

II. Non-Financial Sector

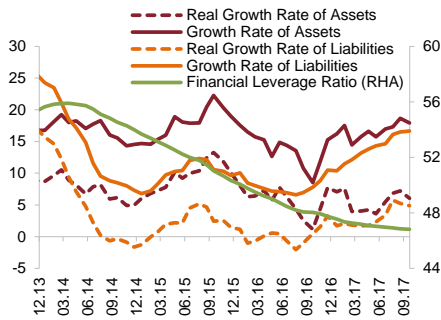
The decline in the household financial leverage ratio (liabilities / assets), which began in 2013, slowed down due to the convergence of growth in liabilities to growth in assets during the reporting period. In the first quarter of 2017, the only increase in households' FX deposit accounts was recorded in those with a balance of one million and more. However, in this reporting period, households' FX deposits increased in other amount brackets as well. It is assessed that the moderate increase in household demand for foreign exchange stemmed from the limited deterioration in the exchange rate and inflation expectations, as the exchange rate volatility decreased in the January-September 2017 period, the exchange rate generally remained flat until the end of September, and consumer confidence did not change much in the same period. In the recent period, households played a balancing role by increasing their demand for TL deposits after the developments in exchange rates. On the other hand, the fact that households are not able to borrow in FX or at variable interest rates (other than housing loans) in the framework of the regulations in force prevents their financial liabilities from bearing market risk stemming from the exchange rate and interest rates.

Due to the pickup in economic activity, growth spread across sectors, and the corporate sector's confidence in the economy, production volume and investment tendency recovered. The ratio of firms' indebtedness to GDP has been flat since early 2017 as a result of the marked deceleration in FX loan utilization. The lengthening in the maturities of FX loans continues while the average maturities of TL loans also increase due to the effect of KGF loans. Firms' increased access to loans through incentives and their strengthened liquidity positions have positively affected collection rates, and bad check and protested bill amounts have significantly dropped. Although firms' balance sheets slightly deteriorated in the second half of 2016 and the first quarter of 2017, their profitability increased, liquidity indicators recovered and the balance sheets remained robust in the second quarter of the year.

The decline in the household financial leverage ratio has slowed.

Chart II.1.1

Household Financial Assets' and Liabilities' Growth Rates and Financial Leverage Ratio
(Annual Percentage Change, Percentage Share)



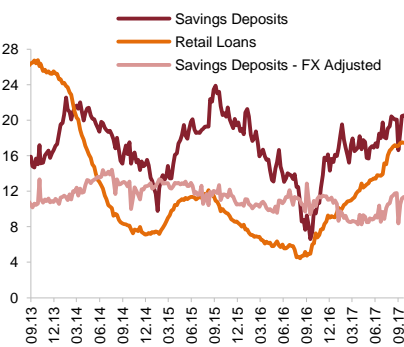
Note: The leverage ratio refers to the ratio of average financial liabilities to the average financial assets in the last 12 months. Real growth rates were calculated using the CPI.

Source: CBRT, BRSA, CMB, MKK, TOKİ (Latest Data: 09.17)

The household retail loan growth rate is close to the savings deposit growth rate.

Chart II.1.2

Household Loans and Deposits Growth
(Annual Percentage Change)

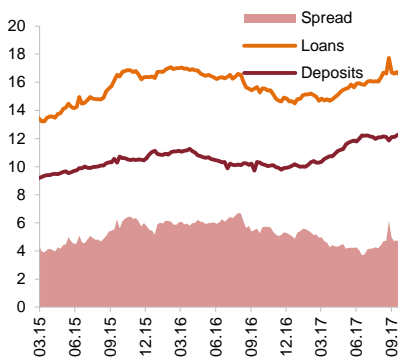


Note: Retail loans refer to loans extended by resident banks and include credit card balances. The (0.6 USD + 0.4 Euro) currency basket was used to adjust for exchange rate effects on savings deposits.

Source: CBRT, BRSA (Latest Data: 09.17)

Chart II.1.3

Savings Deposits and Consumer Loans Interest Rates
(Percent)



Note: Consumer loan rate developments include housing, general purpose and vehicle loan rate developments. Spread refers to the difference between loan rates and savings deposit interest rates.

Source: CBRT (Latest Data: 09.17)

II.1 Household Developments

Household total assets and liability growth rates, which started to increase in the first quarter of 2017, slowed down in the third quarter. (Chart II.1.1). This slowdown is attributed to the increase in deposits both in TL and FX on the asset side, and to the growing use of housing and general purpose loans on the liability side. Household financial assets and liabilities increased in the third quarter of 2017 when compared to the same quarter of the previous year.

The decline in the household leverage ratio, which began in 2013, slowed down due to the fact that the increase in liabilities in the current reporting period converged to the growth in assets (Chart II.1.1). The slowdown in the financial leverage ratio during the last reporting period largely stems from the acceleration in housing and general purpose loans. Although the greatest contribution to household savings deposits came from foreign exchange deposits, savings deposits adjusted for exchange rate effects declined until the summer months of 2017, and then began to rise (Chart II.1.2). It is anticipated that the effects of automatic enrollment into the Private Pension System (PPS), which was introduced in early 2017 and is expected to increase savings rates, will become visible in the medium and long term.

Table II.1.1

Household Financial Assets

	09/16		09/17		Percentage Change	Cont. to Change (Point)
	Billion TL	Perc. Share	Billion TL	Perc. Share		
Total Assets	976.0	100	1,150.7	100	17.9	17.9
TL Savings Deposits	486.1	49.8	535.1	46.5	10.1	5.0
FX Savings Deposits	263.3	27.0	337.9	29.4	28.3	7.6
- (Billion USD)	87.8		95.1		8.4	
Precious Metal Deposits	10.3	1.1	19.3	1.7	87.7	0.9
- (Billion USD)	3.4		5.4		58.5	
Bonds and Bills	18.5	1.9	20.5	1.8	11.0	0.2
- Public Sector	5.8	0.6	6.4	0.6	10.4	0.1
- Private Sector	12.7	1.3	14.2	1.2	11.3	0.1
Mutual Funds	93.9	9.6	113.1	9.8	20.4	2.0
Pension Mutual Funds	58.0	5.9	73.0	6.3	25.8	1.5
Other Mutual Funds	35.9	3.7	40.1	3.5	11.6	0.4
Equity Securities	45.5	4.7	57.1	5.0	25.7	1.2
Repo	0.5	0.1	1.1	0.1	119.6	0.1
Currency in Circulation	57.9	5.9	66.6	5.8	15.1	0.9

Note: Currency in circulation as of September 2017 is calculated by taking the household share in total in 2017Q1 Financial Accounts Report as constant.

Source: CBRT, CMB, MKK (Latest Data: 09.17)

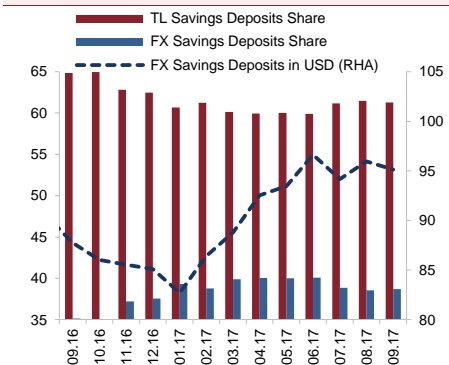
When consumer loans and savings deposit rates are analyzed, it is seen that, unlike the previous report period, the cost of consumer loans increased while the deposit rates remained flat (Chart II.1.3). Accordingly, the interest rate differential between consumer loans and savings deposits increased slightly in this period.

An analysis of the FX deposit balance in terms of US dollars as of September 2017 reveals that the foreign exchange deposit balance of the households slightly increased compared to the same period of the previous year (Chart II.1.4). There has been an increase of 28.3 percent in FX deposits since September 2016. It is thought that the increase in the share of FX savings deposits in total deposits was caused by the fluctuations in the foreign exchange rate markets affecting the household's demand for foreign exchange. (Chart II.1.5).¹

FX savings deposits increased by 8.4 percent in terms of US dollars within the last one-year period (Table II.1.1). However, the share of FX deposits in total deposits decreased slightly in July and August 2017 with the limited increase in TL deposit interest rates that caused TL deposits to move upwards (Chart II.1.4). Balance sheet correction is also believed to have played a role in this decrease as a result of the decline in swap deposits transactions. This divergence in the household demand for foreign exchange emerges as a balancing factor facilitating the exchange rate risk management.

