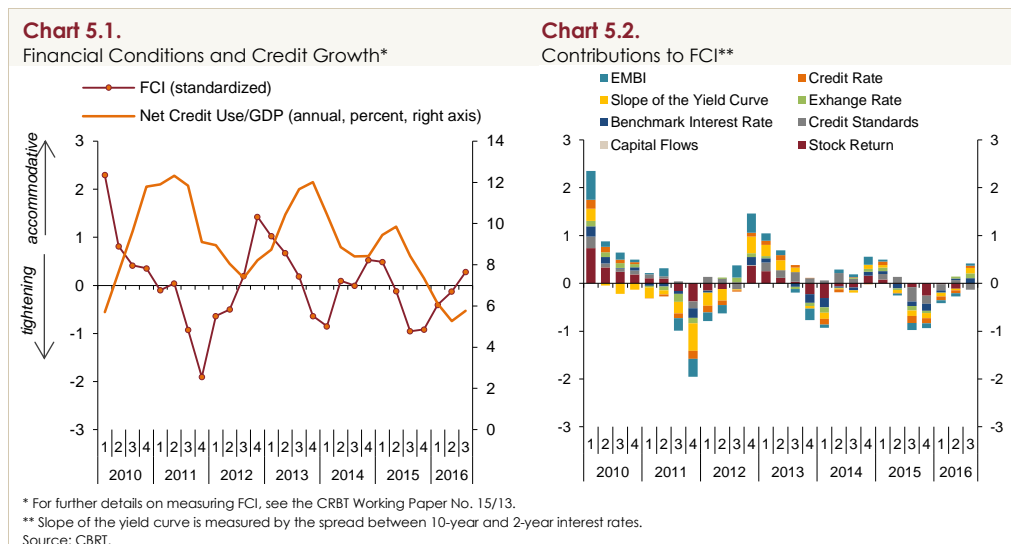


5. Financial Markets and Financial Intermediation

Leading indicators for the third quarter of 2016 pointed to a moderate improvement in global economic activity, yet global growth still remains at a historical low. The weak growth and trade volume cause continued low levels in commodity prices and inflation rates. Thus, advanced economies opt for more expansionary monetary policies. The improving global risk sentiment and low interest rates across advanced economies boosted portfolio flows towards emerging economies in the inter-reporting period. However, portfolio flows have weakened recently amid Fed rate hike prospects and uncertainties over monetary policies of other major central banks.

Due also to the CBRT's liquidity measures, domestic funding conditions of the Turkish banking sector followed a favorable course over the inter-reporting period, and consumer credits showed signs of recovery thanks to positive implications of the adopted macroprudential policies. However, the persistence in domestic uncertainty, decisions of credit rating agencies and geopolitical tensions may cause volatility in domestic financial markets. The CBRT's decisions to reduce the marginal funding rate have partly passed through to credit rates, but credit conditions remain tight due to uncertainties in financial markets.

This environment of uncertainty weighed on accommodative liquidity measures and macroprudential policies, keeping them from having a positive effect on financial markets in the third quarter. Therefore, the FCI calculated for Turkey stood slightly above the neutral mark in the third quarter of 2016 (Chart 5.1). In the third quarter, the real exchange rate, the benchmark rate, stock return, credit rate, EMBI and the slope of the yield curve provided only a small positive contribution to the index, whereas the contribution of capital flows remained flat and credit standards had a downward impact on the index (Chart 5.2).



