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This report, which is aimed at informing the public, is based mainly on March 2016 data. Nevertheless, the Report includes developments and evaluations up to its date of publication in Turkish. The full version of this text is available on the CBRT website. The CBRT cannot be held accountable for any decisions made based on the information and data provided therein.

Foreword

Global markets have remained generally volatile since the release of the previous volume of the Financial Stability Report. Macroprudential policies implemented in recent years as well as the prevailing fiscal discipline have increased the resilience of the Turkish economy to global shocks. Against this background, while the economy maintains its stable growth trend, the macroeconomic developments present a moderate outlook in terms of financial stability.

In this period, the CBRT has added to the shock resilience of the Turkish economy with its stance geared towards achieving the objective of price stability and supporting financial stability.

It is my hope that the 22nd volume of the Financial Stability Report, which presents a discussion of the global and domestic macroeconomic outlook as well as the most recent developments regarding financial stability, and elaborates on a variety of topics, will be of benefit to all readers.

Murat ÇETİNKAYA

Governor

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Overview

While the global risk appetite has improved since the last FSR period, volatility in global markets continues. Accordingly, portfolio flows to developing countries remain volatile. Macroprudential measures taken in recent years as well as improvements in fiscal discipline have increased the economy's resilience to global shocks. As such, despite high levels of volatility in global capital flows, the Turkish economy has continued grow at a stable pace.

Recent macroeconomic developments in the Turkish economy provide a generally supportive background for financial stability. Following a growth performance that exceeded expectations in 2015, current domestic production and consumption dynamics suggest that a similar performance will continue in 2016 as well. Inflation developments follow the path predicted in official end-of-the-year forecasts. Fiscal discipline in the public sector is maintained. In tandem with favorable conditions in the terms of trade as well as the moderate growth rate seen in consumer loans supported by macroprudential policies, the recovery in the current account balance continues. At present, the current account deficit is financed mainly through foreign direct investment and other long term sources.

The household leverage ratio (liabilities/assets) continues to decline. As consumer credit growth continues on a moderate path, household assets have increased mostly due to savings accounts as well as retirement savings funds. Accordingly, household indebtedness remains at reasonable and sustainable levels. Non-financial corporate sector indebtedness saw a limited upswing due to exchange rate movements. Nevertheless, the probability of exchange rate related risk in the non-financial corporate sector remains low since the maturities on foreign currency denominated loans have increased in this period. These loans continue to be concentrated in larger firms that are relatively better at risk management. As with the household sector, prudent borrowing by the corporate sector will increase the resilience of the Turkish economy in the face of global fluctuations.

Credit continues to grow at moderate rates. New regulations on consumer loan risk weightings, wage developments, and improvements in financial conditions may support credit growth in the upcoming period. However, due to the tight monetary policy stance and the framework of macroprudential policies, annual credit growth is expected to continue at modest levels.

The upward trend in non-performing loan (NPL) ratios of banks has recently flattened due to developments in consumer loans and loans to SMEs. It is expected that as the economic activity continues along its steady course, the credit risk outlook will improve. At the same time, it is crucial that sectoral developments be monitored closely.

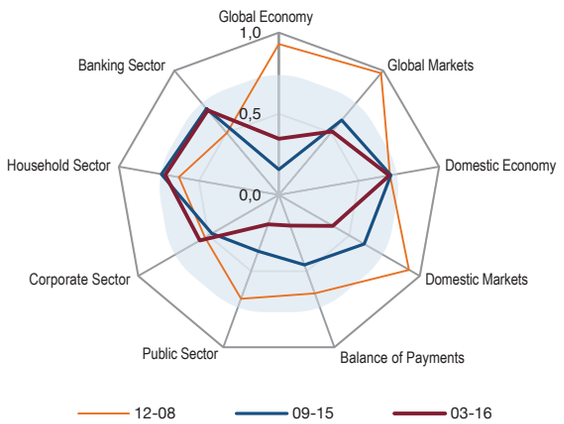
For the past six months, marked by a high level of global financial volatility, banks continued securing external funding smoothly. While external borrowing has declined,

favorable borrowing costs and longer maturities signal that banks have a positive outlook accessing external funding sources. Macroprudential policies that encourage longer term external funding reduce the banking sector's susceptibility to adverse developments in global markets by lengthening maturities. The depo limits allocated to banks and their foreign currency and gold assets deposited at the CBRT add up to an amount larger than the sector's short term liabilities, providing banks with adequate liquidity buffers even in the short term.

Capital adequacy ratios in the banking sector have improved since the last quarter of 2015. According to the Regulatory Consistency Assessment Programme (RCAP) coordinated by the Basel Committee, Turkey is assessed as compliant in risk-based capital standards and liquidity coverage ratio regulations.

Based on these evaluations, the macro display chart below presents the schematic reflection of the developments related to the financial stability in Turkey. Accordingly, the developments in the global economy, domestic markets, balance of payments and the public sector have proved influential on financial stability during the past six months. Global and domestic markets as well as balance of payments and the public sector have contributed favorably to financial stability.

Financial Stability Map[1,2]



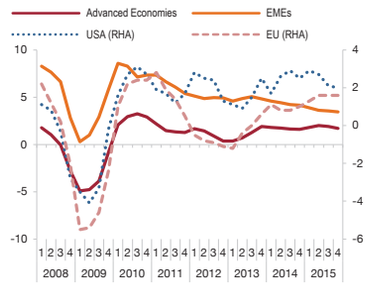
(1) Getting closer to the center means that the contribution of the related sector to financial stability has increased on the positive side. The analysis allows a historical comparison within each sub-sector. A cross-sector analysis can only be made by comparing the direction of change in the positioning with respect to the center.
(2) For the methodology used in the financial stability map, see Financial Stability Report v.13, November 2011-Special Topic IV.10.

I. Macroeconomic Outlook

Global growth remained below the long-term average in 2015. The subdued commodity prices restrained any upside pressures on global inflation rates. It was revealed that the Fed rate hike was more gradual and cautious than expected, and central banks of other advanced economies responded to disinflation by additional accommodative monetary policies. While volatility in the financial markets has pursued a fluctuating trend, portfolio flows to emerging economies have increased since the turn of the year. Despite the rise in the global risk appetite as well as in the capital flows towards emerging economies, it is important for those economies to continue taking measures towards enhancing financial stability.

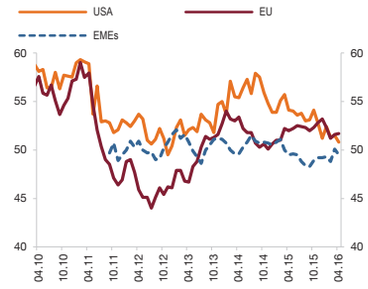
As for the Turkish economy, the growth in economic activities exceeded expectations and the increase in employment continued in 2015. Recently, inflation declined mainly owing to the food prices and with the support of the decreased cumulative impact of the exchange rates. The current account balance continues to improve on the back of the fall in energy prices, the favorable impact of the rise in demand from European Union countries, Turkish exports' successful flexibility for new markets supported by macroprudential measures and a cautious monetary policy. The current account deficit is mostly financed by direct capital investments and long-term sources. Throughout 2015, there was a significant decline in the short-term external debt stock. Sustained fiscal discipline does not only contribute to the decline in the risk premia but also to disinflation. Risk premia in emerging economies and in Turkey dropped owing to the recent rise in the global risk appetite, which in return brought about an appreciation in the Turkish lira and a decline in interest rates.

Chart I.1.1
Growth Rates in Advanced and Emerging Economies[1]
(Percent, Annual)



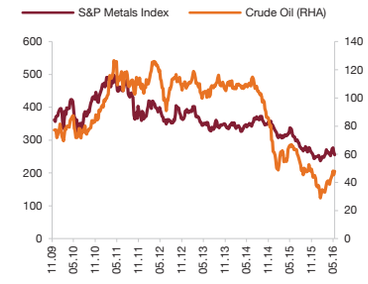
(1) Weighted by each country's share in global GDP.
Source: Bloomberg, CBRT.

Chart I.1.2
Manufacturing Industry PMI Indices



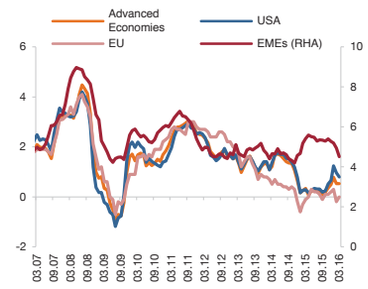
Source: Bloomberg (Latest Data: 04.16)

Chart I.1.3
Commodity Prices
(Index, USD)



Source: Bloomberg (Latest Data: 13.05.16)

Chart I.1.4
Inflation Rates in Advanced and Emerging Economies
(Percent, Annual)



Source: Bloomberg (Latest Data: 03.16)

I.1 International Developments

Global growth remained below the long-term average in 2015. While a subdued growth outlook continues in advanced economies, growth rates of emerging economies slowed down as well (Chart I.1.1). Growth in the eurozone is sluggish but still displays a moderate recovery trend. The US growth has been on a weakening trend since the third quarter. The leading indicators for 2016 suggest that the weak outlook continued in the first quarter of the year (Chart I.1.2).

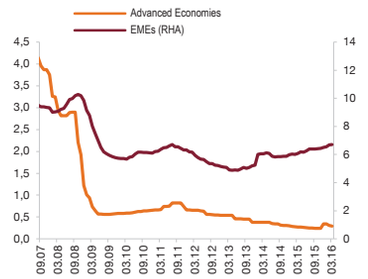
The slowdown in the global economic activity and commodity prices stabilized at low levels. The increased supply and weak demand caused a decrease in commodity prices. Meanwhile, oil prices remain low due to conflicting signals about supply from oil exporting countries (Chart I.1.3). Concerns over the Chinese economy and excess oil supply are likely to curb the uptrend in commodity prices in the near future.

The current position of commodity prices continues to be an important factor in the low global inflation rates. Inflation rates in advanced economies remain low (Chart I.1.4). Recovery in the employment market in the USA continues, while energy prices and import prices excluding energy curb any inflationary pressures. The annual headline inflation in the eurozone in April was below zero, suggesting that a disinflation threat continues. In emerging economies, low commodity prices are pushing inflation down. While low commodity prices affect the growth outlook of commodity-exporting countries negatively, they support the growth performance of commodity-importing countries.

It was revealed that the Fed rate hike would be more gradual and cautious than expected, and central banks of other advanced economies responded to disinflation by additional accommodative monetary policies. In its December 2015 meeting, the Fed raised interest rates for the first time since 2009 as expected, however the Fed gives signals that the rate hike would be gradual due to concerns over the global economy (Chart I.1.5). In March, the European Central Bank took some additional measures in the framework of the expansionary monetary policy in response to negative inflation rates. The ECB lowered all key interest rates and increased the amount of asset purchases by including the euro-denominated bonds issued by non-bank financial corporations. The ECB also announced that it would launch a new series of long-term refinancing operations. Despite the measures taken by the ECB at its March meeting, the recent data pertaining to the eurozone indicate that the recovery in economic activity has not yet reached the desired level. The developments in the European loan market will be a determining factor in the effectiveness of the ECB's monetary policy (Box I.1.I). Similarly, the Bank of Japan also introduced negative interest rates in January. The monetary policy stances in emerging markets are varied. While some commodity-exporting countries like Mexico and S. Africa raised policy rates in response to depreciation in their currencies and changes in their inflation rates, India and Indonesia lowered policy rates.

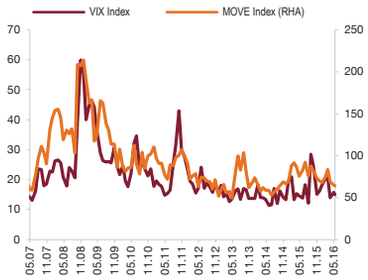
The volatility in financial markets follows a fluctuating trend. The volatility indicators increased at the end of 2015 and at the beginning of 2016 (Chart I.1.6). The long-term treasury bond yields of the USA and Germany remained low due to the decline in the global growth expectations, the deterioration in risk appetite and the tendency to head to safe havens (Chart I.1.7). The global volatility indicators recently declined and the global risk appetite slightly improved on the back of oil prices that have started to rebalance around 40-50 USD/barrel, the market understanding that the Fed rate hike will be gradual and cautious and the accommodative measures taken by central banks.

Chart I.1.5
Global Policy Rate
(Percent)



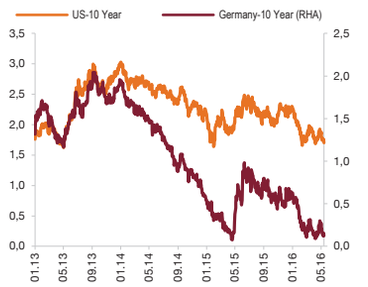
Source: Bloomberg (Latest Data: 03.16)

Chart I.1.6
Risk Appetite Indicators



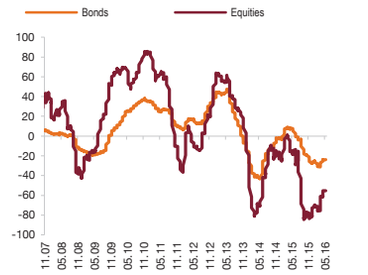
Source: Bloomberg (Latest Data: 13.05.16)

Chart I.1.7
US and Germany 10-Year Treasury Bond Yields
(Percent)



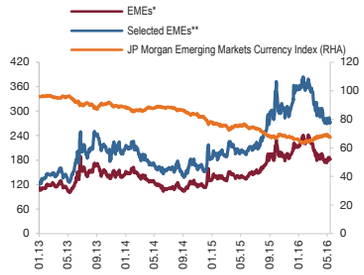
Source: Bloomberg (Latest Data: 13.05.16)

Chart I.1.8
Weekly Capital Flows to
Emerging Economies (Billion USD, 52-week cumulative)



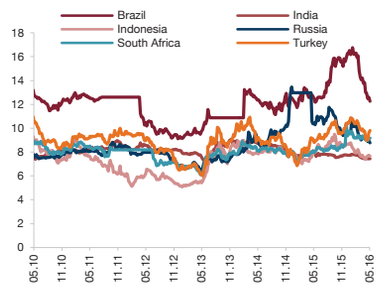
Source: EPFR (Latest Data: 04.05.16)

Chart I.1.9
CDS Premiums for Emerging Economies and JP Morgan Exchange Rate Index



* Emerging economies include Brazil, Czech Republic, Indonesia, South Africa, Colombia, Hungary, Poland, Romania and Turkey.
** CDS premia of Brazil, Indonesia and South Africa have been used to calculate the average of emerging economies.
Source: Bloomberg (Latest Data: 13.05.16)

Chart I.1.10
Treasury Bond Yields in Emerging Economies
(10 year, Percent)



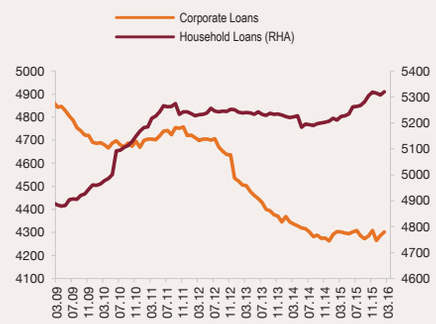
Source: Bloomberg (Latest Data: 13.05.16)

Portfolio flows to the emerging economies have been increasing since the turn of the year. This rise was mainly driven by the improvement in the risk appetite despite the slowdown in the growth rates of emerging economies and the geopolitical risks (Chart I.1.8). As a result of the increased risk appetite, portfolio flows have accelerated and helped partly compensate the depreciation in exchange rates in emerging economies (Chart I.1.9). As an interconnected development, risk premia improved as well. The improvement in loans and exchange rate risk premia affected emerging markets' bond rates (Chart I.1.10). Despite the rise in the global risk appetite and accelerated capital flows to emerging economies, it is vital for the emerging economies to continue taking measures towards enhancing financial stability.

Box I.1.I Credit Developments in the EU and the Measures taken by the ECB

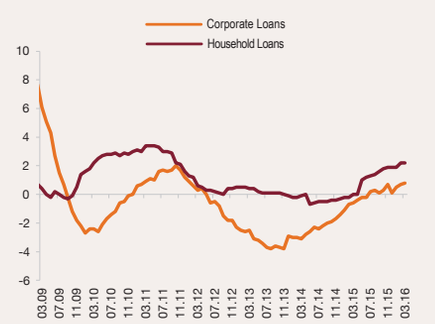
The problems in the EU banking sector have continued since the last global financial crisis. And it is seen that banks have not been able to increase their capacities to provide loans to the corporate sector as needed. According to the data received from the European Central Bank (ECB), the seasonally adjusted corporate loans have been recovering slightly since the third quarter of 2015. Meanwhile, the uptrend in household loans observed in the last three quarters continues (Chart I.1.I.1 and Chart I.1.I.2).

Chart I.1.I.1
Loan Developments
(Billion Euro)



Source: ECB

Chart I.1.I.2
Loan Growth
(Ratio, Annual Change)



Source: ECB

According to the ECB'S bank lending survey of April 2016, banks are trying to support loan growth by easing loan standards. Compared to the previous quarter, banks increased their business credit supply in the first quarter of 2016. In this period, banks were more willing to give more loans to big corporate firms rather than SMEs. On the demand side, the rise in business loans continued in the first quarter of 2016. Although this rise was lower than what banks had expected, demand for business loans is expected to increase in the second quarter. The rise in credit demand in the first quarter of 2016 in the EU countries were mainly driven by factors such as the stock increases, working capital, the general level of interest rates, acquisitions and mergers and fixed investments. On the supply side of household loans, even though it was reported that banks had not changed their credit standards in the last quarter of 2015, banks tightened their credit standards in the first quarter of 2016. While there was a net tightening in household loan supply in the EU in the second quarter, loans conditions for consumers purchasing their first homes are expected to be eased. On the demand side, the net housing loan demand increased.

According to the European Banking Authority's (EBA) data, compared to the first quarter of 2015, the average capital adequacy ratio of banks in EU countries increased in the last quarter of 2015 and reached 17.7 percent while the rise in the tier 1 capital ratio continued. While profitability in the EU countries is still very low, the asset quality is problematic. The average return on equity in the EU countries was 4.7 percent in the final quarter of 2015. Even though this ratio points to a 1.2 percent rise compared to end-2014, both return on equity and return on assets declined quarter-on-quarter (Table.I.1.I.1).

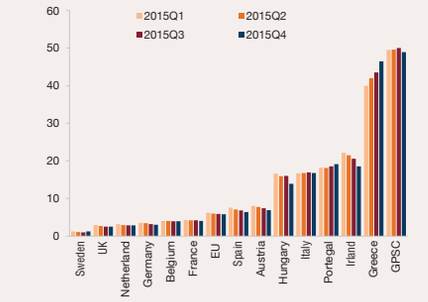
Table I.1.I.1
EU Banks' Average Capital, Profit and NPL Ratios
(Percent)

Period	CAR	CET1	NPL	Coverage Ratio of NPL	ROE	ROA
2014Q4	16,2	12,5	6,5	43,3	3,5	0,20
2015Q1	16,1	12,4	6,2	42,9	6,9	0,40
2015Q2	16,7	12,8	6,0	43,6	6,8	0,41
2015Q3	17,0	13,0	5,9	43,7	6,4	0,38
2015Q4	17,7	13,6	5,8	43,8	4,7	0,29

Source: EBA

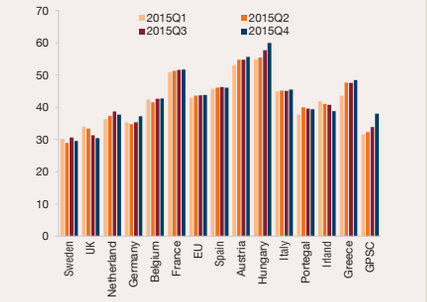
Another problem in the EU countries is that non-performing loans (NPL) ratio is still high. At the end of 2015, the EU average of this ratio improved by 10 basis points quarter-on-quarter and reached 5.8 percent (Chart I.1.I.3). Croatia, Bulgaria, Hungary, Italy, Portugal, Romania, Ireland, Greece and the Greek Cypriot Administration of Southern Cyprus are the countries with the highest NPL ratios; however, there has been some improvement in these countries. Meanwhile, the non-performing loan ratios increased in those countries which had ratios between 3 to 8 percent. The discrepancy among countries is still high.

Chart I.1.I.3
NPL Ratios in EU
(Percent)



Source: EBA

Chart I.1.I.4
NPL Coverage Ratios in EU
(Percent)



Source: EBA

Italy, which is in the group of countries with the highest NPL ratios, distinguishes itself from other countries in the risky group with its high volume of banking assets. Italy's non-performing loan stock reached euro 360 billion in March 2016. The ratio of non-performing loans to total loans became 18 percent, which makes one-sixth of Italy's GDP. To solve the problem, the Italian government has established a euro 5 billion funding vehicle to support some lenders. The fact that 70 percent of non-performing loans of the Italian banking sector stem from SMEs and collaterals of these loans are also troubled are elevating concerns in the Italian banking sector. The state-guaranteed non-performing loan securitization plan that the Italian Government is trying to introduce, has been found too costly by the market. According to EBA's data, Hungary was one of five countries whose NPL ratios increased in 2015 (The others were Italy, Greece, Portugal and Greek Cypriot Administration of Southern Cyprus). In Hungary, a private company guaranteed by the Hungarian Government will purchase these non-performing loans to solve the problem of non-performing loans. Both Italy's and Hungary's plans to transfer non-performing loans off the balance sheets of banks are deemed consistent with EU norms.

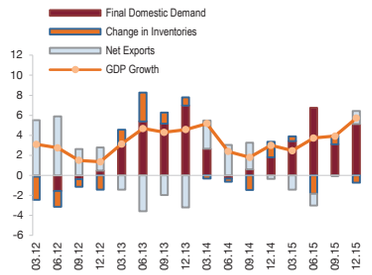
In the EU, in the last quarter of 2015, the coverage ratio of NPL ratios improved by 10 basis points quarter-on-quarter to 43.8 percent; however, the discrepancies among countries persist (Chart.I.1.I.4). In banks with average coverage ratio higher than 55 percent, this ratio has not changed remarkably in the last quarter of 2015 while the ratio has slightly improved in banks with an average above 40 percent.

It is seen that it became necessary for the ECB to develop a detailed policy due to the deceleration in recovery in the EU member economies. Interest rates that fell below zero necessitated the use of different instruments and the ECB has introduced three new instruments: the targeted long-term refinancing operations – TLTRO, the deposit facility rate - DFR and the asset purchase program - APP. The aim of the TLTRO instrument is to provide direct financing to the corporate sector and to decrease non-performing loans by increasing collateral quality by purchasing both asset-backed securities and covered bonds. The aim of a negative DFR is to prevent banks from accumulating excess liquidity, to encourage banks to extend loans with the liquidity they have and to prevent pressure on interest rates. The APP, which is designed as a "portfolio rebalancing channel" instrument, will be continued until March 2017. These measures are expected to boost corporate sector financing by simplifying borrowing conditions by way of the transmission mechanism.

In the March 2016 meeting, the ECB raised the asset purchase amount to euro 80 billion from euro 60 billion and announced that investment-grade euro-denominated bonds issued by non-bank corporations established in the euro area will be included in the list of assets eligible for regular purchases under a new corporate sector purchase program, and the long-term refinancing operations would be launched. Moreover, the ECB lowered all interest rates as follows: the main refinancing operations rate to zero percent, the deposit facility rate to -0.40 percent and the marginal lending facility rate to 0.25 percent.

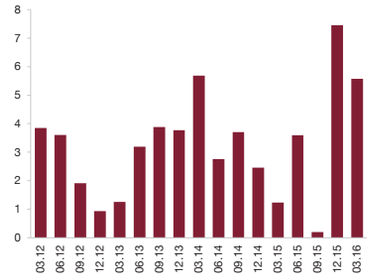
As a conclusion, on the back of all these measures, there has been some recovery on the credit side; however, the non-performing loan ratio is still high, the ratio of special provisions to loans is not at the desired level and corporate loans have not increased as desired.