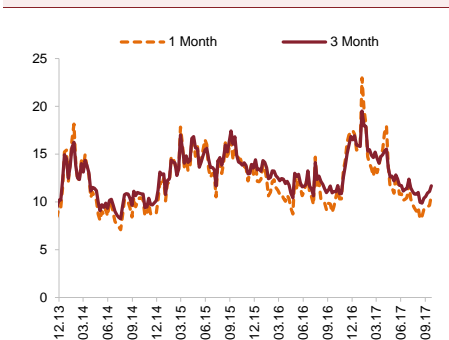
Two factors are significant in the 17.9-percent year-on-year increase in household financial assets (Table II.1.1). The first one is the FX-denominated savings deposits making the largest contribution with an increase of 7.6 points, and the other is the TL-denominated savings deposits with a contribution of 5.0 points.

Chart II.1.4
Savings Deposits of Resident Households by TL and FX Breakdown
(Percentage Share, Billion USD)



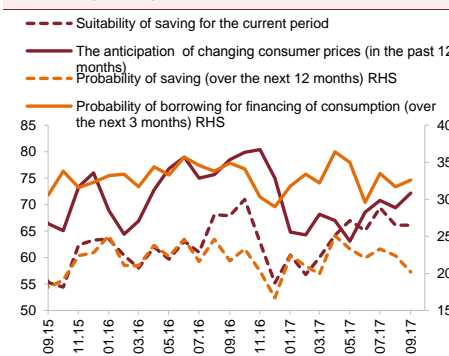
Note: FX savings deposits do not include precious metals held by resident natural persons. LHA in the chart shows the shares of TL and FX savings deposits in total.
Source: CBRT (Latest Data: 09.17)

Chart II.1.5
Implied Volatility for USD/TL



Source: BLOOMBERG (Latest Data: 09.17)

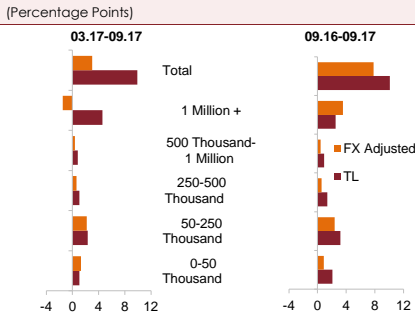
Chart II.1.6
Consumer Confidence Index and Consumer Tendency Survey Questions



Note: The downward movement of the index series is a deterioration in expectations, while the upward movement indicates an improvement in expectations.
Source: CBRT, TURKSTAT (Latest Data: 09.17)

¹ See Box II.1.J

Chart II.1.7
Change in Household Deposits in a Breakdown of Amounts
(Percentage Points)

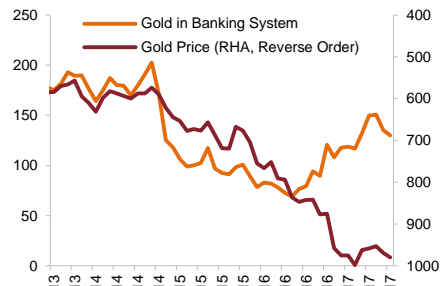


Note: FX savings deposit has been adjusted for exchange rate effect with the (0.65+0.4€) currency basket. Refers to the deposits held by residents.

Source: CBRT (Latest Data: 09.17)

From the beginning of 2017 until the end of September, the exchange rate volatility decreased (Chart II.1.5). When the consumer confidence index and the consumer tendency survey that explain the expectations of households about the general economy are analyzed, there is a limited deterioration particularly in the series regarding the inflation expectations (Chart II.1.6). Other determinants of the growth in household financial assets were investments in pension mutual funds, equity securities and precious metal deposits (Table II.1.1).

Chart II.1.8
Households' Gold Portfolio in the Banking System and Gold Prices
(T Ton, TL (Reverse Order))

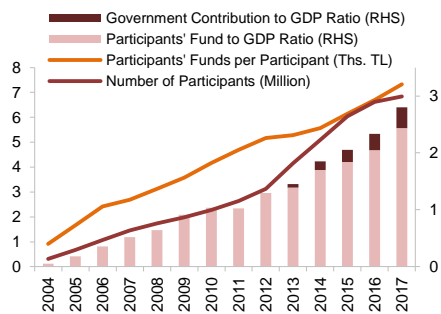


Note: Gold price represents the price of a Turkish Republican coin. Covers real persons' gold inland and abroad.

Source: CBRT (Latest Data: 09.17)

The increase registered in the previous Report period only in FX deposits with a balance of one million and above was also observed in other amount brackets in this period (Chart II.1.7). Similarly, compared to the same period of the previous year, the increase in foreign exchange deposits adjusted for exchange rate effects is also observed in other amount brackets, particularly in large-amount savings deposits. On the other hand, the increase in TL deposits has spread to all amount brackets and is bigger than the increase in FX deposits across all brackets. In the previous Report period, it was stated that the swap deposits were the most effective factor in the increase observed only in large-amount FX deposits. However, swap deposits decreased during this Report period. On the other hand, the currency mismatch resulting from the funding of the KGF loans-driven increase in TL loans with FX deposits led to an increase in foreign swap transactions. As a result, the increase in the high-amount FX deposits was relatively more modest compared to TL deposits.¹

Chart II.1.9
Private Pension System in Turkey



Note: 2016 end-year GDP is used as of September 2017.

Source: PMC (Latest Data: 09.17)

The increase in precious metal accounts in household assets continued from the previous reporting period through this reporting period. The amount of gold in the banking system and the price of gold, whose movements were in different directions in the previous periods, began to move together as of September 2016, and this co-movement was also observed in this reporting period. This relationship deteriorated in August 2017, and the gold prices increased while the households preferred to sell gold (Chart II.1.8). It is believed that a more accurate measurement of household precious metal savings has been achieved as a result of the inclusion

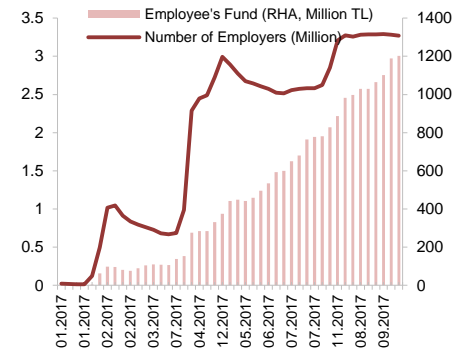
¹ For detailed information on changes in FX deposits, please see Box II.1.1.

of such gold in the system via the gold bond and gold-based rental certificate program initiated in the present period to bring the under-the-mattress gold into the economy .

Savings invested in the private pension system (PPS) continued to increase in line with the state contribution made since 2013 to boost domestic savings (Chart II.1.9). In this reporting period, there seems to be a slight slowdown in this tendency due to the decrease in the number of new enrollments in the PPS. The number of employees who have recently joined the PPS increased by 5.96 percent to 6.9 million and the total amount of funds including state contributions rose by 28.4 percent to 72.6 billion TL compared to the same period of the previous year (Chart II.1.9). As of September 2017, approximately 3.3 million people were enrolled in the system via the automatic enrollment mechanism, creating a fund size of 1.2 billion TL (Chart II.1.10).

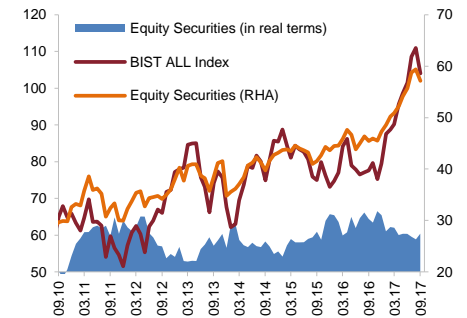
The size of households' equity securities portfolio exceeded 60 billion TL as of September 2017 (Chart II.1.11). The positive course of the Borsa İstanbul (BİST) Index throughout 2017 was influential in this development. When adjusted for the value increases using the stock market index, household equity securities investments decreased by 6.2 percent year-on-year as of September 2017.

Chart II.1.10
Automatic Enrollment in the Private Pension System



Source: PMC (Latest Data: 29.09.17)

Chart II.1.11
BİST All Index and Household Equity Securities Portfolio (Thousand, Billion TL)

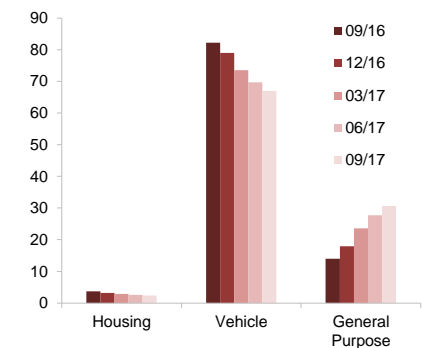


Note: Equity securities (in real terms) were calculated using CPI and a constant.