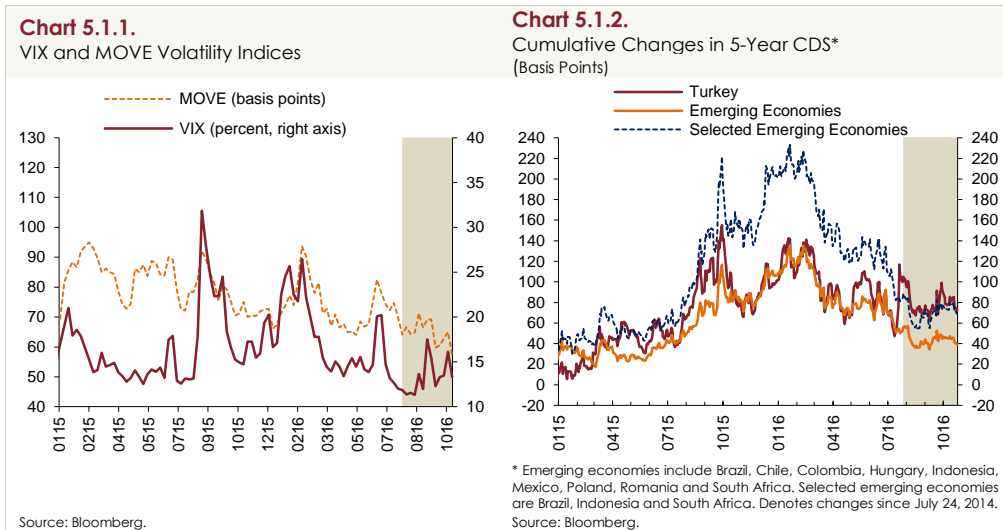
The downgrading of Turkey's international credit rating to non-investment grade in September was largely anticipated by markets, and thus received little reaction from financial markets. On the other hand, credit conditions might be affected slightly in the upcoming period depending on how much the downgrade will be reflected on banks' external funding conditions. However, on the back of

the CBRT's liquidity measures, macroprudential adjustments, fiscal policy incentives and Turkey's solid macroeconomic foundations, the downgrade is expected to have a short-lived and limited impact on credit conditions.

5.1. Financial Markets

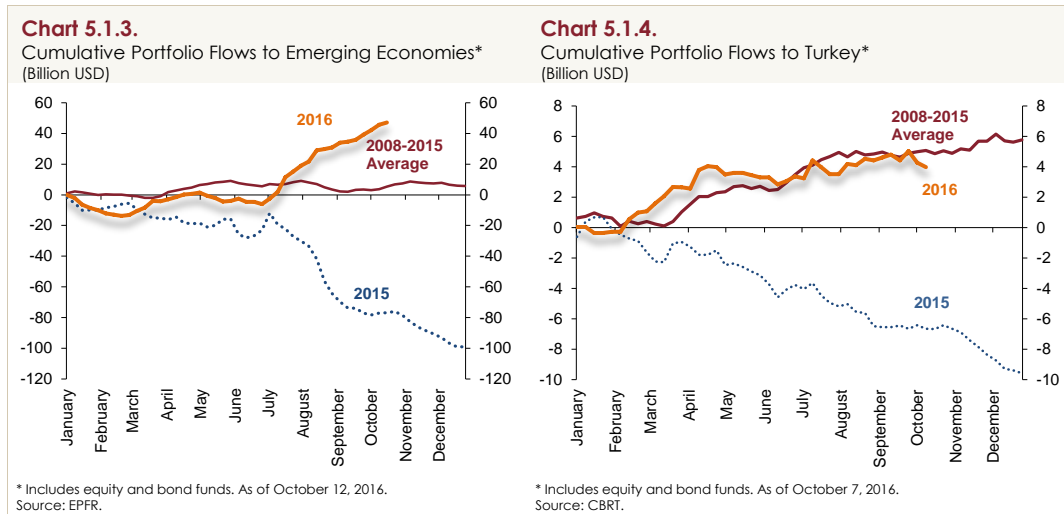
Global Risk Perceptions

With major central banks' maintaining accommodative monetary policies, the global risk sentiment fluctuated in the third quarter of 2016 amid Fed rate hike prospects (Chart 5.1.1). While the downtrend in bond yields of advanced economies has ended, global interest rates still remain at historically low levels (Chart 2.3.1). In fact, the risk sentiment towards emerging economies remained upbeat in the inter-reporting period and CDS premiums remained low compared to previous periods (Chart 5.1.2). In this period, the effects of the July domestic turbulence on Turkey's CDS premium were partly offset.

