5. Financial Markets and Financial Intermediation

Global economic uncertainty intensified following the US presidential election in November 2016, fostering expectations for a more aggressive tightening by the Fed in 2017. Accordingly, interest rates in advanced economies increased in the fourth quarter and the US dollar appreciated. These developments led to strong portfolio flows from emerging economies to advanced economies as of November 2016. The rise in global interest rates and the appreciation of the US dollar have a particularly strong impact on emerging economies with high external debt.

The volatility in global markets has had an adverse impact on emerging economies, including Turkey. Yet, with respect to exchange rate and market rates, the Turkish economy was affected even more negatively than peer economies due to geopolitical tensions, domestic uncertainty and soaring energy prices. On the other hand, the recent surge of portfolio flows to Borsa Istanbul indicates the confidence of foreign investors in the medium and long-term growth prospects for the Turkish economy. Credit conditions have shown some recovery thanks to macroprudential policies that support the financial system, the lagged effects of the CBRT's liquidity measures and accommodative policies. In the fourth quarter of 2016, loan growth remained on a moderate uptrend on the back of the recovery in consumer loans and TL-denominated commercial loans. Moreover, due to the government's loan support to businesses, interest rates on commercial loans to SMEs are on the decline.

The FCI, which reflects all these developments in a nutshell, stood slightly below the neutral mark in the fourth quarter of 2016 (Chart 5.1). The loan rate provided only a small positive contribution to the index, whereas the contribution of lending standards, capital flows and the benchmark rate remained flat, and the stock return, the real exchange rate, EMBI and the slope of the yield curve had a downward impact on the index in the fourth quarter (Chart 5.2).

Chart 5.1.
Financial Conditions and Credit Growth*

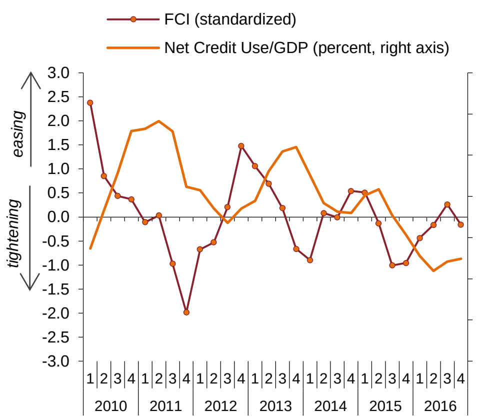
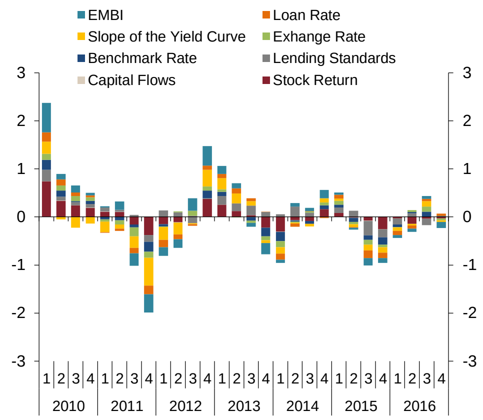


Chart 5.2.
Contributions to FCI**



* For further details on measuring FCI, see the CRBT Working Paper No. 15/13.
** Slope of the yield curve is measured by the spread between 10-year and 2-year interest rates.
Source: CBRT.

To contain the negative effects of global and domestic financial market volatilities on FX markets and credit conditions, the CBRT maintained a stabilizing stance for FX liquidity and a supportive stance for financial stability. Moreover, in order to restrict the adverse impact of exchange rate developments spurred by heightened global uncertainty and volatility on inflation expectations and the pricing behavior, the CBRT opted for some monetary tightening in November. The CBRT also stated that exchange rate developments and soaring oil prices posed upside risks to inflation, which, however, remained restricted due to aggregate demand conditions. To monitor the overall effect, the CBRT kept interest rates unchanged in December.

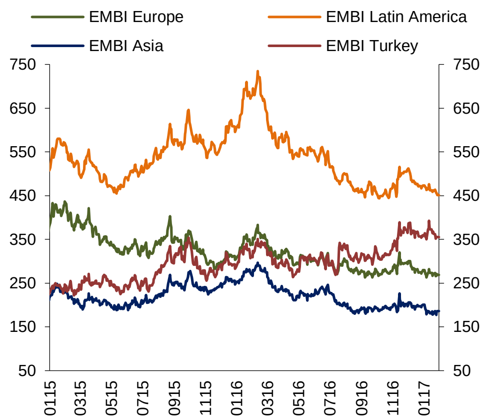
The CBRT adopted comprehensive liquidity measures in mid-January to eliminate the impact of the volatility in the exchange rate and price formations detached from economic fundamentals on price stability and financial stability. Moreover, at the January MPC meeting, the CBRT decided to impose more aggressive tightening upon projecting that inflation may continue to rise in the short term due to the lagged effects of the exchange rate and the volatility in unprocessed food prices. Recently, the yield curve has flattened considerably amid the CBRT's policies.

5.1. Relative Performances of Financial Markets

Risk Perceptions

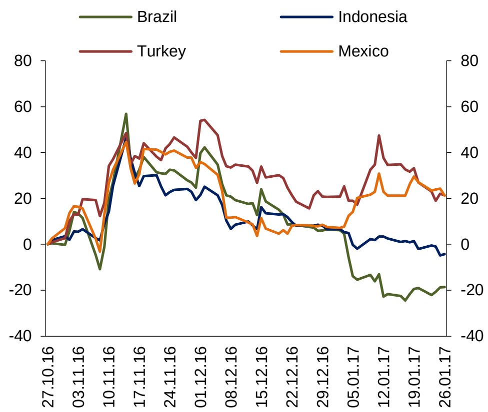
Following the presidential election in early November, the statements by Trump favoring increased protectionism in the US deteriorated the risk sentiment towards emerging economies, particularly for China and Mexico (Chart 5.1.1). Turkey moved similar to Mexico and the risk sentiment worsened due to sluggish economic activity, domestic developments and geopolitical risks in the inter-reporting period (Chart 5.1.2).

Chart 5.1.1.
Regional Risk Premium
(Basis Points)



Source: Bloomberg.

Chart 5.1.2.
Cumulative Changes in 5-Year CDS*
(Basis Points)

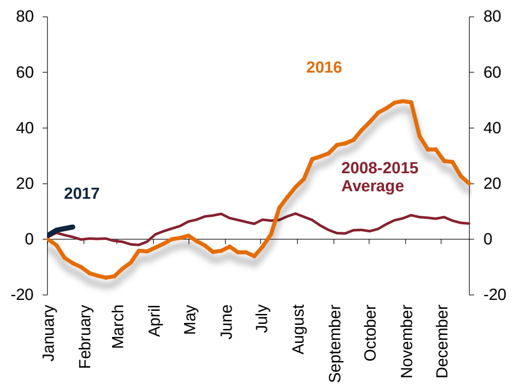


* Denotes changes since 27 October 2016.
Source: Bloomberg.