Chart I.2.1
Contribution to Growth from the Expenditure Side
(Percentage Point)



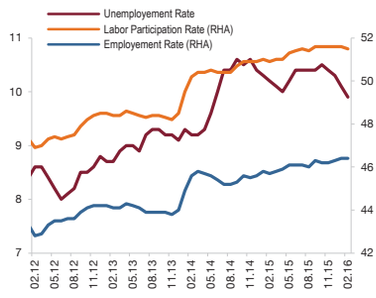
Source: CBRT, TURKSTAT (Latest Data: 12.15)

Chart I.2.2
Industrial Production Index
(Annual Percentage Change)



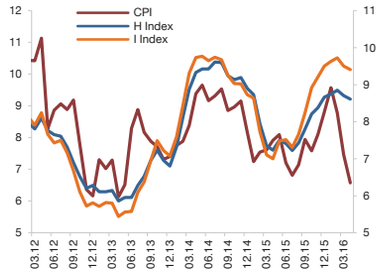
Source: CBRT, TURKSTAT (Latest Data: 03.16)

Chart I.2.3
Labor Force
(Seasonally Adjusted, Percent)



Source: TURKSTAT (Latest Data: 02.16)

Chart I.2.4
Price Indices
(Annual Percentage Change)



Source: CBRT, TURKSTAT (Latest Data: 04.16)

I.2 Domestic Developments

In 2015, growth in the economic activity was realized above expectations. Despite the contraction in external demand stemming from the geopolitical risks and the slowdown in the global economy, the favourable domestic demand conditions have supported growth. By the end of 2015, net exports started to provide a positive contribution to growth again after a year of repose (Chart I.2.1). The favourable growth performance is mostly attributed to the income channel for wage increases and the low level of oil prices and to the confidence channel as uncertainties eased. The strong uptrend in industrial production, which started in the final quarter of 2015, continued in the first quarter of 2016 (Chart I.2.2). The rise in the perishable goods prices and intermediate goods supported this uptrend. In this framework, the leading indicators imply that the contribution from production and consumption dynamics to growth will continue in the first quarter of 2016 as well.

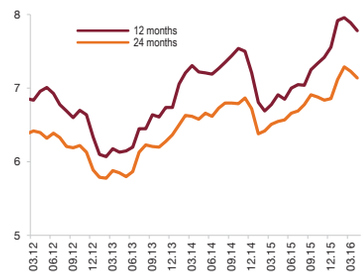
In 2015, the growth of the unemployment rate slowed down and remained almost flat throughout the year (Chart I.2.3). Employment denoted a moderate rise in 2015 which was mostly driven by the services sector. Nevertheless, the slowdown in labour participation restricted further increase in unemployment. The preliminary data for 2016 suggest that amid continued moderate rise in employment and the downturn in labour participation, a downtrend is observed in the unemployment rate. A likely decline in services exports might curb rise in employment in the rest of the year.

After the uptick in inflation in the final quarter of 2015, inflation recently dropped mainly owing to the food prices (Chart I.2.4). The unprocessed food prices inflation decreased significantly due to the base effect, especially on the back of the annual decline in the prices of vegetables and red meat. The ease in the cumulative impact of exchange rates on annual inflation continues. In relation, annual inflation in core indicators slightly decreased, while improvement in their underlying trend continued in this period. While inflation expectations climbed up in the final quarter of 2015, they declined slightly in March 2016 (Chart I.2.5).

The current account balance continues to improve (Chart I.2.6). The recovery in the current account balance is mainly attributed to the favourable developments in the terms of trade, the moderate trend in consumer loans and the macroprudential policies implemented. While imports decreased on the back of falling commodity prices and the decline in energy costs, the modest recovery trend in the European Union countries and the Turkish exports' high flexibility to switch markets have supported Turkish exports. As a result of these developments, the favorable trend in terms of trade has continued. As a consequence of the positive developments in the terms of trade, the ratio of exports to imports has been on a rapid rise as of the final quarter of 2015 (Chart I.2.7).

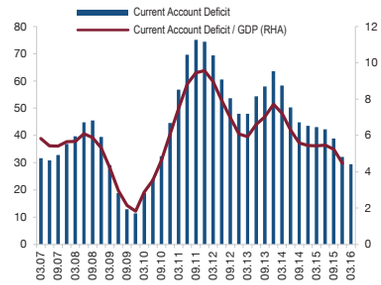
The current account deficit is mostly financed by direct investments and long-term sources (Chart I.2.8). Approximately one-third of the current account deficit is financed by direct investments. The foreign debt roll-over ratios of both the banking sector and other sectors are hovering above 100 percent.

Chart I.2.5
Inflation Expectations
(Percent)



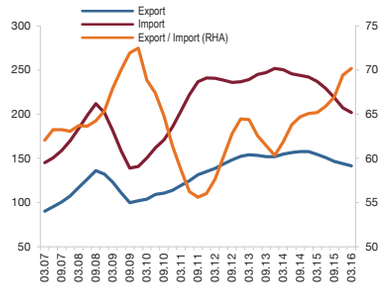
Source: CBRT (Latest Data: 04.16)

Chart I.2.6
Current Account Deficit
(12-Month Cumulative Billion USD)



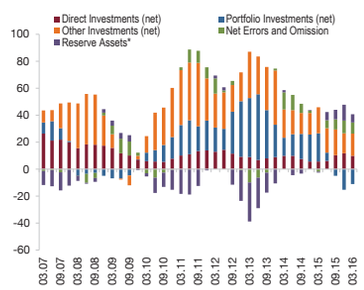
Source: CBRT (Latest Data: 03.16)

Chart I.2.7
Foreign Trade
(12-Month Cumulative, Billion USD, Percent)



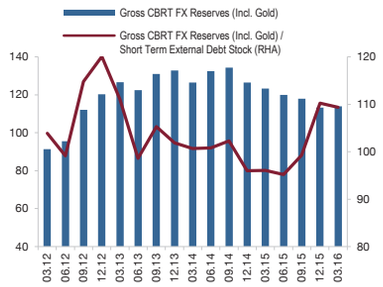
Source: CBRT (Latest Data: 03.16)

Chart I.2.8
Current Account Deficit Financing Items
(12-Month Cumulative, Billion USD)



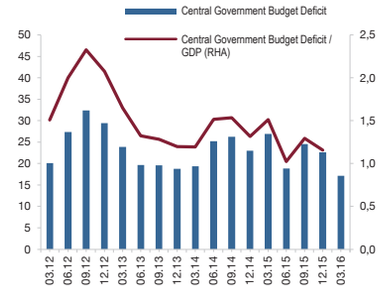
(*)Positive figures for FX reserve assests denote decrease in FX reserves, negative figures for FX reserve assests denote increase in FX reserves.
Source: CBRT (Latest Data: 03.16)

Chart I.2.9
Short-term External Debt Stock and CBRT Gross FX Reserves (Billion USD, Percent)



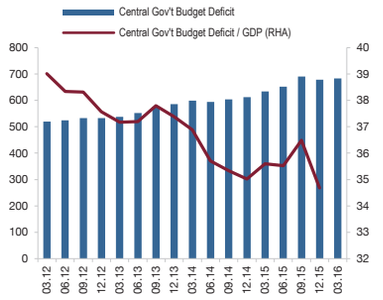
Source: Undersecretariat of Treasury, CBRT (Latest Data: 03.16)

Chart I.2.10
Central Government Budget Balance
(12-Month Cumulative, Billion USD, Percent)



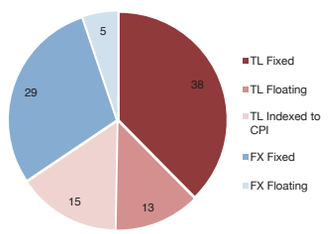
Source:Undersecretariat of Treasury (Latest Data: 03.16)

Chart I.2.11
Central Government Debt Stock
(Billion USD, Percent)



Source: Undersecretariat of Treasury (Latest Data: 03.16)

Chart I.2.12
Composition of the Central Government Debt Stock
(Percent)



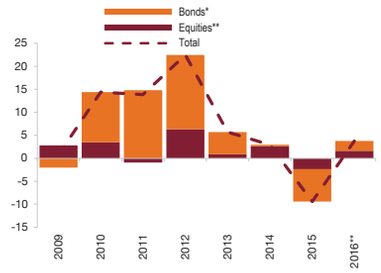
Source: Undersecretariat of Treasury (Latest Data: 03.16)

There has been a significant decline in the short-term external debt stock and the ratio of reserves to debt stock has improved as well (Chart I.2.9). The decline in the short-term external debt stock is mainly driven by the macroprudential measures implemented and the decrease in external borrowing requirement owing to the continued improvement in the current account balance. Consequently, the ratio of the Central Bank's gross reserves to short-term external debt stock has increased significantly.

Sustained fiscal discipline contributes to bringing down both the risk premiums and inflation. In the first quarter of 2016, the central government budget deficit markedly decreased compared to the previous quarter's data (Chart I.2.10). Although public debt slightly increased compared to the previous quarter, the gradual decline in the ratio of debt stock to GDP continues (Chart I.2.11). In the first quarter of 2016, the rise in the central government primary surplus compared to end-2015 contributed to the decline in the central government budget deficit. By the end of the first quarter of 2016, the average days to maturity of debt stock was 4.7 years for domestic loans, 9.4 years for external loans and 6.3 years for total loans. The fact that the debt stock has a long-term maturity structure and borrowing is mostly fixed-rate and denominated in Turkish liras intensifies the resilience of public finance against external shocks (Chart I.2.12). Any measures that serve to achieve lasting fiscal discipline and decrease the domestic savings gap will support macroeconomic stability and help public borrowing interest rates remain low which, in return, will enhance the Turkish financial system's resilience in the face of shocks.

Portfolio flows towards Turkey have recently accelerated with the impact of increased risk appetite owing to the expectations that additional accommodative measures in advanced economies will continue and normalization will be delayed. An analysis of the net portfolio movements of non-residents reveals that there have been strong portfolio inflows to Turkey in both the stock market and the bond market since February (Chart I.2.13). The portfolio inflows were mainly driven by the recent improvement in the global financial conditions, the tight monetary policy, higher-than-expected growth and the favorable trend in other macroeconomic indicators in Turkey.

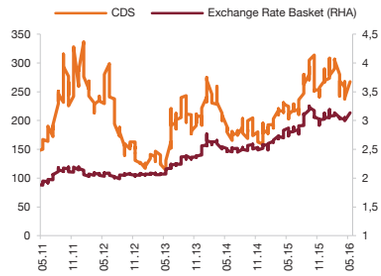
Chart I.2.13
Cumulative Portfolio Flows
(Annual Cumulative, Billion USD)



* Bonds markets include Repo transactions
**Portfolio flows to the emerging economies cumulative since the turn of the year
Source: CBRT (Latest Data: 06.05.2016)

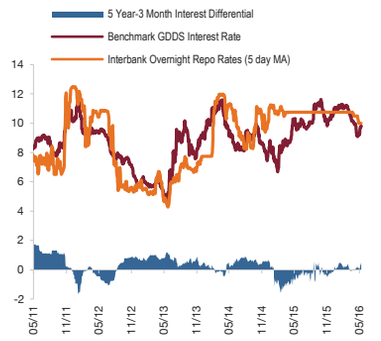
Risk premia in emerging economies and in Turkey dropped on the back of the recent rise in the global risk appetite, which in return brought an appreciation in the Turkish lira and decline in interest rates. With the contribution of stronger capital movements, the Turkish lira has appreciated against an exchange rate basket composed of the US dollar and the Euro. Moreover, as another reflection of the increased risk appetite owing to the projection that central banks of advanced economies will keep low interest rates for an extended period, Turkey's credit default swap premiums have declined remarkably (Chart I.2.14). Thanks to strong capital flows, demand for financial assets has increased and the indicative GDDS rates have assumed a downtrend since the beginning of 2016. Meanwhile, the spread between the 5-year and 3-month interest rates is almost flat which is also a sign of sustained tight monetary policy stance (Chart I.2.15).

Chart I.2.14
Exchange Rate Basket and CDS



Source: CBRT (Latest Data: 06.05.16)

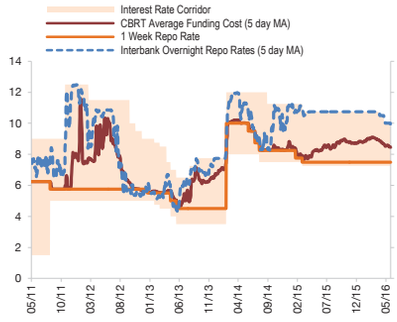
Chart I.2.15
Indicative GDDS Yield
(Percent)



Source: CBRT (Latest Data: 11.05.16)

In the scope of the simplification of the monetary policy, the overnight lending rates were lowered in March, April and May. Factors that have recently reduced the need for a wide interest rate corridor are the improving global financial conditions and continued decline in volatility as well as the effective implementation of the policy instruments explained in the road map announced in August (Chart I.2.16).

Chart I.2.16
CBRT Rates and BIST Interbank O/N Rates
(Percent)



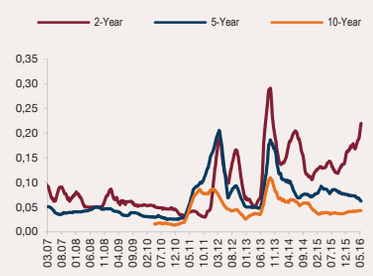
Source: CBRT, BIST (Latest Data: 25.05.16)

Box I.2.I GDDS Market Liquidity

Market liquidity, which is of critical importance for an effective allocation of economic resources for productivity purposes, efficient functioning of financial markets and sustainability of the effectiveness of the monetary policy, has remained an important topic on the agenda of regulators and market participants in the aftermath of the global financial crisis.

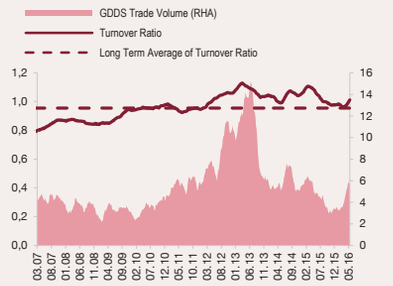
Market liquidity, in general terms, implies an asset's ability to sell quickly without a drastic drop in its price and at low transaction costs, even in the context of high volume transactions. Therefore, resiliency, depth and tightness are key concepts describing market liquidity. Moreover, the variety of investors and products available on the market are also closely related to market liquidity. This box addresses the benchmarks for the GDDS market liquidity.

Chart I.2.I.1
Benchmark GDDS Bid-Ask Spreads*
(Percent)



*13 week moving averages
Source: Bloomberg (Latest Data: 13.05.16)

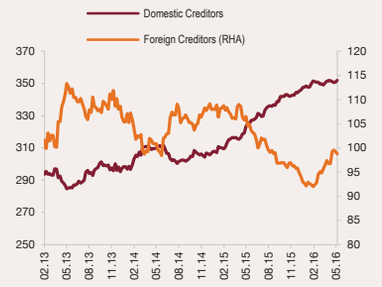
Chart I.2.I.2
Over-the-counter GDDS Trade Volume* and Turnover Rate** (Rate,Billion TL)



*13 week moving averages
**Turnover ratio is calculated such that trade volume of GDDS is divided by nominal value of GDDS.13 week moving averages have been used.
Source: BIST (Latest Data: 13.05.16)

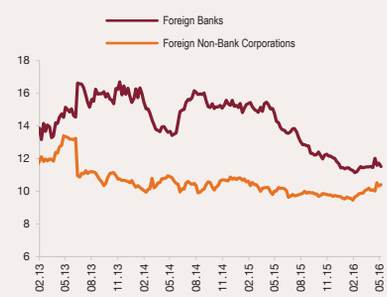
When bid-ask spreads, accepted as one of the indicators of tightness in the context of liquidity risk premium and market liquidity for primary dealers holding financial assets, are analyzed, two periods come to the forefront. During the global financial crisis of 2009, the bid-ask spreads of benchmark GDDS in Turkey remained low (Chart I.2.I.1). However, these spreads started to increase in May 2013, on the back of the Fed's signals towards tapering its asset-purchasing program. In the following period, the fading of uncertainties in the Fed's monetary policy and the expectation of a soon-to-be postponed normalization policy, accompanied by additional accomodative policies announced by the central banks of other advanced economies, resulted in a decline in the bid-ask spreads in overall terms. However, the 2-year benchmark GDDS bid-ask spread has presented a more sensitive outlook due to its relatively low volume of transaction and has diverged from the bid-ask spreads of medium and long-term benchmark GDDS in the recent period. The transaction volume of government securities, which is one of the indicators of depth, has recently assumed an upward trend (Chart I.2.I.2). Meanwhile, the turnover ratio, which is used as another depth indicator, has decelerated and converged to the long-term average.

Chart I.2.I.3
Developments of GDDS Holdings
(Billion TL)



Source: CBRT (Latest Data: 06.05.16)

Chart I.2.I.4
Composition of Non-Resident GDDS Holdings* (Percentage Share)



*Share of Total GDDS Nominal Amount
Source: CBRT (Latest Data: 06.05.16)

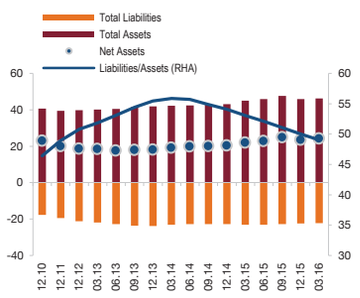
In the recent period, while non-residents' portfolio inflows via GDDS purchases have gained pace, the GDDS holdings of domestic creditors have posted a moderate increase (Chart I.2.I.3). However, while the share of GDDS holdings of non-resident banks in the total nominal GDDS amount has declined, the non-bank financial institutions residing abroad have been more inclined to hold GDDS (Chart I.2.I.4).

II. Non-Financial Sector

Although the household leverage ratio (household liabilities/assets) has slightly increased since the last Report period, the long-term downward trend maintains. The moderate growth in consumer loans continues on the back of the relatively rapid growth in household assets. The mild growth trend in consumer loans is mainly attributed to the implemented macroprudential measures and the course of the credit conditions. The rise in household assets was mainly driven by deposits and retirement savings funds.

The ratio of the total liabilities of the corporate sector to the GDP, which assumed a downtrend in the final quarter of 2015, started to increase as of January 2016 with the impact of domestic FX loans and external loans. The share of Euro-denominated loans in domestic FX loans rapidly increased owing to the cost advantages of borrowing in Euros and the rise in Euro-denominated export revenues, while the share of USD-denominated loans is declining. The share of non-bank financial institutions and foreign financing has been increasing in the resource distribution of total liabilities. The rise in the global risk appetite is facilitating foreign financing for firms; this has increased corporate bonds issued abroad and external debt rollover ratios. The extending maturities in FX loans, the declining ratio in FX loans utilized by SMEs and the downtrend in FX-indexed loans all show that firms' exchange rate risk has been declining. The rise in the profitability of BIST firms and the downtrend in leverage ratios observed in the final quarter of 2015 demonstrate that the financial structures of the corporate sector have been getting stronger.

Chart II.1.1
Household Assets and Liabilities
(Percent of GDP)



(1) Liabilities/Assets, 12 month MA, Percent
Source: CBRT , CMB, MKK (Latest Data: 03.16)

II.1. Household Developments

Over the last six months, the ratio of household net assets to GDP remained flat, while the long-term household financial leverage ratio continued to decline. The decline in the household leverage ratio was mainly driven by the rise in savings deposits outpacing the moderate increase in consumer loans (Chart II.1.1).

Consumer loans, which constitute almost the entire household financial liabilities, remained weak on account of the implemented macroprudential measures and the developments in loan rates. Meanwhile, the growth rate of savings deposits, which has the largest share in household financial assets, exceeded the consumer loan growth by a remarkable margin (Chart II.1.2).

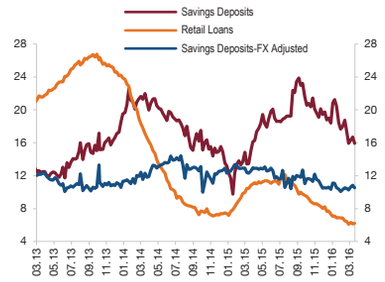
There have been two remarkable changes in the composition of the households' financial assets since the last Report period. First of these changes is the rise in FX savings deposits of households and second is the increase in the share of savings kept in retirement savings funds (Table II.1.1).

In the first quarter of the year, households preferred to keep their deposits more in foreign currencies in tandem with market conditions compared to the last Report period. The appreciation in Turkish lira restrained a further increase in the share of FX saving deposits in household financial assets. Nevertheless, the FX-adjusted savings deposits have significantly increased over the last 6 months. Meanwhile, the measures taken and the incentives introduced by the government towards increasing domestic savings have spurred the interest in retirement savings funds. Hence, the highest growing financial instrument among household assets have been the pention mutual funds parallel with the recent trends (Table II.1.1).

The amount of gold held at banks by resident real people have been sensitive to gold prices (Chart II.1.3). Recently, the amount of gold, in the household portfolio and in the banking system as retail investments, decreased as a result of profit sales amid rising gold prices (Table II.1.1).

Another significant rise in household financial assets was observed in the value of equity securities in tandem with the increase in BIST Stock Index. In March 2016, the portfolio value of households' stock investments reached a historically high level. Nevertheless, the observed rise in investments in stock investment mainly come from the rise in BIST Stock Index. When households' stock investment portfolio is deflated by the rise index, the rise in real terms remains limited (Chart II.1.4).

Chart II.1.2
Growth in Household Loans and Deposits
(Annual Percentage Change)



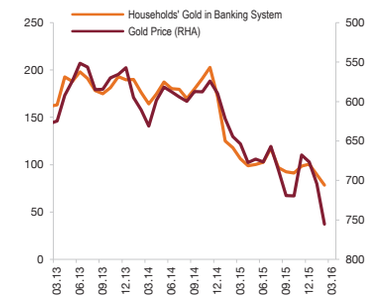
Source: CBRT, BRSA (Latest Data: 03.16)

Table II.1.1
Household Financial Assets

	09.15		03.16		Percentage
	Billion TL	Share	Billion TL	Share	Change
Total Assets	**903,3**	**100,0**	**919,6**	**100,0**	**1,8**
TL Savings Deposits	425,5	47,1	438,1	47,6	3,0
FX Savings Deposits	275,0	30,4	274,3	29,8	-0,3
- (Billion USD)	91,5		97,1		6,2
Precious Metal Deposits	10,2	1,1	9,4	1,0	-7,5
- (Billion USD)	3,4		3,3		-1,6
Bonds and Bills	19,8	2,2	20,2	2,2	2,5
- Public Sector	6,2	0,7	6,2	0,7	-1,3
- Private Sector	13,5	1,5	14,1	1,5	4,2
Mutual Funds	78,1	8,7	83,5	9,1	6,8
Pension Mutual Funds	44,2	4,9	51,0	5,5	15,3
Other Mutual Funds	33,9	3,8	32,5	3,5	-4,2
Equity Securities	41,5	4,6	45,9	5,0	10,4
Repo	0,5	0,1	0,4	0,0	-15,5
Currency in Circulation[1]	52,6	5,8	47,7	5,2	-9,3

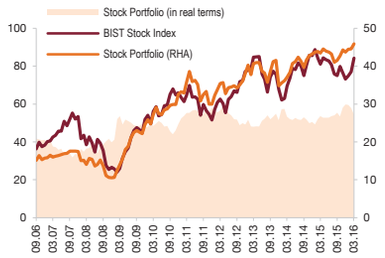
(1) It is calculated by taking the household share of currency in circulation in 2015-III Financial Accounts Report as constant.
Source:CBRT, CMA, MKK (Latest Date: 03.16)

Chart II.1.3
Households' Gold Portfolio in the Banking System and Gold Prices (Thousand Gram, TL (Reverse A.))



(1) Gold price represents the price of a Turkish Republican coin.
Source: CBRT (Latest data: 03.16)

Chart II.1.4
BIST Stock Index and Household Stock Portfolio
(Thousand, Billion TL)



(1) Stock Portfolio is deflated by CPI and a constant to obtain in real terms.
Source: CBRT (Latest data: 03.16)

The CBRT has been contracting the amount of currency in circulation since September 2015. In tandem with this decline, the households' cash preferences has also decreased and the share of currency in circulation in household financial assets has dropped slightly since the last Report period (Table II.1.1).

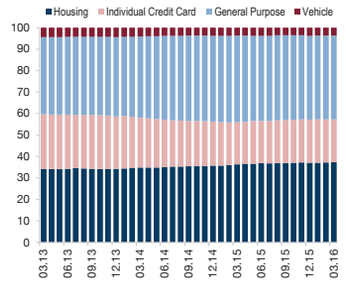
Table II.1.2
Household Financial Liabilities

	09.15		03.16		Percentage Change
	Billion TL	Share	Billion TL	Share	
Total (Based on Type)	**430,2**	**100**	**441,1**	**100**	**2,5**
Housing	154,8	36,0	160,5	36,4	3,7
Vehicle	15,1	3,5	16,0	3,6	5,7
General Purpose	164,6	38,3	167,1	37,9	1,5
Individual Credit Cards	83,9	19,5	85,1	19,3	1,4
Asset Man.Comp' Rec.	11,8	2,7	12,5	2,8	5,9
Total (Based on Counterparty)	**430,2**	**100**	**441,1**	**100**	**2,5**
Banks	396.9	92,3	406,0	92,0	2,3
Financing Companies	9,5	2,2	10,6	2,4	11,6
TOKI	12.0	2,8	12,0	2,7	0,0
Asset Management Comp'	11,8	2,7	12,5	2,8	5,9

(1) Housing loans include TOKİ's (Housing Development Administration of Turkey) receivables against house sales with installments. TOKİ data is as of April 2015.
Source: CBRT, TOKİ (Latest Data: 03.16)

The growth in household financial liabilities outperforms the increase in assets compared to the last Report period, but falls behind the asset growth compared to the same period of the last year. The enforced regulation prevents households from borrowing in foreign currency and the mild growth in consumer loans have remarkable effect on this situation. As a result of balance sheet developments, households are not in an excessive borrowing position.