Source: CBRT, Bloomberg (Latest Data: 09.17)

General purpose loans provided by financing companies are increasing.

Chart II.1.12
Consumer Loans Extended by Financing Companies Based on Type (Percentage Share)



Source: CBRT (Latest Data: 29.09.17)

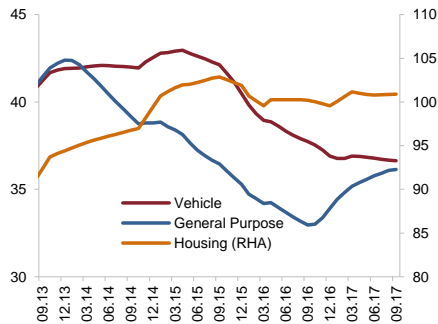
Table II.1.2
Household Financial Liabilities

	09/16		09/17		Percentage Contributions	
	Billion TL	Percentage Share	Billion TL	Percentage Share	Change	to Change
Total Liabilities	464.4	100	541.7	100	16.6	16.6
(Based on Type)						
Housing	171.4	36.9	204.1	37.7	19.0	7.0
Vehicle	16.7	3.6	17.1	3.2	2.5	0.1
General Purpose	172.9	37.2	206.1	38.0	19.2	7.2
Individual Credit Cards	89.4	19.2	95.8	17.7	7.2	1.4
Asset Management Comp' Rec.	14.1	3.0	18.7	3.4	32.7	1.0
Total Liabilities	464.4	100	541.7	100	16.6	16.6
(Based on Counterparty)						
Banks	422.3	90.9	491.8	90.8	16.5	15.0
Financing Companies	12.3	2.6	15.2	2.8	23.6	0.6
TOKİ	15.8	3.4	16.0	3.0	1.5	0.1
Asset Management Comp'	14.1	3.0	18.7	3.4	32.7	1.0

Source: CBRT, TOKİ (Latest Data: 09.17)

While average maturities continue to lengthen in general purpose loans, they remained unchanged in housing loans and shortened in vehicle loans.

Chart II.1.13
Average Retail Loan Maturity
(3 Month MA, Month)

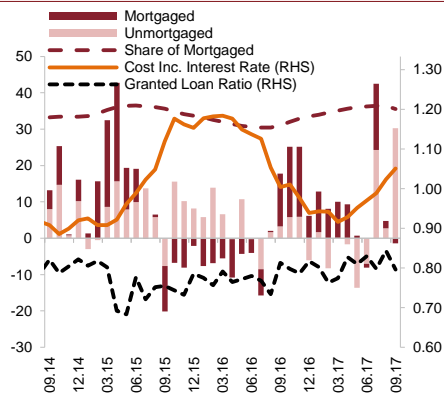


Note: The average retail loan maturity is calculated according to original loan maturity.

Source: CBRT (Latest Data: 09.17)

Over the past few months, the unmortgaged sales rate has outpaced the mortgaged sales ratio

Chart II.1.14
Contribution to Housing Sales Growth, Housing Loan Monthly Interest Rate and Granted Loan Ratio
(Percent, Percentage Points)



Note: The share of mortgaged represents the share of mortgaged sales in the total housing sales in the last 12 months. Granted loan ratio represents the share of granted housing loans in the total number of applications.

Source: CBRT, TURKSTAT (Latest Data: 09.17)

As in the previous reporting period, household financial liabilities also increased in this reporting period due to the easing of macroprudential measures for consumer loans since September 2016. As of September 2017, housing loans and general purpose loans, which accounted for approximately three quarters of the liabilities, were decisive in the 16.6-percent increase in the financial liabilities of households. (Table II.1.2).

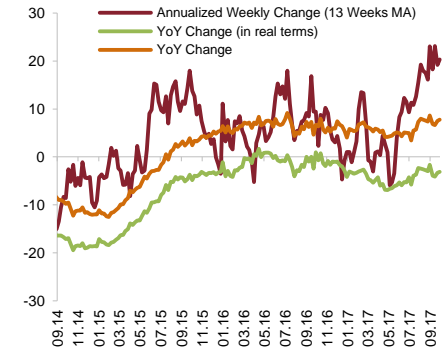
Households mostly preferred banks as a source of funding in this Report period as they did in the previous Report period. However, the share of bank credits in household financing liabilities has decreased by 0.1 points in the last one-year period (Table II.1.2). The increased diversity of consumer loans due to newly opened financing companies has been effective in this decline. While consumers were using financing company loans mostly for purchases of vehicles in the past, since last year they have been also preferring financing company loans in purchases that are the subject of general purpose loans. General purpose loans provided by financing companies reached 4.5 billion TL as of September 2017. Consequently, the share of loans granted by financing companies for purchases covered by general purpose loans in total financing company loans reached approximately 30.7 percent (Chart II.1.12).

The newly extended general purpose loans are being used at longer maturities following the increase in the maturity cap for general purpose loans from 36 to 48 months and the rise in the loan-to-value ratio applied for housing loans from 75 percent to 80 percent (Chart II.1.13). Another factor affecting the increase in average maturity for general purpose loans was the facility allowing the restructuring of standardized loans with a maturity of up to 72 months.¹ During this reporting period, while the maturities of housing loans remained flat, the maturities of vehicle loans moderately shortened.

¹ For the impact of macroprudential measures and the monetary policy on maturities, please see Box II.1.II.

As of September 2017, there was a sharp increase in unmortgaged house sales and the share of unmortgaged sales in total housing sales escalated (Chart II.1.14). Mortgaged house sales have contributed positively to the growth in house sales since September 2016. It is believed that the improvement in financial conditions for housing loans has been effective in the increase in housing sales. Since September 2016, the number of people who have been granted housing loans (acceptance rate) among persons applying for housing loans has been slightly higher than the period average.

Individual credit card balances accelerated particularly in the summer months of 2017 (Chart II.1.15). The annual change in individual credit card spending adjusted for the effects of inflation also refers to an increase, driven by the hike in package tour prices due to the slight revival of tourism compared to 2016 and the seasonal uptrends in expenditures.

Chart II.1.15Individual Credit Card Balance
(Percent)

Note: YoY Change (in real terms) was calculated using CPI.

Source: CBRT, TURKSTAT (Latest Data: 09.17)

Box
II.1.1

The Impact of Monetary Policy Shock on General Purpose Loans within the Framework of Macroprudential Measures

The impact of monetary policy on credit growth has become more evident, especially with the macroprudential measures imposed after the 2008 global crisis. Tight monetary policy can push up market rates and reduce investment and consumption expenditures by suppressing financing conditions. On the other hand, a loose monetary policy can amplify credit conditions and that can lead to a fragility that would create more risk for the economy. The traditional monetary policy transmission mechanism assumes that financial markets are frictionless and predicts that borrowing rates depend on the short-term interest rates determined by central banks, but that maturities are not affected by the movement of this monetary policy instrument.¹

This box explores the impact of monetary policy shocks on the credit market with respect to financial stability and the extent to which these shocks and macroprudential policies affect the growth and maturity of general purpose loans. In this context, monetary policy and macroprudential measure shocks have been defined on the bank-based data using the panel-vector autoregression (PVAR) method widely used in economic literature, and the pass-through between these shocks and annual credit growth and credit maturities has been examined.

For most banking sector data of our country, the bank-based time series can be obtained starting from December 2002. Maturity data, which is not available directly, was obtained from individual data that has been reported more regularly since 2010, so the focus of the study was on developments as of 2010. Table II.1.1.1 shows the list of endogenous and exogenous variables used in estimation. The variables listed in the table are used in monthly frequency.

In this context, the interaction between credit growth, monetary policy rate, lending maturities, lending rate and macroprudential measures has been analyzed with the PVAR (1) model developed by Inessa and Zicchino (2006). In a dynamic panel, fixed effects estimators are inconsistent, since they are correlated with the lagged values of dependent variables. For this reason,

Table II.1.1.1

Variables in PVAR

MODEL^a**Endogenous Variables**Credit Growth (yoy %)^bMaturity^bDummy for Macroprudential Measures^cPolicy Rate^dLending Rate^b**Exogenous Variables**

Unemployment Rate

Exchange Rate (basket)

^a Overdraft accounts² are excluded from general purpose loans, as an interest rate cap was introduced for these accounts by the CBRT in May 2013 and thus, interest rate transmission mechanism is not observable.