Portfolio Flows

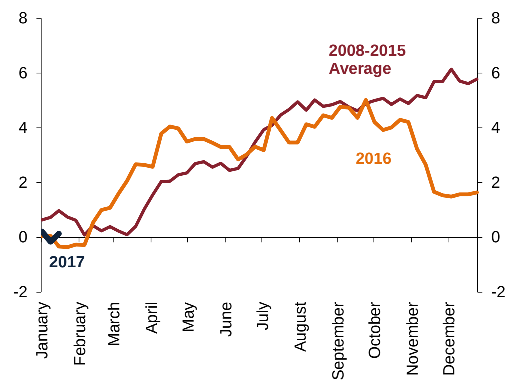
The accelerated growth prospects in the US backed by accommodative fiscal policies and prospects for a faster-than-expected Fed rate hike pushed short-term portfolio flows to advanced economies, which led to outflows of funds from emerging economies in November and December 2016 (Chart 5.1.3). Turkey also experienced portfolio outflows in the same period and cumulative capital inflows since the start of the year lagged behind past years' averages (Chart 5.1.4). In terms of fund composition, recent portfolio outflows from Turkey have mostly been observed in the domestic government bond market.

Chart 5.1.3.
Cumulative Portfolio Flows to Emerging Economies*
(Billion USD)



* Includes stock and bond funds.
Source: EPFR.

Chart 5.1.4.
Cumulative Portfolio Flows to Turkey*
(Billion USD)

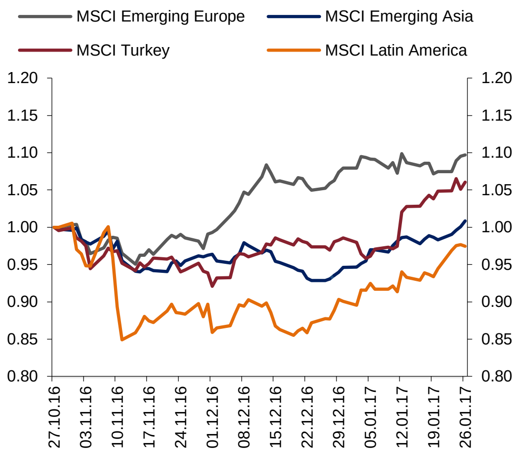


* Includes stock and domestic government bond funds
Source: CBRT.

Stock Indices

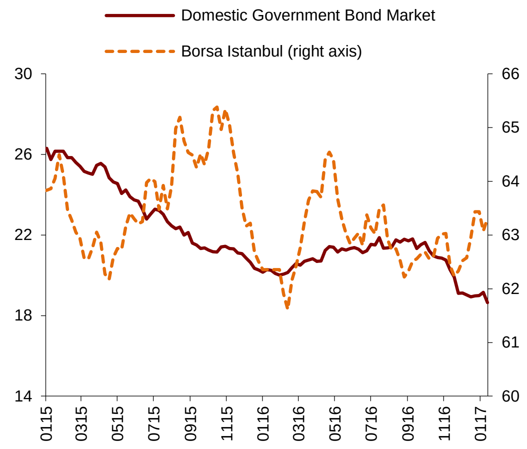
Portfolio outflows from emerging economies in November also resulted in a decline in stock indices. Stock prices in Latin American countries, which are relatively more inflicted by the developments in the US, have performed worse since the previous reporting period (Chart 5.1.5). On the other hand, unlike other financial indicators, stock prices in Turkey performed better than emerging economies on average. In fact, the domestic government bond market, which is more adversely affected by outflows, witnessed a decline in non-resident share, whereas the stock market recorded an upswing (Chart 5.1.6).

Chart 5.1.5.
Regional Stock Indices
(27 October 2016=1)



Source: Bloomberg.

Chart 5.1.6.
Non-Resident Share in Borsa Istanbul and Domestic Government Bond Market
(Percent)

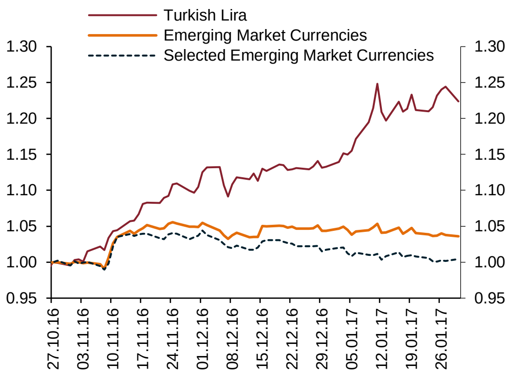


Source: CRA, CBRT.

Exchange Rates

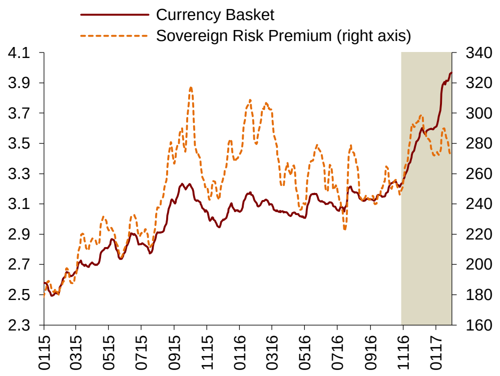
Currencies of emerging economies depreciated against the US dollar considerably due to global economic uncertainties accompanied by the increases in policy rates of advanced economies (Chart 5.1.7). In this period, currencies of commodity-exporting countries such as Brazil, South Africa, India and Indonesia performed better than other emerging economies on the back of the recovery in commodity prices. On the other hand, Turkish lira diverged negatively from other emerging market currencies due to escalated domestic uncertainties, geopolitical tensions and soaring energy prices. The depreciation of the Turkish lira was interrupted by the recent tightening in monetary policy. Meanwhile, the sovereign risk premium in Turkey was affected less adversely than the exchange rate in the inter-reporting period (Chart 5.1.8).

Chart 5.1.7.
Turkish Lira and Emerging Market Currencies against US Dollar*
(27 October 2016=1)



* Emerging market currencies include those for Brazil, Chile, Colombia, Hungary, Mexico, Poland, Romania, South Africa, India, Indonesia, Philippines and Turkey. Selected emerging market currencies are those for Brazil, South Africa, India and Indonesia.
Source: Bloomberg.

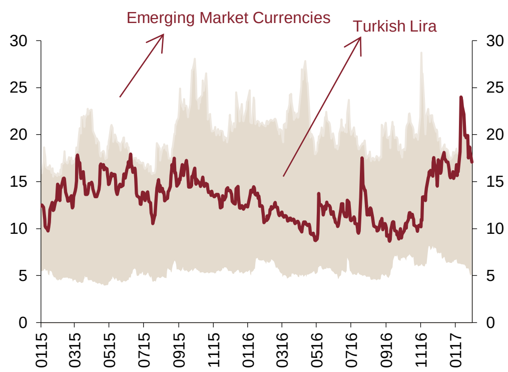
Chart 5.1.8.
Currency Basket and Sovereign Risk Premium
(5-Day Moving Average)



Source: Bloomberg.

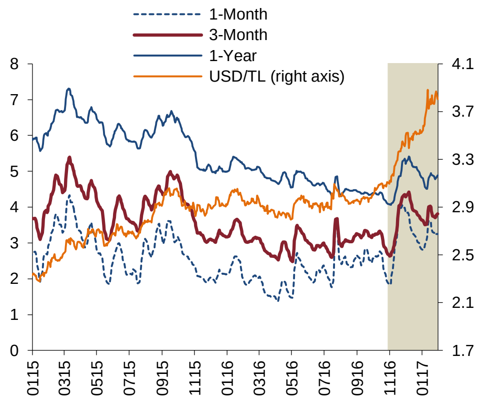
In the last quarter of 2016, implied exchange rate volatility of emerging market currencies followed a fluctuating course. Following the US presidential election, implied exchange rate volatility leapt due to worsened risk sentiment regarding emerging economies, but receded to pre-election levels in January. As for the Turkish lira, implied volatility remained relatively high until mid-January and decreased slightly after the monetary tightening in January (Chart 5.1.9). Risk reversal positions, which have been flat until the elections in the US, rose considerably after the elections but have recorded a decline thanks also to the recently enforced policy measures (Chart 5.1.10).