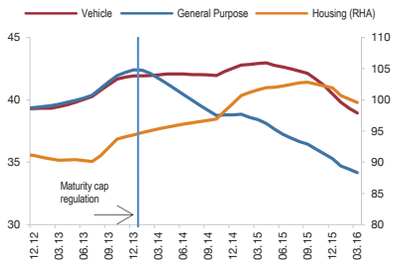
Chart II.1.5
Household Liabilities
(Percentage Share)



Source: CBRT, BRSA (Latest Data: 03.16)

Vehicle and housing loans performed the largest growth in the household financial debt composition (Table II.1.2). The 30 percent minimum wage increment in early 2016 is estimated to have made an upward impact on loans, especially on general purpose and vehicle loans, and thus have slightly pushed up consumer loans that had been subdued for a while. There has been no significant change in the shares of loan types in household financial liabilities (Chart II.1.5).

Chart II.1.6
Average Retail Loan Maturity
(3 Months MA) (Month)



Source: CBRT (Latest data: 03.16)

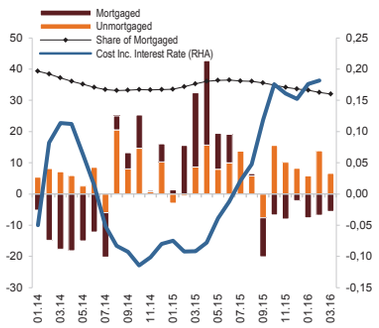
A breakdown of household financial liabilities by type of creditor shows that banks still have the largest share as creditors. Meanwhile, there has been a remarkable rise in loans obtained from financing companies. In Turkey, more than 90 percent of loans extended by financing companies are vehicle loans. Therefore, it is assessed that the ramped up in vehicle loans in tandem with minimum wage increment have an impact on the the rapid rise in loans extended by financing companies. (Table II.1.2).

In the last period while household loans have been growing at a moderate pace, the average maturities of consumer loans has continued to shorten (Chart II.1.6). This development can be attributed to the macroprudential measures introduced towards consumer loans and households' tendencies to borrow in shorter maturities due to high interest

rates. As a matter of fact, after the regulation limiting maturities on loans was introduced, especially the maturity of general purpose loans rapidly declined to the upper limit of 36 months. In line with the market conditions, maturities for vehicle and housing loans have shortened since the last Report period.

Besides the shortening in maturities for housing loans, there has been a decline in mortgaged house sales. Correspondingly, the share of mortgaged house sales in total house sales decreased as well (Chart II.1.7). Meanwhile, the rise in unmortgaged house sales observed since October prevented the decline in total sales and consequently, the increase in total house sales, albeit at a subdued pace, continued.

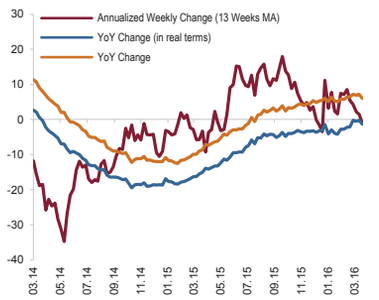
Chart II.1.7
Contribution to Housing Sales Growth and Housing Loan Monthly Interest Rate (Percent, 1 Percentage Point +)



(1) Mortgage share is 12-month MA, Percent
Source: CBRT, TURKSTAT (Latest Data: 03.16)

The regulation limiting the number of installments on spending with credit cards was introduced in February 2014 and credit card balances have been decreasing since then. Credit card spending, which assumed a gradual uptrend as of the second quarter of 2015, has maintained the uptrend since the last Report period. Nevertheless when price effects are adjusted, the household credit card balance has not increased since 2014 (Chart II.1.8). With the Regulation Amending the Regulation on Debit Cards and Credit Cards published by the BRSA on 25 November 2015, the number of installments for credit card spending on white goods, furniture and education expenses has been raised. Taking into account the seasonal factors affecting these types of spending, credit card spending is likely to move upwards in the second Report period.

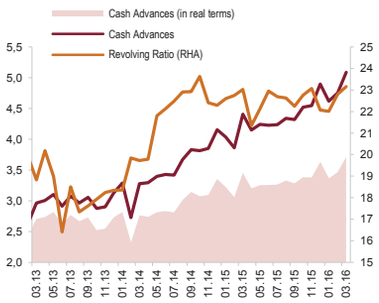
Chart II.1.8
Individual Credit Card Balance
(Percent)



(1) Credit card balance is deflated by CPI to obtain in real terms.
Source: CBRT (Latest data: 03.16)

The rise in credit card cash advances observed since early 2014 continued in this quarter as well. However, this rise remains limited when price effects are adjusted. The share of interest-bearing debts in credit card balances has been hovering around 22 percent since the second half of 2014 (Chart II.1.9).

Chart II.1.9
Credit Card Cash Advances and Revolving Ratio
(Flow Data, Billion TL, Percent)



(1) Cash advances are deflated by CPI and a constant to obtain in real terms.
Source: CBRT (Latest data: 03.16)

Box II.1.I Automatic Enrollment in the Private Pension System

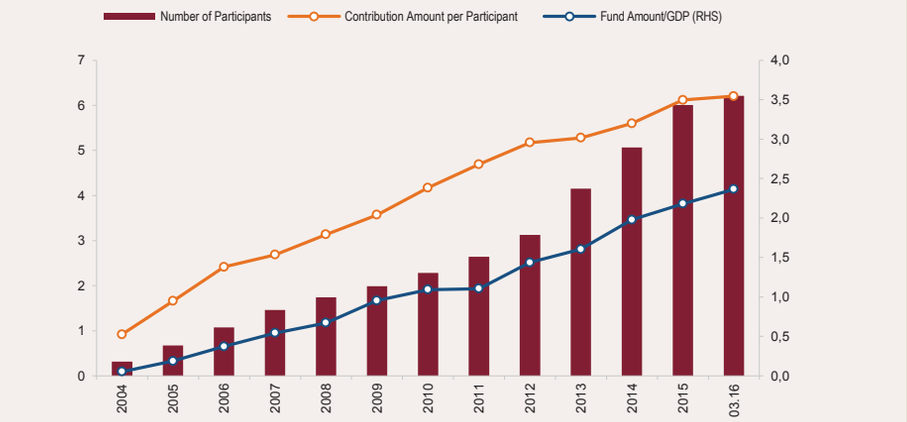
The private pension system is part of a social security system in which the paid personal retirement contributions are directed to investments. The funds collected in the system not only serve to elevate the welfare of the participants during the retirement period, but also to provide long-term financing for the markets. Private pension systems run by retirement companies are established besides the social security system mostly run by the state. Global practices suggest that enrollment in a pension system can be based on a voluntary enrollment basis or on a compulsory/ automatic enrollment basis.

In Turkey, the private pension system is called the personal pension system (PPS). The PPS was established as a complementary system of the existing state-run social security system. The main objective of establishing a PPS is to encourage individuals to save money while they are active in business life, increase these savings by turning them into investments and provide a higher welfare level to the contributors in their retirement. Another objective of the PPS system is to contribute to the narrowing of the savings deficit. Since 2003, when the PPS system was first launched in Turkey, the number of participants has exceeded 6 million, displaying a significant development. The low domestic savings to GDP ratio pushes the current account deficit higher. The state contribution to pension accounts, which was designed to increase domestic savings, became effective in 2013 and has provided a remarkable support for the system.

In Turkey, the PPS operates on a voluntary basis. The participants become eligible for retirement when they have stayed in the system for a minimum period of 10 years and have reached the age of 56; retirement can be postponed on demand. The government contributes by 25 percent of the amount paid by the employees in their pension accounts. The maximum amount that a participant can receive as government contribution shall not exceed 25 percent of the annual gross minimum wage of the related year. Effective as of 1 January 2013, participants who stay in the system for 3 to 6 years may receive 15 percent ; those who stay for 6 to 10 years can receive 35 percent and those who stay in the system for 10 years and longer can receive 60 percent of the government contribution. In case of retirement, demise or disability, the participant becomes eligible to receive all of the government contribution.

By the end of March 2016, the total amount of funds collected in the PPS was TL 46.2 billion and the total number of participants was 6.2 million. In the same period, the total amount of government contribution reached TL 5.5 billion and TL 38 billion of the total funds accumulated in the system was turned into investments. In the first quarter of 2016, the contribution per participant increased by TL 84.4, and the ratio of the total amount of funds to GDP reached 2.4 percent (Chart II.1.I.1).

Chart II.1.I.1
Private Pension System Number of Participants, Contribution per Participant and Amount of Funds/GDP[1]
(Million People, Thousand TL, Percent)



(1) 12.15 data is used for GDP of 03.16 data.
Source: PMC, TURKSTAT

In countries which are implementing automatic enrollment in a PPS, individuals are obliged to start paying contributions to the system as soon as they start working. In some countries, only employees pay contributions to the retirement system, while in others both the employee and the employer pay contributions. Unlike the state-run pension funds, the PPS does not make a commitment to pay a certain amount to the participants in their retirement, but instead the participants become eligible to receive an income proportionate to the size of their funds. Countries implementing automatic enrollment in PPS are: Australia, Chile, Denmark, Estonia, Iceland, Israel, Mexico, Netherlands, Norway, Slovakia, Sweden, Switzerland, Indonesia and Russia. In countries implementing compulsory enrollment in PPS, a significant part of the total contribution comes from the PPS (Table II.1.I.1). In most of the countries, the automatic enrollment is not a newly established system, but has a long history.

Table II.1.1.1
Enrollment Rates to Mandatory Pension Systems
(End of 2014, Percent)

	Public		Private		
	Employee	Employer	Employee	Employer	Total
Italy	9.2	23.8	-	-	33.0
Switzerland	4.2	4.2	7.7	10.4	26.6
Israel	3.8	3.8	5.5	12.0	25.0
Finland	7.1	17.8	-	-	24.8
Sweden	7.0	11.4		4.5	22.9
France	6.8	8.5	3.0	3.0	21.3
Netherlands	17.9	0.0		16.0	20.9
Turkey	9.0	11.0			20.0
Iceland	-	7.8	4.0	8.0	19.8
Poland	9.8	9.8	-	-	19.5
Germany	9.5	9.5	-	-	18.9
Japan	8.7	8.7	-	-	17.5
Belgium	7.5	8.9	-	-	16.4
Luxemburg	8.0	8.0	-	-	16.0
Denmark	0.5	0.8		12.0	13.4
Chile	-	-	11.2	1.2	12.3
Canada	5.0	5.0	-	-	9.9
Australia	-	9.5	-	-	9.5
S.Korea	4.5	4.5	-	-	9.0
Mexico	-	-	1.1	5.2	6.3
New Zealand	-	-	3.0	3.0	6.0

Source: OECD, Pensions at a Glance 2015 Report

In Turkey, a pilot study was conducted towards automatic enrollment of new employees in the PPS system and recently, spreading the implementation is on the agenda. If automatic enrollment in the PPS becomes effective, the number of participants and the amount of funds will naturally increase. Employees will be automatically enrolled in the system on the day of employment. Even if those who are not willing to participate in the PPS or those with a high marginal propensity to consume exit the system, the automatic enrollment is expected to boost the growth of the system and contribute to the increase in savings.

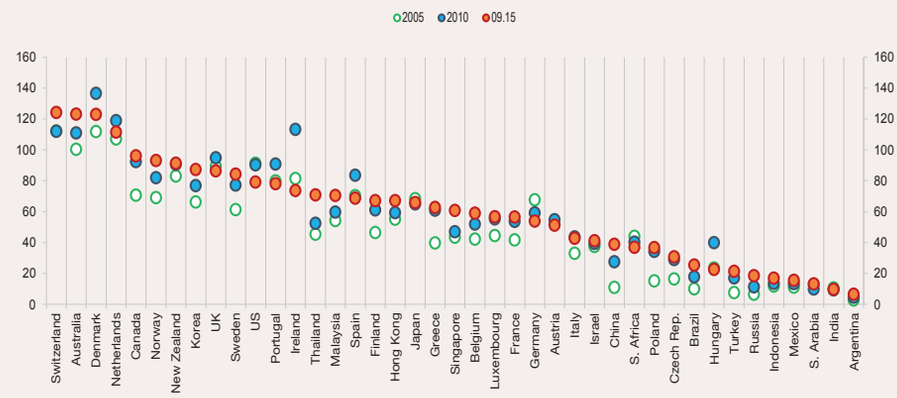
Box II.1.II

Income-Based Macroprudential Tools Used to Contain Household Indebtedness

The high level of or the rapid increase in household indebtedness is deemed risky for economic and financial stability. The increased indebtedness in ordinary times pushes the consumption expenditures up via the demand channel and leads to an upsurge in asset prices. In times of financial stress, households with high indebtedness levels curb their expenses more drastically than those with less debt, which deepens the economic contraction and delays recovery. With the shrinking consumption, asset prices can display slumps. Moreover, in the event that households with high debt fail to meet their financial obligations, financial institutions incur loan losses and the reductions in the value of collaterals make it hard to cover these losses.

The global crisis highlighted the extent to which the economy was affected by the adverse effects of excessive household indebtedness. Advanced economies with a ratio of household indebtedness to the GDP standing at some 80 percent in the pre-crisis period were affected more severely from the crisis and the economic recovery in those countries lasted longer. Whereas emerging economies with the same ratio at some 20 percent during the same period recorded a faster recovery after the crisis (Chart II.1.II.1). Turkey stands out with low levels of household indebtedness.

Chart II.1.II.1
Household Indebtedness[1,2]
(Percent of GDP)



(1) Household's total loans have been used.
(2) Due to the data deficiency for the year 2005, 12.06 for China, 06.07 for India, 12.06 for Malaysia and 03.08 for S. Africa have been used.
Source: BIS (Credit to the non-financial sector)

In view of the risks posed by high levels of household indebtedness during the global financial crisis, many countries took macroprudential measures in an effort to minimize these risks. Among them, limiting the debt levels, specified as a ratio to income, aiming directly at reducing the household indebtedness was adopted widely. Though generally named as debt-to-income ratio or debt service ratio, several ratios are employed across countries, the definition and application framework of which are tailored to country-specific circumstances. It is possible to group them into two main categories as ratios implying the leverage level or debt service capacity of households (Table II.1.II.1).

Table II.1.II.1:
Income-Based Household Debt Indicators

Indebtedness (Leverage)

Numerator / Denumerator	Loan/Debt Amount	
	Single Loan Type	Total Loans
Annual Income	LTI	DTI

Debt Service Capacity

Numerator / Denumerator	Monthly Loan/Debt Payment	
	Single Loan Type	Total Loans
Monthly Income	PTI	DSTI

Loan-to-income (LTI) ratio and debt-to-income (DTI) ratio are used to contain the household indebtedness (leverage) level. The LTI is the ratio of a single loan and the DTI is the ratio of total loans or debts divided by the annual income of a household. These ratios are expressed as a multiple of the annual income.

Another widely-implemented measure is limiting the payment-to-income (PTI) ratio and debt service-to-income (DSTI) ratio that are among the indicators of households' monthly debt service capacity. The PTI is the ratio of a monthly debt service obligation (principal and interest payments), arising from a single loan, to monthly income, whereas the DSTI is the ratio of total monthly debt service obligations to the monthly income. These ratios are also called debt service ratio and expressed as a percentage of the monthly income.

Country practices reveal that the ratios denoting households' debt service capacities (PTI, DSTI) are used more often than leverage indicators. A significant portion of the countries examined, primarily the US, Australia, the Netherlands, Hong Kong, Canada, Lithuania, Hungary, Malaysia and Singapore, have put a cap on the debt service ratios of households. Yet, in a few countries that employ measures to limit households' leverage ratios, limits are imposed only for specific types of loans, usually housing loans, rather than capping all consumer loans. For instance the UK, Norway and Ireland have limited the LTI ratios for housing loans.

As lower DSTI ratios reduce the likelihood of a default or bankruptcy, capping them bolsters the resilience of borrowers against interest rate and income shocks. However, in the cases where interest rates stand at low levels for an extended period, the interest burden declines, which might lead to an increase in households' risk-taking behavior and an excessive leverage by reducing the DSTI ratios. In such cases, policy-makers might implement tighter DSTI caps or employ ratios containing the leverage like LTI and DTI ratios as a complementary tool. Moreover, some countries also impose limits on the maturity of loans in addition to the DSTI ratios so as to prevent any decrease in the monthly debt service by way of extending borrowing maturities (as in Estonia, the Netherlands, Lithuania and Slovakia).

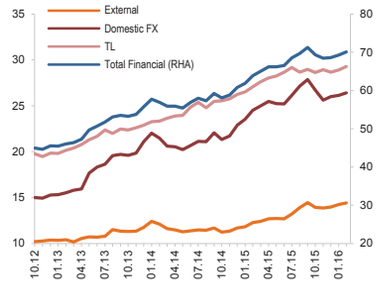
On the other hand, in almost all countries reviewed, the limits on Loan-to-Value (LTV) and DSTI (or PTI) ratios are used as complementary tools in dampening mortgage loan demand. In times when housing prices outpace household income, as the effectiveness of the limits on the LTV ratios decreases, the cap on the DSTI ratio can smooth the excessive credit growth through the channel of credit demand. In addition, limiting the DSTI ratio including all consumer loans enhances the effectiveness of the LTV cap further, by containing the use of unsecured loans to meet the minimum down payment.

The debt-to-income or debt service ratios can be differentiated based on several criteria. For instance, these ratios can be applied higher for higher income groups and lower for others (as in Hungary), higher in regions where increases in house prices are deemed riskier and lower in other regions (as in South Korea), higher in initial purchases (of residence) and lower in later purchases (as in Ireland), and higher for local currency denominated loans and lower for others (as in Hungary). Besides, in some countries, no limit is set for these ratios by the respective regulatory authority. Instead, financial institutions implement the limits set by their internal models (as in Poland and Romania).

Many studies reveal that the macroprudential tools (along with the LTV ratio) used to curb household indebtness help contain the procyclical feedback between credit and asset prices and increase the resilience of the financial system by minimizing losses in times of economic slowdown.[1]

[1] Staff Guidance Note on Macroprudential Policy, December 2014, International Monetary Fund.

Chart II.2.1
Financial Liabilities of Corporate Sector
(Percent of GDP)



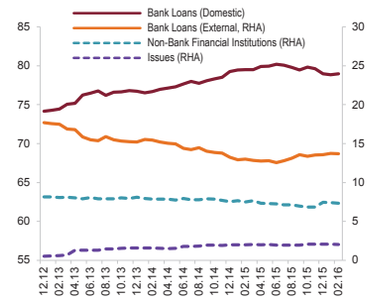
(1) Composed of loan liabilities and issues. External liabilites include data from foreign branches and affiliates of resident banks. External TL liabilities are included in total FX liabilities.
Source: CBRT, BRSA (Latest Data: 02.16)

Table II.2.1
Currency Decomposition of Corporate Sector
(As of 2016 January)

Billion (% share)	ABD Dollar	Euro	TL	Other	Total /GDP
External	143.4 (%51)	108.3 (%38.8)	16.8 (%6.0)	10.3 (%3.7)	%14.2
Domestic	329.6 (%30.1)	202.8 (%18.5)	557.1 (%50.8)	5.2 (%0.5)	%56.0
Total	472.9 (%34.4)	311.1 (%22.6)	573.9 (%41.8)	15.5 (%1.1)	%70.3
Open Position					545.9 (%27.9)

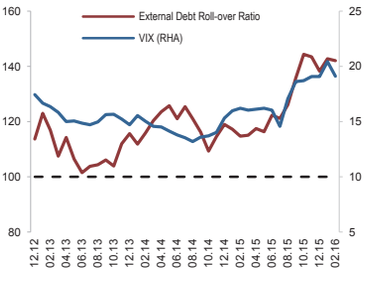
Source: CBRT, BRSA

Chart II.2.2
Structure of Corporate Sector Financing Sources[1]
(Percentage Share)



(1) Foreign branches of domestic banks have been included under foreign bank data.
Source: CBRT, BRSA

Chart II.2.3
External Debt Roll-over Ratio and VIX
(6-Month Moving Average, Percentage)



Source: CBRT, BRSA

II. 2 Corporate Sector

Corporate sector's total financial liabilities/GDP ratio, which had followed an uptrend until September 2015, started rising again in the first two months of 2016 (Chart II.2.1) despite a short fall during the previous FSR period. The uptrend mainly stemmed from the acceleration in domestic and external FX loans. The TL-denominated corporate loan growth is close to the average of the recent months. After adjusting for the exchange rate effect, the domestic FX loans assumed a mild uptrend that had remained flat until November 2015. This uptrend was mainly driven by firms' tendency towards FX-denominated corporate loans as a result of eased volatility in exchange rates. As of January 2016, TL- denominated loans had the largest shares in total domestic corporate borrowing and USD-denominated loans did in external borrowing (Table II.2.1). In the same period, the FX open position of the corporate sector increased compared to the previous FSR period and reached 28 percent of GDP.

The most significant change in the funding structure of the corporate sector since the last FSR period has been the decline in domestic banks' share in total funding in favor of non-bank financial institutions (NBFI) (Chart II.2.2). While loans extended by financing companies played a pivotal role in rising domestic NBFI funding, factoring companies' share of corporate financing is on a downtrend. This rise can be attributed to the tendency towards financing companies in financing commercial vehicle purchases. On the other side, bond purchases by foreigners have indicated a moderate increase thanking the rise in the global risk appetite, which is expected to continue in the upcoming months. In fact, the private sector's debt roll-over ratio has remained high since the last FSR period (Chart II.2.3). The improvement in external financing conditions is expected to continue parallel to the rise in risk appetite.

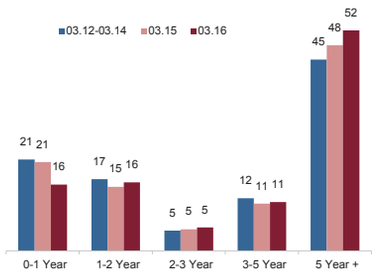
Maturities of FX loans borrowed by the corporate sector from domestic banks have extended. Compared to March 2015, the share of short-term FX loans decreased by 5 percent to 16 percent, while the share of loans with maturities longer than 5 years exceeded 50 percent in March 2016 (Chart II.2.4). A similar trend is observed also in the maturities of loans obtained from abroad (Chart II.2.5). The share of long-term external loans with a maturity longer than 5 years has increased by 5 percentage

points to 34 points over the last twelve months. Conversely, the share of external loans with maturities between 1-3 years has decreased, while the share of those with maturities shorter than 1 year has slightly increased in the same period. As for TL loans, maturities have shifted from maturities of 0-1 year to 1-2 years. These favorable developments in FX loans are expected to lower firms' short-term FX liquidity risk.

As usual, commercial loans are generally concentrated in sectors with high GDP shares and the structural differences across sectors have continued to be an important determinant of firms' currency choices (TL or FX) in loans. Accordingly, while FX loans are more common in sectors with high FX income (i.e. manufacturing industry, hospitality sector), sectors with high domestic sales (wholesale and retail) opt for TL loans (Chart II.2.6). The breakdown of loans among sectors and FX/TL distribution of loans remained close to the previous years' levels. Another sector with relatively high shares of FX-denominated borrowing is the electricity, gas and water sources sector due to the energy investments. Even though this sector seems to have very little FX revenues, pricing of their products is mostly indexed to external developments and foreign exchange rates. In this regard, significant overlaps between asset and liability currency denomination suggest that exchange rate volatility-oriented credit risks (e.g. currency mismatches) are at manageable levels.

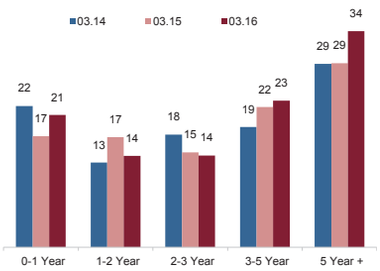
A breakdown of corporate loans by firm size has continued to be similar to the previous FSR period. While FX loans are more commonly used by large-scale firms, share of SMEs and micro-scale firms is higher in TL loans (Chart II.2.7 and Chart II.2.8). As of March 2016, the share of TL loans borrowed by SMEs was 54 percent while it was only 18 percent for FX loans. The low share of SMEs in FX loans can be attributed to their low FX income and banks' cautious stance in extending FX loans. The regulations in force allow firms without foreign exchange income to use only FX-indexed loans, but total loan utilization for such loans is still quite low. Despite the recent minimal pick-up, FX-indexed loans have been growing negatively since April 2015 (Chart II.2.9). When loans are analyzed by currency types, a trend similar to that of FX loans is observed in FX-indexed loans as well. Since March 2015, growth of USD-denominated FX-indexed loans has been negative while that of euro-denominated loans has been positive.