^b These data are bank-based.

^c Dummy variables are designed to take the value of 1 for periods when strict macroprudential policies are implemented. For general purpose loans, this variable takes the value of 1 between January 2014 (when number of installments was limited to 36 months) and September 2016 (when number of installments was increased to 48 months)

^d WAFC is used as the policy rate. However, since this data started to be reported in 2011, the BIST interbank overnight borrowing rate was used as a proxy for previous periods.

¹ Relevant to the transmission mechanism, Gertler and Karadi (2015) emphasizes the importance of adding credits and their maturities to the transmission mechanism.

the analysis is carried out by taking the first difference of the data in the whole panel in order to eliminate the fixed effects. All estimates are calculated using the two-stage GMM system where the lagged values of the variables are used as the instrument. The most important benefit of using the PVAR model in the analysis is that the method allows evaluation of the effect of orthogonal shocks on each other. In its simplest terms, PVAR illustrates the effect of one endogenous variable shock on another endogenous variable by removing the effects of other variables in the system. This illustration is possible with the impulse-response functions.¹ In addition, this method is superior to other similar panel data methods used for handling the heterogeneity problem between banks.

Chart II.1.1.1 shows the impact of the monetary policy shock, derived from the PVAR(1) model, on the annual credit growth, maturity and interest rates for newly opened general purpose loans. When the transmission of monetary policy for general purpose loans is examined, it is observed that the effect of tightening monetary policy (100 basis point positive standard shock) on the growth of general purpose credits lasts for 11 months. This effect disappears at the end of 11 months and the general purpose credit growth declines by an average of 5.4 bps with the effect of the monetary policy shock. On the other hand, with the effect of the monetary policy shock, maturity is reduced by an average of 5 days during the 6 months when the shocks are significant. Finally, the transmission of monetary policy shocks to general purpose loan rates is 55 basis points, and this effect ceases at the end of 5 months.

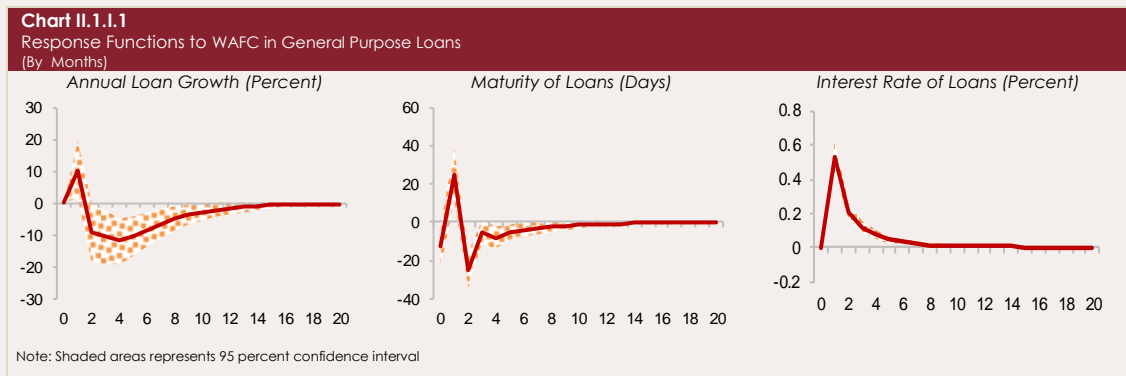
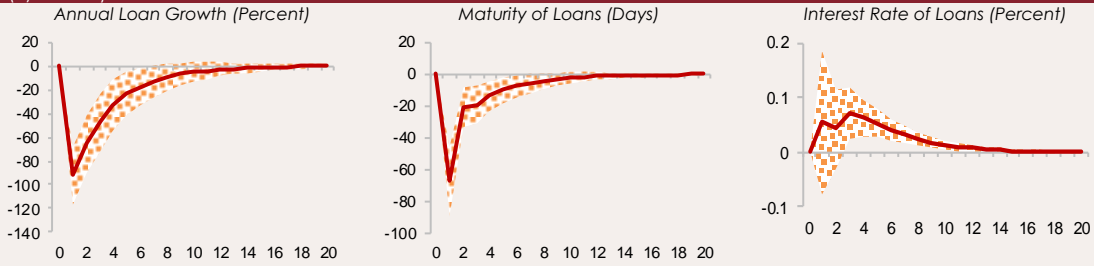


Chart II.1.1.2 shows the impact of a macroprudential tightening shock obtained from estimated PVAR(1) for the general purpose loans on credit growth, maturity and interest rates of the newly opened loans. A macroprudential tightening causes an average of 42 bps contraction in loan growth over the first six months, but this effect disappears after six months. Meanwhile,, even if the tightening shock shortens the maturity of newly opened credits to about 90 days, in the statistically significant six-month period, the mean duration of maturity fall is 23 days. Finally, it is observed that the statistical significance of the impact of a macroprudential policy shock on the loan rates is negligible.

¹ Cholesky decomposition is applied to identify the VAR system. In terms of robustness, impulse-response functions were obtained with different ordering of endogenous variables and the results were unchanged.

Chart II.1.1.2Response Functions to Macprudential Policy in General Purpose Loans
(By Months)

Note: Shaded areas represents 95 percent confidence interval

As a result, model-based findings show that monetary policy shocks have significant effects on loan growth, loan maturities and lending rates. The transmission from policy shocks to lending rates on general purpose loans is smaller but non-negligible and this is attributed to the fact that interest margins offered by banks for these loans are higher than other types of loans. On the other hand, it has been observed that the macroprudential policy implemented has a strong influence on loan growth as well as on loan maturities with no significant influence on policy rates.

References

Gertler M., and P. Karadi 2015, Monetary Policy Surprises, Credit Costs and Economic Activity, *American Economic Journal*, 7(1):44-76.

Inessa L., and L. Zicchino 2006, Financial Development and Dynamic Investment Behavior: Evidence from Panel VAR, 46(2):190-210.,

II.2 Real Sector Developments

II.2.1 Contribution to Economic Activity

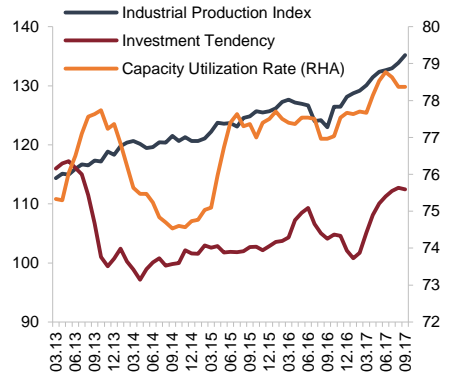
The volume of real sector industrial production, which has recovered since the beginning of 2017, continues its rising trend according to the second and third quarter leading indicators (Chart II.2.1). While there is an increase in the manufacture of almost all product sub-groups, the recent upward momentum in capital goods manufacture is particularly evident. This development indicates that the investment outlook, which had a limited contribution to annual growth in the first two quarters of the year, is in recovery. The improvement in capacity utilization rates and the high level of investment appetite based on the results of the investment tendency survey provide positive signals that the long-postponed investment plans can be realized.

The loss of confidence that the real sector experienced after a series of shocks in 2016 disappeared due to the solid performance in economic activity in 2017, and expectations recovered (Chart II.2.2). In the third quarter of the year, confidence in the sector as a whole, excluding construction, continued to increase, indicating that the boost in economic activity persisted and spread across a broader range of sub-sectors. According to the information obtained from the surveys, the moderation in the housing market since the second quarter has somewhat subdued the outlook in the construction sector, but the investments in infrastructure projects have supported the sector.

According to the survey which provides information regarding the new orders received by the real sector in the past three months, the sharp increase observed in export orders since the last quarter of 2016 has continued, albeit at a decelerated rate since June 2017 (Chart II.2.3). The sectoral incentives, the flexibility and expansion in the export market diversification, the increased demand from our trading partners and the exchange rate movements have been influential on the increase in export orders. In addition, domestic market orders also accelerated particularly in the third quarter. The rise in domestic demand and the sectoral spread of economic

Industrial production and investment tendency are recovering.