Chart 5.1.9.
Implied FX Volatility against US Dollar*
(1-Month-Ahead)



* Emerging market currencies include those for Brazil, Chile, Colombia, Mexico, Poland, Philippines, Malaysia, South Africa, Indonesia, Romania and Hungary.
Source: Bloomberg.

Chart 5.1.10.
The Exchange Rate and 25 Delta Risk Reversal Positions at Various Maturities*
(5-Day Moving Average)



* Risk reversal position denotes the difference between implied volatilities of call and put options with the same delta. An increase indicates that depreciation is more likely than an appreciation in the Turkish lira.
Source: Bloomberg, CBRT.

Market Rates

Since the October Inflation Report, market rates of emerging economies have been largely shaped by expectations regarding the monetary policy in advanced economies, the US in particular, and the US elections. Meanwhile, both short and long-term interest rates have increased in many countries. Mexico, the most inflicted economy by the US elections, witnessed hikes in market rates both in the short and long term, whereas Brazil, which implemented rate reductions, saw falling market rates (Charts 5.1.11 and 5.1.12). Owing to the January monetary tightening, short-term market rates increased, but long-term rates saw a relatively limited pick-up in Turkey.

Chart 5.1.11.
5-Year Market Rates*
(Percent)

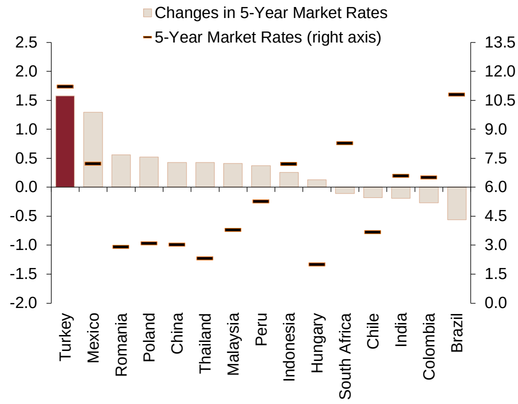
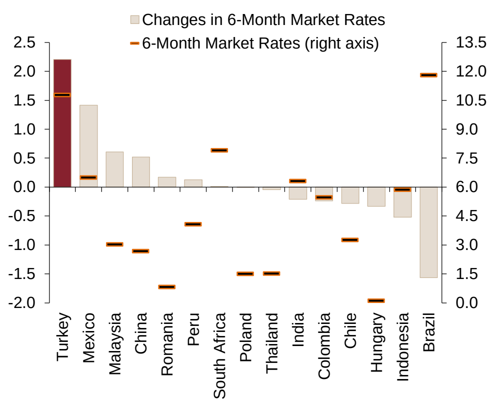


Chart 5.1.12.
6-Month Market Rates*
(Percent)



* Market rates are as of 26 January 2017. Changes in market rates are from 27 October 2016 to 26 January 2017.
Source: Bloomberg.

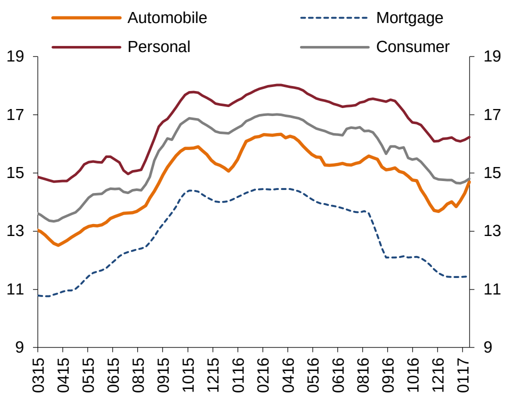
5.2. Credit Conditions

Loan Rates, Funding Costs and Interest Rate Spreads

The downtrend in consumer loan rates observed since the second quarter of 2016 lost pace in the last quarter of the year. The fall in mortgage loan rates has continued, but automobile and personal loan rates inched up in December (Chart 5.2.1). The average consumer loan rate exhibited a quarter-on-quarter decline by about 120 basis points, reaching 14.7 percent by the year-end.

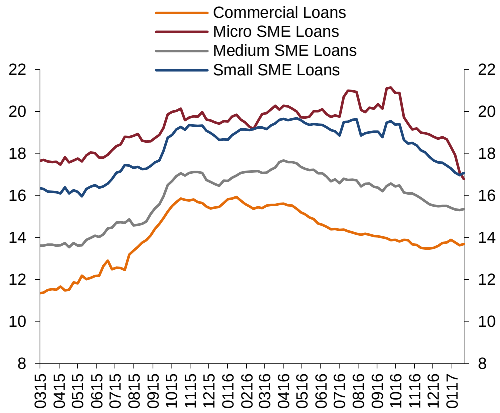
The ongoing downtrend in commercial loan rates has been more limited in the last quarter of the year. Despite a drop by 50 basis points at the end of November from the end of the third quarter, commercial loan rates displayed a slight pick-up in the succeeding period. TL commercial loan rates extended to SMEs registered a decline in the last quarter of the year due to the accommodative policies. The average TL commercial loan rate stood at 13.9 percent at the end of the year (Chart 5.2.2).

Chart 5.2.1.
Consumer Loan Rates
(Flow, Annualized, 4-Week Moving Average, Percent)



Source: CBRT.

Chart 5.2.2.
TL Commercial Loan Rates
(Flow, Annualized, 4-Week Moving Average, Percent)

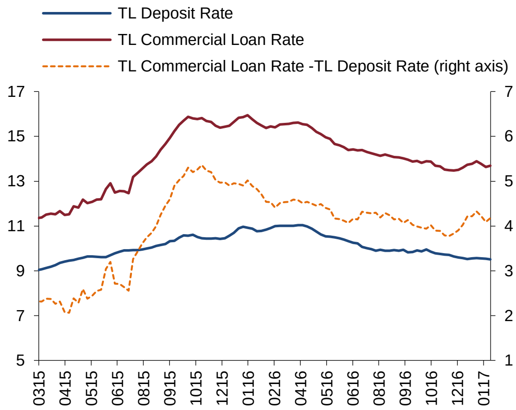


* Excluding overdraft accounts, credit cards and non-zero interest rate loans.
Source: CBRT.

Rates on deposits with maturities shorter than three months, which are the primary funding source of the banking sector, remained unchanged in the fourth quarter of 2016. As commercial loan rates increased, the spread between commercial loan rates and deposit rates rose by 34 basis points to 433 basis points in the last quarter of 2016 (Chart 5.2.3). The loan-deposit rate spread remains high compared to its historical averages.

