing cost are the important determinants of the corporate savings. High borrowing may cause firms to increase their undistributed corporate profits in order to decrease their debt. When borrowing cost increases, it possible that the dependency on the borrowed funds decrease. Within this scope, it is possible to mention that the undistributed corporate profit rata is in positive relation with the borrowing cost (Mahakud, 2005:4247-4248). In order to meet short-term operation capital need and finance investment, the firms use cash credits (spot, discount, installment commercial credit etc.) and non-cash credits (letters of guarantee, letters of credit, letter of acceptance etc.). The commercial credits can also be categorized according to their guarantee. Unsecured credits are credits that do not require any other guarantee and given only in return for the signature of credit customer. Secured credits are credits that require personal and/or collateral guarantees in addition to the signature of credit customer (Kuas, 2010).

4. Literature Review

Güriş and Özkaya (2019), examined the factors affecting domestic savings by using panel data analysis in upper-middle-income emerging economies (Russia, Malaysia, Brazil, Argentine, Mexico, South Africa, China, Thailand and Turkey) for the periods between 2000-2015. It was found out that 1% increase in private sector credits increased domestic savings by 0.08%. As a result, it can be said that

the credits given to the private sector affect savings in a positive way.

Bulut and Karakaya (2018), predicted the relationship between macro economic variable and saving for 21 OECD countries for the period between 2006-2015 by means of mean group dynamic least squares panel integration method. At the end of the analysis, it was found out that the credits (Domestic Loans to Private Sector by Banks/GDP) affected private savings in a positive way in OECD countries.

Yiğitbaş (2017), analyzed the impact of private sector loans, inflation rate, public savings rate, real deposit interest rate, young age dependency ratio and old age dependency ratio on private savings in Turkey by using regression analysis. As a result of the analysis, it was found that loans were the most important variables affecting the private savings rate and private savings rates were highly negatively correlated with loans. In the study, it was put forth that a 1% increase in loan rates led to aproximately 60% decline in private savings rates.

Aksoy (2016), studied the effect of consumption and commercial credits on private savings with the data of 52 developed and developing countries during the years between 1980-2014. The credits were examined in two separate categories as consumption and commercial credits, and it was concluded that there was a negative relation between both types of credit and private savings. However, the effect of credit usage on private savings shows difference in terms of developing and developed countries. The negative relation between consumption credits and private savings is clearer in developing countries. On the other hand, it was concluded that the positive relation between commercial credits and private savings was more obvious in developing countries.

Tunç and Yavaş (2015), investigated the determinants of the private saving rate in Turkey for the period of 1999Q1-2014Q2. The study found that private saving rate was negatively affected by both mortgage and nonmortgage credit growth. Nonmortgage consumer credit's effect was smaller than that of housing loans. They put forth that the expansion of the consumer credits is one of the most important variable leading the decline in private savings. They also found that commercial credit had a positive impact on private saving rate.

Demirezen (2015) analyzed the effect of loans on private consumption expenditures and economic growth in Turkey between 2002:IV-2014:I quarters by using cointegration test, error correction model and VAR analysis. The study put forth that the total loan volume had an impact on consumption expenditures both in the short and long run. A 1% increase in loans led to 0.09 % increase in private consumption expenditures. In the study, it has been revealed that there was causality from consumer loans to consumption expenditures. However, no causal relationship was found from commercial loans to consumption. Results revealed that consumer loans had a larger and more permanent effect on consumption expenditures than commercial loans.

Kıyılar and Acar (2013), carried out correlation analyses with the data of 81 cities in Turkey. In the model, bidirectional variance analysis was made in order to measure saving differences. As a result of the study, it was found out that saving deposit per capita had positive relation with cash credits per capita.

Cristadoro and Marconi (2011), examined the household saving behavior in China, taking into account the inequalities between rural and urban households on national and regional level. The study emphasized that even though the government and firms made more contribution to the national savings, the main contribution belonged to Chinese families. It was also mentioned that it was necessary to improve social services and accessibility to credit with the aim of decreasing Chinese households' tendency to save.