Chart II.2.1
Industrial Production, Capacity Utilization and Investment Tendency
(Seasonally Adjusted, 3-Month Moving Average)

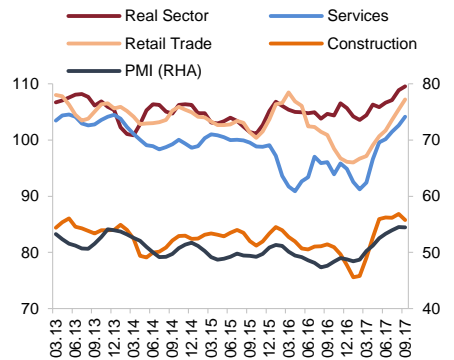


Note: The investment tendency is obtained by adding the difference between those who expressed a higher investment expectation for the next 12 months and those who expressed a lower tendency to 100.

Source: TURKSTAT, CBRT (Latest Data: 09.17)

Real sector confidence indices are rising in almost all sectors.

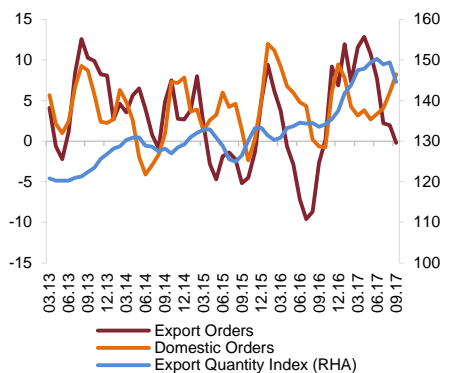
Chart II.2.2
Real Sector Confidence Indices
(Seasonally Adjusted, 3-Month Moving Average)



Source: TURKSTAT, CBRT (Latest Data: 09.17)

Increase in exports and domestic orders persists.

Chart II.2.3
Exports and Domestic Orders
(Seasonally Adjusted, 3-Month Moving Average)

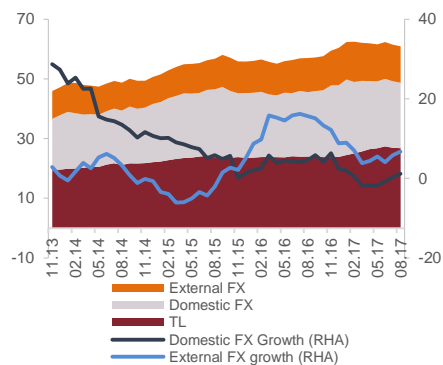


Note: The order data shows the difference between the shares of firms that expressed their export and domestic market orders as upward and downward over the past three months, according to the Business Tendency Survey. The value above zero indicates that the order quantity is increasing.

Source: TURKSTAT (Latest Data: 09.17)

Financial leverage of firms is stable recently.

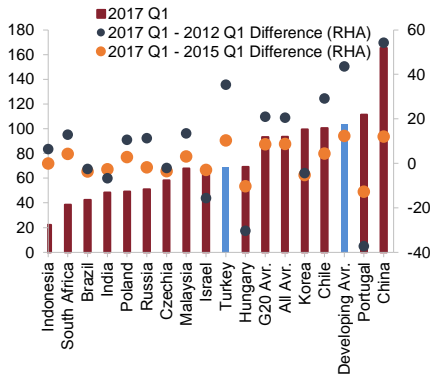
Chart II.2.4
Real Sector Financial Debt to GDP Ratio and Annual Growth Rate of FX Loans (Percent, Percent)



Note: FX loan growth rates are annual percentage change in USD value of FX loans.
Source: CBRT, BRSA (Latest Data: 08.17)

Firms' financial leverage is below the average of developing countries.

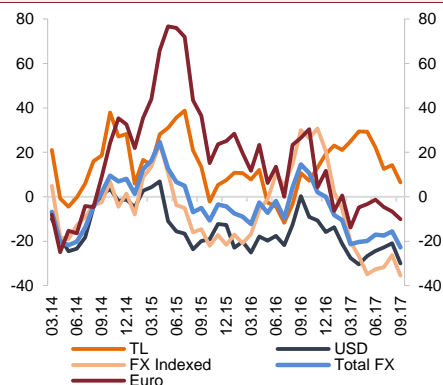
Chart II.2.5
Real Sector Credit / GDP Ratio in Selected Countries (Percent, Percent Difference)



Source: BIS (Latest Data: 03.17)

Flow FX and FX-Indexed loan growth rates declined.

Chart II.2.6
Breakdown of Flow Loans by Currency Type (Annual Percent Change)



Note: Euro and USD loans are calculated in terms of their own currencies, and FX-indexed and total FX loans are calculated in terms of FX basket rate using weights 0.7 for TL / USD rate and 0.3 for TL / euro. FX-indexed loans are included in total FX loans.
Source: CBRT, BRSA (Latest Data: 09.17)

activity are supporting the real sector and this situation is expected to have a positive contribution to the growth figures of the third quarter.

II.2.2 Indebtedness

The total financial debt of the real sector as a share of GDP has remained stable since the beginning of 2017 (Chart II.2.4). Despite a sharp increase in the TL-denominated debt due to the impact of KGF credits, the fall in the growth rate of both external and domestic FX-denominated loans to below 5 percent prevented a rise in firm leverage. In addition, stabilization of the exchange rate during the period from the first quarter of 2017 to July limited the rise in the TL value of FX-denominated debt, which has also positively contributed to the sector's indebtedness.

The ratio of total corporate credits to GDP reached 68 percent in the first quarter of 2017, below the average of G20, EMEs and all countries in the data set (Chart II.2.5).

As of March 2017, while the EMEs' average increased by 12 points compared to 2015, the increase in firms in Turkey was 10 points. Much of this increase (7 points) is associated with the rise in FX loan balances as a result of the rapid increase in the foreign exchange rate in the last quarter of 2016. As a matter of fact, the annual rate of change in the loan / GDP ratio in the third quarter of 2016 was 1 percent, as mentioned in the previous report. The fact that the loan / GDP ratio has been flat since the beginning of 2017 indicates that Turkish firms have recently maintained their position in terms of indebtedness level compared to peer countries.

When we look at the distribution of loans extended recently (flow), the flow FX loans decreased by more than 20 percent annually (Chart II.2.6). The decline in the use of USD-denominated loans is more pronounced compared to euro-denominated loans. Flow FX-indexed loans, which are mostly preferred by SMEs without FX revenue, declined by nearly 40 percent. The slowdown in these loans, which are similar to other FX loans in terms of exchange rate risk, is a positive development for SMEs' financial risk management. Due to the KGF loans that are largely TL-denominated, flow TL loans registered a positive growth during 2017. However, it has been noted that the slowdown in the pace of KGF loans extended in recent months has

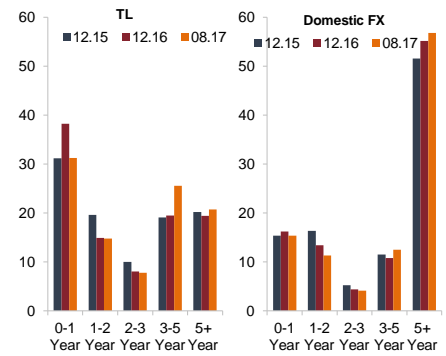
been reflected in flow TL loan growth rates. Although FX funding conditions and foreign debt roll-over ratios of the banking sector are at favorable levels, this situation has not increased the FX loan supply in the domestic market. This is a positive outcome of the increased market awareness of the need to manage exchange rate risk and of the demand-side effect of recent exchange rate movements. Thanks to these developments, the FX open position of firms has not risen for some time. It is expected that the Turkish lira-settled forward FX transactions the CBRT recently launched will also support the exchange rate risk management of the real sector in the upcoming period.

As of August 2017, the maturities of TL and FX corporate loans lengthened compared to end of 2016 (Chart II.2.7). The share of short-term TL loans (0-12 months) in total TL loans sharply decreased and the share of TL loans with maturities between 3 to 5 years increased considerably. KGF loans having an average maturity of 35 months played an important role in this development. On the other hand, the share of FX loans with maturities of 5 years and longer, which make up more than half of the total FX loans, continues to increase. Compared to the end of 2015 and 2016, while the share of FX loans with less than three years of original maturity decreased, that of FX loans with a maturity of more than three years reached 70 percent as of August 2017.