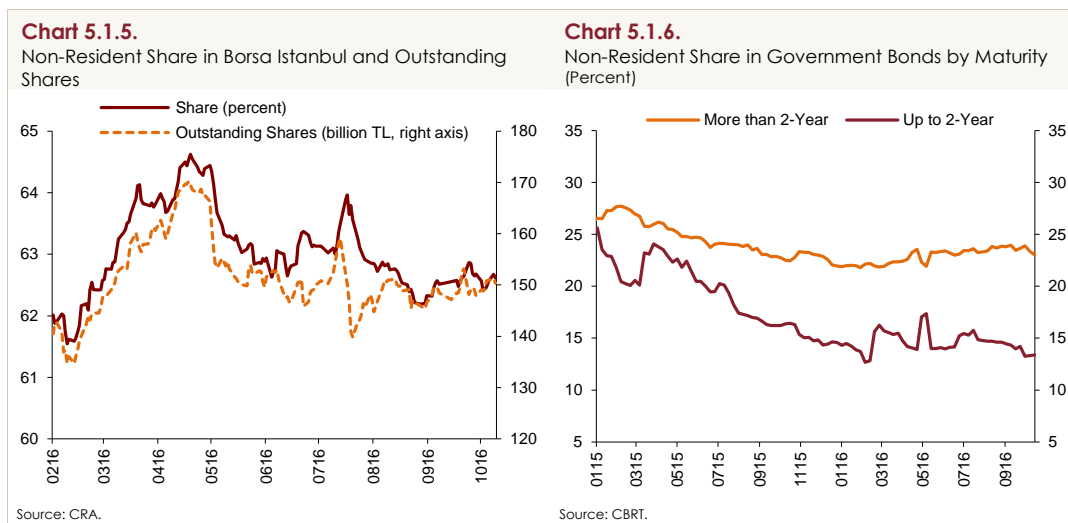


Portfolio Flows

Amid accommodative monetary policies and low long-term interest rates in advanced economies, portfolio flows have moved towards emerging economies starting from July. Yet, due to the recent global monetary policy uncertainty, the pace of these flows have decelerated slightly (Chart 2.3.4). In cumulative terms, portfolio inflows increased above 2008-2015 average with the recent surge of flows (Chart 5.1.3). Portfolio flows to emerging economies are concentrated mostly in bonds rather than equity funds. In the same period, portfolio flows into Turkey remained limited compared to other emerging economies due to domestic developments and hovered close to past years' averages (Chart 5.1.4).

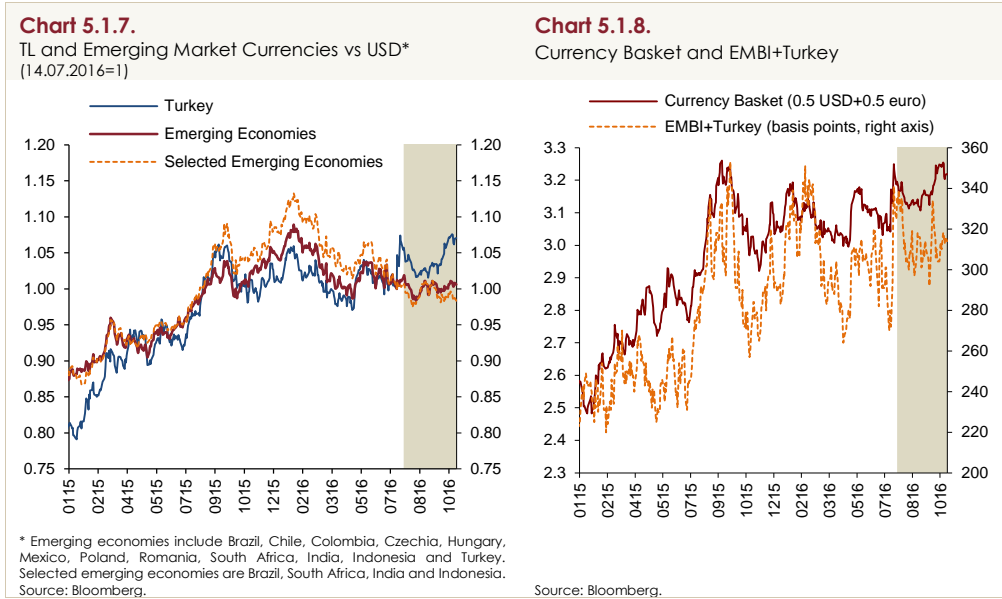


Despite volatile domestic markets since mid-July, non-residents' shares of equities and government bonds barely changed (Charts 5.1.5 and 5.1.6). The demand of non-residents for government bonds with more than 2-year maturities remains strong, which signals that foreign investors are optimistic about Turkey's medium and long-term outlook.