Chart II.2.4
Maturity Breakdown of the Corporate Sector's FX Loans in Domestic Banks[1,2] (According to Original Maturity, Percentage Share)



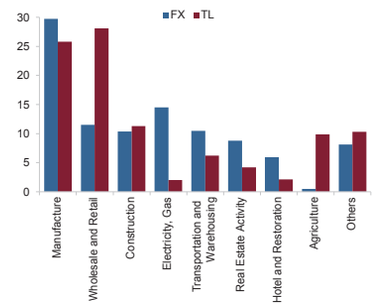
(1) Maturity distribution of the loans which comprises 1 percent of FX loans and less than reporting limit is not available, thus those loans are excluded in this analysis.
(2) Blue column represents the average of 2012, 13 and 14 March values.
Source: CBRT

Chart II.2.5
Maturity Breakdown of Corporate Sector's External Financial Liabilities (Percentage Share)



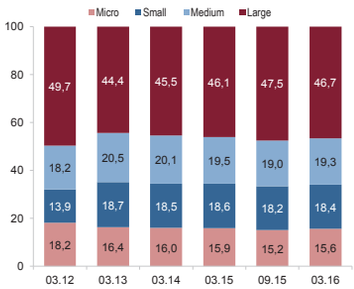
Source: CBRT

Chart II.2.6
Sectorial Breakdown of Corporate Loans[1]
(February 2016, Percentage Share)



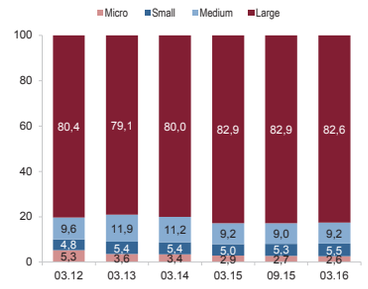
(1) Loans extended abroad and used via the intermediacy of domestic banks are included.
Source: TBA Risk Center

Chart II.2.7
Firm Size Breakdown of Domestic TL Corporate Loans (Percentage Share)



Source: CBRT, BRSA

Chart II.2.8
Firm Size Breakdown of Domestic FX Corporate Loans (Percentage Share)



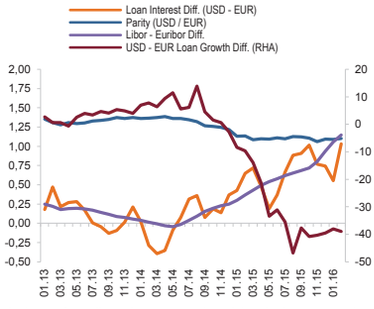
Source: CBRT, BRSA

Chart II.2.9
FX-Indexed Loans
(Y-o-y Percentage Change, FX Adjusted)



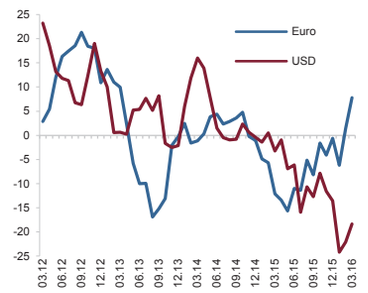
Source: CBRT, BRSA

Chart II.2.10
USD – Euro Corporate Loan Interest Spreads, USD – Euro Loan Growth Differences, Libor-Euribor Spread and USD/EUR Parity[1,2,3] (Percent, Percentage Share)



(1) Interest rates are 3-month moving averages. Loan interest rates are annual weighted average rates of domestic loans.
(2) FX indexed loans are included and participation banks are exluded.
(3) Parity is the USD dollar value of 1 Euro.
Source: CBRT, Bloomberg

Chart II.2.11
Currency Breakdown of Monthly Export Revenues
(Yearly Percentage Change)



Source: TURKSAT

An analysis of FX commercial loans by currency type reveals a serious divergence between USD-denominated and euro-denominated loans since the beginning of 2015. The difference between annual growth rates of USD-denominated and euro-denominated loans was almost 40 percent at the beginning of 2016, while the USD-denominated loan stock displayed high negative growth rates (Chart II.2.10). Even though some of this rapid increase in euro-denominated loans can be partly explained by the base effect, the significant drop in USD-denominated loans observed since the beginning of 2015 indicates that there has been a shift from USD to Euro-denominated loans. Such transition can be explained by different factors in credit demand and supply. Firstly, the divergence between the Libor-Euribor rate spread coupled with increased euro liquidity in global markets has been supporting the euro-denominated credit supply. In fact, the Libor-Euribor rate spread, which was at negligible levels until the end of 2014, has grown steadily and reached 115 basis points in February 2016. The cost advantage in euro-denominated funding influenced loan rates and thus, the weighted average annual loan rate spread between USD and Euro-denominated commercial loans exceeded 100 basis points. As a consequence of the contradicting monetary policies implemented by the ECB and the Fed, the USD/Euro parity expectations were also updated downwards, supporting firms' tendency towards Euro-denominated FX loans. In this regard, the USD/Euro parity, which remained at around 1.30 until the end of 2014, assumed a downtrend then and went as low as 1.10 (Chart II.2.10).

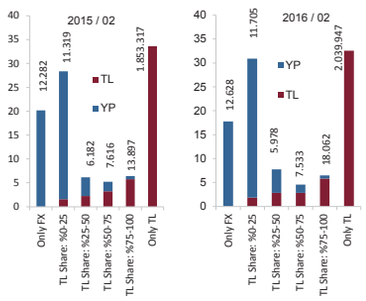
Firms' efforts to match the currencies of their assets and liabilities (i.e. natural hedge) influence currency preferences in the corporate sector's credit demand. In this respect, the recent rise in foreign trade activities with EU countries supports the tendency towards Euro-denominated FX loans. While there has been a rapid rise in export revenues in Euros since mid-2015, export revenues in USD has been declining due to the recent geopolitical developments (Chart II.2.11). However the shares of Euro and USD in export revenues have generally been close, the share of Euro has been higher since the second half of 2015, which indicates that the basis effect in these developments has been low. Similarly, import expenditures are also believed to have been influential on the rise in Euro-denominated loans.

Even though the share of USD-denominated imports has been historically higher than that of Euro-denominated imports, the USD-denominated import expenditures have assumed a negative growth trend whereas the Euro-denominated import expenditures assumed a positive growth trend since mid 2015.[1] Besides financing import debt, many importers also export to international markets or index their domestic price to foreign currencies, which overall support the tendency towards Euro in FX borrowing.

FX commercial loans are used by a limited number of firms and high-amount loans are concentrated in long maturities (Chart II.2.12 and Chart II.2.13). While TL loans are used by all types of firms, there does not appear to be a significant concentration in certian amounts or maturities (Chart II.2.12 and Chart II.2.14). Despite the fact that there has not been a remarkable change in the concentration of debts since February 2015 until now, the total volume of loans owed by firms using either only FX or TL has decreased significantly. Afformentioned concentration of FX loans taking place amongst large firms with presumably strong financial structures, and that have natural hedge with high export revenues and that can have additional protection with derivative positions keeps potential risks at manageable levels.[2]

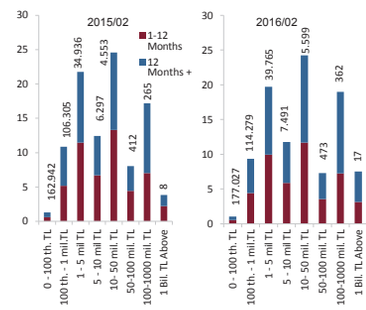
As of December 2015, profitability of corporate sector is on an uptrend. While this trend was more stable in the operating profit – earnings before interest, taxes, depreciation and amortization (EBITDA) – the net end-of-period return on assets displayed a fluctuating trend due to financial expenses stemming from exchange rates and interests. The weighted average of EBITDA/asset ratios of companies listed on the BIST has been rising since the first quarter of 2015. During this period, rise in financial expenses stemming from exchange rate fluctuations and interest rate levels had negative impact on the net return on assets (Chart II.2.15). As a result of the relatively stable course of exchange rates in the final quarter of 2015, the financial expenses decreased, making a positive contribution to the net return on assets.

Chart II.2.12
Distribution of Firms by TL Denominated Loan Share in Their Loan Portfolio and in Total Loans[1,2,3]
(Percentage Share)



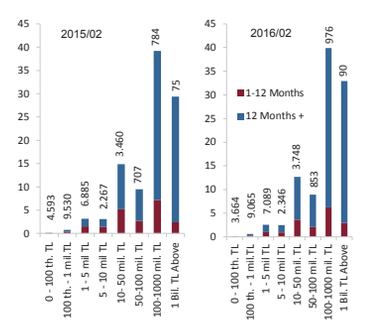
(1) The values above the columns represent firm numbers.
(2) Loans extended abroad and used via the intermediacy of domestic banks are included.
(3)Loans less than 1000 TL are excluded.
Source: TBA Risk Center

Chart II.2.13
Amount and Maturity of TL Loans[1,2,3]
(Percentage Share)



(1) The values above the columns represent firm numbers.
(2) Loans extended abroad and used via the intermediacy of domestic banks are included.
(3)Only the corporations which represent %99 of the corporate loans are included in the analysis. Sole Proprietors are excluded.
Source: TBA Risk Center

Chart II.2.14
Amount and Maturity of FX Loans[1,2,3]
(Percentage Share)

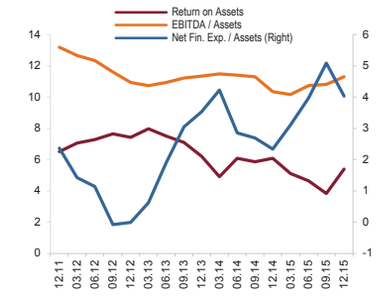


(1) The values above the columns represent firm numbers.
(2) Loans extended abroad and used via the intermediacy of domestic banks are included.
(3)Only the corporations which represent %99 of the corporate loans are included in the analysis. Sole Proprietors are excluded.
Source: TBA Risk Center

1 Even though a fall in commodity prices led by oil prices might have had a downward impact on USD-denominated import expenditures, the negative growth in USD denominated imports persists when energy and gold imports are excluded.

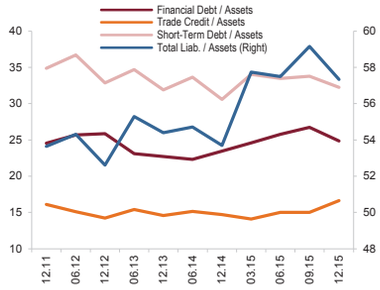
2 The regulations in effect stipulate that firms with FX revenues or firms that are eligible to use loans more than USD 5 million, can utilize FX loans. In literature, it has been emphasized that risk management capacities of such firms are stronger. For more information, please see Hulagü and Yalçın (2014) "FX-denominated indebtedness of fims in Turkey and micro-evaluations on exchange rate risk" CBRT Working Paper No: 2014-13/25.

Chart II.2.15
Profitability and Financial Expense Indicators for Firms Listed on BIST[1,2,3]
(Annual, Percent)



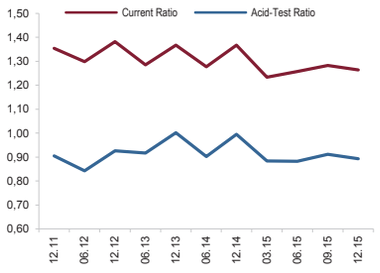
(1) Return on assets: Net profit / Assets
(2) EBITDA: Net Profit + Financial Expenses + Tax Expense + Depreciation and Amortization Costs
(3) Financial companies, holdings, companies that use FX as a functional currency in their balance sheets, and firms in BIST emerging companies are excluded. In total, 264 listed firms are included.
Source: FİNNET

Chart II.2.16
Indebtness and Leverage Indicators for Firms Listed on BIST[1]
(Percent)



(1) Financial companies, holdings, companies that use FX as a functional currency in their balance sheets, and firms in BIST emerging companies are excluded. In total, 264 listed firms are included.
Source: FİNNET

Chart II.2.17
Liquidity Indicators for Firms Listed on BIST[1,2,3]



(1) Current Ratio: Current Assets / Short term Liabilities
(2) Asit-test Ratio: (Current Assets – (Inventories+Other Current Assets)) / Short-term Liabilities
(3) Financial companies, holdings, companies that use FX as a functional currency in their balance sheets, and firms in BIST emerging companies are excluded. In total, 264 listed firms are included.
Source: FİNNET

Although the leverage ratio (calculated by using total liabilities) of the companies listed on Borsa Istanbul (BIST) had been following an uptrend, in the final quarter of 2015, there was a moderate decline in the leverage owing to the short-term debt payments affected in the final quarter of 2015 (Chart II.2.16). While short-term liabilities are on a slow downtrend, the long-term liabilities are increasing. An analysis of liability structures reveals that there has been some decline in financial debts while trade credits have been increasing. The legal arrangement introduced in July 2015 that provides tax adventages to firms increasing equity finance is also expected to support the decrease in corporate leverage ratios over time.[1]

While the current liquidity ratio is slightly lower than the generally-accepted level of 1.5, the acid-test ratio is very close to the adequacy ratio of 1 (Chart II.2.17). Taking into account the above-mentioned downtrend in firms' short-term FX and TL liabilities, the liquidity risk contunies to be manageable in the short run, which will presumably further ease as maturities continues to lengthen.

[1] In most general terms, as per the law, tax registered private firms are allowed to record the opportunity cost - that is the interest loss- of their newly raised equity as expense. Moreover, the scope of this law has been extended by a Council of Ministers decree to cover the companies listed on Borsa ıstanbul (BIST). Please see decree No: 2015/7910 dated 26.06.2015.

III. Financial Sector

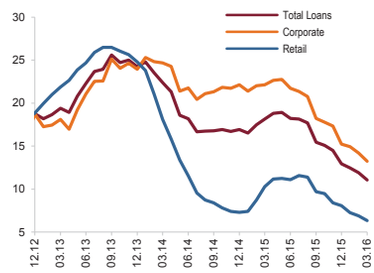
Credit growth rates continue to decelerate due to both demand and supply-side factors. The weak credit demand is linked to a weak appetite for investments on the corporate side and the level of interest rates on mortgages on the consumers' side. Banks' credit risk assessments affected the outlook in credit supply. At the same time, the upward trend in non-performing loan (NPL) ratios stabilized in the recent period. Looking ahead, it is expected that as the economic activity continues to improve, the credit risk outlook will become more favorable and supply-side constraints will gradually diminish. In fact, despite the high levels of global financial volatility over the past six months, banks continued securing external funding smoothly.

Meanwhile, an analysis of banks' asset and liability items that are sensitive to interest rates suggests that the maturity mismatch between banks' TL assets and liabilities as well as the FX short position have not recorded a major change compared to the last report period. The banking sector's capital positions have enough capacity to counter adverse risk exposures. In addition, the improvement in profitability has a positive impact on banks' capital positions and capital adequacy ratios.

III.1 Credit Developments and Credit Risk

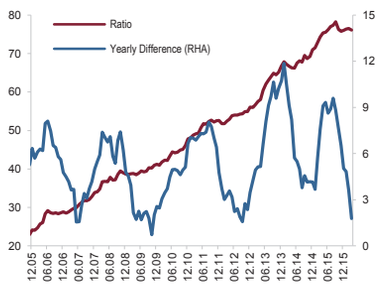
Credit growth rates have slowed down markedly since the last quarter of 2015 (Chart III.1.1). As a result, the loan/GDP ratio remained flat in the last quarter of 2015 and in the first quarter of 2016 (Chart III.1.2). The ratio of the change in credit over GDP, which is an indicator of the relationship between loans and aggregate demand, also shows the slowdown in lending (Chart III.1.3). On the consumers' side the slowdown in credit growth is mainly attributed to the macroprudential measures implemented since the end of 2013 and cost and credit risk driven hikes in interest rates, and on the corporate side to declining demand for investment financing and banks' cautious stance in lending.

Chart III.1.1
Annual Loan Growth - (FX-adjusted)
(Percent)



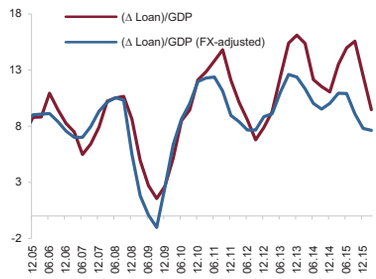
Source: CBRT (Last Data: 03.16)

Chart III.1.2
Loan/GDP Ratio
(Percent)



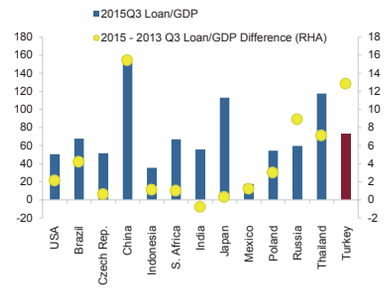
Note: GDP projection is used for Q1 of 2016
Source: CBRT, TURKSTAT (Last Data: 03.16)

Chart III.1.3
Change in Loans/GDP
(Percent)



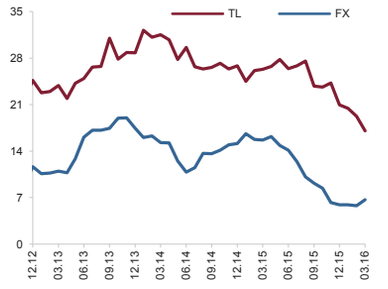
Note: GDP projection is used for Q1 of 2016. Quarterly FX flow loan data is derived from quarterly outstanding FX loan data differences in original Euro, USD and other foreign currency terms. These flow FX loan data in original term are exchange rate adjusted by using quarterly average USD and Euro CBRT buying rate and converted to TL terms. Annual exhange rate adjusted total flow loan data includes 4 quarter cumulative TL loan and exchange rate adjusted FX loan amounts. FXindexed loans are included in FX loans.
Source: CBRT, TURKSTAT (Last Data: 03.16)

Chart III.1.4
Loan/GDP Ratio in Different Countries
(Percent, Point)



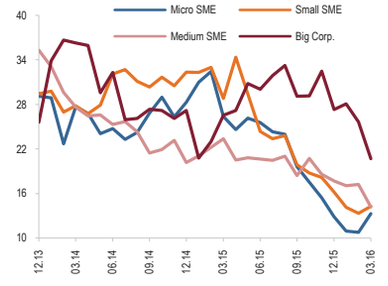
Note: Data covers all loans supplied to non-financial sector and the last data belongs to Q3 of 2015. Differences are calculated on Q3's of 2013 and 2015.
Source: BIS

Chart III.1.5
Annual Growth in Domestic Corporate Loans (FX-adjusted) (Percent)



Source: CBRT (Last Data: 03.16)

Chart III.1.6
Annual Growth in TL Corporate Loans by Size
(Percent)



Source: CBRT (Last Data: 03.16)

Chart III.1.7
Annual Growth in FX Corporate Loans by Size
(FX-adjusted) (Percent)



Source: CBRT (Last Data: 03.16)

On the other hand, the increase seen in the past two years in the ratio of bank loans extended to the non-financial sector to GDP is high compared to other advanced and emerging economies. The Loan/GDP ratio is expected to converge to that of peer emerging economies in the forthcoming periods due to the recent slowdown in the credit growth rate (Chart III.1.4).

III.1.1 Corporate Loans

Despite decelerating since the second half of 2015, corporate loans have grown at a higher rate compared to retail loans, but show different trends by currency and corporate size. As of March 2016, the annual growth rate of TL-denominated corporate loans was 17.1 percent, compared to 6.7 percent for FX-denominated loans (Chart III.1.5). The weak trend in FX loans is mainly attributed to the decline in private investment demand along with corporations' shift towards TL loans due to the volatility in exchange rates. On the TL loans side, although the growth rate of large corporate loans has posted a considerable deceleration in the recent period, it is still at a relatively high level. In the meantime, the growth rate of small scale corporate loans has started to show signs of improvement in the past two months. On the FX loans side, the downward trend in the credit growth of large corporations which use more than 80 percent of such loans has stopped with the steady movement of exchange rates since the beginning of the year. This development, along with the base effect in other firm sizes, has contributed to the slight acceleration in FX loan growth (Chart III.1.6 and Chart III.1.7).

The Bank Loans Tendency Survey implies that supply-side factors played an important role in both the slowdown of corporate loans and the differences in loan growth rates by firm sizes. The survey suggests that credit standards were tightened in 2015. While the supply-driven tightening started to ease in the first quarter of 2016, the appetite for lending still hovers below long-term averages. The below-average demand data from the survey confirm the weak demand for loans, but expectations for the next quarter signal a rise in demand. However, expected improvements in supply lagged behind the expected rise in demand, suggesting that tight credit conditions will prevail,

especially for SMEs, in the period ahead (Chart III.1.8).

The overall economic performance and unfavorable expectations regarding sectoral credit risk were the main risk factors contributing to the low levels of bank credit supply, and they were joined by collateral risks in the last two survey periods. The relative decline in banks' capital adequacy ratios also played a role in the tightening in lending standards. Banks displayed a cautious stance in lending by tightening maturity and collateral conditions and putting a cap on the amount of approved credit per application due to increased risk perceptions. On the demand side, the survey results reveal that inventory buildup and working capital, which had a downward effect on credit demand for the first time in the last quarter of 2015, declined further in the first quarter of 2016. In the recent period, debt restructuring was the only factor that increased credit demand (Chart III.1.9 and Chart III.1.10).

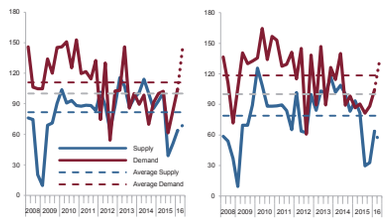
The surge in the loan-deposit spread confirms the tightening in TL-denominated loans. On the other hand, the limited rise in the spread between the interest rates on FX loans -mostly used by large corporations- and the rates on TL deposits observed towards the end of 2015, reversed in 2016 (Chart III.1.11). In the period ahead, the most substantial factor to ease supply-side constraints in corporate loans motivated by credit risk developments will be the continuation of the favorable macroeconomic outlook. A solid growth performance will steer banks' risk perceptions back on track by positively affecting firms' cash flow and profitability prospects.

III.1.2 Retail Loans

The deceleration in the general-purpose and housing loans, which together account for the majority of retail loans, continued in the first quarter of 2016. The growth rate of individual credit cards increased, owing to base effects, while the contraction in vehicle loans stemming from the steady rise in financing companies' market share continues to taper off. (Chart III.1.12).