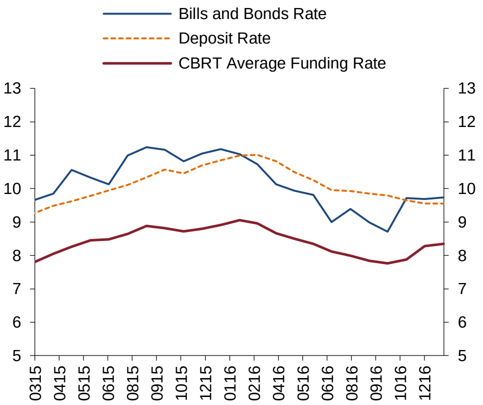
In November and December 2016, the downtrend in deposit rates lost momentum, while banks' non-deposit funding costs escalated (Chart 5.2.4). Accordingly, deposit rates remained relatively flat. Meanwhile, the aggressive tightening in the monetary policy as well as the rigidity in financial conditions resulted in an increase in both the CBRT's average funding rate and rates on bills and bonds issued by banks.

Chart 5.2.3.
TL Commercial Loan Rate and TL Deposit Rate
(Flow, Annualized, 4-Week Moving Average, Percent)



* Excluding overdraft accounts, credit cards and non-zero interest rate loans.
Source: CBRT.

Chart 5.2.4.
Indicators on Banks' Funding Costs
(Percent)

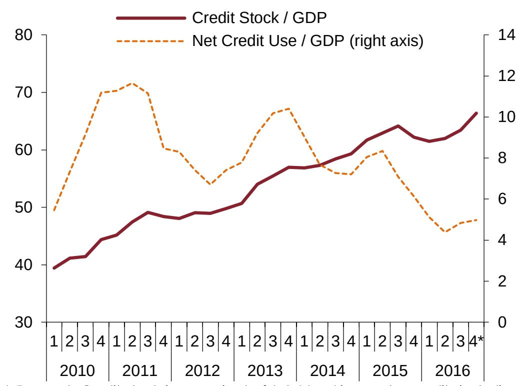


Source: PDP, CBRT.

Credit Volume

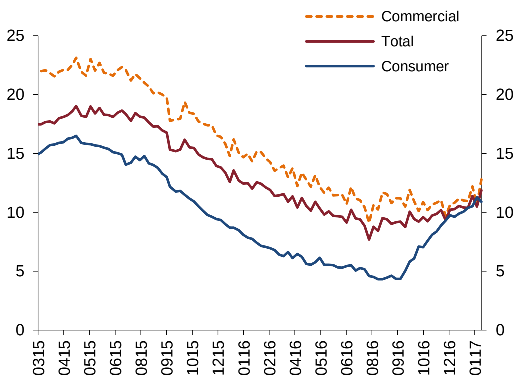
In the fourth quarter of 2016, the accommodative macroprudential policies, the CBRT's liquidity measures and government incentives led to a moderate increase in credit growth. The ratio of net credit use to the GDP, which is critical as a measure of financial stability also summarizing the relation of credit growth with economic activity and aggregate demand, inched up to 5 percent in the fourth quarter of 2016 (Chart 5.2.5).

Chart 5.2.5.
Domestic Credit Stock and Domestic Net Credit Use
(Percent)



* Forecast. Credit stock is comprised of total banking sector credits including participation banks, foreign branches and credit cards not adjusted for exchange rate. Net credit use is measured as the annual change in nominal credit stock adjusted for exchange rate.
Source: CBRT.

Chart 5.2.6.
Annual Loan Growth
(Adjusted for Exchange Rate, Percent)

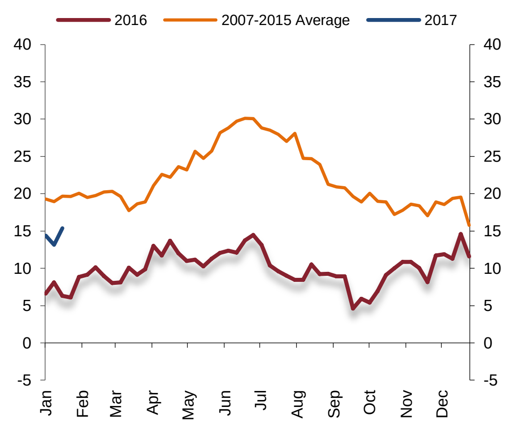


Source: CBRT.

Across sub-items of loans extended to the non-financial sector, the annual growth of commercial loans displayed a limited increase in the last quarter of the 2016, while consumer loans continued to grow at an accelerated pace owing to the partial recovery in consumer confidence as well as the lagged effects of the arrangements on consumer loans (Chart 5.2.6). As of year-end, total loans posted an annual increase by 10 percent in exchange-rate-adjusted terms.

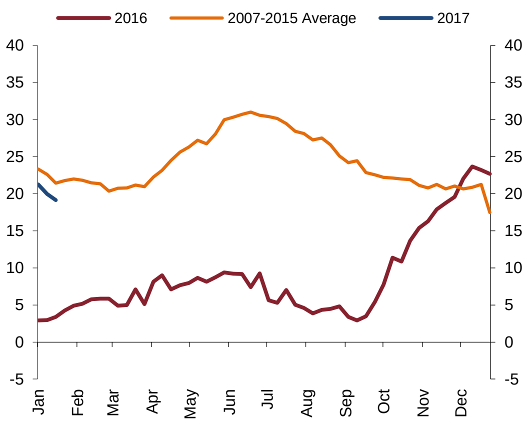
After edging down in the third quarter of 2016 due to seasonal factors, the annualized growth rate of total loans increased in the last quarter and reached 11.6 percent at the year-end. Total loans continued to increase in the first weeks of 2017 on the back of the higher-than-average jump in consumer loans in the last quarter of the year (Charts 5.2.7 and 5.2.8).

Chart 5.2.7.
Annualized Loan Growth
(Adjusted for Exchange Rate, 13-Week Moving Average, Percent)



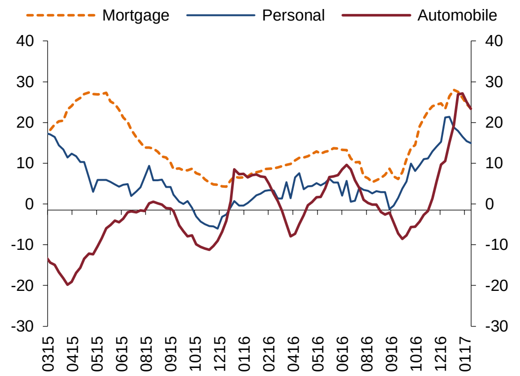
Source: CBRT.

Chart 5.2.8.
Annualized Consumer Loan Growth
(Adjusted for Exchange Rate, 13-Week Moving Average, Percent)



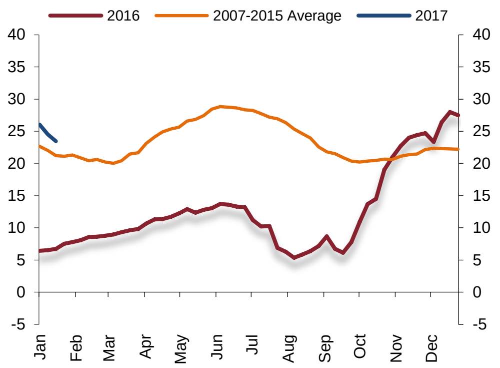
The breakdown of consumer loans suggests that the increase spilled over across the sub-items, with mortgage loans particularly growing at a faster pace above historical averages (Chart 5.2.9). As of the year-end, the annualized growth rate of mortgage loans reached 27.5 percent, while it hovered around 23 percent in the early weeks of 2017 (Chart 5.2.10). The annualized growth rate of personal loans also recorded a robust increase in the last quarter and stood around 18 percent as of year-end. In the meantime, demand was brought forward upon the announced SCT rate hike, which pushed the annualized growth rate of automobile loans above past averages up to 27 percent at the year-end.