Özcan and Günay (2012), analyzed the effect of economic and social variables on private saving rates by predicting the private saving model for the period of 1975-2006. According to the analysis, while the variables such as inflation, income, terms of trade, real interest rates and credits increase private savings, financial borrowing, economic growth, current deficit, dependency ratio and life expectancy decrease the savings. As a result, it is stated within the scope of the study that credits have a positive effect on private savings. On the other hand, after including the variables of the stock exchange market in the model, it was revealed that the increase in credit decreased the private savings in Turkey.

Matur, Sabuncu and Bahçeci (2012), analyzed the relationship between private saving and other variables for the period of 1980-2008 by means of benchmark model. As a result, it was found out that public saving, income per capita, dependency ratio and bank credits affected private saving negatively.

Yaraşır and Yılmaz (2011), examined the variables of private saving and the effects of these variables by means of dynamic panel data analysis method with the 1999-2007 data of 20 OECD countries. As a result of the research, it was found out that 1% increase in private sector's credit usage increased private saving rates by 0,028%. For this reason, credit usage increases people's saving and a positive relation between credits and savings occur for OECD countries.

Kim (2010), analyzed internal and external determinants of personal savings in the United States by using time series data between 1950 and 2007. According to the result of the model including the internal factors, the coefficient of tax, old dependency, credit outstanding, and housing loan are negative and statistically significant. When the external factors were included old dependency and housing loan turn to statistically insignificant.

Düzgün (2009) examined the effect of GNP deflator, growth rate, interest rate, broad money supply, foreign saving rate, public saving rate and total credit / nominal GDP on private savings in Turkey for the period 1987:Q2-2007:Q3 by means of regression analysis. As a result, it was seen that increase in money supply and the easiness to find credits decreased savings by encouraging consumption.

Loayza, Schmidt and Servén (2000), ascertained that an increase in income per capita increased private savings and that dependency rate had a negative effect on private savings, based on the prediction method of panel data for 150 different country companies (20 industrial, 49 developing countries) for the period between 1964-1994. When they analyzed the issue in terms of the relation between credit and savings, they found that 1% increase in private sector credits led to 0.32 decrease in private savings. As a result, it is possible to mention that there is a negative relation between private sector credits and private savings.

Loayza and Shankar (2000), examined the impact of real interest rate, per capita income, the dependency ratio, financial depth (credit to private sector), the government saving rate, and the share of agriculture in gross domestic product on the private saving rate in India during 1960-1995 by means of Engle and Granger approach and the maximum-likelihood method. According to the results of the study, it was concluded that the effect of private sector credit usage on private savings was negative.

Laibson (1997), developed a model implying that financial market innovation may reduce savings in USA by providing "too much" liquidity. Edwards (1996), examined the data of 36 Latin America countries for the period of 1970-1992 with Panel Data Analysis method. The independent variables covered in the study are dependency ratio, urban population, public savings, growth rate, GDP per capita, money supply, private credits, social security system, interest rate, inflation rate and income distribution. As a result of the analysis, it was found out that the relation between private savings and private credits was positive. In addition, the effect of private credit on private savings was investigated by using cross-sectional data for the years of 1983-1992. As a result of the cross-sectional analysis, it was found out that the relation between private savings and private credits was negative.

Jappelli and Pagano (1994), applied regression analysis for OECD countries. They mentioned that constraint in interest rates and borrowing might postpone consumption. Since the needed resources cannot be provided in cash-strapped years, current consumption will be limited, and it will be necessary to save in order to provide them in the future. On the contrary, when the cash problem disappears, consumption expenditures will be realized and savings will decrease. As a result, it was found out that the decrease in borrowing (liquidity) constraint would decrease saving.