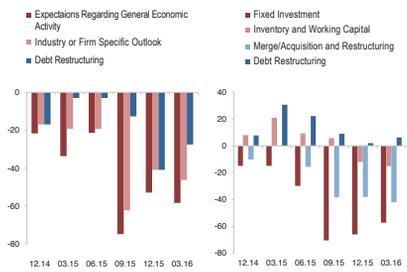
The ongoing deceleration in general-purpose loans is attributed not only to macroprudential measures, but also to

Chart III.1.8
Supply and Demand - Loans to Big Firms (Percent)
Supply and Demand - Loans to SMEs (Percent)



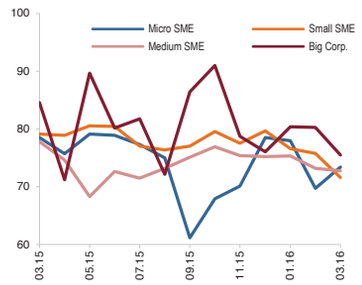
Source: CBRT (Last Data: 03.16)

Chart III.1.9
Contributions to Corporate Loan Supply (Percent)
Contributions to Corporate Loan Demand (Percent)



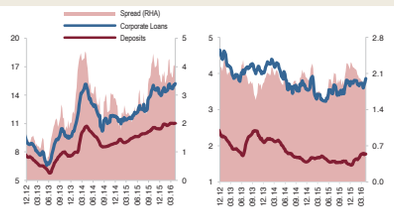
Source: CBRT (Last Data: 03.16)

Chart III.1.10
Loan Application Approval Rate by Amount (Percent)



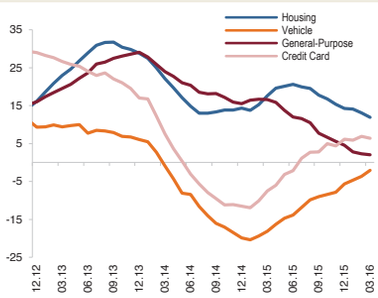
Source: Credit Registry Bureau Risk Center (Last Data: 03.16)

Chart III.1.11
TL Corporate Loans Interest Rate and Spread (Percent)
FX Corporate Loans Interest Rate and Spread (Percent)



Source: CBRT (Last Data: 03.16)

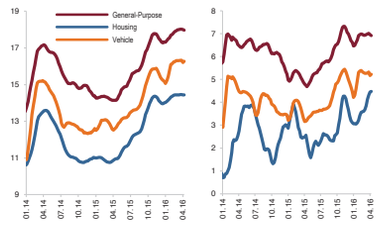
Chart III.1.12
Annual Growth in Retail Loans (Percent)



Source: CBRT (Last Data: 03.16)

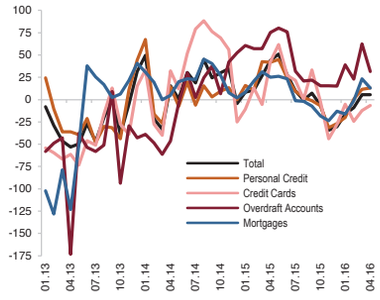
Chart III.1.13
Consumer Loans Lending Rates
(4-Weeks MA, Percent)

Consumer Loans Interest Rate Spreads
(4-Weeks MA, Percent)



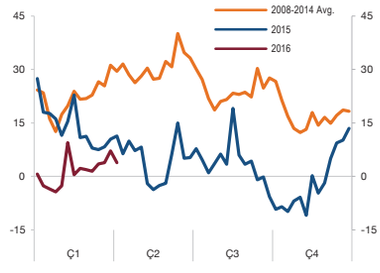
Note: Deposit interest rates are used to estimate spreads for generalpurpose and vehicles loans whereas 5-years Treasury bond rates are used to estimate spreads for housing loans
Source: CBRT (Last Data: 04.16)

Chart III.1.14
Mean Loan Scores for New Credit Applications
(Points, Demeaned)



Note: General-purpose and vehicle loans are jointly reported as personal loans.
Source: KKB (Last Data 04.16)

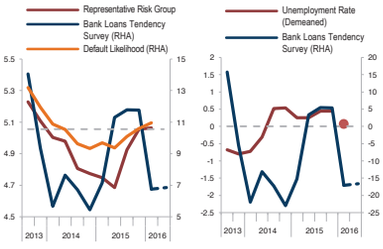
Chart III.1.15
Growth Trend of General-Purpose Loans
(Annual Change in Percentages)



Source: CBRT (Last Data: 04.16)

Chart III.1.16
New General-Purpose Loans (Avg. Risk Group, Percent)

Survey and Economic Outlook (Percent)



Note: The representative risk group and default likelihood series are weighted averages of KKB data. Unemployment rate is adjusted for seasonality and demeaned with 02.16 as the last datapoint available. Last data for the survey is from Q12016, while the Q2 data depicts expectations. The survey data is drawn to scale for the right axis on the right panel for both graphs, and the neutral level is shown with the dashed horizontal line at zero.
Source: CBRT, KKB, TURKSTAT

banks' concerns over credit risk. The Bank Loans Tendency Survey indicates that banks countered credit risk by tightening credit standards and raising lending rates in the first quarter of 2016. Except for a short period of easing after the general elections, the lending rates hovered at relatively high levels which is considered to have contributed to lower credit demand (Chart III.1.13). According to the Credit Bureau of Turkey (KKB) data, the average Retail Loan Scores (RLS) of the consumers applying for retail loans declined from the first quarter of 2015, when interest rates increased, and picked up again in the last quarter, during which interest rates and loan deposit rate spreads followed a relatively flat trend. During this period of flat lending rates, individuals with high RLS may have increased their credit demand to a limited extent (Chart III.1.I4).

Housing loans continue to hover at low levels, independent of macroeconomic developments, and are considered to be free of supply-side constraints. The results of the loan tendency survey also support this hypothesis. The growth rate of general-purpose loans is well below both last year's rate and the long-term averages (Chart III.1.15).

Retail loans respond to economic developments faster than corporate loans do. The fall in the household confidence index in the first quarter of 2016 may impel credit growth to decelerate for an extended period. The new regulation on risk weights, effective 31 March 2016, puts a cap on the amount of capital that banks need to allocate for retail loans and thus comes forth as a factor that may limit the pace of this deceleration.

According to the Bank Loans Tendency Survey data, standards applied to general-purpose loan applications dropped below the the neutral level -depicted by the zero line- in the last quarter, reversing the limited easing seen in standards since 2015Q2 (Chart III.1.16). Data on newly extended loans by RLS brackets sheds light on the level of riskiness of these newly issued loans. Chart III.1.16, left panel, shows that after banks eased standards applied to loan applications (values above zero) the representative new debtor moved up to a group with a higher risk rating. As a result, expected default rates in new loans increased. Following the tightening cycle vis-à-vis retail loan standards resumed in the last quarter, i.e. with banks assuming a more cautious stance in lending, it is anticipated

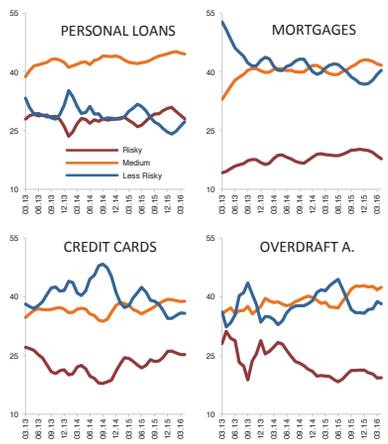
that these two series will decline in the subsequent period, the average credit user will move down to a lower risk group and the default likelihood will fall.

It is not only the qualities of the debtor group, but also the overall macroeconomic outlook that is instrumental in loan defaults. In this context, the unemployment rate is an important indicator by both being an up-to-date barometer of economic developments and a leading indicator for NPL ratios. The unemployment rate and the Loan Tendency Survey generally display an inversely proportional relationship and standards tend to be tightened in times of economic slowdown. Employment data as of February suggest that the tightening of standards in the first quarter of 2016 may reverse in the upcoming period (Chart III.1.16).

In order to assess the implications of credit standard developments on credit risk, another score-based risk criterion of the KBB, the Consumer Indebtedness Index (CII) can be used. The index reports prospective borrowing tendencies of new debtors between 1 (low risk group) and 64 (high risk group). Since standards remained loose in the last quarter of 2015, the share of low-risk debtors according to the RLS-CII matrix in all retail loan items declined, which means that the average riskiness of retail loans increased (Chart III.1.17). In line with tightening standards in early 2016, RLS scores of new applicants for each loan item inched closer to the average RLS and the share of high-risk debtors declined (Chart III.1.14 and Chart III.1.17).

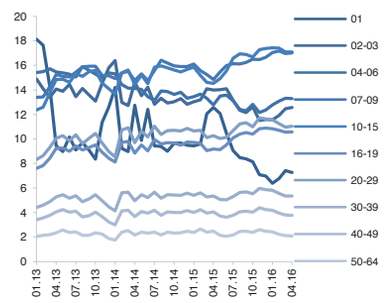
At this point, it is crucial to assess the distributional change behind the shifting of risks among new debtor groups and the persistence of this new outlook. According to the CII, the increase in average debtor risk in 2015 was due to the fact that among 64 risk groups, only the top three with lowest risk had a declining share in newly extended loans since the second quarter of 2015 (Chart III.1.18). It is highly probable that the individuals in these groups who, as per the risk group they belong to, do not have any tendencies to borrow beyond their abilities to pay or are not indebted by such an amount, may have temporarily curbed their credit demand in the face of high financing costs and preferred to meet consumption needs by their own means instead. Indeed, the shares of this group in newly extended loans showed an improvement as the loan-deposit rate spread remained flat in 2016.

Chart III.1.17
Loan Score and Consumer Indebtedness Index Matrix for New Loans (Percent)



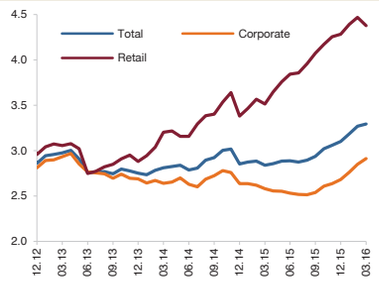
Note: General-purpose and vehicle loans are jointly reported as personal loans.
Source: KKB (Last Data: 04.16)

Chart III.1.18
Consumer Indebtedness Index for New Loans (Percent)



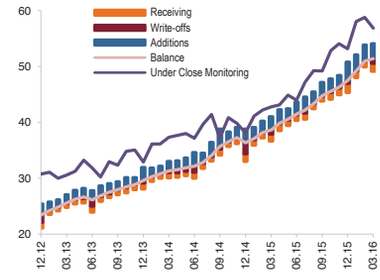
Note: Graph shows the breakdown in general-purpose and vehicle loans which are jointly reported as personal loans.
Source: KKB (Last Data: 04.16)

Chart III.1.19
NPL Ratios by Loan Types
(Percent)



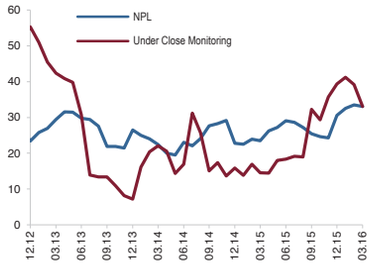
Source: CBRT (Last Data: 03.16)

Chart III.1.20
NPL Movements
(Billions TL)



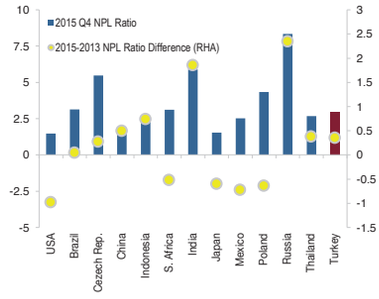
Note: Loans under close monitoring belong to debtors who may potenially have credibility or solvency problems or who delay loan repayments between 30-89 days.
Source: CBRT (Last Data: 03.16)

Chart III.1.21
Growth of NPL and Loans under Close Monitoring
(Percent)



Source: CBRT (Last Data: 03.16)

Chart III.1.22
NPL Ratios for Different Countries
(Percent, Percentage Points)



Note: Data reported are Q3 data for Brazil, China, and Japan, Q4 for the rest of the countries. The differences are calculated over a 2 year window from the last data reported. Chinese reference point for 2013 is for the entire year of 2013, not the corresponding quarter.
Source: IMF Financial Soundness Indicators

III.1.3 Non-Performing Loans

The total NPL ratio has been on the rise since the last quarter of 2015. This development was mainly driven by the increase in corporate loans' NPL ratio in the same period. The recent stabilization in the ratio in was partly due to assets written off from retail and micro SME NPL portfolios (Chart III.1.19 and Chart III.1.20). In general, 'loans under close monitoring' serves as a leading indicator for the NPL ratio in the following period. The increase in the growth of such loans since September 2015 signaled the rise in NPL ratios. The recent decline in these loans, however, indicate a potential slowdown in NPL balances in the period ahead (Chart III.1.21). In comparison with peer emerging economies, the total NPL ratio of Turkey's banking sector is lower as of 2015 Q3 (Chart III.1.22).

The likelihood of corporate delinquency is contingent upon the profitability of companies in the respective period and their current leverage ratios. Companies with higher profitability and a low level of leverage not only make their loan repayments more comfortably but also may obtain new loans easily if needed. As indicated in Chapter II.1, the leverage ratios of BIST companies increased in 2015, and as mentioned in the Inflation Report 2016-I, corporate profitabilities declined. This situation may increase companies' default risk and push their total NPL ratios higher. Two factors that may alleviate this potential effect should be taken into consideration. First, corporate loans have long maturities in general and the bulk of the loans are used by large companies that carry low default risk. The second factor is that domestic demand indicators are expected to present a more favorable outlook in 2016 as opposed to a decelerating trend in 2015, thereby improving the solvency of companies.

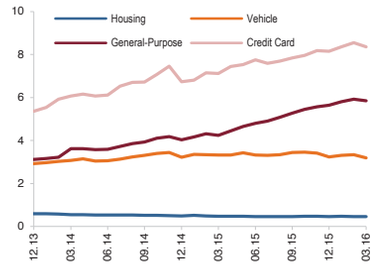
Among retail loans, NPL ratios for general-purpose loans and individual credit cards continue to increase. The decline recorded in the last two months is due to asset write-offs (Chart III.1.23). The increase in retail loan NPL ratios is mainly attributable to the non-performing general-purpose loans. However, the contribution of individual credit card NPL ratios to total retail NPL ratio has also increased in the recent period (Chart III.1.24). The contribution of general-purpose loans to NPL ratios are also observed in a vintage analysis which explores NPL ratios in quarters following issuance. The NPL performance of general-

purpose loans in the first half of 2015 generally presented a similar outlook to the one in 2014 (Chart III.1.25).

The recent growth rate in credit card balances maintains its steady increase as can be seen in Chart III.1.26. The contribution of credit cards to the rise in the NPL ratio, the recovery in the acceptance of credit card applications (Chart III.1.27), and the fact that the current representative new credit card applicant remains below the average RLS value necessitate a close monitoring of the performance of credit cards. However, with growing credit card balances with installments, credit card users are able to spread their repayments to longer periods, which might have a dampening effect on credit cards' contribution to the NPL ratio (Chart III.1.26).

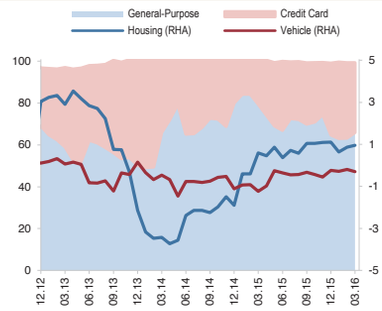
As shown in Chart III.1.16, the seasonally adjusted unemployment rate has recently been hovering above the average. Meanwhile, following the minimum wage increase effective since the beginning of the year, expenditures and credit demand are expected to rise not only in the minimum wage group but also in other income groups as well. While the increase in wages might lead to a surge in credit demand, it may also increase borrowers' solvencies.

Chart III.1.23
Retail NPL Ratios
(Percent)



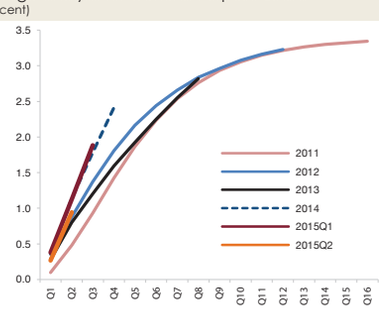
Source: CBRT (Last Data: 03.16)

Chart III.1.24
Additions to Retail NPL
(Percent)



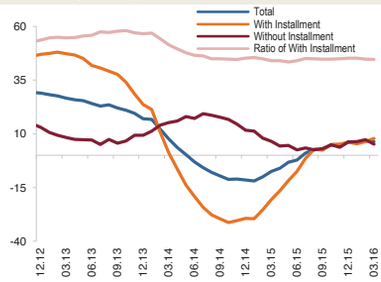
Source: CBRT (Last Data: 03.16)

Chart III.1.25
Vintage analysis for General-Purpose Loans
(Percent)



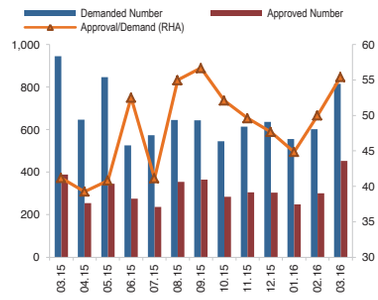
Source: CBRT (Last Data: 12.15)

Chart III.1.26
Development of Retail Credit Cards
(Annual Percentage Change)



Source: CBRT (Last Data: 03.16)

Chart III.1.27
Retail Credit Cards Approvals by Number
(Thousands, Percent)



Source: CBRT (Last Data: 03.16)

Box III.1.I Macroprudential Policies for Retail Loans

Loan growth rate is an important sign of how efficiently the financial sector performs its role of intermediation. However, loan growth evolving beyond individual and corporate solvency levels may trigger financial instability. Developments in the financial sector can have an impact on the real economy by way of the sector's intermediation activities. Therefore, securing a sound loan growth rate that does not create a burden of excessive debt is crucial for steady growth in both the financial sector and the real economy.

In an effort to achieve and maintain financial stability in Turkey a series of macroprudential measures targeting retail loans have been employed, especially since 2008. These measures have steered individuals to save, decreased their credit demand and credit utilization by regulating debt ratios and loan maturities. Moreover, regulations on credit risk weights have had an impact on the overall banking sector. The scope of these measures and their effects on various loan segments were detailed in the Financial Stability Report dated November 2014. This box analyzes how the utilization and maturities of retail loans are affected by macroprudential policies related to credit card installment periods, minimum payments and limits, maturities of consumer and vehicle loans and loan-to-value ratios for vehicle loans by using a detailed data set compiled by the Credit Bureau of Turkey (KKB).[1]

Since 2013, the minimum payment ratios of credit cards have been increased, credit card limits have been linked to income (effective 08.10.2013) and installment periods have been limited (effective 01.02.2014).[2] In addition to becoming a costly credit instrument for beneficiaries, credit cards were included in banks' general provisions coverage and were subject to increased risk weights which made them an asset with a high alternative cost for banks as well. Through these regulations affecting both supply and demand, credit cards were intended to be used solely as a payment instrument rather than a credit instrument. The maximum interest rates applied to credit cards have been set by the CBRT since 2006. Therefore, the implications of the macroprudential policies are more apparent on the utilization channel, rather than the pricing channel. The number of new applications and utilization details of newly extended loans by borrowers' Retail Loan Scores (RLS), which are inversely proportional to their credit risk ratings, are reported by the KBB and are analyzed in this box with the RLS groups that are widely used by the banking system.

In the period following the enforcement of the regulations, the average limits of the newly-extended individual credit cards slumped and held steady at these low levels, and the number of new credit card applications also declined steadily (Chart III.1.I.1 and Chart III.1.I.2). Thanks to the limitations on the number of installments and card limits curbed proportionally to income, consumers have met their credit needs through other channels instead of credit cards. The number of applications and average limits have declined in all RLS groups, which is an indication that the measures have been deterrent in all consumer groups.

[1] For more details, see Financial Stability Report -November 2014, Vol. 19 Special Topic IV.1 'Macroprudential Policies for Consumer Loans in Turkey,' p.51-60 and Financial Stability Report-November 2014, Vol. 19 Special Topic IV.2 'Impact Analysis of Macro-prudential Measures Targeted on Consumer Credits in Turkey,' p.61-73.

[2] While there have been ammendments to the regulation for several items following this date, this box focuses on the regulation dated 31.12.2013.

Chart III.1.I.1
Limits on New Credit Cards (CC) by RLS
(TL)

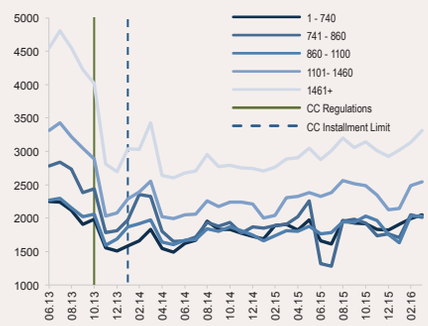
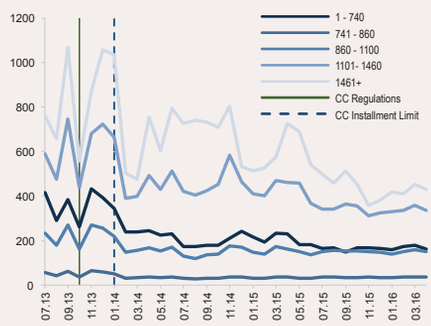


Chart III.1.I.2
New Credit Card Applications by RLS
(Thousand People)

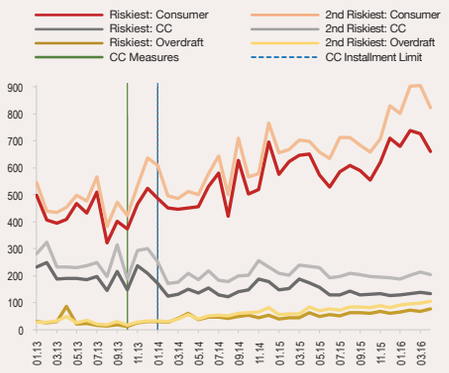


Not: RLS ranges between 1 ve 1900, higher scores indicate lower risk. Outlined in the regulation dated 31.12.2013, the CC installment limits are graphed to reflect that they were in effect as of 01.02.2014.
Source: KKB

The Consumer Indebtedness Index (CII), an auxiliary data set for RLS values, is a score-based index used to evaluate prospective borrowing tendencies of individuals and identify those who might have difficulty repaying in the medium term. The index increases with higher riskiness, ranges from 1 to 64 but is reported in 10 main groups. In the wake of measures taken with regard to credit cards, index groups bearing the highest indebtedness risk (the first and second twenty-percent-portions) showed a decline in credit card applications, yet a surge in retail loan applications (Chart III.1.I.3). This indicates that high-risk debtors preferred to meet their credit needs with other credit instruments instead of using credit cards. On the other hand, the increase in applications for personal overdraft accounts within these groups in the same period is a notable development in terms of financial stability. Mitigating this fact, the limits on maximum contractual and overdue interest rates for personal overdraft accounts effective as of May 2013 reduced interest costs of overdraft account holders.

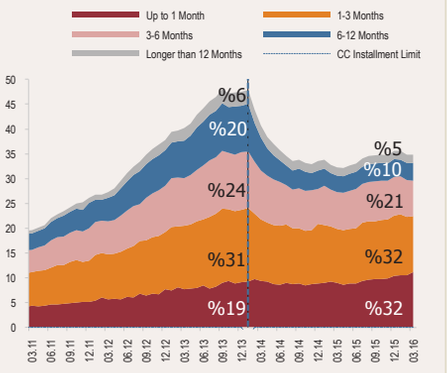
As an outcome of the measures, the annual growth rates of credit card balances with installments decreased and the share of balances with installments in the total credit card balance assumed a flat trend (Chart III.1.26 in the main body of the Report). It should be particularly underlined that the change in consumers' credit card spending trends is not only limited to a simple shift in tendencies between spending with or without installments, but goes beyond that to reveal that consumers have shown more inclination towards spending with fewer installments. With the enforcement of the installment limit, consumers, who used to spend in installments above the upper limit would be expected to concentrate just below that level. Therefore, the installment preferences that remained above the limit of 9 months before the enforcement of the new implementation would be expected to shift to maturities between 6 to 9 months. However, consumers opting for installments longer than 9 months, who were the target group of these arrangements, changed their credit card spending habits and instead of shifting towards just below the ceiling of 9 months they preferred even shorter installment periods (Chart III.1.I.4).

Chart III.1.I.3
Risky CII Loan Applications
(Thousand People)



Note: CC measures linked minimum payments with limits, and limits have been capped proportionally with income, while CC installment limit have put a cap of 9 months on the number of installments. Outlined in the regulation dated 31.12.2013, the CC installment limits are graphed to reflect that they were in effect as of 01.02.2014. CII is a measure ranging from 1 to 64, the riskiest group of 20-64 points represents about 24% of the data, and the second riskiest group of 10-19 points represents 21% of the data. CII reports general purpose and vehicle loans grouped together under the consumer heading.
Source: KKB, BSRA

Chart III.1.I.4
Credit Card Installment Durations
(Months)



Note: Up to 1 month represents CC use without installments. Outlined in the regulation dated 31.12.2013, the CC installment limits are graphed to reflect that they were in effect as of 01.02.2014.
Source: CBRT

A similar arrangement for non-residential consumer loans was implemented with limits on the maturity of these loans. Accordingly, the maturity of general-purpose loans was limited to 36 months and vehicle loans to 48 months (effective 31.12.2013). Moreover, as of February 2014, a loan-to-value (LTV) restriction was applied to vehicle loans at a ratio of 70 percent for sums up to TL 50,000 and 50 percent for any amount above this limit.

Chart III.1.I.5
New General Purpose Loan Maturities by RLS
(Months)

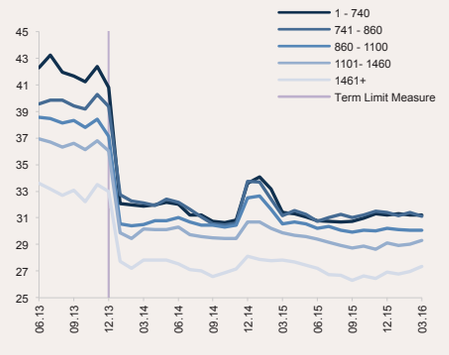
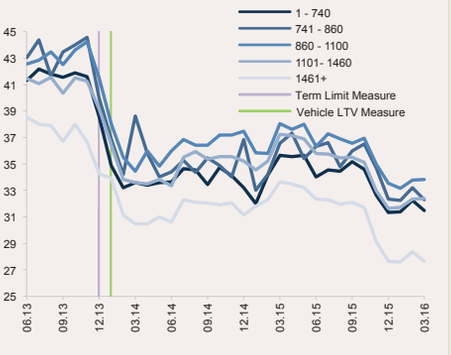


Chart III.1.I.6
New Vehicle Loan Maturities by RLS
(Months)



Note: Term limit measure caps general purpose loans at 36 months, and vehicle loans at 48 months. Vehicle LTV measure was announced on the same day term limits were in effect on 31.12.2013, but they are graphed to reflect that they were effective as of 01.02.2014. RLS ranges from 1 to 1900, and the groups are formed based on the scale given by KKB's high performing forecasting program.
Source: KKB, BSRA

According to the financial literature, when undertaking an investment project through borrowing, firms prefer maturities increasing proportionally with the increased riskiness of the project.[1]

[1] According to Flannery (1986), the reason for this is that firms are well aware of the fact that they will have difficulty in raising or reengineering new funds for their highly risky long-term projects when needed, hence they prefer longer terms despite elevated interest rates. As it is more probable to reengineer low-risk investments at shorter terms, short-term loans are preferred for such investments. Although this argument has been vindicated by numerous empirical studies, Diamond (1991) argues in a theoretical study that firms with high and low credit ratings prefer short-term debt, and those with somewhat lower ratings prefer long-term debt and that the correlation between the credit rating and maturity is not linear. Chart III.1.I.5 shows that the maturity structure observed in consumer loans corresponds to Flannery's (1986) study.