II.2.3 Sectoral Developments

Sectoral distribution of corporate loans is consistent with the sectoral value added to GDP (Chart II.2.8). The vast majority of loans was concentrated in the manufacturing industry and wholesale-retail trade while the high financial leverage in the energy sector (electricity, gas and water) should also be noted. The increasing amount of energy sector investments in recent years, the long grace periods of loans used for these investments and the fact that the cash flows from these investments have not yet commenced help explain the high leverage in the sector. The TL credit stock was heavily concentrated in firms operating in domestic markets, such as wholesale-retail, agriculture and livestock sectors. Meanwhile, FX loans are concentrated in sectors with foreign exchange income and large investment projects. FX loans are extensively used in the

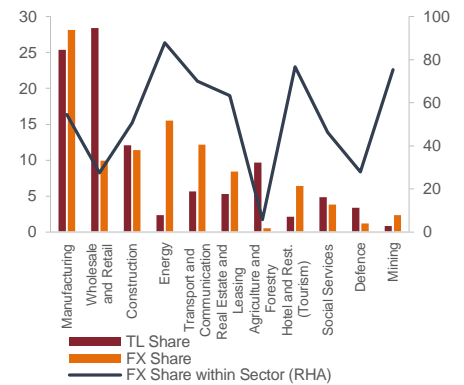
Chart II.2.7
Maturity Breakdown of Domestic TL and FX Loans (Percent Share)



Note: Original maturities are shown.
Source: CBRT (Latest Data: 08.17)

FX loans are concentrated in sectors with investments and foreign exchange revenues.

Chart II.2.8
Sectoral Breakdown of Stock Corporate Loans and Share of FX Loans in Sectors (Percent Share)

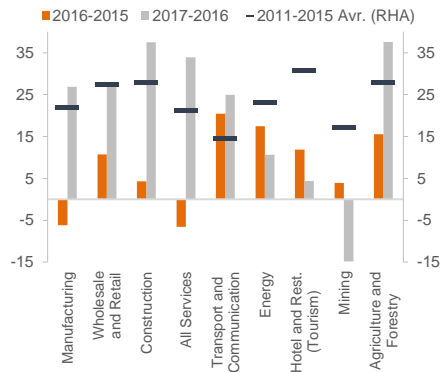


Note: Loans include domestic loans and intermediated external loans via a domestic bank.
Source: BAT Risk Center (Latest Data: 08.17)

Flow loan amounts in nearly all sectors are growing.

Chart II.2.9

Annual Growth of Flow Credits Extended in the First Eight Months of the Year
(Percent Change, Percent Change)



Note: The gray columns show the percent growth rate of flow loans extended in the first 8 months of 2017 from the first eight months of 2016. The orange column shows growth rate between the first eight months of 2016 and 2015 and the small lines show the averages of the annual growth rate of flow credits in the first eight months in the years between 2011 and 2015. All services include education, administrative and social services, real estate, brokerage, leasing, health and defense sectors.

Source: BAT Risk Center (Latest Data: 08.17)

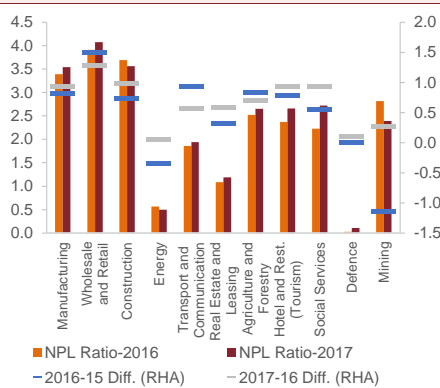
manufacturing industry, which accounts for 90 percent of FX export volume; the transportation and communication industry, which consist of large-scale airline and telecom companies earning FX revenue; and the hotels and restaurants sector, which has a natural hedge via tourism income. Due to the need for long-term financing for the infrastructure projects and large-amount investments in the energy and construction sectors, these sectors have an FX loan share above the average. In addition to sectoral distribution, firm-based distributions of FX loans are also important for FX risk management. For this reason, the Systemic Data Monitoring System initiated by the CBRT to oversee firm-level FX risk developments is of importance in terms of strengthening the surveillance mechanism for firms' foreign exchange risk in the upcoming period.

The highest flow loan growth rates in the first eight months of 2017 were observed in the construction, agriculture, livestock and services sectors (Chart II.2.9). With the contribution of the KGF incentives, flow loans in almost all sectors in the first eight months of 2017 grew above the long-term average. The flow loans in the tourism sector, whose income had decreased in 2016 and recovered slightly in 2017, grew below the average.

NPL ratios are at low levels in the majority of sectors.

Chart II.2.10

Standard NPL Ratios and NPL Ratios Adjusted for Credit Growth in Sectors
(Percent Share, Percent Difference)



Note: Gray and blue lines show the ratio obtained by dividing the annual change in NPL amount in August by 1-year prior loan stock.

Source: BRSA (Latest Data: 08.17)

The NPL ratio in corporate loans maintains its low level. When the sectoral distribution is examined, it is observed that the NPL ratios of manufacturing, wholesale-retail and construction sectors are higher than other sectors (Chart II.2.10). The NPL ratio in the tourism sector, whose contribution to economic activity slightly declined in the last two years, has remained at 2.5 percent.

The high growth rate of the loan volume which is in the denominator of the NPL ratio calculation, in 2017 may lead to the conclusion that the current level of the NPL ratio does not reflect the credit risk accurately. For this reason, removing the impact of loan growth on the NPL ratio will allow us to make a more sound analysis. The ratio of annual NPL amount changes to the 12 months prior loan volume can give a better idea about the recent NPL developments $((NPL_t - NPL_{t-1}) / (Loan_{t-1}))$. The ratio of the difference between the NPL amounts in August 2017 and August 2016 to the loan stock in August 2016 is 0.9 percent in the real sector as a whole. In other words, when the credit stock is kept constant, the increase in the NPL ratio is below

1 percent (Chart II.2.11). In almost all sub-sectors, this rate is also below 1 percent and very close to the August 2016-2015 difference. In summary, the NPL level in corporate loans is at reasonable levels, independent of loan growth, and there is no significant deterioration in the sectors' repayments and the asset quality of banks in 2017.

II.2.4 Access to Finance

With the increase in the TL funding costs of banks since the end of 2016, the interest rates on TL loans to corporates have been rising. This trend has slowed slightly since June 2017 (Chart II.2.11). The increase in interest rates on corporate loans was observed in large and medium-sized firms as of the last quarter of 2016, and in small and micro-scale firms after March 2017. TOBB Respite Credits and interest-free KOSGEB loans, known to be used largely by SMEs, contributed significantly to keeping the average interest rate in the lower segment of the real sector low. In addition, thanks to these incentives, the disadvantages of SMEs in access to financing disappeared to some extent, and the average interest rate difference between the firms in the bottom and top segments declined to 2 percent.

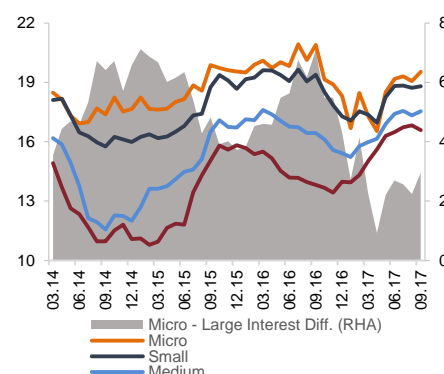
According to the Loan Tendency Survey results in the second and third quarter of 2017, banks reported a slight easing of corporate loan standards (Chart II.2.12). In the last two quarters, public incentives and measures have prevented a further tightening of loan standards, which were assessed to have tightened in all survey periods since 2014. In the last one-year period, loan demand in the real sector, particularly from SMEs, has risen (Chart II.2.13). The fact that this increased demand was met by the loan market supported by public incentives has helped companies to avoid possible liquidity and collection difficulties and contributed to keeping economic activity buoyant.

II.2.5 Liquidity Position

Domestic firms' deposits have been increasing since the last quarter of 2016 (Chart II.2.13). The FX deposits displayed a rapid increase until April 2017 due to the firms' FX debt repayments, FX risk hedging incentives and KGF loans extended to importer firms that have payments in FX. Then they decreased slightly until August 2017

The interest rate differential between the SME and large corporate loans has narrowed.

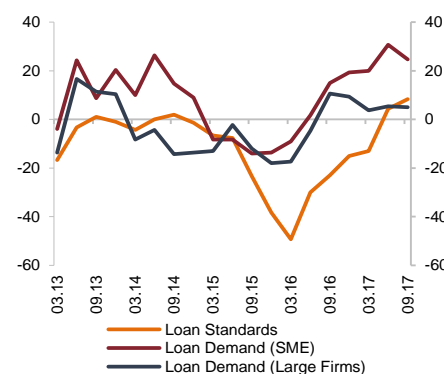
Chart II.2.11
Average TL Funding Costs of SMEs and Large Firms
(4 Weeks Moving Average, Percent Share, Percent Difference)



Source: CBRT (Latest Data: 09.17)

Loan standards are loosening.