Chart 5.2.9.
Annualized Consumer Loan Growth
(13-Week Moving Average, Percent)



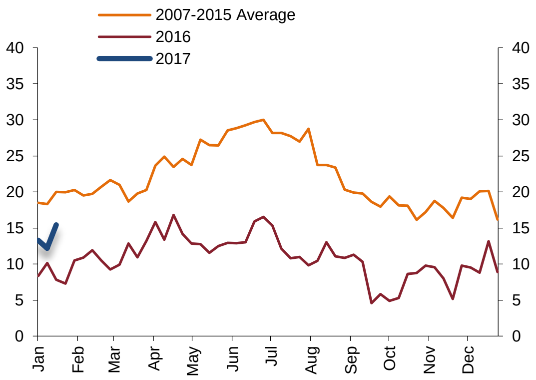
Source: CBRT.

Chart 5.2.10.
Annualized Mortgage Loan Growth
(13-Week Moving Average, Percent)



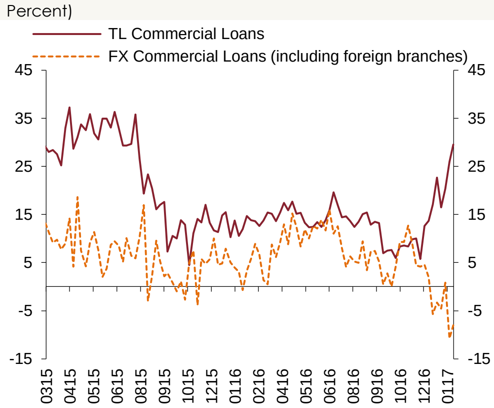
The annualized growth rate of commercial loans remained below past averages in the fourth quarter of 2016 (Chart 5.2.11). Meanwhile, the growth rate of total commercial loans registered a year-on-year upturn in early 2017. Sub-items of commercial loans reveal that the rise in the annualized growth rate of FX-denominated commercial loans dropped below zero due to exchange rate developments, aggravated costs of FX funding and the languishing investment appetite in the last quarter of the year. Meanwhile, in the same period, the annualized growth rate of TL-denominated commercial loans that are mostly used in financing business capital posted an increase owing also to the accommodative fiscal policies. The uptrend continued in the early weeks of 2017 and the growth rate of TL-denominated commercial loans stood around 30 percent as of 20 January (Chart 5.2.12).

Chart 5.2.11.
Annualized Consumer Loan Growth
(Adjusted for Exchange Rate, 13-Week Moving Average, Percent)



Source: CBRT.

Chart 5.2.12.
Annualized TL and FX Commercial Loan Growth
(Adjusted for Exchange Rate, 13-Week Moving Average, Percent)



Loan Standards

Results of the Loan Tendency Survey in the final quarter of 2016 indicate that commercial loan standards tightened further (Chart 5.2.13). On the other hand, historical averages suggest that commercial loan standards remained virtually unchanged. Commercial loan standards present a similar outlook in terms of scale, maturity and currency denomination, albeit displaying a more marked tightening in long term. According to banks, expectations for overall economic activity and the riskiness of business collaterals were the main drivers of tightening in commercial loan standards. In addition, collateral conditions for commercial loans were tighter in this period.

Banks responding to the survey indicated that loan demand declined in the fourth quarter (Chart 5.2.13). Across scale, loan demand from SMEs recorded an increase. In terms of maturity and currency denomination, the demand for both short-term loans and TL-denominated loans surged while long-term loans and FX-denominated loans posted a decline. The reason for the contraction in loan demand is the sluggish course of fixed investments. The need for debt restructuring remained as a factor to stimulate loan demand in the last quarter. Banks expect that commercial loan standards will tighten further in the first quarter of 2017, while the loan demand of businesses will increase. Banks' expectations for the first quarter of 2017 indicate that loan standards for SMEs will remain unchanged and the loan demand of SMEs will continue to grow.

Chart 5.2.13.
Commercial Loan Standards and Loan Demand*

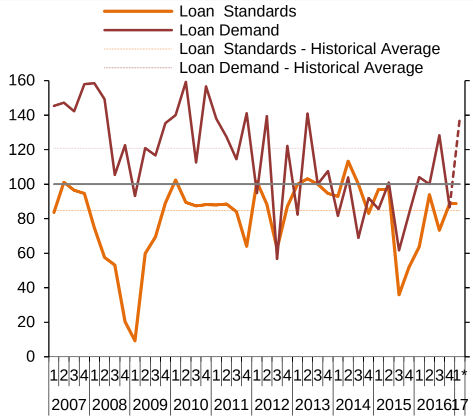
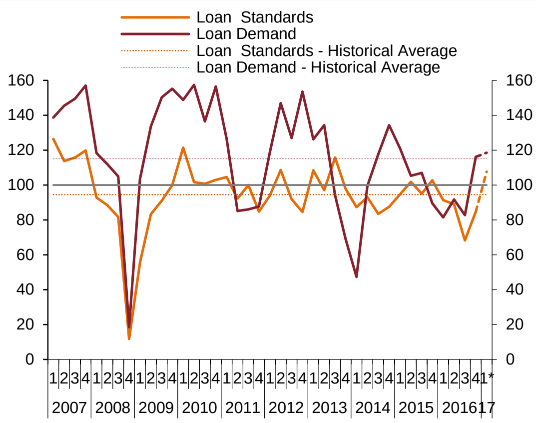


Chart 5.2.14.
Consumer Loan Standards and Loan Demand*



* Index values above 100 indicates easing in loan standards and increase in loan demand. Forecast for 2017Q1.
Source: CBRT.

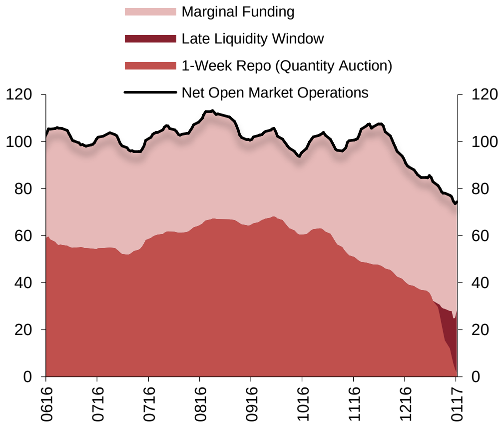
As for consumer loans, results of the Loan Tendency Survey indicate that loan standards tightened further across all sub-items of consumer loans in the fourth quarter of 2016 (Chart 5.2.14). Consumer loan demand suggests that demand for mortgages and personal loans recorded an increase in this period. According to banks, consumer confidence proved the leading factor to drive mortgage loan demand down, while expectations regarding the housing market drove it up. As for personal loans, individual savings gave a push to demand. On the consumer loans front, expectations of banks for the first quarter of 2017 suggest an easing in standards only in mortgage loans and an increase across all types of consumer loan demand.