A similar deduction can also be made for individuals. Since monthly payments increase as the maturity shortens for a fixed credit balance, borrowers with low solvency are expected to prefer longer maturities compared to those with higher solvency levels. Therefore, in terms of retail loans, maturity preferences increase with lower solvency and RLS (corresponding to a higher risk rating) as the relationship is inversely proportional. The average maturity of general-purpose loans, as expected, are longer with increased riskiness of RLS groups both before and after the maturity restrictions. In other words, debtors in the highest risk group have the longest, and debtors in the lowest risk group have the shortest average maturity (Chart III.1.I.5). With the implementation of the maturity restriction, the average maturities waned not only for groups with maturities remaining above the upper limit, but for all debtor groups. As such, groups maintained their place in the maturity rank that increases in direct proportion to their risk ranks. In vehicle loans, too, maturities shortened on the back of the implementation of maturity and loan-to-value restrictions, (Chart III.1.I.6).

The maturity restriction had the highest impact on debtors in the lowest RLS group, which is considered a relatively more risky group, and had the lowest impact on debtors in the highest RLS group, contributing to the success of the policy from another perspective.

The maturity restriction on consumer loans affected not only the maturities but also the average credit amount. The decline in lending to high-risk debtors was sharper than lending to low-risk debtors (Chart III.1.I.7). Thus, excessive borrowing by consumers in the most risky group, who could not afford monthly payments that increase in line with shrinking maturities, was prevented. Thanks to the maturity restriction, the average issuance of loans generally posted a moderate increase. However, vehicle loans that are usually priced in foreign currency did not present a similar trend due to the exchange rate effect (Chart III.1.I.8).

Chart III.1.I.7
Average General Purpose Use by RLS
(Thousand TL)

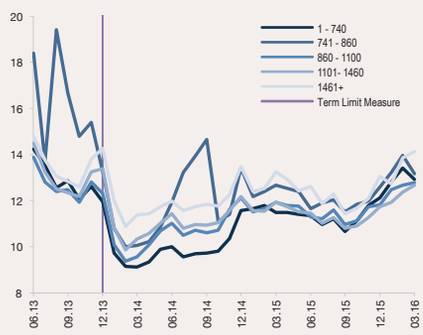
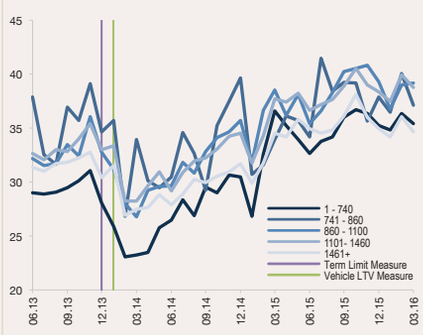


Chart III.1.I.8
Average New Vehicle Loan Use by RLS
(Thousand TL)

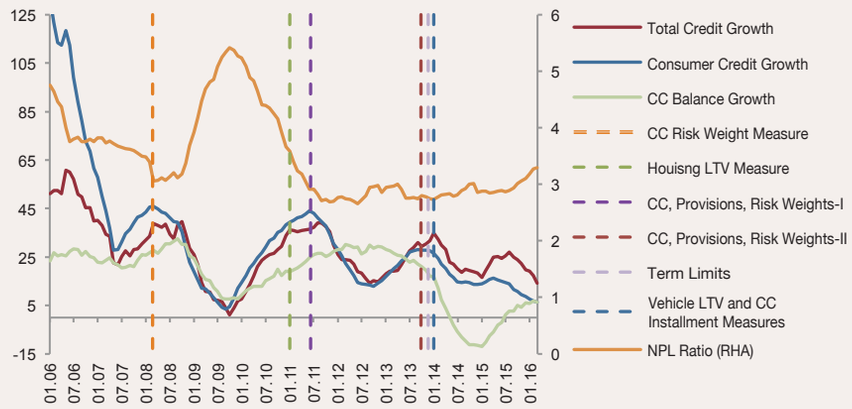


Note: Term limit measure caps general purpose loans at 36 months, and vehicle loans at 48 months. Vehicle LTV measure was announced on the same day term limits were in effect on 31.12.2013, but they are graphed to reflect that they were effective as of 01.02.2014. RLS ranges from 1 to 1900, and the groups are formed based on the scale given by KKB's high performing forecasting program.
Source: KKB, BSRA

In conclusion, the macroprudential measures have been effective in containing the excessive growth of consumer loans. The consumer loan growth that had been hovering at levels far above the total loan growth before the 2008 global financial crisis converged to the total loan growth rate during the crisis (Chart III.1.I.9). Thanks to the macroprudential policies implemented in the post-crisis period, the consumer loans started to follow a growth trend on par with or mostly below total loan growth. Moreover, it has hovered below the levels of commercial loan growth particularly since 2014.

In times of a slowdown in the loan growth, the NPL ratios might surge. However, contrary to its past performance, the NPL ratios have not reacted sharply and in the opposite direction to the decelerating loan growth since 2011. The macroprudential measures have not only encouraged saving among consumers, but also enhanced the quality of the newly extended loans in all consumer loan items (Chart III.1.14 in the main body of the Report). In other words, they have contributed to sustaining a moderate course in the NPL ratios.

Chart III.1.1.9
Macroprudential Measures and its Effects on Credit Growth and NPL Ratio
(Percent, Percent)



Note: For details regarding other measures on CC and household loans please see Financial Stability Report, Volume 19, Special Topic IV.1.
Vehicle LTV and CC installment measures are graphed to reflect that they were in effect as of 01.02.2014.
Source: BSRA

References

Flannery, M.J. (1986). 'Asymmetric Information and Risky Debt Maturity Choice,' *Journal of Finance*, Vol. 41, p.19-37.

Diamond, D.W. (1991). 'Debt Maturity Structure and Liquidity Risk,' *Quarterly Journal of Economics,* Vol. 106, p.709-738.

Financial Stability Report-November 2014, Vol. 19 Special Topic IV.1 'Macroprudential Policies for Consumer Loans in Turkey,' p.51-60.

Financial Stability Report-November 2014, Vol. 19 Special Topic IV.2 'Impact Analysis of Macro-prudential Measures Targeted on Consumer Credits in Turkey,' p.61-73.

Box III.1.II Harmonizing Credit Databases in the European Union (ANACREDIT)

Good databases are crucial for making effective policy decisions in an economy. The experiences of the post-financial crisis period revealed the importance of a detailed dataset. Data collection has become very important especially in the European Union because of two reasons: i) the reactions of individual companies and sectors such as households were varied in the face of economic shocks. ii) The European Central Bank (ECB) and National Central Banks (NCBs) introduced some new measures towards supervision and regulation of the financial sector. Some of these new measures are the implementation of stress tests and micro and macroprudential measures. However, these new measures must be supported by new instruments and new information.

In this framework, the ECB launched a project in 2011 with euro area central banks and non-euro area central banks to compile a big, detailed and harmonized credit and credit risk dataset. The ECB stipulated that central banks with or without risk centers would participate in the Project. With the ECB decision No: ECB/2014/6 of 24 February 2014, the common granular credit database project, the Analytical Credit Dataset-AnaCredit was established. The Project is expected to contribute to studies in the fields of central bank monetary policies and operations, risk management, financial stability, research and statistics.

What will the AnaCredit Project Offer?

- The existing ECB database falls short of meeting the need for a comparable database covering the EU.
- The Project will introduce new concepts and descriptions harmonized with AnaCredit.
- Detailed information will be collected about corporations. The data from small and medium-scale enterprises will also be covered with the aim of evaluating different sectors.
- The Project will contain detailed data on non-performing loans.
- It will allow making region-based risk analyses.
- It will establish a harmonized debt information system covering the firms' cross-border transactions.
- Supervisory authorities will find it easier to measure the credit-worthiness of individual firms.
- The system will allow an evaluation of systemic risk with the broad database covering regional and sectoral credit risks.

The Stages of the AnaCredit Project

As illustrated in Table III.1.II.1, the Project will be completed in three stages:

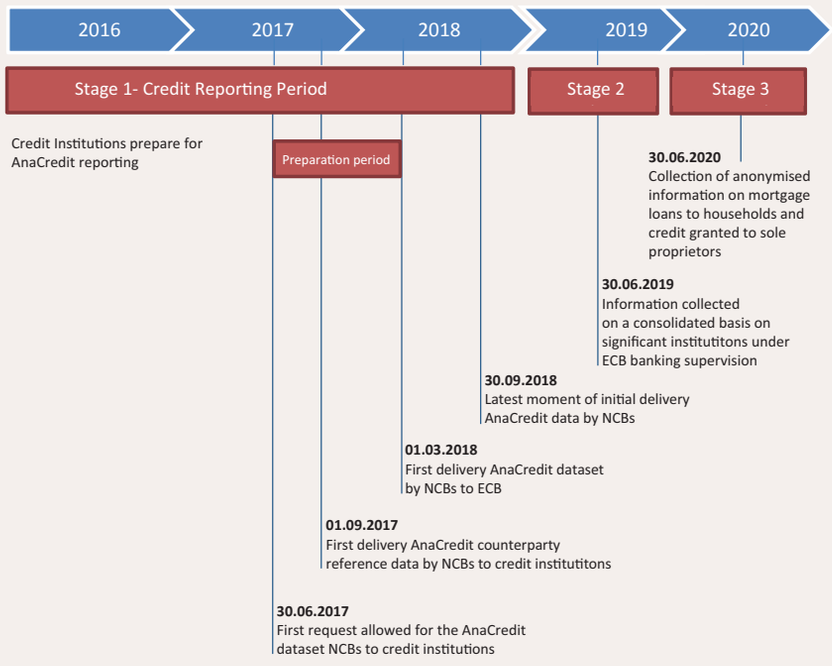
In the first stage, the EU Central Banks are expected to establish or revise their national "Risk Centers". Currently, nine EU countries –Germany, Austria, Belgium, Czech Republic, France, Spain, Italy, Portugal and Romania- have Risk Centers within their Central Banks. In December

2015, the ECB completed the list of a "Preliminary dataset" for reporting and submitted it to the public and the central banks to make observations. The final dataset is expected to be completed by December 2016. Meanwhile, 19 euro area member central banks compulsorily and other nine central banks outside the euro area voluntarily, will have completed the studies towards the banks and/or credit bureaus that will be reporting to them by July 2017. The National Central Banks are expected to start reporting to the ECB as of March 2018.

At the second stage planned for mid-2019, information will be collected on a consolidated basis on significant institutions under ECB banking supervision.

At the third stage, planned for mid-2020, anonymized information will be gathered on mortgage loans to households and credit granted to sole proprietors.

Table III.1.II.1
AnaCredit Project Road Map



Source: ECB

The Data to be Collected in the AnaCredit System and the Scope of AnaCredit

In the scope of the Anacredit Project, data will be collected both quantitatively and qualitatively and will cover data on: legal entities' deposits other than repo agreements, overdraft accounts, credit card debts, revolving credit other than overdrafts and credit card debt, credit facilities, reverse repurchase agreements, trade receivables, financial leases, and other loans from the branches of financial institutions in the Euro area as well as financial institutions outside the euro area. Personal data is not in the scope of the AnaCredit project. The data reporting will cover data of legal entities on a borrower by borrower or loan-by-loan basis. The reporting threshold will be EUR 25,000 across all instruments and EUR 100 for non-performing loans. Currently, the reporting threshold at Bundesbank's Risk Center is EUR 1,500,000 for SMEs. When this amount is taken into account, it is evident that the reporting threshold will bring a significant change in reporting.

The data to be collected will be systematically compiled under 10 segments and 140 credit data items. The concepts used require new data descriptions but these concepts do not fully overlap with the terms that are already used in legislation (Table III.1.II.2).

Table III.1.II.2
Segments of Anacredit Dataset

1)	Counterparty Reference Data
2)	Counterparty Default Data
3)	Counterparty Risk Data
4)	Instrument Data
5)	Financial Data
6)	Accounting Data
7)	Counterparty Instrument Data
8)	Joint Liabilities Data
9)	Protection Received Data
10)	Instrument Protection Received Data

Source: ECB

Conclusion and Evaluation

The AnaCredit Project is expected to enhance the ECB's effectiveness and bring harmonization to the data collection and analysis among EU Central Banks. The Project is expected to support the ECB and the National Central Banks in the fields of macroprudential monetary policy, risk management, financial stability and systemic risk. The Project, which will require very detailed information, might face delays in the roadmap because the countries have different systems, the Project requires investment for human resources and information technologies, the banks and credit registers need to make necessary arrangements and the firms need to change their reporting systems.

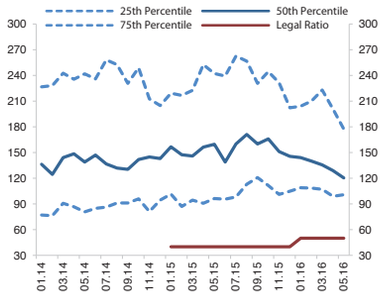
III.2. Liquidity Risk

Banks stay resilient against any liquidity risks thanks to the measures introduced. Banks are quite successful in meeting the legal ratios prescribed in the Liquidity Coverage Ratios implementation arranging the short-term liquidity positions. While the deposits/loans ratio remains flat, the extension in the maturities in non-core financing items that mostly concentrate in FX liabilities has continued. The security issues, which were dormant for a while, started to recover again on the back of expectations that accommodative implementations supporting liquidity conditions would continue in the global monetary policies and the increased risk appetite. In light of these developments, liquidity squeezes are not likely to be binding on banks in the near future.

The banking sector's liquidity coverage ratios calculated for total and FX are well above the legal limits. The liquidity coverage ratios (LCR), which show the capability of banks to cover net cash outflows for a duration of 30 calendar days from the high-quality asset stocks in their balance sheets, were incremented by 10 percent each to 50 percent and 70 percent for FX and total assets, respectively, for all banks except for development and investment banks, to be effective as 1 January 2016. An analysis of banks' liquidity coverage ratios that have been classified into quantiles as 25, 50 and 75 reveals that all banks are successful in meeting the legal liquidity coverage benchmark for total and FX liquidity by a high margin (Chart III.2.1 and Chart III.2.2). Meanwhile, the amount of foreign exchange sold at the FX selling auctions that increased the net TL funding need of the system, has been gradually decreased which curbed the adverse impact coming from this channel to bank liquidities. Moreover, the facility in the scope of the Interbank Money Market within the CBRT enabling banks to access to TL liquidity against FX collateral deposit also supports banks in managing their liquidity.

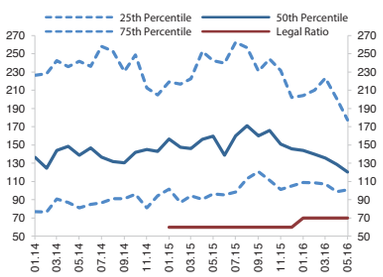
The ratio of non-deposit and non-equity funding to total liabilities, which is an indicator of banks' liquidity positions, has been flat since the beginning of 2015. The fluctuations in this

Chart III.2.1
Quantiles of Banks by FX Liquidity Coverage Ratio[1,2]
(4 Week Moving Average, Percent)



(1) Excluding development and investment banks.
(2) Based on non-consolidated reportings.
Source: BRSA (Latest Data: 05.16)

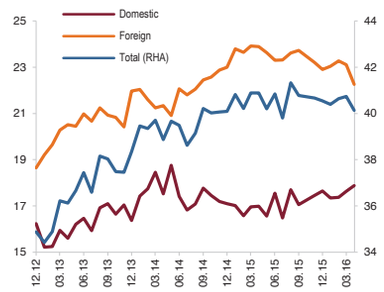
Chart III.2.2
Quantiles of Banks by Total Liquidity Coverage Ratio[1,2]
(4 Week Moving Average, Percent)



(1) Excluding development and investment banks.
(2) Based on non-consolidated reportings.
Source: BRSA (Latest Data: 05.16)

ratio mainly stem from exchange rate-driven changes in the TL equivalent of funding obtained from abroad that constitutes an important part of non-deposit funding depending on exchange rate developments. An important portion of the non-deposit funding is composed of debt to banks, issues and repo transactions. In this respect, the downtrend observed in these funding sources in the second half of 2015 was replaced by a moderate uptrend and thus, the decline in the share of external funding in total funding sources terminated.[1] In the same period, even though there was a rise in the domestic non-deposit funding with the effect of the rise in debts to banks and repo funding, there was no significant change in their share in the total funding sources (Chart III.2.3).

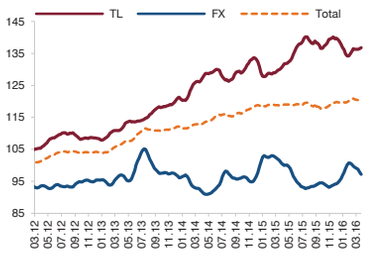
Chart III.2.3
Ratio of Non-Deposit Funding to Funding Sources
(Percent)



Source: CBRT (Latest Data: 03.16)

The loan to deposits ratio, which shows the level of loans funded by deposits - that have the largest share in banks' assets- has been flat. In October 2014, the CBRT introduced a facility to encourage funding of loans by core liabilities; the facility is believed to have been effective in preventing deterioration in the related indicator. A breakdown of Loan/Deposit ratio by TL and FX reveals that this ratio is significantly higher for TL, whereas the ratio has been flat both for TL and FX despite some occasional fluctuations (Chart III.2.4).

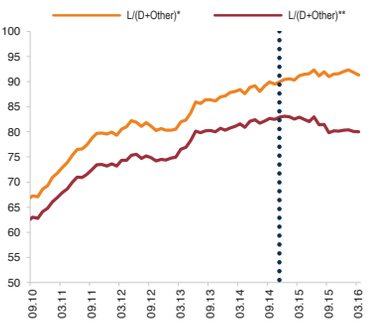
Chart III.2.4
Loan/Deposit Ratio
(4 Week Moving Average, Percent)



Source: BRSA (Latest Data: 03.16)

Even if the Loan/Deposit ratio is an important indicator for funding risk measurement, it falls short of providing a comprehensive measurement of the risk as it neglects non-deposit stable funding sources. For this reason, the Loan/ (Deposit+ other stable sources) ratio has been calculated to achieve a comprehensive measurement of the liquidity risks that could be posed by instabilities on the funding side. Deposits, equity, subordinated loans, long-term issues and loans from banks with maturities longer than one year account for stable funding sources. The banking sector's Loan/ (Deposit+ other stable sources) ratio was 80 percent in March 2016. This ratio, which had been on an uptrend since end-2010, decreased on the back of the measures taken and flattened later. Therefore, it can be asserted that the banking sector's liquidity risks pertaining to their funding sources are considerably low (Chart III.2.5).

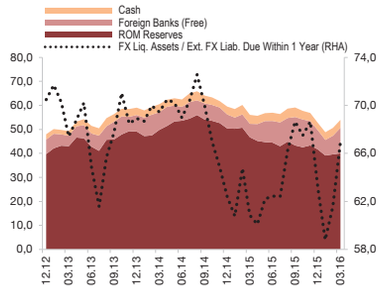
Chart III.2.5
Loan/(Deposit+Other Stable Sources) Ratio
(Percent)



(*) Other includes equity, long-term issues and subordinated loans.
(**) Other includes equity, long-term issues, subordinated loans and other loans with maturities longer than one years.
Dashed line shows date of the policy.
Source: CBRT (Latest Data: 03.16)

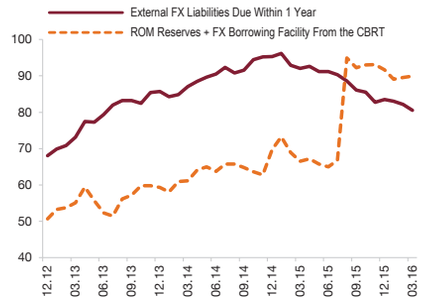
[1] The TL equivalent of funds obtained from abroad have been included in the analysis, therefore the limited fall in the external sources and thus total foreign funds is the result of the recent appreciation in the Turkish lira.

Chart III.2.6
FX Liquid Assets[1] and FX External Liabilities Due Within 1 Year (Percent)



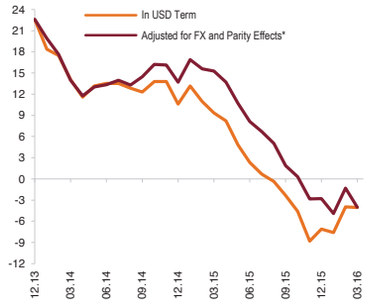
(1) Selected FX Liquid Assets: Cash+Foreign Banks (free) + Required Reserves held within the ROM facility.
Source: CBRT, MKK (Latest Data: 03.16)

Chart III.2.7
ROM Reserves + FX Borrowing Facility and External FX Liabilities Due Within 1 Year (Billion USD)



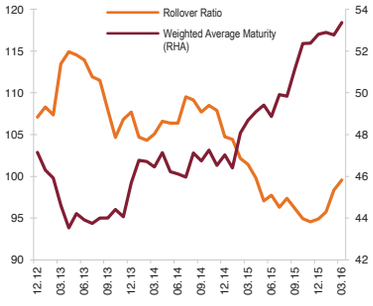
Source: CBRT, MKK (Latest Data: 03.16)

Chart III.2.8
Growth in Banks' External Liabilities
(Annual Percentage Change)



(*) Calculated based on the USD/TRY and EUR/USD parity at end-2013.
Source: CBRT, MKK (Latest Data: 03.16)

Chart III.2.9
External Debt Roll-over Ratio[1] and its Average Maturity
(Percent, Month)



(1) Calculated based on 6-month moving totals of banks' borrowings and repayments of total external liabilities of including securities issued abroad.
Source: CBRT, MKK (Latest Data: 03.16)

An analysis of the banking sector's FX liquidity position for the last one year suggests that banks' resilience against any likely short-term liquidity shock continues. Banks' selected FX liquid assets were at USD 54 billion level in March 2016. The mentioned assets are at a level to cover approximately 67 percent of the FX liabilities due within one year (Chart III.2.6). It should also be taken into account that a remarkable portion of the short-term loans borrowed from abroad by the banking sector are secured loans. Actually, while an important part of collaterals are composed of GDDS, the facility enabling banks to use the TL-denominated government debt securities as collateral in the FX and banknotes markets within the CBRT provides an additional support to banks.[1] The sum of the Foreign Exchange Deposit limits allocated to the banks and the foreign exchange and gold assets held at the CBRT in the scope of the ROM facility is adequate to meet the banks' external FX debt payments due within one year (Chart III.2.7).

External funding utilization of the banking sector keeping its strong liquidity position is low. The USD equivalent of the banking sector's external debt to banks and institutions has been decreasing since January 2015 and the annual growth rate fell into the negative territory in August 2015. The growth rate of external liabilities adjusted for the exchange rate and parity effect has been in negative territory since November 2015. In December 2015, the decline in the amount of external liabilities was replaced by a subdued uptrend putting an end to the downtrend in the banking sector's external liabilities (Chart III.2.8).

The external debt roll-over ratio, which had been declining since July 2014, recently converged to the 100 percent level again. The external debt roll-over ratio fell below 100 percent in June 2015 after a long time. As the decline in external liabilities recently terminated, the external debt roll-over ratio converged to the 100 percent level again (Chart III.2.9). Banks have been more eager to roll-over their medium and long-term debts rather than their short- term debts on the

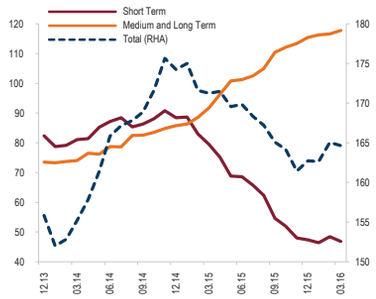
[1] For the purpose of enhancing the flexibility of foreign exchange liquidity management and supporting financial stability, banks' transaction limits in the CBRT Foreign Exchange and Banknotes Markets were increased to USD 50 billion effective as of 1 September 2015.

back of the changes introduced in reserve requirements; in return, the weighted average maturity of the sector's external debts started to be extended in February 2015 and were extended as long as 53 months by March 2016 (Chart III.2.9).