Chart II.2.12
Loan Standards and Loan Demand
(Percent Difference, Percent Difference)

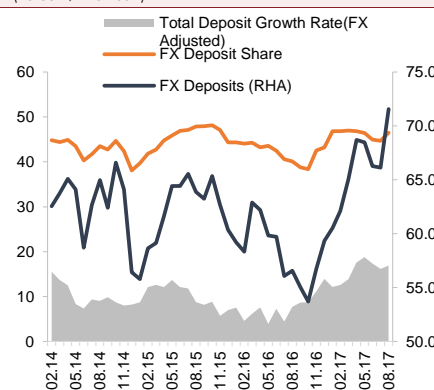


Note: Loan demand is the difference between the share of those who answered "increased" and those who answered "decreased" to the question: "Over the past three months, how has the demand for loans or credit lines to enterprises changed at your bank, besides normal seasonal fluctuations?". Credit standard is the difference between the share of those who answered "eased" and those who answered "tightened" to the question: "How have your bank's loan and credit limit requirements changed in the last three months, except for normal seasonal fluctuations?". If the credit standard is above zero, it means easing, and if it is below, it means tightening.

Source: CBRT (Latest Data: 09.17)

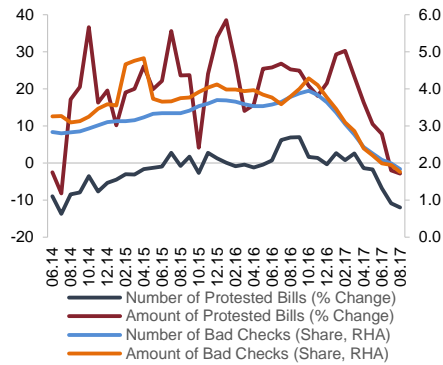
Firms' deposits are rising.

Chart II.2.13
Deposits of Domestic Firms
(Percent, Billion USD)



Note: FX deposits are calculated in terms of FX basket rate using weights 0.6 for TL / USD rate and 0.4 for TL / euro.

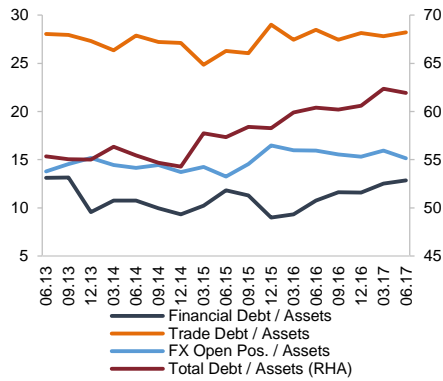
Source: CBRT (Latest Data: 08.17)

Chart II.2.14Bad Checks and Protested Bills
(Percent, Percent, 3-Month Moving Average)

Note: The chart shows the annual percentage change in the number and amount of 3-month moving averages of protested bills and the percentage share of the number and amount of bad checks to total checks.
Source: BAT (Latest Data: 08.17)

due to the stabilization of the exchange rate. In the same period, the share of FX deposits and TL deposits in the total remained flat. The recent increases observed in deposits held by companies against possible economic, geopolitical and global shocks are considered as a sign of a strengthening in firms' liquidity positions.

Firms' increased access to loans and the strengthening of their liquidity positions are positively reflected in their collections (Chart II.2.14). Since the first quarter of 2017, the number of protested bills reduced by 10 percent compared to the previous year, and the rate of growth in protested bill amounts also slowed considerably. Similarly, while the number and value of bad checks had a 4-percent share in the total number and value of checks by the end of 2016, this share fell below 2 percent by August 2017.

Chart II.2.15Leverage Ratios of BİST Firms
(Percent, Percent)

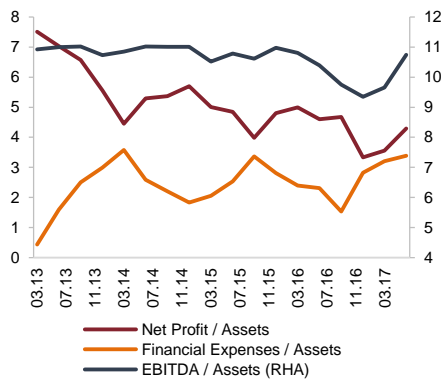
Note: As of the latest data, 236 real sector companies are included.

Source: FİNNET (Latest Data: 06.17)

II.2.6 Analysis of Financial Statements of Borsa İstanbul Firms

An analysis of main financial indicators obtained from the balance sheets of BİST firms shows that the ratio of total liabilities to assets has been in an uptrend since 2014, but dropped slightly in the second quarter of 2017 (Chart II.2.15). Among total liabilities, while the ratio of financial debt to assets has been rising, commercial debt to assets ratio is stable. Although the total FX open position (TL value) as a share of assets rose in the first quarter of 2017 due to the exchange rate movements, the longer-term downward trend it has assumed since the beginning of 2016 continues.

Firm profitability ratios are increasing.

Chart II.2.16Profitability Ratios of BİST Firms
(Percent, Percent)

Note: EBITDA: Net Profit + Financial Expenses + Tax Expense + Depreciation and Amortization Costs. As of the latest data, 236 real sector companies are included.

Source: FİNNET (Latest Data: 06.17)

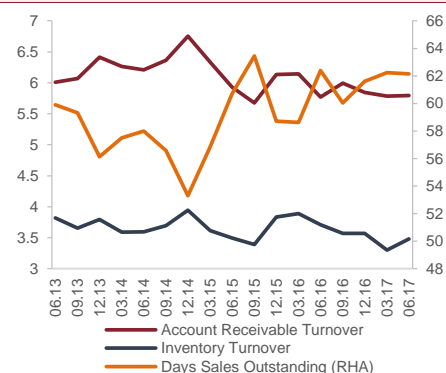
Profitability of firms, which declined due to negative shocks experienced in the second half of 2016, tended upward on the back of the pick-up in economic activity in 2017 (Chart II.2.16). Financial expenses increased in 2017 due to the high level of FX and interest rates. Contrary to previous periods, the increase in financial expenses did not reduce the net profits in 2017, and net profitability increased thanks to the rise in sales and EBITDA driven by the recovery in economic activity. The recovery of firm profitability in this period, when an array of global shocks has created exchange rate and cost pressures, indicates that public measures and incentives have supported firms' balance sheets. It is expected that the solid

performance of firms' balance sheets will have a positive impact on the asset quality of banks.

The elevated economic growth has also been reflected in the liquidity and turnover ratios of BIST firms. In the second quarter of 2017, the time taken to collect receivables by firms shortened, while it was longer the second half of 2016 (Chart II.2.17). Similarly, the inventory turnover ratio, which was on a downward trend throughout 2016, started to increase in the second quarter of 2017. As the leading indicators suggest that the solid economic activity continues in the third quarter, it is expected that the recovery in firms' turnover ratios and collections will persist.

Besides the analyses through single indicators in firms' balance sheets, it is also possible to obtain more comprehensive information with an index score containing several indicators. According to the Multivariate Firm Assessment (MFA) Score, whose technical details are explained in Special Topics IV.1, there was some deterioration in firms' balance sheets in the last quarter of 2016 and first quarter of 2017, but due to the pickup in economic activity, the balance sheets strengthened in the second quarter (Chart II.2.18). On average, the level of firms' financial soundness is well above the financial distress threshold. How much of total debt belongs to firms under the financial distress level is an important question for the overall financial risk of the real sector. According to the classification derived from the MFA score, it is observed that the share of distressed debt in the total debt is around 10 percent, no significant increase has occurred in this share in the recent period, and most of the total debt is held by financially strong firms.

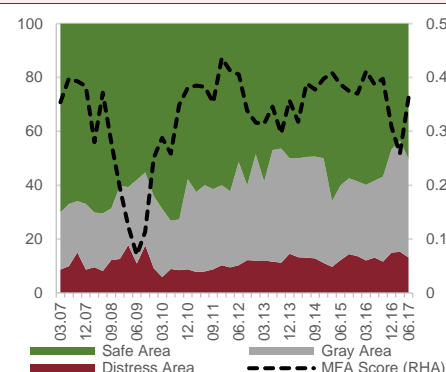
Chart II.2.17
Liquidity and Turnover Ratios of BIST Firms
(Value, Days)



Note: Accounts Receivable Turnover = Net Sales / Trade Receivables, Inventory Turnover = Cost of Goods Sold / Inventory, Days Sales Outstanding = 365 * Trade Receivables / Net Sales. As of the latest data, 236 real sector companies are included.