5.3. Monetary Policy

Market Developments

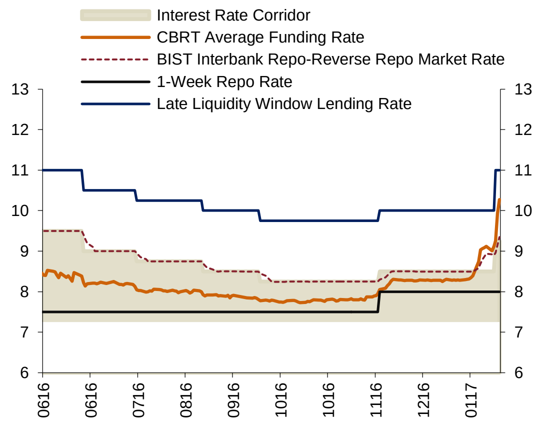
The CBRT funding was made through 1-week repo auctions through 2016 (Chart 5.3.1). At the November MPC meeting, 1-week repo and marginal funding rates were raised, which was reflected in the CBRT average funding rate as well (Chart 5.3.2). After 12 January 2017, the CBRT average funding rate and the overnight rates at the BIST Interbank Repo-Reverse Repo Market surged amid the suspension of 1-week repo auctions and the adoption of other liquidity policies. From 17 January onwards, the late liquidity window has also been used to meet some of the funding requirements, when deemed necessary.

Chart 5.3.1.
CBRT Funding*
(2-Week Moving Average, Billion TL)



* Marginal funding provided from the upper band of the interest rate corridor.
Source: CBRT.

Chart 5.3.2.
CBRT Policy Rates and BIST Interbank Repo-Reverse Repo Market Rate
(Percent)



Source: BIST, CBRT.

In the money market, funding with up to 1-week maturity is mostly obtained via swap markets, which have increased compared to the previous reporting period. This is followed by funds transacted under the BIST Interbank Repo-Reverse Repo Market and those which are exchanged by intermediaries under the BIST Repo-Reverse Repo Market (Chart 5.3.3). As a result of the CBRT's policies, from January 2017, the BIST Interbank Repo-Reverse Repo Market rate and 1–week swap rate exceeded the CBRT average funding rate and hovered close to the late liquidity window lending rate (Chart 5.3.4).

Chart 5.3.3.
Market Funding
(10-Day Moving Average, Billion TL)

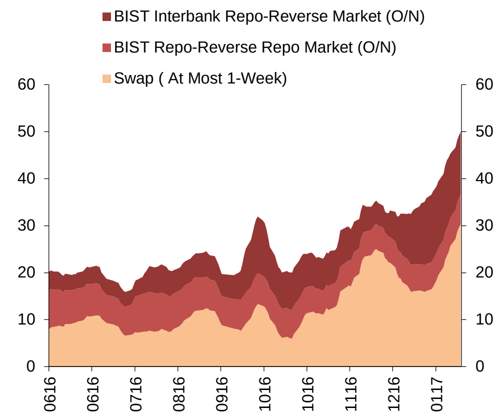
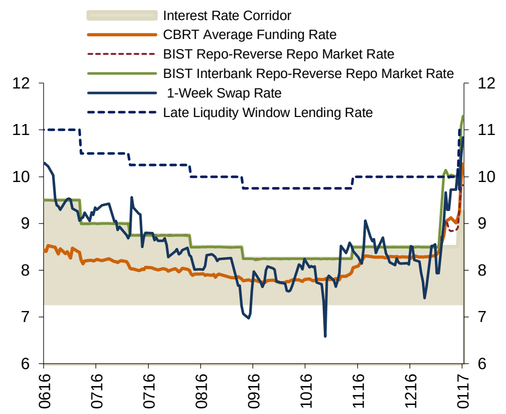


Chart 5.3.4.
Bank's Funding Costs at the Money Markets
(5-Day Moving Average, Percent)



Source: BIST, CBRT.

Following gradual reductions in the marginal funding rate in March-September 2016, the policy rate was kept unchanged in October, and the marginal funding rate and the 1-week repo auction rate were raised in November. Accordingly, the distribution of the expected CBRT average funding rate implied higher volatility in mid-January compared to October, while the mid-point of the distribution increased (Chart 5.3.5). In this period, 12-month and 24-month-ahead inflation expectations posted an uptick (Chart 5.3.6).

Chart 5.3.5.
Probability of Distribution for Expected CBRT Average Funding Rate*
(Percent)

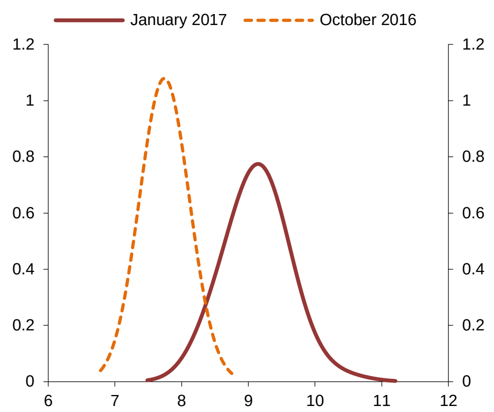
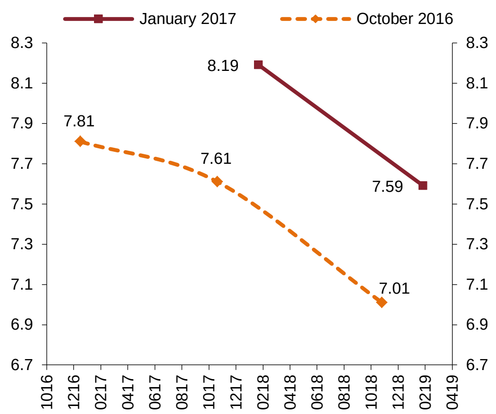


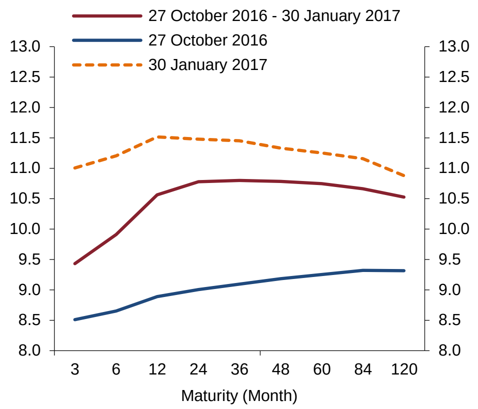
Chart 5.3.6.
Inflation Expectations**
(Percent)



* Measured by Kernel probability density function using CBRT Survey of Expectations.
** End of current month, current year-end, 12-month-ahead and 24-month-ahead policy rate expectations derived from the CBRT Survey of Expectations.
Source: CBRT.

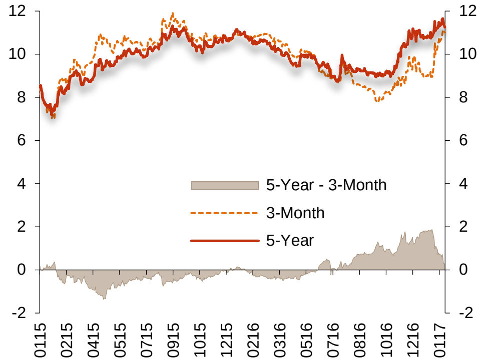
The yield curve has shifted upwards since the previous reporting period due to more blurred global, geopolitical and domestic conditions coupled with the higher inflation expectations (Chart 5.3.7). The yield curve has recently flattened amid CBRT's strong monetary tightening. In fact, the 5-year and 3-month currency swap rate spread, which has taken positive values since the second half of 2016, plunged in the inter-reporting period (Chart 5.3.8).