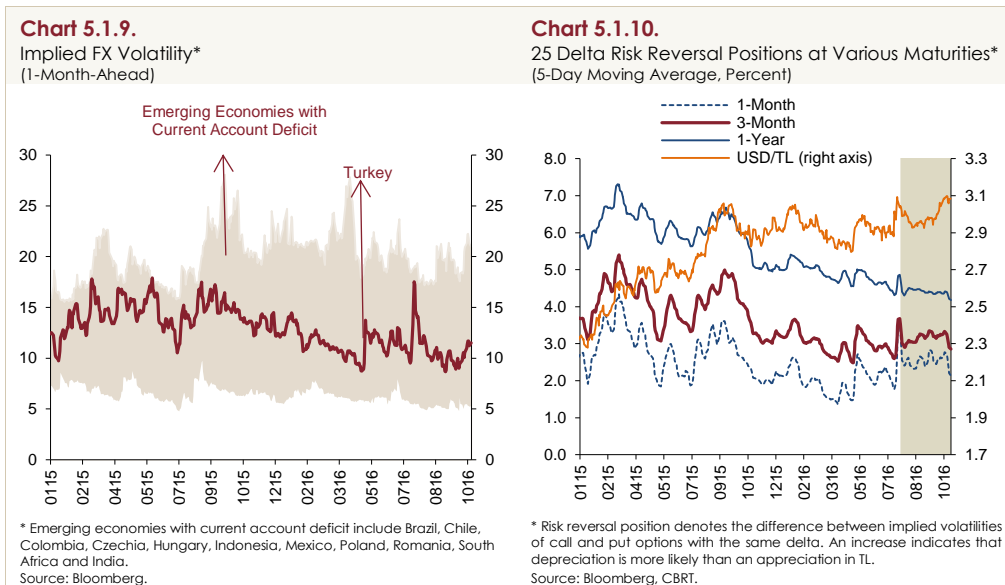


Exchange Rates

In the inter-reporting period, currencies of emerging economies appreciated slightly against the US dollar (Chart 5.1.7). Currencies of commodity exporting countries such as Brazil, South Africa, India and Indonesia outperformed currencies of other emerging economies due to the mild recovery in commodity prices. The Turkish lira appreciated rapidly against the US dollar particularly after the effects of the July turmoil died down, but, in September, it slightly underperformed emerging economies' averages due to rising oil prices, the increased domestic uncertainty, the decisions of credit rating agencies and geopolitical tensions (Chart 5.1.8).



The implied exchange rate volatilities for currencies of emerging economies with a current account deficit have remained flat since the previous reporting period. After rising due to the mid-July turbulence, the implied volatility of the Turkish lira fell rapidly in August below that of other emerging economies with current account deficit (Chart 5.1.9). Since the end of September, the short-term exchange rate volatility has posted some increase in line with exchange rate developments. Surging temporarily in July, risk reversal positions have returned to previous levels as of August (Chart 5.1.10).