Source: FİNNET (Latest Data: 06.17)

Chart II.2.18
MFA Score and Debt Share of Each Risk Categories
(Percent Share, Index Score)



Note: The index score is obtained through weighted sum of various balance sheet ratios (leverage, liquidity, profitability, productivity, etc.) by multiple discriminant analysis. If the score is less than -0.02, it is evaluated that the company is in the distress zone, if between -0.02 and -0.56 in the gray zone and in the safe zone if it is greater than 0.56. The graph shows the median index value of 236 real sector firms and the debt share of firms in each region. For detailed information about the index, see Special Topic IV.1.

Source: FİNNET, authors' calculations (Latest Data: 06.17)

Box
II.2.1

Borrowing Preferences of Real Sector from Cost Perspective

Real sector firms need to borrow to meet their working capital needs or to finance their long-term investments. Firms can borrow in TL or FX to meet this need. Although loan growth for real sector firms was driven by TL loans in 2017, there have been periods in some years when loan growth was driven by FX loans. Firms can get foreign currency funding domestically as well as externally. An analysis of firms' total financial debts reveals that firms have 799 billion TL worth of TL-denominated and 991 billion TL worth of FX-denominated financial debt as of July 2017.

Firms state that they prefer FX borrowing as its cost is lower. This box compares firms' TL and FX borrowing facilities and analyzes the realized costs considering interest rate and FX rate movements.

Cost Comparison

This section examines the effects of TL and FX borrowing on the financial statements of a fictional firm. The previous year's balance sheet of the firm is presented in Table II.2.1.1. It is observed that this company had a high leverage on October 19, 2016. Let's assume that on October 20, the company had a funding requirement of 1,000 TL with one year maturity. The company can acquire this funding in two different ways: a 1,000 TL loan or a 298.7 euro loan and convert to TL on the market (Euro/TL rate: 3.3478, Table II.2.1.2).

Table II.2.1.1
The Balance Sheet of the Fictional Firm as of October 2016

Balance Sheet as of 19 October 2016				Balance Sheet as of 20 October 2016			
Cash	400	Accounts P.	700	Cash	1400	Loans	1000
Accounts R.	200	Advances	300	Accounts R.	200	Accounts P.	700
Inventory	700	Other	400	Inventory	700	Advances	300
Other	200	Total Equity	100	Other	200	Other	400
Total Assets	1500	Total Liabilities	1500			Total Equity	100
				Total Assets	2500	Total Liabilities	2500

Table II.2.1.2
Currency and Interest Rate Indicators

	20 October 2016	20 October 2017
TL loan rate (%)	13.59	
Euro loan rate (%)	3.23	
Euro/TL rate	3.3478	4.3219

Source: CBRT

Assuming that the company prepares its income statements on October 20th, income statements of the firm for 2017 have been produced for either TL or euro-denominated loan utilization and these statements are presented in Table II.2.1.4. The development in "items other than finance expenses" in the income statement is based on assumption. As shown on the table, while the firm would have maintained its profitability if it used TL loan one year ago, it would have been in a loss position if it used the FX loan. When the exchange rate developments are taken into account, the

company would be bearing an annual cost of 33.26% for the euro loan, instead of having an annual cost of 13.59% for the TL loan (Table II.2.1.3).

Table II.2.1.3
Financing Expense Calculation

	Amount to be Paid Back on October 20	Total Financing Cost (TL)	Funding Cost (%)
TL Loan	$1000 \times (1 + 0.1359) = 1135.9$ TL	135.9	13.59
Euro Loan	$298.7 \times (1 + 0.0323) \times 4.3219 = 1332.6$ TL	332.6	33.26

Table II.2.1.4
Income Statement by October 20, 2017

(TL loan case)		(Euro loan case)	
Net Sales	1500	Net Sales	1500
Cost of Sales	1300	Cost of Sales	1300
Gross Profit	200	Gross Profit	200
Financing Expense	135.9	Financing Expense	332.6
Income before tax	64.1	Income before tax	-132.6
Tax expense	12.8	Tax expense	-26.5
Net Income	51.3	Net Income	-106.1

The impact of the income statement realizations on the balance sheet is discussed Table II.2.1.5. If both interest payment and principal of the loan are paid in cash, the balance sheet will look as follows on October 20, 2017. If the firm had used TL loan a year ago, it would have continued its activities with positive equity. On the contrary, it would have had lost its equity in case it used Euro-denominated loan.

Table II.2.1.5
The Balance Sheet as of October 20, 2017

(TL loan case)				(Euro loan case)			
Cash	451.3	Accounts P.	700	Cash	293.9	Accounts P.	700
Accounts R.	200	Advances	300	Accounts R.	200	Advances	300
Inventory	700	Other	400	Inventory	700	Other	400
Other	200	Total Equity	151.3	Other	200	Total Equity	-6.1
Total Assets	1551.3	Total Liabilities	1551.3	Total Assets	1393.9	Total Liabilities	1393.9

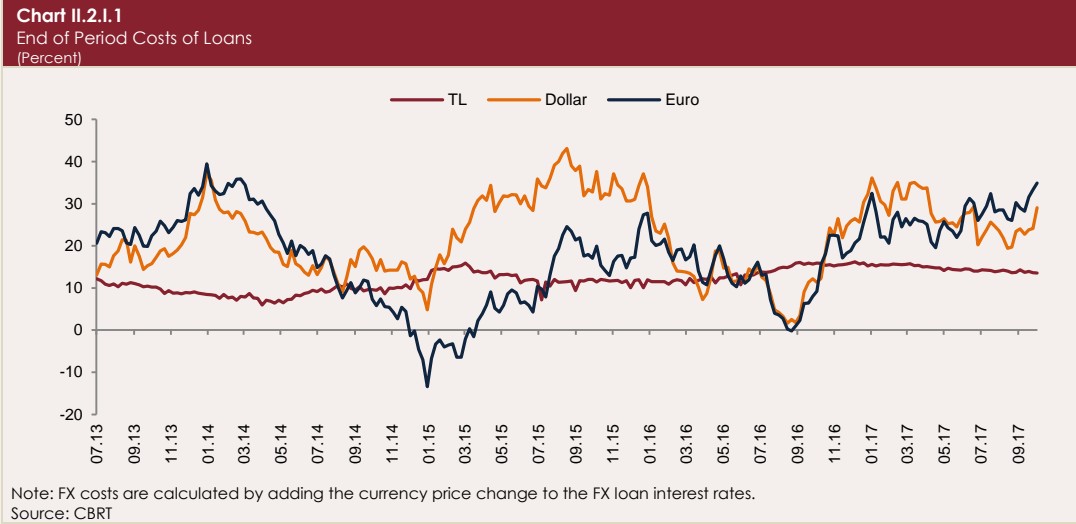
Note: It is assumed that the transactions affecting the Income Statement are fully cash-based and the tax is paid at the end of the period.

As illustrated by the example, firms that borrow in FX can bear higher costs than firms that borrow in TL during periods of rapid depreciation of the TL. This fictional firm, which does not have any FX income, would be able to maintain its profitability and presence if it borrows in TL and would lose its equity if it borrows in FX.

While considering TL and FX borrowing options, exchange rate developments and nominal interest rates should be taken into account as well. A firm faces same financing costs for TL and FX loans if the depreciation of TL over one year equals to the difference between TL and FX loan rates. If depreciation of TL exceeds the interest rate difference, financing costs of FX loan increase significantly. On the other hand, as opposed to the above scenario, if TL appreciates during the year,

the firm will be bearing a smaller cost for an FX loan as compared to TL loan. In this regard, FX borrowing implies a speculative meaning for a company with no FX income.

The total loan cost of firms can be calculated in a more dynamic way as a time series. In this calculation, it is assumed that companies use one-year loans in each period and these loans are rolled over at maturity. When firms use FX loans, they bear currency depreciation cost in addition to FX loan interest rate. It is observed that firms have borne higher costs for FX loans compared to TL loans most of the time over the examined period. This finding provides a clearer picture of the speculative nature of FX loan utilization (Chart II.2.1.1)



Conclusion

The real sector's borrowing choices are important with respect to financial stability. It is clear that the FX loan usage of companies which do not have FX income has a speculative nature. FX loan costs can significantly exceed the TL loan costs due to exchange rate developments.