Chart 5.3.7.
Yield Curve on Currency Swaps
(Percent)



Source: Bloomberg.

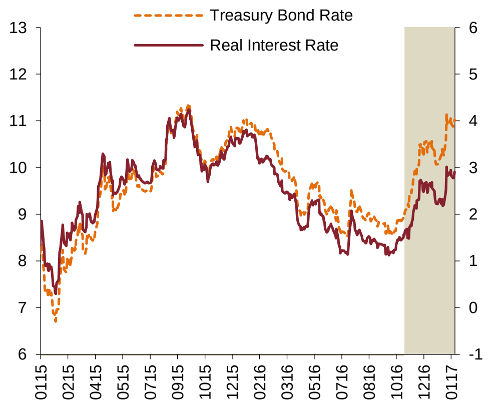
Chart 5.3.8.
Currency Swap Rates
(Percent, 5-Day Moving Average)



Source: Bloomberg, BIST.

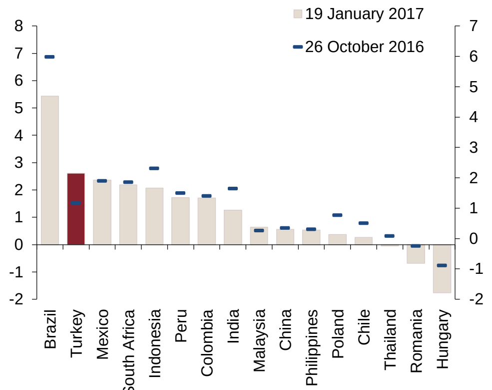
Against these developments, the 2-year bond yield also trended upwards (Chart 5.3.9). With the increases in the nominal rate exceeding the rise in inflation expectations, the 2-year real interest rates also surged. Turkey's 2-year real interest rates have been higher than the average of other emerging economies (Chart 5.3.10).

Chart 5.3.9.
2-Year Treasury Bond Rate and the Real Interest Rate in Turkey*
(Percent)



* Real interest rate is calculated as the difference between 2-year bond rate and the 24-month-ahead inflation expectations derived from the CBRT Survey of Expectations.
Source: Bloomberg, BIST, CBRT.

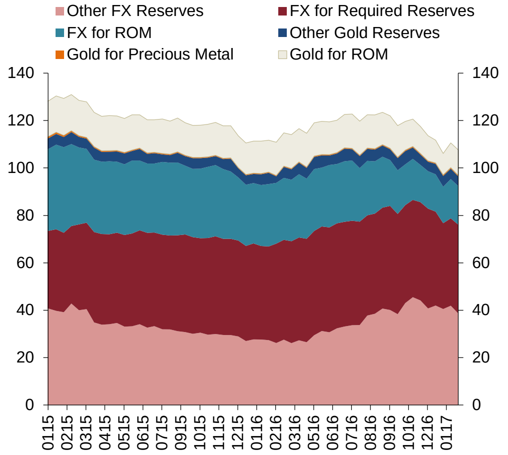
Chart 5.3.10.
2-Year Real Interest Rates*
(Percent)



* Real interest rate is calculated as the difference between 2-year bond rate and the 24-month-ahead inflation expectations derived from the Consensus Forecasts for respective countries.
Source: Bloomberg, Consensus Forecasts, CBRT.

Owing to the arrangements introduced to the FX required reserve ratios and the use of the ROM, CBRT's gross FX reserves decreased slightly at the end of January compared to the previous reporting period (Chart 5.3.11). Rising exchange rates also had a dampening effect on the amounts maintained under the ROM. Posting a total of 15 billion USD in 2016, rediscount credits caused CBRT's other FX reserves to increase (Table 5.3.1).

Chart 5.3.11.
CBRT FX Reserves
(Billion USD)



Source: CBRT.

Table 5.3.1.
CBRT FX Reserves and Rediscount Credits
(Billion USD)

	Rediscount Credits	CBRT FX Reserves
2011	1.9	94
2012	8.3	120.6
2013	12.6	135.1
2014	13	127.3
2015	15.1	113.5
2016Q1	3.3	114
2016Q2	3.8	120
2016Q3	3.8	123.4
2016 October	1.2	119.6
2016 November	1.5	117.5
2016 December	1.3	106.1
2016 Total	15	106.1

Monetary Policy Response

In 2016, the CBRT maintained its tight stance against the inflation outlook, stabilizing stance for the FX liquidity and the supportive stance for financial stability. In the first quarter of 2016, less volatile global markets and active use of policy tools accompanied by tight liquidity policy and a cautious macroprudential policy reduced the need for a wide interest rate corridor. The fall in inflationary pressures, tightness in financial conditions and the mild course of global financial markets from March to September 2016 enabled the CBRT to simplify the interest rate corridor policy. Accordingly, the upper band of the corridor was lowered by 250 basis points in total through measured and prudent steps in the March–September 2016 period. Overnight lending rates, which were 10.75 percent in March, were reduced to 8.25 percent in September. Thus, the corridor width, which was 350 basis points in March, was narrowed down to 100 basis points in September. In this period, the overnight borrowing rate and 1-week repo rate were kept unchanged at 7.25 and 7.50 percent, respectively.

In October 2016, thanks to the CBRT policies, monetary conditions grew less tight and macroprudential arrangements gave support to financial conditions. The slowdown in aggregate demand underpinned the gradual fall in core inflation, while developments in the exchange rate and other cost factors limited the improvement in the inflation outlook and necessitated the maintenance of the cautious stance in the monetary policy. Against this background, the CBRT decided to keep policy rates unchanged in October. Lingering uncertainties regarding global economic policies and the upward revision of the expected Fed rate caused fluctuations in financial markets and the depreciation of the real exchange rate in Turkey, as in other emerging economies in November 2016. To prevent these factors from deteriorating inflation expectations and the pricing behavior, the CBRT opted for some monetary tightening in November. Accordingly, the 1-week repo rate and the CBRT overnight lending rate were raised by 50 and 25 basis points, respectively.

Exchange rate developments and soaring oil prices resulting from aggravated global volatilities towards the end of the year pose upside risks to the inflation outlook. On the other hand, aggregate demand conditions curb these effects. Considering the benefits of monitoring these effects closely for a more reliable evaluation of these factors, the CBRT kept interest rates intact in December.

In January 2017, excessive volatility in exchange rates weighed on upside risks to the inflation outlook. Projecting that inflation may soar remarkably in the short term given the lagged effects of exchange rate developments and volatile unprocessed food prices, the CBRT decided to deliver more aggressive monetary tightening to hinder the deterioration in the inflation outlook. Accordingly, the marginal funding rate was increased from 8.5 percent to 9.25 percent, and the lending rate was raised from 10 percent to 11 percent under the late liquidity window facility at the January MPC meeting.