5. Data and Model

In this study, the effect of credits given to households from all sectors / GDP and credits given to non-financial institutions / GDP variables on the variable of private savings / GDP was analyzed for the period between 1986-2019. Private saving / data are annual and obtained from the Ministry of Development. Savings / GDP data in the Ministry of Development exist in two different series, 1975-2015 and 1998-2016, and there are significant differences between the new series and the old series. This results from the fact that in 2016, within the scope of harmonization with the National Accounts System (SNA-2008) and European Accounts System (ESA-2010), Turkish Statistical Institute started to publish the Institutional Sector Calculations including domestic savings and sub-fractions of savings (non-financial companies, financial companies and households) started publishing. This change is included in the new series of the Ministry of Development (Erdem, 2020: 2). For this reason, within the scope of the study, the new series had been used since 1998, and they were made compatible with the Turkish Statistical Institute's data for the period of 2009-2018. The data regarding credits given to households from all sectors / GDP and credits given to institutions from all sectors / GDP were obtained from Bank for International Settlements (BIS) database. Among the methods used in the literature to investigate a long-term relationship between time series, there is Bounds testing, which was put forth by Pesaran et. al. (2001). Bounds testing is known as being more advantageous compared to traditional co-integration tests. Among these advantages is that the variables used in the analyses made with the Bounds testing do not need to be considered whether they a stationary I(0), a first-order stationary I(1) or a co-integrated relationship of the same order. In addition, applying the bounds testing in cases where the number of observations is low also shows another advantage of this approach.

In bounds testing, which can be applied by using autoregressive distributed lag model (ARDL), it is important, firstly, to explain ARDL approach. The first thing to carry out in this approach is to create a model called unconstrained error correction model (UECM) with the aim of control the existence of a long-term relationship between the variables. With the help of this model, the existence of a cointegrated relationship between the variables subject to the analysis is determined.

The unconstrained error correction model (UECM) formed in the ARDL approach is shown as follows:

$$\Delta Y_t = \alpha_0 + \sum_{i=1}^{m} \alpha_{1i} \Delta Y_{t-i} + \sum_{i=0}^{m} \alpha_{2i} \Delta X_{t-i} + \alpha_3 Y_{t-1} + \alpha_4 X_{t-1} + \varepsilon_t \quad (1)$$

$$\Delta Y_t = \alpha_0 + \sum_{i=1}^{m} \alpha_{1i} \Delta Y_{t-i} + \sum_{i=0}^{m} \alpha_{2i} \Delta X_{t-i} + \alpha_3 Y_{t-1} + \alpha_4 X_{t-1} + \alpha_5 trend + \varepsilon_t \quad (2)$$

In the ARDL method, an unconstrained error correction model with or without a trend variable is estimated.

With the bounds testing, whether there exists a long-term relationship between the variables is estimated with the hypotheses formed with the coefficients of the variable Y_{t-1} ve X_{t-1} given in (1) and (2) displays. While null hypothesis mentions that there does not exist a cointegrated relationship among $\alpha_3 = \alpha_4 = 0$ variables, alternative hypotheses shows that there exists a cointegrated relationship among the variables.

After determining that the series are in a cointegrating relationship, it is necessary to establish short and long term ARDL models in the next step. The long-run ARDL model is shown as follow:

$$\Delta Y_t = \alpha_0 + \sum_{i=1}^{m} \alpha_{1i} \Delta Y_{t-i} + \sum_{i=0}^{m} \alpha_{2i} \Delta X_{t-i} + \varepsilon_t \quad (3)$$

$$\Delta Y_t = \alpha_0 + \sum_{i=1}^{m} \alpha_{1i} \Delta Y_{t-i} + \sum_{i=0}^{m} \alpha_{2i} \Delta X_{t-i} + \alpha_3 trend + \varepsilon_t \quad (4)$$

With the ARDL model, it is also possible to investigate the short-run relationship between the series, and it is expressed as follows:

$$\Delta Y_t = \alpha_0 + \sum_{i=1}^{m} \alpha_{1i} \Delta Y_{t-i} + \sum_{i=0}^{m} \alpha_{2i} \Delta X_{t-i} + \delta EC_{t-1}\, \varepsilon_t \quad (5)$$

$$\Delta Y_t = \alpha_0 + \sum_{i=1}^{m} \alpha_{1i} \Delta Y_{t-i} + \sum_{i=0}^{m} \alpha_{2i} \Delta X_{t-i} + \alpha_3 trend + \delta EC_{t-1}\, \varepsilon_t \quad (6)$$

6. Empirical Findings

In the analysis, PS refers to Private Savings, X1 refers to Total Credits Given to Households from All Sectors / GDP while X2 refers to Credits Given to Non-financial Institutions from All Sectors / GDP. Firstly, the Extended Dickey Fuller (ADF) unit root test was applied to the series to examine whether the variables were stationary at the same order. Unit root test results are shown in Table 1.