The ratio of short-term sources in banks' external funding has decreased to 28 percent. Since the beginning of 2015, banks have been significantly decreasing their external borrowing with maturities up to one year and increasing medium and long-term sources owing to the measures taken (Chart III.2.10). Banks have shifted from short-term to long-term across all external borrowing types. The matured syndication loans with maturities of one year have been mostly renewed by maturities of 367 days and there are loans that have been renewed with maturities up to 3 years. The maturities of repo funding have been extended by not renewing them with short maturities. Borrowing through securitization loans with longer maturities continues accompanied by sustained transition from short-term to long-term maturities in security issues (Chart III.2.11).

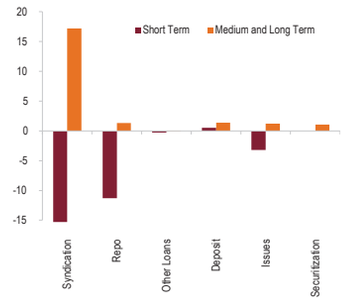
The course of borrowing costs suggests that the decline in external funding is mainly driven by domestic banks' demand (Chart III.2.12). The fluctuations in the borrowing costs in syndicated loans over the last 1 year perfectly reflect the movements in Libor and Euribor interest rates. In other words, the spreads implemented in the loans have not changed throughout the period. In this framework, the costs in the Euro-denominated syndicated loans are lower than USD-denominated syndicated loans. There has been no significant change in the costs of other loans throughout 2015. Nevertheless, as a result of the Fed's rate hike decision in December, the costs of USD-denominated debts displayed some limited rises reflecting this hike. However, a recovery in external liabilities in a period of a limited rise in cost increases implies that costs do not have any pressure on banks' external liabilities and the contraction in 2015 mainly stemmed from the banks' preferences rather than the decline in foreign financing institutions' risk appetite.

Chart III.2.10
Development of Banks' Short Term and Medium-Long Term External Liabilities (Billion USD)



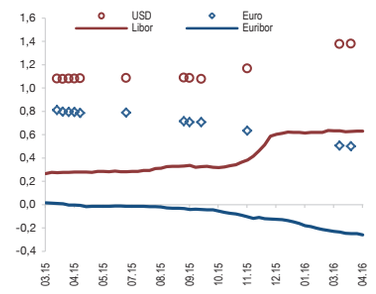
Source: CBRT, MKK (Latest Data: 03.16)

Chart III.2.11
Change in External Borrowing Instruments between 2014Q4 and 2015Q3 (Billion USD)



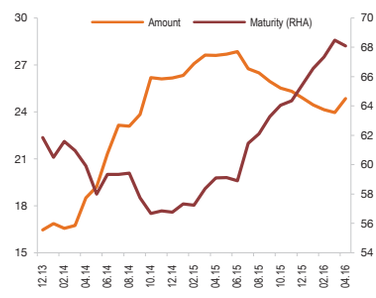
Source: CBRT, MKK (Latest Data: 03.16)

Chart III.2.12
Cost of Syndicated Loans with 367 days Maturity[1]
(Transaction Based, Percent)



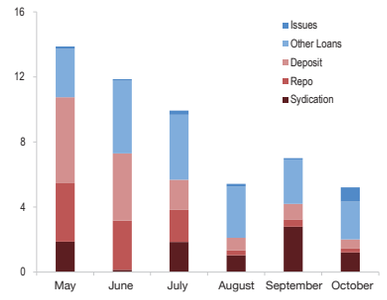
(1) Includes only large scale banks
Source: PDP (Latest Data: 04.16)

Chart III.2.13
Foreign FX Issues
(Stock, Billion USD, Month)



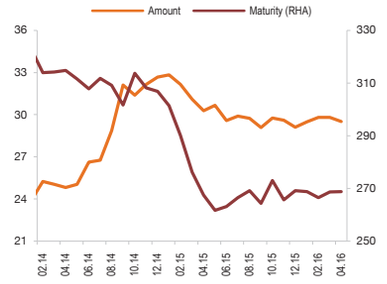
Source: CBRT (Latest Data: 04.16)

Chart III.2.14
Payment Plan of Banks' External Liabilities in Near Future
(Billion USD)



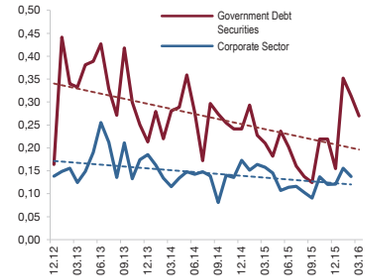
Source: CBRT, MKK (Latest Data: 03.16)

Chart III.2.15
Domestic TL Security Issues
(Stock, Billion USD, Month)



Source: MKK (Latest Data: 04.16)

Chart III.2.16
Ratio of the Average Daily Volumes of Secondary Market Security Issues[1] to Stock Security Issues
(Percent)



(1) BIST Outright Purchases and Sales Market Private Sector Security Issues.
Dashed lines show linear trend of the series.
Source: CBRT, BIST, MKK (Latest Data: 03.16)

In response to the expectations that implementations supporting liquidity conditions would continue in the global monetary policies as well as the rise in risk appetite, the inertia in the amount of FX-denominated securities issued abroad by the banking sector was recently replaced by a moderate increase. The stock average maturity of these securities has been extending as of November 2014 on the back of the decline in short-term securities. By March 2016, the average maturity of the FX-denominated securities issued abroad was 68 months. The share of short-term FX-denominated securities, which had reached 15 percent in October 2014, decreased to 3.1 percent in March 2016 (Chart III.2.13).

The banking sector has a total of USD 81 billion of external debt repayment due within one year. The short-term external debt generally concentrates in the first three months of the year. The debts due within the next three months are mostly composed of repo, deposits and other loans (Chart III.2.14).

There has been no remarkable recovery in the amount or average maturity of the banking sector's domestic security issues (Chart III.2.15). Meanwhile, the recovery in liquidity of securities issued by banks and kept overwhelmingly by residents move in tandem with those at the GDDS market albeit at a more limited pace (Chart III.2.16).

III.3 Interest Rate and Exchange Rate Risk

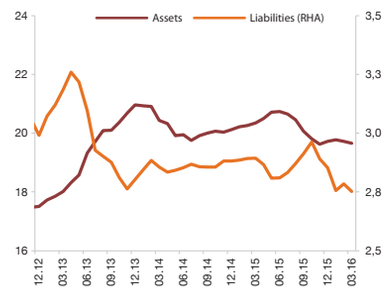
The Turkish banking system's susceptibility to interest rate risk has not recorded a notable change compared to the last report period. With the ongoing commitment to expansionary monetary policies as announced by the central banks of major advanced economies and a stronger sentiment that the Fed's lift-off will lose pace as opposed to previous expectations, the projection of a more stable course in interest rates in the upcoming period has become more broad-based.

The analysis of interest rate-sensitive asset and liability items suggests that there has not been a significant change in the maturity mismatch between TL assets and liabilities. The downtrend in the maturity of interest rate-sensitive TL asset items prevailing since early 2015 was replaced by a flat trend in November 2015. On the liabilities side, maturities shrank by a limited margin on the back of the fall in issuance of securities -the TL funding items with the longest maturities- and the rise in the net OMO (Chart III.3.1).

An analysis of the share of loans and securities, which account for the majority of the interest rate-sensitive TL assets, reveals that the respective items maintained their shares and that while repricing periods of securities increased slightly, those of loans contracted in the last quarter. The decline in the average maturity of housing loans was influential in the contraction of loan maturities (Chart III.3.2). The course of variable-rate TL asset items is also monitored in the analysis of a maturity mismatch. The share of variable-rate TL assets increased compared to the last report period. This development, driven by the increase in the share of revolving loans, had an appeasing effect on the interest rate risk (Chart III.3.3).

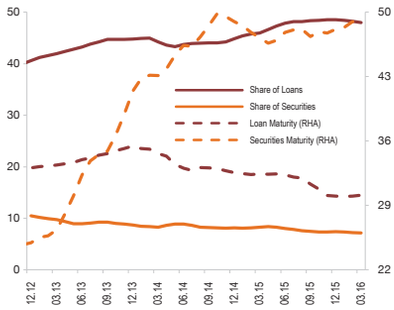
The maturity of deposits (accounting for approximately 67 percent of all interest rate-sensitive liabilities as of March 2016) that have a major share in fixed-rate TL liabilities had been on the decline until the last report period. This downtrend has now been replaced by an increase. The share of deposits with maturities of 1-to-3 months, constituting the bulk of the TL deposits, along with the shares of deposits with maturities of 3-to-6 months and 6-to-12 months in overall deposits increased slightly compared to the last report period. The shares of deposits in the other maturity groups recorded a limited decline. This development had a limited but positive contribution to the average maturity of liabilities (Chart III.3.4).

Chart III.3.1
Maturities of TL Assets-Liabilities of Banks
(Interest rate-sensitive assets and liabilities, 3-Month MA, Month)



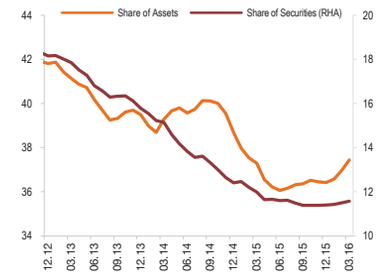
Source: CBRT (Last data: 03.16)

Chart III.3.2
Fixed-Rate TL Loan and Securities' Share (in Total Interest Rate-Sensitive Assets) and Maturity
(3-Month MA, Percent, Month)



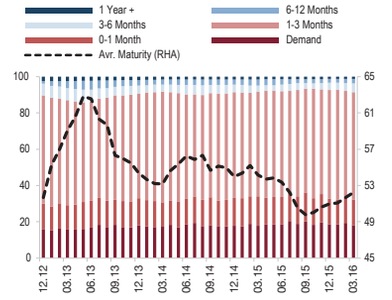
Source: CBRT (Last data: 03.16)

Chart III.3.3
Floating-Rate TL Loan and Securities' Share (in Total Interest Rate-Sensitive Assets) and Maturity
(3-Month MA, Percent, Month)



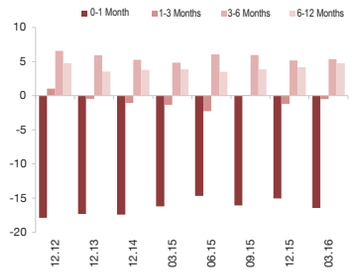
Source: CBRT (Last data: 03.16)

Chart III.3.4
Breakdown of Maturity of TL Deposits and the Average Maturity[1,2] (Percent, Day)



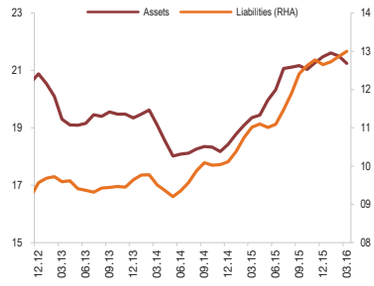
(1) Banking sector deposits and precious metal deposit accounts excluded.
(2) Participation banks excluded.
Source: CBRT, BRSA (Last data: 03.16)

Chart III.3.5
TL Assets-Liabilities Position / Total Liabilities[1]
(Interest Rate-Sensitive Asset – Liability Difference, Percent)



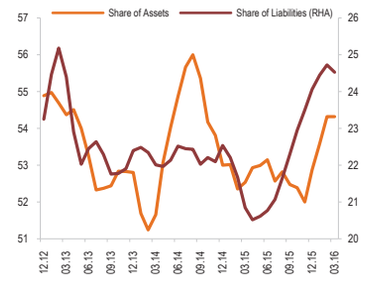
(1) Interest rate-sensitive on-balance sheet assets and liabilities, and derivatives are used.
Source: CBRT (Last data: 03.16)

Chart III.3.6
Maturities of Banks' FX Assets-Liabilities
(3-Month MA, Month)



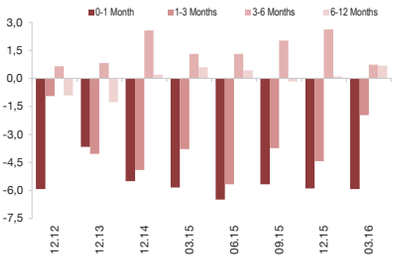
Source: CBRT (Last data: 03.16)

Chart III.3.7
Share of floating-rate FX Assets and Liabilities in Interest Rate-Sensitive FX Assets and Liabilities (3-Month MA, Percent)



Source: CBRT (Last data: 03.16)

Chart III.3.8
FX Asset-Liability Position / Total Liabilities[1]
(Interest Rate-Sensitive FX Asset – Liability Difference, Percent)



1) Interest rate-sensitive on-balance sheet assets and liabilities, and derivatives are used.
Source: CBRT (Last data: 03.16)

Chart III.3.5 exhibits the maturity mismatch of the sector by taking into consideration the days to repricing as per maturity brackets. The TL short position that is subject to repricing and interest rate-sensitive did not post a significant change compared to the last report period. However, the maturity mismatch in the bracket of 0-to-1 month showed a slight deterioration due to the increase in funds provided via repurchase agreements; the maturity bracket of 6-to-12 months posted a slight improvement.

The FX-denominated balance sheet items indicate that compared to the last report period, the difference between the maturities of banks' FX assets and liabilities diminished owing to the ongoing rise in the maturities of liabilities that started at end-2014. The extension of maturities of liabilities is considered a result of the ongoing effects of the RR implementation that encourages long-term borrowing in non-deposit FX liabilities (Chart III.3.6).

On the FX side, the shares of variable-rate items in interest rate-sensitive assets and liabilities increased compared to the last report period (Chart III.3.7). Derivatives increased on both the asset and liability sides. The increases in the variable-rate loans on the asset side and in the payables to banks on the liability side confirmed this development.

As per maturity brackets, the mismatches occurring in terms of repricing periods between FX asset and liability items are shown in Chart III.3.8. According to the changes that took place in the last 6 months, while the interest rate-sensitive FX short position subject to repricing evolved in the positive direction (net short positions decreased and net long positions increased) with the improvements in the maturity groups of 1-to-3 months, 3-to-6 months and 6-to-12 months, the net short position was balanced on the back of the change in the 0-to-1month maturity group.

For the purpose of observing the banking sector's

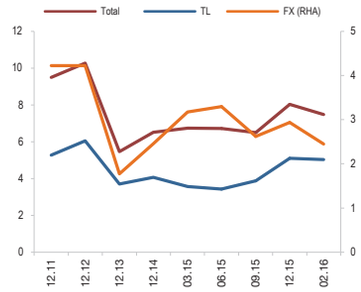
response in the case of a likely stress, a quantitative analysis was done where assets and liabilities were repriced and the interest rate risk was measured by exposing the system to an interest rate shock that would last for a period of one year. Based on banks' balance sheets at the beginning of the period, the interest rate-sensitive TL and FX assets and liabilities with maturities up to one, three, six and twelve months were repriced. Accordingly, assuming that the banking system's sensitivity to interest rate risk is limited for a maturity of up to one year, the regulatory capital levels are estimated to be strong against losses that might emerge as a result of interest rate shocks (Chart III.3.9).

In addition to repricing, another channel through which the financial intermediation system might be affected from external interest rate shocks is the revaluation of securities. Since the last report period, the decline of the banking sector's total (TL and FX) securities in total assets has shifted to an increase (that emerged from each securities item). Although the share of the FX assets, accounting for more than one third of the securities portfolio, has posted a limited decline compared to the last report period, it has displayed a notable upward trend since 2013 (due to the increases in each securities item) (Chart III.3.10). The average maturities of both TL and FX denominated securities, based on the remaining maturity, shrank during the period under review. As this situation will have a decreasing effect on the duration, it reduces the revaluation risk (Chart III.3.11).

The banking sector will not be affected significantly from interest rate shocks coming through the securities portfolio. The sector's current capital stock is at a level to recover losses that might emerge on the back of an interest rate shock (Chart III.3.12).

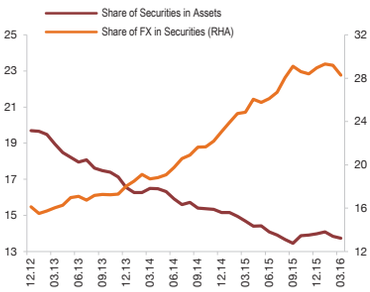
The Turkish banking system remains robust against the exchange rate risk. The banking sector's net FX position has continued to remain at very low levels compared to the legally-allowed level (20 percent of the regulatory capital), as

Chart III.3.9
Loss/Capital after TL and FX Interest Rate Shocks[1]
(Percent)



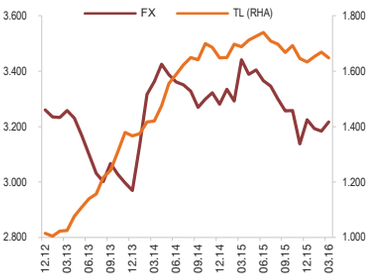
(1) Calculations are based on the data of banks with an asset size of TL 6 billion and more (excluding Eximbank and Provincial Bank- İller Bankası).
Source: CBRT, BRSA (Last data: 02.16)

Chart III.3.10
Securities Portfolio
(Percent)



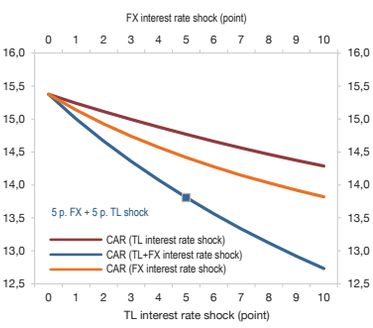
Source: BRSA (Last data: 03.16)

Chart III.3.11
Weighted Average Maturity of Securities
(Based on remaning maturity, Day)



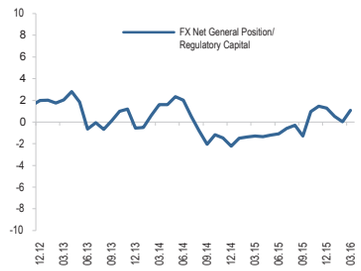
Source: CBRT, Bloomberg (Last data: 03.16)

Chart III.3.12
Impact of TL and FX Interest Rate Shocks on the CAR[1]
(Percent)



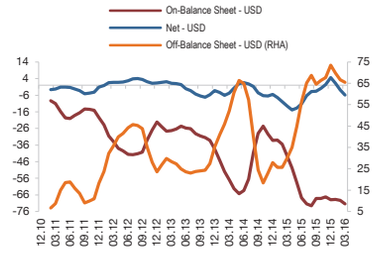
1) For interest rate shocks calculations include 99% of TL securities, 90% of FX securities.
Source: CBRT, BRSA, Bloomberg (Last data: 02.16)

Chart III.3.13
FX Net General Position/ Regulatory Capital Ratio
(Percent)



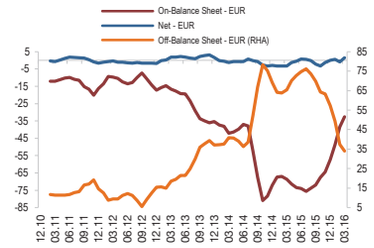
Source: BRSA (Last data: 03.16)

Chart III.3.14
On- and Off-Balance Sheet Items - USD
(Billion TL)



Source: BRSA (Last data: 03.16)

Chart III.3.15
On- and Off-Balance Sheet Items - Euro
(Billion TL)



Source: BRSA (Last data: 03.16)

was the case in previous periods (Chart III.3.13). Although the regulation on the net FX position does not preclude banks from holding positions denominated in different currencies, banks have also refrained from having positions in USD and euro that constitute a significant bulk of the FX assets and liabilities. With the recent decline in the costs of funding in euro, companies' preference in FX borrowings have apparently shifted towards euro-denominated loans. As a result, the current on-balance sheet short position in euro contracted and banks continued to keep their net short positions both in euro and USD at a level close to zero by reducing their off-balance sheet long positions in euro (Chart III.3.14, Chart III.3.15).

III.4 Profitability and Capital Adequacy

The decline in the total profit of the Turkish banking system has ended. The twelve-month-cumulative profit amount of the banking sector that has been rising since August 2015 increased by 8.1 percent year-on-year and stood at TL 27.6 billion in March 2016 (Chart III.4.1). The rise in the profits was due to the improvement in the net interest income driven by an increase in income-yielding assets. The annual growth of interest expenses that had boomed since mid-2013 with the Fed's announcement of tapering its quantitative easing program stayed on a course close to the interest income, even remained slightly below it throughout 2015 (Chart III.4.2). Considering the current course of the interest rates, the improvement in the net interest income is believed to prevail for an extended period due to the maturity discrepancies between assets and liabilities.

During the recent periods, the growth rates of non-interest income and expense items have been on the decline and those of provisions for non-performing loans have remained flat. While the decline in the growth rate of non-interest expenses due to fading effects such as reimbursement of the fees and commissions added to the profitability of banks, the flat but still high level of growth in provisions for NPLs stands out (Chart III.4.3).

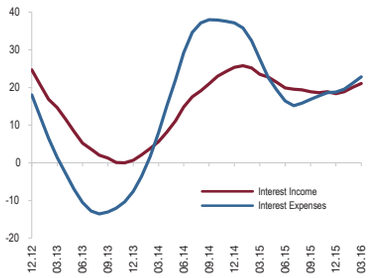
The banking sector acts cautiously with regard to the provisions for NPLs. The sector keeps a provision for non-performing loans by a ratio of approximately 75 percent on average. However, when the collaterals received for non-performing loans in exchange for lending are evaluated by weighting with their respective coefficients, the provision ratio climbs well above 140 percent. The provisions kept by banks above the legal requirements can act as a buffer against a possible fall in profitability in the face of a likely loss due to increased non-performing loans. The gradual decline in banks' adjusted coverage ratios as opposed to the increase in NPL ratios as seen in the recent periods also signals this situation (Chart III.4.4).

Chart III.4.1
Net Income
(12 Months Cumulative, Billions TL)



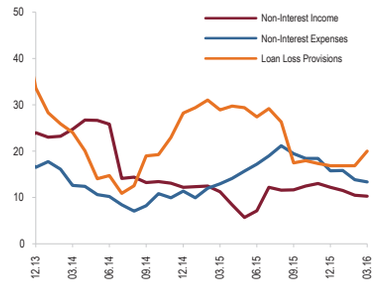
Source: CBRT (Last Data: 03.16)

Chart III.4.2
Growths of Interest Income and Interest Expenses
(12 Months Cumulative, Percent)



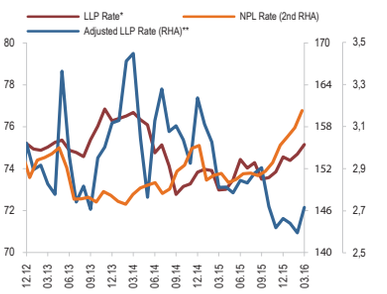
Source: CBRT (Last Data: 03.16)

Chart III.4.3
Growths of Non-Interest Items
(12 Months Cumulative, Percent)



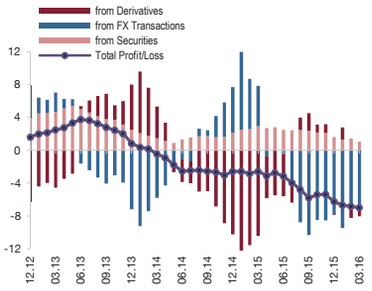
Source: CBRT (Last Data: 03.16)

Chart III.4.4
NPL and Coverage Ratios
(Percent)



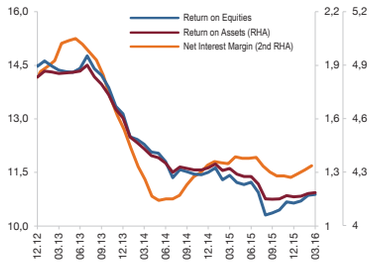
(*) Coverage Ratio=Provisions for NPL/NPL
(**)Adjusted Coverage Ratio=Provision for Non-performing Loans/(NPL Collaterals Adjusted by Consideration Ratios)
Source: CBRT (Last Data: 03.15)

Chart III.4.5
Capital Market and FX Transactions Profits/Losses
(12 Months Cumulative, Billions TL)



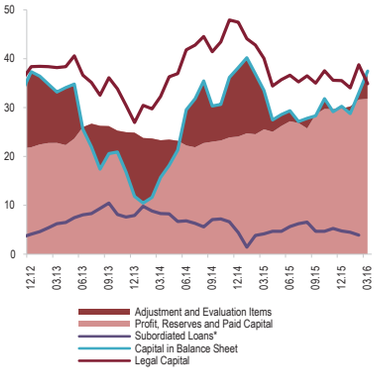
Source: CBRT (Last Data: 03.16)

Chart III.4.6
Profitability Indicators
(Percent)



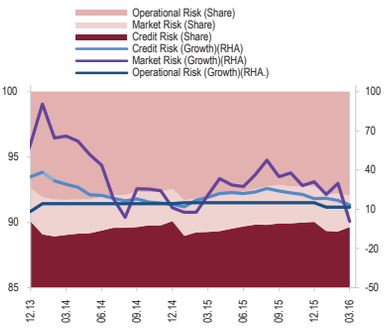
Source: CBRT (Last Data: 03.16)

Chart III.4.7
Changes in Items Affecting Capital
(Yearly, Billions TL)



*Only subordinated loans taken into account in capital estimations are considered. The last data for this item is 02.16.
Source: CBRT (Last Data: 03.16)

Chart III.4.8
Risk Weighted Assets Composition and Yearly Growth Rates of Components (Percent)



Source: CBRT (Last Data: 03.16)

In the other non-interest income/expenses item, in which derivative and exchange rate transactions-driven profits and losses of banks that had posted a surplus in the pre-2014 period are recognized, the banking sector continues to incur losses. Although the sector continues to profit from security purchases and selling, these profits are short of recovering the losses arising from the increased derivative costs due to rising swap interest rates (Chart III.4.5).