Throughout 2016, in addition to the abovementioned policy rate decisions, the CBRT took a series of measures on TL and FX liquidity management within the monetary policy framework. Accordingly, starting from 3 June 2016, the CBRT has aimed to evenly distribute weekly funding across days in determining the daily auction amount of 1-week repo funding provided by the quantity auction method. This move was implemented to enhance the predictability of liquidity policy and the effectiveness of liquidity management of banks. In addition, the CBRT decided to continue with outright purchase auctions until the year-end to support effective management of TL liquidity policy on 29 June 2016. To contain the adverse effects of the mid-July turmoil on financial markets and enhance the smooth operating of markets, unlimited liquidity was facilitated through TL deposit transactions and the intra-day liquidity facility commission was lowered to zero. Also, maintenance of unlimited collateral FX deposits was facilitated to amplify TL liquidity. The collateral management flexibility offered to banks by this facility supported banks' liquidity managements and contributed to the fall in the off-balance sheet FX position. Thanks also to the liquidity measures, which lowered the need for an unlimited collateral FX deposit facility over time, imposition of limits to FX collateral deposits was re-started as of 11 November 2016. Moreover, TL required reserve ratios were reduced by 100 basis points in total in all maturity brackets in August and September 2016, which provided liquidity to the system.

As well as the TL liquidity management, the CBRT also took measures to contribute to the liquidity in the FX market against exchange rate volatilities, particularly in the second half of 2016. FX required reserve ratios and reserve option coefficients were adjusted to inject additional FX liquidity to the financial system. Accordingly, the coefficients for the second, third and fourth tranches of the FX facility of the ROM were reduced by 0.2 points on 31 October 2016. In addition, the upper limit of FX reserve requirements was increased from 3 points to 4 points to foster the FX liquidity management of banks. On 17 November 2016, the coefficient for the first tranche of the FX facility of the ROM was kept unchanged, the second tranche was cut by 0.1 point, and the other tranches were reduced by 0.2 points. On 24 November 2016, the FX required reserve ratios were reduced by 50 basis points in all maturity brackets. Moreover, maturity extension and re-payment in TL options were introduced to export rediscount credits for re-payments by the year-end, limits were re-introduced to collateral FX deposits, and demand from the energy-importing public institutions were partly met by the CBRT and the Undersecretariat of the Treasury depending on market conditions. All these measures supported the FX liquidity in the market.

In early January 2017, some liquidity measures were taken to prevent the volatile exchange rates and price formations detached from economic fundamentals from distorting the price stability and financial stability. Accordingly, the CBRT has not launched any 1-week repo auctions since 12

January 2017, which directed banks to financing resources with higher costs in the money markets. Moreover, banks' borrowing limits at the CBRT Interbank Money Market were reduced to 22 billion TL effective as of 11 January 2017 and to 11 billion TL as of 16 January 2017. To be implemented on the days deemed necessary as of 16 January, a limitation was introduced to the amount of funding provided by the CBRT through the BIST Interbank Repo-Reverse Repo Market. In early January, other than the abovementioned measures, FX required reserve ratios were reduced by 50 basis points in all maturities, providing the financial system with around 1.5 billion USD additional liquidity. Furthermore, to enhance the flexibility and instrument diversity of the TL and FX liquidity management, the CBRT launched the Foreign Exchange Deposits against TL Deposits Market on 17 January 2017.

Box 5.1 Open Market Operations, Portfolio Size of Securities and Outright Purchasing Transactions

The CBRT should hold sufficient amounts of domestic government bonds or lease certificates issued by HMVKŞ (Undersecretariat of the Treasury Asset Leasing Company) for open market operations. This is a technical requirement, which enables the CBRT to control interest rates in the BIST Repo-Reverse Repo Market and BIST Interbank Repo-Reverse Repo Market, to manage the system's funding need, to maintain tool diversity in liquidity management and to have operational flexibility.

The targeted portfolio size in open market operations is announced yearly in the CBRT Monetary and Exchange Rate Policy documents. In this regard, the portfolio target was set as 8.2 billion TL for 2012 and a nominal of 9 billion TL for 2013 and onwards. The targeted portfolio size was revised from 9 billion TL to 14 billion TL for 2016 with the press release on 29 June 2016. For 2017, the portfolio size is set as 15 billion TL in the Monetary and Exchange Rate Policy for 2017. In line with this target, outright purchases are conducted by also taking the security redemptions on the balance sheet into consideration during the year.

Domestic government bonds and lease certificates to be purchased outright are announced through data dissemination channels at 10:00 a.m. on the first working day of the month. Therefore, outright purchasing auctions were held on Wednesdays or Fridays with value day as the next business day via the traditional method. Outright purchasing auctions on Mondays have been facilitated with the Monetary and Exchange Rate Policy for 2017. Securities to be purchased can be TL-denominated, discounted, fixed and variable-rate coupon domestic government bonds or lease certificates. Each auction amount was set to be no more than a nominal of 150 million TL; while, recently, 75 million TL have been purchased outright in each auction.

The analysis of the CBRT's open market operations after 2012 indicates that the portfolio size of open market operations has remained constant while CBRT's total asset size has increased in tandem with the economic and financial developments (Chart 1). Thus, the ratio of portfolio size to total assets has declined since 2012 (Chart 2).

Chart 1. Open Market Operations Portfolio and its Share within CBRT Total Assets

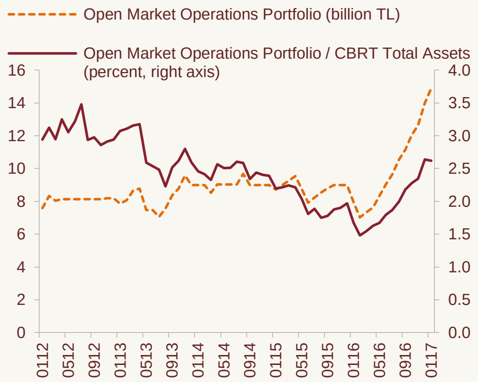
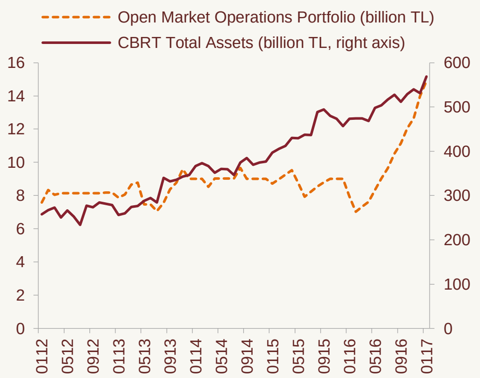


Chart 2. Open Market Operations Portfolio and CBRT Total Assets



Source: CBRT.

As of end-January, the CBRT's total portfolio size stood at 15.2 billion TL, consisting of 15 billion TL of coupon domestic government bonds and 0.2 billion TL of lease certificates. The share of portfolio size in the CBRT's total assets was 2.7 percent as of end-January.

One of the major purposes of resorting to outright purchase transactions is to provide permanent liquidity to the market. Therefore, raising the total portfolio size in open market operations enhances the predictability of the funding need of the financial system. In that sense, outright purchases stand out as an effective tool for managing the system's funding need. Outright purchases increase the market liquidity and the renewal of securities to be redeemed in the CBRT's portfolio through the outright purchases offsets the pressure on the banks' balance sheets exerted by redemptions to the CBRT.

In sum, the CBRT set the size of the open market operations portfolio as 15 billion TL for 2017. Yet, as stated in the Monetary and Exchange Rate Policy for 2017, The CBRT also reserved the right to implement the additional purchasing option in order to maintain operational flexibility and limit the rise in the system's funding need. Revisions in the targeted portfolio due to the changes in liquidity conditions and operational requirements will be announced to the public via press releases.