Table 1: Extended Dickey – Fuller (ADF) Unit Root Test Results

	Statistical Value	Probability Value
PS	-2.503	0.123
D(Y)	-5.828	0.000*
X1	-4.018	0.020*
X2	-1.293	0.872
D(X2)	-2.211	0.028*

* means that the main hypothesis is rejected at 5% significance level.

According to the results of the ADF Unit Root test, it has been seen that Private Savings (PS), which is the dependent variable, is I(1) stationary in the first order, Total Credits Given to Households from All Sectors/GDP (X1) variable, which is among the independent variables, is stationary at I(0) and other Credits from All Sectors to Non-Financial Institutions / GDP, which is an independent variable, is I(1) stationary in the first order. In light with these results, in order to reveal the existence of a long-term relationship between the series, the Bounds (ARDL) testing, which carried out analyses regardless of the order in which the variables are stationary, has been used and the results are given in Table 2.

Table 2: Bounds Test (ARDL) Result

	Statistical Value	k
F statistics	6.240*	2

* means that the main hypothesis is rejected at 5% significance level.

According to the results of Table 2, the H_0 hypothesis α_3=α_4=0, which states that there is no long-term relationship between Private Savings and Total Credits to Households from All Sectors/GDP and Credits to Non-Financial Institutions from All Sectors/GDP, has been rejected, and a cointegrated relationship has been identified. After that, ARDL long-term coefficients have been obtained. Prediction results regarding ARDL model is shown in Table 3.

Table 3: ARDL Model and Calculated Long-Term Coefficients

Value	Coefficient	Statistical
X1	-0.555	-2.446*
X2	0.210	2.061*

* means that the main hypothesis is rejected at 5% significance level.

According to the above results, the variables Total Credits to Households from All Sectors/GDP and Credits Given to Non-Financial Institutions from All Sectors/GDP variables are statistically significant. 1% increase in Total Credits to Households from All Sectors /GDP will reduce Private Savings by 0.55%. In addition, 1% increase in Credits Given to Non-Financial Institutions from All Sectors/GDP will increase Private Savings by 0.21%.

The estimation of the short-term model, which is the error correction model based on the ARDL approach, is given in Table 4.

Table 4: ARDL Short-Term Error Correction Model

Variables	Coefficient	Statistical Value
Fixed	12.283	4.639*
D(PS(-1))	0.070	0.503
D(X1)	-0.703	-3.413*
D(X1(-1))	0.783	3.115*
D(X2)	-0.132	-1.593
ECT(-1)	-0.590	-4.503*

* means that the main hypothesis is rejected at 5% significance level.

According to the results of Table 4, the fact that the coefficient of ECT is negative and less than 1 is significant and meets the statistical expectation. According to the ARDL Short-Term Error Correction Model, 1/ECT shows how long after the series will reach equilibriumi which means that according to 1/0.590, a short-term shock that will

occur in the system will return to equilibrium after 1.7 years. Below and upper bounds are 3.1 and 3.87 at %5 significance level.

7. Conclusion

Economies whose domestic savings are not sufficient to meet the investments face the problem of external resource dependency and current account deficit. Increasing foreign fund inflow due to financial liberalization imposes a constraint on sustainable growth when it is channeled into the financing of consumption rather than financing of investments. In Turkey, after the global crisis, the conditions constraining the transition to a model based on fixed capital accumulation and investment expenditures were discussed. Within the scope of such discussions, the effect of consumer and working capital loans whose shares are increasing within GDP was focused on.

Within the scope of this study, the effect of the consumer and commercial loans on private savings in Turkey was analyzed by using the cointegration analysis. The series are annual and cover the period 1986-2019. According to the results of the analysis, the relationship between credit and private savings differs according to the type of economic agents using the credit. A 1% increase in total loans/GDP to households from all sectors reduces private savings by 0.55%. A 1% increase in loans/GDP to non-financial institutions from all sectors increases private savings by 0.21%. As the share of credits given to households from all sectors within GDP increases, private savings decrease. As the share of credits given to firms from all sectors within GDP increases, private savings increase.