Profitability indicators that had been on the decline since the second half of 2013 started to rise in line with the recent surge in profits and the slowdown in the asset growth. With the exception of unpredicted impacts on profit items, the profitability indicators are likely to maintain their increase in the upcoming period (Chart III.4.6).

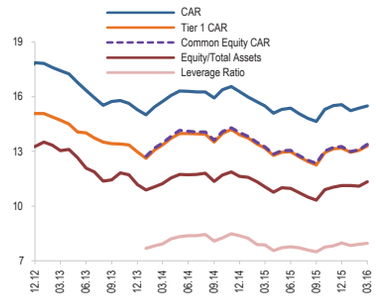
Over the past year, the movements in on-balance sheet regulatory capital, which is the common component of the regulatory capital definitions used in the calculations of capital adequacy ratios, were largely driven by the profit items. The adjustment and valuation items that are affected by temporary market conditions, display a high level of volatility and engender fluctuations on capital adequacy ratios have not posted a significant change over the past year.[1] On the other hand, the increase by an amount of approximately TL 4 billion in Tier 2 capital stock affected the regulatory capital positively (Chart III.4.7).

The total risk-weighted assets, the denominator of all capital adequacy ratio definitions, have risen 13 percent over the last one year period. An analysis as per items indicates that the credit risk that makes up 90 percent of the total risk-weighted assets grew by 13 percent and became the main driver of the trend in total risk-weighted assets. The operational risk accounting for 8 percent of the risk-weighted assets maintained its steady growth trend. Meanwhile, the market risk, constituting 2 percent of the risk-weighted assets, displayed an increase accompanied by fluctuations in 2015, yet, it fell below its early-2015 levels in the recent period (Chart III.4.8).

[1] The adjustment and valuation items are composed of the capital reserves due to inflation accounting, the fixed asset revaluation difference and the securities valuation difference.

The capital adequacy ratios have improved on account of the rising profitability and slowing credit growth rate since the last quarter. The capital adequacy standard ratio of the Turkish banking sector materialized as 15.5 percent as of March 2016. Meanwhile, the Tier 1 capital adequacy ratio and the core capital adequacy ratio climbed to 13.3 percent and 13.4 percent, respectively. The banking sector leverage ratio, which was introduced to ensure that the banks maintain adequate capital against likely risks due to the leverage impact, maintains a steady course at a quite higher level than the minimum legal limit of 3 percent. However, there are no banks with a leverage ratio below 3 percent (Chart III.4.9).

Chart III.4.9
Capital Indicators
(Percent)



Source: CBRT (Last Data: 03.16))

The BRSA regulation published on 20 January 2016 and effective March 2016, introduced some amendments aligning the credit risk weights of banks providing a basis for calculating the sector's capital adequacy with Basel regulations. The regulation reduced the risk weight for consumer loans, vehicle loans and credit card receivables, which had previously been subject to risk weights ranging from 75 to 250 percent based on their maturities, to 75 percent. Moreover, the risk weight of residential mortgage loans was decreased to 35 percent from 50 percent. On the other hand, the risk weight for banks' FX denominated claims from the CBRT was increased to 50 percent from 0 percent. The increase in the risk weight for FX denominated claims from the Central Bank might have a decreasing effect on the capital adequacy; however, this effect is largely offset by the reductions in the risk weights for retail loans. Thus, the banking sector's capital adequacy ratio has remained almost intact from the effects of these regulations.

Box III.4.I The Turkish Banking Sector and the Regulatory Consistency Assessment Programme (RCAP)

The Basel Committee coordinates implementation of the Regulatory Consistency Assessment Programme (RCAP), which presents an individual assessment on each single member to ensure timely transposition of Basel Standards into domestic regulations, along with the consistency and integrity of the standards implemented. The alignment status of domestic regulations is reviewed and the extent to which the assessed regulations are aligned with the Basel standards is rated by a group of specialists consisting of participants from Basel Committee member states. These ratings and the report on inconsistencies are made public by the Basel Committee.

The RCAP process for Turkey started in early September 2015 and ended with the publication of assessment reports on 15 March 2016. Prior to the RCAP, the BRSA assessed the domestic legislation and amendedthe relevant regulations.

Within the context of the RCAP, the risk-based capital regulations and liquidity regulations have been assessed separately. Turkey has received an overall compliant rating in the assessment of risk-based capital regulations. Turkey has also been assessed as compliant with the Basel Capital Framework, Pillar 1 comprising sub-components such as credit risk, market risk, operational risk, counterparty risk, Pillar 2 comprising the legal and regulatory framework and market discipline component (Table III.4.I.1).

Table III.4.I.1
Risk-Based Capital Regulations Ratings

	Notlar
Overall Grade	**C**
Key components of the Basel capital framework	
Scope of application	**C**
Transitional arrangements	**C**
Pillar 1: Minimum Capital Requirements	
Definition of capital	**C**
Credit Risk: Standardised approach	**C**
Credit Risk: Internal ratings-based approach	**C**
Securitisation framework	**C**
Counterparty credit risk framework	**C**
Market risk: Standardised measurement method	**C**
Market risk: Internal models approach	**C**
Operational risk: Basic indicator approach and standardised approach	**C**
Operational risk: Advanced measurement approaches	**C**
Capital buffers (conservation and countercyclical)	**C**
Pillar 2: Supervisory Review Process	
Legal and regulatory framework	**C**
Pillar 3: Market Discipline	
Disclosure requirements	**C**

Definition of the Grades: C (Compliant), LC (Largely Compliant), MNC (Materially Non-Compliant), NC (Non-Compliant)

Turkey has also been assessed as compliant with respect to the principles regarding the high-quality liquid assets (Table III.4.I.2).

Table III.4.I.2
Assessments on Liquidity Regulations

	Notlar
Overall Grade	**C**
Definition of high-quality liquid assets (numerator)	**C**
Definition of Net outflows (denominator)	**C**
Definition of Net inflows (denominator)	**C**
Liquidity coverage ratio disclosure requirements	**C**

Definition of the Grades: C (Compliant), LC (Largely Compliant), MNC (Materially Non-Compliant), NC (Non-Compliant)

IV. Special Topics

IV.1 Macroprudential Policy and Bank Risk Taking

Summary

This special topic examines the effect of macroprudential policies on bank risk taking using bank level data from advanced and emerging market economies. There are three main findings: First, there is evidence suggesting that macroprudential tools have a significant impact on bank risk. Second, the responses to changes in macroprudential tools differ among banks, depending on their specific balance sheet characteristics. In particular, banks that are small, low capitalized and with a higher share of wholesale funding react more to changes in macroprudential tools. Third, macroprudential policies seem more effective in a tightening than an easing.

IV.1.1 Introduction

Prior to the global financial crisis financial stability was mainly considered from a microprudential perspective. The aim of supervisory policy was to reduce the risk that individual institutions would fail, without explicit regard for their impact on the system as a whole or on the overall economy. Lehman's default has showed us that financial stability has a macroprudential or systemic dimension. Therefore, current financial stability is considered with a macroprudential perspective.

However, the implementation of the new framework for financial stability raises a number of challenges. A first challenge is the evaluation of the effectiveness of macroprudential policies, especially when more than one tool is activated. Moreover, effectiveness should be analyzed with respect to the specific goal that macroprudential policies are designed to achieve. For instance, increasing the resilience of the financial system or taming financial booms and busts are among the first.

At the moment, most research focuses on analyzing the impact of macroprudential tools on bank lending while their impact on bank risk taking is being ignored.

A second challenge pertains to the varied nature of macroprudential objectives and instruments. Which tools to use, how to calibrate them, and when to deploy them will all depend on how the authorities view the vulnerabilities involved and how confident they are in their analysis. In this context, the legal and institutional setup will also be relevant. A given instrument's effects depend on a variety of factors, which have to be assessed against the chosen objective. Therefore, some instruments may work better to achieve the narrow aim of increasing financial system resilience rather than the broader aim of constraining the cycle.

Third, most of the macroprudential policies aim at containing systemic risk. Policymakers aim at limiting bank risk taking and the probability of the occurrence of a financial crisis by setting macroprudential tools. This means that we should more interested in macropruential policies' impact on a bank's contribution to systemic risk. Although some concepts have been developed (CoVaR, stress testing, and Shapley value measures), the measurement of systemic risk is still rudimentary. A compromise could be to evaluate how macroprudential tools impact on specific measures of bank risk, such as the expected default frequency (EDF) or the Z-score.

Analysis in this special feature complements other studies on the effectiveness of macroprudential policies. It basically analyses the effectiveness of macroprudential policies on bank risk using a large sample of banks and countries. In the run-up to the crisis, the macroprudential policies were generally ignored while emerging market economies have generally been more aware of the need to think about the financial system as a whole and to intervene in response to evidence of a build-up of risks (Chart IV.1.1). Therefore, data from a large number of banks operating in both advanced and emerging countries is used to control for different institutional setup affecting the risk-taking channel.

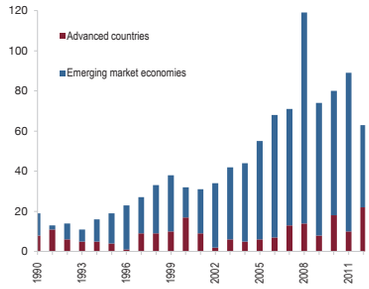
IV.1.2 Model and Data

The baseline empirical model is given by the following equation, adapted from Altunbas et al (2014):

$$(1)\ \Delta EDF_{i,k,t} = \alpha \Delta EDF_{i,k,t-1} + \beta \Delta EDF_NF_{k,t} + \gamma MP_{k,t} + \psi\, MC_{k,t} + \lambda BSC_{i,k,t-1} + \varepsilon_{i,k,t}$$

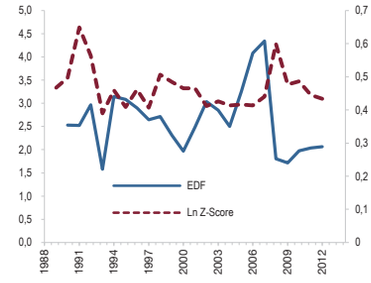
where with i=1,..., N , k= 1, ...,K and t=1, ..., T, where i is the number of banks, k is the country and t is time. Table 1 reports the summary statistics for the variables.

Chart IV.1.1
Number of Macroprudential Measures



Source: Authors' calcualtion, Lim et al. (2013), Kuttner and Shim (2013).

Chart IV.1.2
Cross-sectional Dispersion of Bank Risk Measures



Source: Authors' calculations.
Note: The series show the coefficient of variation of banks' expected default frequency (left hand scale) and the Z-score (right hand scale) in each year.

In the baseline equation (1), the annual change of the Expected Default Frequency (ΔEDF) for bank i, headquartered in country k, in quarter t, is regressed on its own lag and the EDF change for the non-financial sector in country k (ΔEDF_NF). This variable aims at filtering out the effects of changes in the market price of risk due to the business cycle. MP indicates the change in the macroprudential tools, which could be change in an aggregate index, as in Cerutti et al. (2015), or a complete vector of macroprudential tools. MC and BSC respectively represent additional macro variables and bank-specific characteristics.

The dependent variable EDF in the baseline model represents the probability that a bank will default within a given time horizon. EDF is a forward-looking indicator of risk, computed by Moody's KMV and based on Merton's model to price corporate bond debt. The EDF value is calculated by combining banks' financial statements with stock market information and Moody's proprietary default database. As a robustness test, the Z-score is used as an alternative measure of bank risk. Chart IV.1.2 shows the cross-sectional dispersion of banks' EDFs and Z-scores. It indicates that there were already significant differences in bank risk at the cross-sectional level prior to the crisis. Interestingly the cross-sectional dispersion of the Z-score is also very high in correspondence of the early 1990s' recession and associated banking crisis.

Macroprudential indicators, on the other hand, have been constructed with a few steps. First, an aggregate index is constructed to evaluate the overall effectiveness of macroprudential tools when multiple measures are activated at the same time. The index takes the value of +1 if a given

macroprudential tool has been tightened and -1 if it has been eased, leaving zero elsewhere. For the baseline analysis, the indicator is constructed using equal weights for each tool in the data set.

Second, it is considered that different macroprudential (MaP) tools could have different effects on bank risk. In particular, MaPs are classified into five categories: a) capital based instruments; b) liquidity based instruments; c) asset side instruments; d) reserve requirements; e) currency requirements. For further details on each category and data, see Altunbas, Binici and Gambacorta (2016).

Finally, changes in macroprudential tools are classified in easing and tightening cases. With such dissaggregation, the asymmetric effects of each tool can be examined. This specification also enables a comparision of current results against the existing literature. Cerutti et al (2015), for instance, find some evidence of the asymmetric impact of macroprudential policies, claiming that those policies seem more effective when credit growth rates are very high, but have a less positive impact in periods of bust.

In order to disentangle loan supply and loan demand factors, the bank lending channel literature has focused on cross-sectional differences across banks. According to this approach bank-specific characteristics (for example bank size, liquidity, capitalization, funding composition) only influence loan supply movements while a loan demand is largely independent of these factors.

Table IV.1.1
Summary Statistics

Variable	Number of Obs.	Median	Std. Dev.	Min.	Max.	Source
ΔEDF	20870	-0.003	2.094	-32.275	29.65	Moody's KMV
Z-score	20870	-2.847	-1.256	-5.298	-4.605	Authors' cal.
Δ EDF_NFS	20870	-0.150	1.546	-6.448	8.236	Moody's KMV
DIFF	20870	-0.009	0.025	-0.220	0.235	IMF/WB/OECD
ΔGDP	20870	2.720	2.967	-13.130	15.060	IMF/WB/OECD
DEP	20331	0.067	1.180	-0.802	0.966	Bloomberg
SIZE	20870	-0.137	2.192	-16.031	7.932	Bloomberg
CAP	20870	-0.048	0.176	-0.141	0.879	Bloomberg
LIQ	20862	-0.053	0.205	-0.267	0.783	Bloomberg

Not: ΔEDF = change in the EDF at the bank level: Z-score = indicator of the probability of default which is computed on the base of balance sheet variables; ΔEDF_NFS = EDF change for the non-financial sector at the country level; DIFF = real money market interest rate minus natural rate; GDP = changes in nominal GDP; DEP = deposit-to-total liability ratio *100; SIZE = log of total assets (USD millions); CAP = capital-to-total asset ratio *100; LIQ= Liquidity ratio

In line with the bank lending channel literature, it is investigated that whether the responses to macroprudential shocks differ by type of bank. Therefore, the product of a macroprudential indicator and bank specific characteristics is included in the model:

$$(2)\ \Delta EDF_{i,k,t} = \alpha \Delta EDF_{i,k,t-1} + \beta \Delta EDF_NF_{k,t} + \gamma MP_{k,t} + \psi MC_{k,t} + \lambda BSC_{i,k,t-1} + \delta MP_{k,t} * BSC_{i,k,t-1} + \varepsilon_{i,k,t}$$

This approach assumes that after a policy tightening (monetary or macroprudential), the ability to shield loan portfolio differs among banks.

IV.1.3 Estimation Results

The main results are reported in Tables IV.1.2 and Table IV.1.3. The negative and significant coefficient of the MP_index indicates that a tightening (easing) in macroprudential policies reduces (increases) bank risk. All coefficients for bank specific indicators are also statistically significant. In sum, the baseline specifications indicate the existence of heterogeneity among the banks. For instance, banks that are larger, more liquid, well capitalized and have a higher fraction of deposits among liabilities have less significant risk taking. These results are in line with Gambacorta and Shin (2015).

The interaction terms between the MP_index and bank specific characteristics Tables IV.1.2 indicate that the impact of macroprudential policies on bank risk is stronger for banks that are low capitalized, smaller, with low liquidity buffers and with a higher incidence of wholesale funding.

The analysis of the other control variables also provides interesting insights. The positive value of the lagged dependent variable indicates persistence in the adjustment process for risk. Changes in the EDF of the non-financial sector are positively linked to banks' EDF. This implies that risk of both financials and non-financials are driven by general movements in the stock market. As indicated by the risk-taking channel, the monetary policy indicator (the difference between the real interest rate and the natural rate) is negatively correlated with bank risk. This means that an accommodative monetary policy is associated with a higher level of bank risk. The state of the business cycle (the growth rate of nominal GDP) is also negatively correlated

with changes in bank risk-taking. However this effect is statistically significant only when the Z-score is used as a risk taking measure.

Table IV.1.2

Baseline Regression with Aggregate Macroprudential Index

	Coef.		Standard Error	Coef.		Standard Error
ΔEDF_{t-1}	0.221	***	0.001	0.216	***	0.002
ΔEDF_NFS_t	0.411	***	0.067	0.395	***	0.060
$DIFF_t$	-0.012	***	0.002	-0.020	**	0.009
ΔGDP_t	-0.839		0.703	-0.533		0.671
$SIZE_{t-1}$	-0.010	***	0.001	-0.071	***	0.012
LIQ_{-1}	-0.118	***	0.005	-0.090	***	0.017
CAP_{t-1}	-0.158	***	0.009	-1027	***	0.156
DEP_{t-1}	-0.063	**	0.026	-0.627	***	0.072
MP_index_t	-0.655	***	0.022	-1770	***	0.079
*MP_index*CAP*				3189	***	0.119
*MP_index*SIZE*				0.491	***	0.019
*MP_index*LIQ*				0.201	**	0.097
*MP_index*DEP*				0.194	***	0.039
Number of obs.		18504			18504	
Number of banks		3400			3400	
Serialcorrelation test[1]		0.110			0.140	
Hansen Test[2]		0.560			0.640	

Notes: Robust standard errors (clustered at the bank level) are reported. The symbols *, **, and *** represent significance levels of 10%, 5%, and 1% respectively. (1) Reports p-values for the null hypothesis that the errors in the first difference regression exhibit no second order serial correlation. (2) Reports p-values for the null hypothesis that the instruments used are not correlated with the residuals. Sample perido: 1990-2012.

Table IV.1.3 presents the results including asymmetric effects for tightening and easing macroprudential policies. In the majority of cases, a macroprudential tightening has a negative and significant impact on bank-risk, while an easing has a positive effect. There are, however, some cases (depending on the measure of bank risk used) in which capital and liquidity tools do not produce significant effects on a bank's risk.

A second result is the effects are not always symmetric in magnitude. Also, the difference between the coefficients MP_easing and MP_tightening are in most cases not statistically significant. There is a slight tendency for asset class measures (such as changes in LTV or debt to income ratios) and, to some extent, currency tools to be more effective in an easing than in a tightening. On the contrary, reserve requirements seem more effective in a tightening but only when EDF is considered as a bank risk indicator.

Instead of using a macroprudential index, Altunbas et al. (2016) examine interaction terms of individual macroprudential indicators with bank specific characteristics, their asymmetric effects. Controlling for bank characteristics they find that macroprudential tools are more effective in a tightening than in an easing. The higher effectiveness of tightening measures when bank specific interactions are considered is in line with Claessens et al. (2014), Cerutti et al. (2015), McDonald (2015).

Table IV.1.3

Asymmetric Effects of Macroprudential Policies

	Dependent var.: EDF			Dependent var.: Z-score		
	Coef.		Standard Erros	Coef.		Standart Error
ΔEDF_{t-1}	0.265	***	0.027	0.613	***	0.009
ΔEDF_NFS_t	0.412	***	0.028	0.035	***	0.004
$DIFF_t$	-0.045	***	0.004	-0.022	***	0.003
ΔGDP_t	-0.061		1.503	-2.014	***	0.196
$SIZE_{t-1}$	-0.020	***	0.003	-0.024	**	0.011
LIQ_{-1}	-0.272	***	0.022	-0.059		0.082
CAP_{t-1}	-0.705	***	0.273	-0.685	***	0.203
DEP_{t-1}	-0.458	***	0.054	-0.466	***	0.090
MP_capital_easingt	0.187	***	0.024	0.037		0.041
MP_liquidity_easingt	0.153		0.168	0.088		0.058
MP_assets_easingt	1.159	***	0.297	0.157	***	0.059
MP_currency_easingt	1.432	***	0.056	0.393	***	0.088
MP_reserve_easingt	0.898	**	0.362	0.087	**	0.044
MP_capital_tighteningt	-0.475		0.302	-0.041		0.040
MP_liquidity_tighteningt	-0.214		0.300	-0.189	***	0.054
MP_assets_tighteningt	-0.149	***	0.013	-0.055	**	0.025
MP_currency_tighteningt	-0.593	***	0.140	-0.279	***	0.053
MP_reserve_tighteningt	-1.488	***	0.379	-0.074	**	0.033
Observations	17958			16300		
Number of banks	3177			3052		
Serial correlation test[1]	0.120			0.242		
Hansen Test[2]	0.709			0.699		

Notes: Robust standard errors (clustered at the bank level) are reported. The symbols *, **, and *** represent significance levels of 10%, 5%, and 1% respectively. (1) Reports p-values for the null hypothesis that the errors in the first difference regression exhibit no second order serial correlation. (2) Reports p-values for the null hypothesis that the instruments used are not correlated with the residuals. Sample period: 1990-2012.

IV.1.4 Conclusion

This special feature complements other studies on the effectiveness of macroprudential policies. Using data from 1990 to 2012 for banks operating in 61 advanced economies and emerging markets, it analyses the effectiveness of these policies on bank risk taking.

Three main results are presented: First, macroprudential tools are effective in modifying bank risk taking. Second, the responses to change in macroprudential tools depends on balance sheet characteristics. In particular, banks that are small, low capitalised and with a higher share of wholesale funding react more to changes in these tools. Third, macroprudential policies seem more effective in a tightening than in an easing.

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Abbreviations

USA	United States of America
ACCIS	Association of Consumer Credit Information Suppliers
OMO	Open Market Operations
APP	Asset Purchase Programme
CII	Consumer Indebtedness Index
BRSA	Banking Regulation and Supervision Agency
NBFI	Non-Bank Financial Institution
BIS	Bank for International Settlements
BIST	Borsa İstanbul A.Ş.
BKM	Interbank Card Center
RLS	Retail Loan Score
CDS	Credit Default Swap
DFR	Deposit Facility Rate
GDDS	Government Domestic Debt Security
DSTI	Debt Service-to-Income
DTI	Debt-to-Income
EBA	European Banking Authority
ECB	European Central Bank
PMC	Pension Monitoring Center
EURIBOR	Euro Interbank Offered Rate
EBIT	Earnings Before Interest and Taxes (EBIT)
Fed	Federal Reserve System
FSR	Financial Stability Report
GCASC	Greek Cypriot Administration of Southern Cyprus
EMEs	Emerging Market Economies
GDP	Gross Domestic Product
AEs	Advanced Economies
MA	Moving Average
IMF	International Monetary Fund
PDP	Public Disclosure Platform
AER	Adjusted for Exchange Rate
CC	Credit Card
KKB	Credit Bureau of Turkey
SME	Small and Medium-Sized Enterprises
ST	Short Term
LIBOR	London Interbank Offered Rate (for USD)
LCR	Liquidity Coverage Ratio
LTI	Loan-to-Income
LTV	Loan-to-Value
MKK	Central Depository Institution of Turkey

MOVE	Merrill Lynch Option Volatility Estimate
NCB	National Central Bank
OECD	Organisation for Economic Co-operation and Development
PMI	Purchasing Managers Index
PTI	Payment-to-Income
RCAP	Regulatory Consistency Assessment Programme
OJ	Official Journal
RC	Risk Center
ROM	Reserve Options Mechanism
CMB	Capital Markets Board
CAR	Capital Adequacy Ratio
TBB	Banks Association of Turkey
CBRT	Central Bank of the Republic of Turkey
NPL	Non-Performing Loan
TL	Turkish Lira
TLTRO	Targeted Long-Term Refinancing Operations
TOKİ	Housing Development Administration of Turkey
CPI	Consumer Price Index
TURKSTAT	Turkish Statistical Institute
USD	US Dollar
VIX	Standard&Poors 500 Index (CBOE Volatility Index)
FX	Foreign Exchange
RR	Reserve Requirements