The study confirmed the results of existing studies (Yiğitbaş (2017), Aksoy (2016), Tunç and Yavaş (2015), Matur, Sabuncu and Bahçeci (2012), Kim (2010), Düzgün (2009), Loayza, Schmidt and Servén (2000), Loayza and Shankar (2000), Laibson (1997), Jappelli and Pagano (1994)) emphasizing the importance of loans on private savings. However, findings obtained from the analysis contradict with a group of studies (Güriş and Özkaya (2019), Bulut and Karakaya (2018), Kıyılar and Acar (2013), Özcan and Günay (2012), Yaraşir and Yılmaz (2011)) indicating the positive effect of loans on private savings. These studies investigate the determinants of personal savings with the focuse of total loans provided to the private sector. Consumer and commercial loans were not contained by the models as two different variables. In most of the studies, it was seen that the sign of the credit coefficient turned to negative when the data sets were changed. Also, when countries were analyzed according to their level of development, it is seen that the sign of the credit coefficient in developing countries was negative. This study contributes to the literature by focusing specifically on the effect of both consumer and commercial loans on private savings.

The share of consumer loans in GDP in Turkey has increased continuously from the 1990s to 2013. Private savings, which showed a fluctuating increase in the 1990s, have steadily declined since the 2001 crisis. Depending on the macroprudential policies applied recently, a slight upward trend is observed. Increasing consumer loans have carried the households beyond the budget constraint and allowed them to realize their postponed consumption expenditures. In Turkey, Low-income level is an obstacle for households to purchase durable goods and housing and directs households to use loans. It is seen that households apply for credits with the motivation of smoothing their consumption. As households' access to credit increases, their consumption increases, while the rate of their saving they make with precautionary motive decreases.

The share of corporate loans in GDP in Turkey has been increasing since 1990s. One of the reasons for companies to use credits is to increase their market share and increase nominal profitability. In order for the use of credits in enterprises to be leveraged, the relevant enterprise must convert the credit received into turnover and increase its nominal profitability. The turnover increase of the companies was supported by the increasing consumer loans and domestic demand especially since the 2000s. Main reasons why corporate loans have a positive effect on private savings are increased profitability due to discount from suppliers based on upfront payment; flexibility to wait for the prices of the goods in stock to rise by paying the debts by using credit instead of selling at a loss in an environment where the prices of the goods decrease periodically; the ability to supply the resources needed to fulfill large seasonal orders; the ability to sell to buyers with no upfront purchasing power using supplier’s credit, and the increased effort to secure cash flow when future cash flows from accounts receivable are used as loan collateral.

In addition, the vulnerabilities of enterprises using foreign currency loans increase depending on the exchange rate risk. The increase in the amount of non-performing loans harms the asset quality of banks and restricts the transfer of loans to productive investments. Another problem for business loans is the amount of loans given to float the bankrupt firms. The mentioned companies, which turn the debt into debt within the scope of renewable loans, are not able to increase their corporate savings, and they also prevent the channeling of savings into productive investments. Eventually, it can be said that it is a common practice in Turkey that holdings or group companies provide bridge loans to each other. In such practices, the parent company transfers the loans obtained from the financial sectors to the group companies whose financial structure is not sufficient. Group companies with low credibility find the opportunity to continue their commercial life in this way. However, this method is not expected to have a positive effect on the increase in corporate savings.

In conclusion, the main reason why households apply for consumer loans in Turkey is their low disposable income. In

this context, it is thought that policies that support the increase in household income and restrain consumption expenditures will have an impact on the increase in savings. Contribution can be made with alternative policies to be implemented specifically for the goods and service groups that are more decisive in the decrease in savings rates. While applying cost-increasing measures in consumer loans, it can be said that encouraging cumulative accounts, which adopt the principle of saving and consumption first, with tax exemption will help change the consumption behavior. It is important to implement macroprudential policies to limit the supply of consumer loans and to minimize the exchange rate risk of companies. In addition, the delayed effect of the policies to be applied should also be taken into consideration. Recently, there has been a contraction in consumer loans depending on the practices. However, since the loan data are stock data, it is difficult to state whether the decline in consumer loans is due to the decrease in the loan supply or to the loans closed by repayment.

In short, Turkey needs to make structural arrangements by implementing policies such as reducing tax on workers' remittances, providing equal opportunities in education, and directing loans to investment areas that will increase aggregate output and employment. It is thought that the arrangements for combating the informal economy and tax controls will also be effective on savings.

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