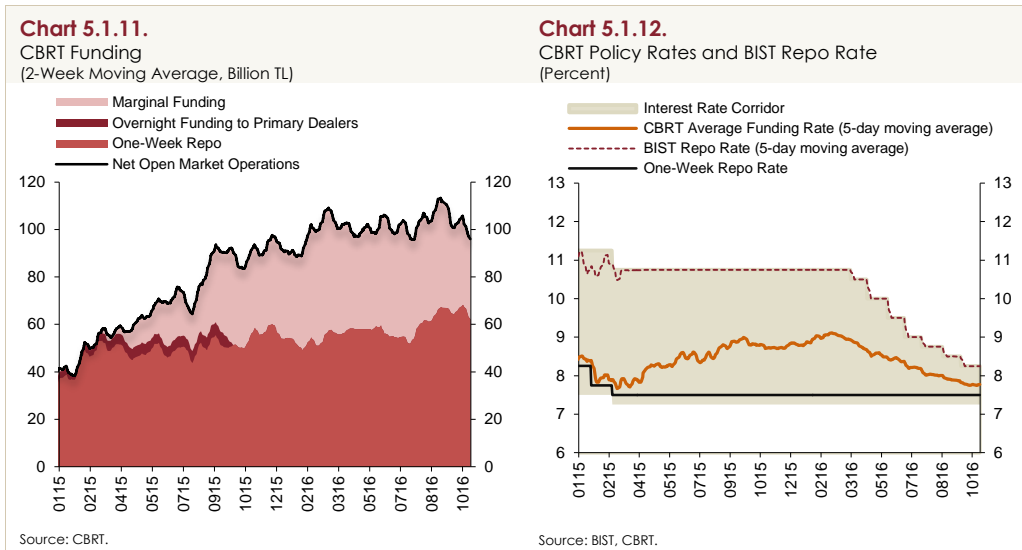
Monetary Policy

The effective use of the policy tools announced in the road map of August 2015, together with the tight liquidity policy and the cautious macroprudential policy framework have strengthened the resilience of the economy against global shocks, which in turn has reduced the need for a wide interest rate corridor. Thus, the CBRT decided to take measured steps towards simplification of the monetary policy by lowering the marginal funding rate by 25 basis points in March and 50 basis points each in the April, May and June MPC meetings. Despite recent domestic tensions, financial markets fluctuated only slightly and temporarily thanks to the favorable course of the global risk appetite and the effective liquidity measures taken by the CBRT since July. These developments show that the macroeconomic fundamentals of the Turkish economy are strong and resilient against shocks. In view of its contribution to an effective monetary policy, the CBRT continued to take measured and cautious steps towards simplification by lowering the marginal funding rate further by 25 basis points each in the July, August and September MPC meetings.

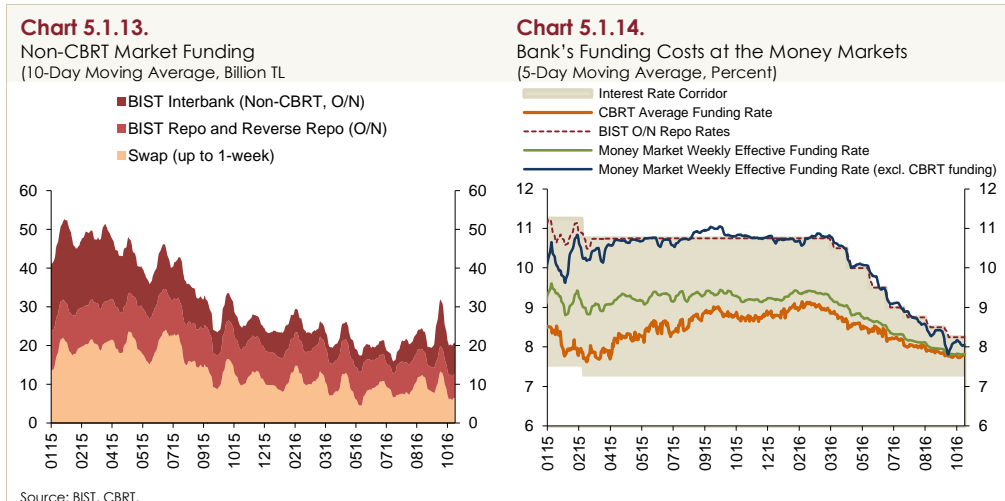
On July 27, in order to support the effectiveness of banks' liquidity management, the haircut/discount rates of Turkish lira and FX-denominated collaterals pledged against Turkish lira transactions were changed by taking into account of their types and maturities. With this adjustment, a part of pledged collaterals was released. Again within the liquidity policy, the CBRT made changes to reserve requirement ratios and reserve option coefficients in the inter-reporting period. Accordingly, the Turkish lira reserve requirement ratios were decreased by 50 basis points for all maturity brackets on August 9 and September 6. On the same dates, coefficients for the second, third and fourth tranches of the FX facility and for the first three tranches of the gold facility under ROM were increased by 0.1 point. Assuming that the reserve option utilization rates remain unchanged, additional Turkish lira and USD liquidity were provided to the financial system with these changes.

Overall financial conditions are supported by macroprudential adjustments and the reduced tightening in monetary conditions, which is also owed to the CBRT's policy actions. Developments in exchange rates and other cost factors limit the improvement in the inflation outlook and require that the cautious monetary policy stance be maintained. Against this background, the CBRT decided to keep policy rates constant in October. The direction and the timing of the next step towards monetary policy simplification will depend on data. In the upcoming period, the monetary policy decisions will be conditional on the inflation outlook. Taking into account inflation expectations, the pricing behavior and the course of other factors affecting inflation, the cautious monetary policy stance will be maintained.

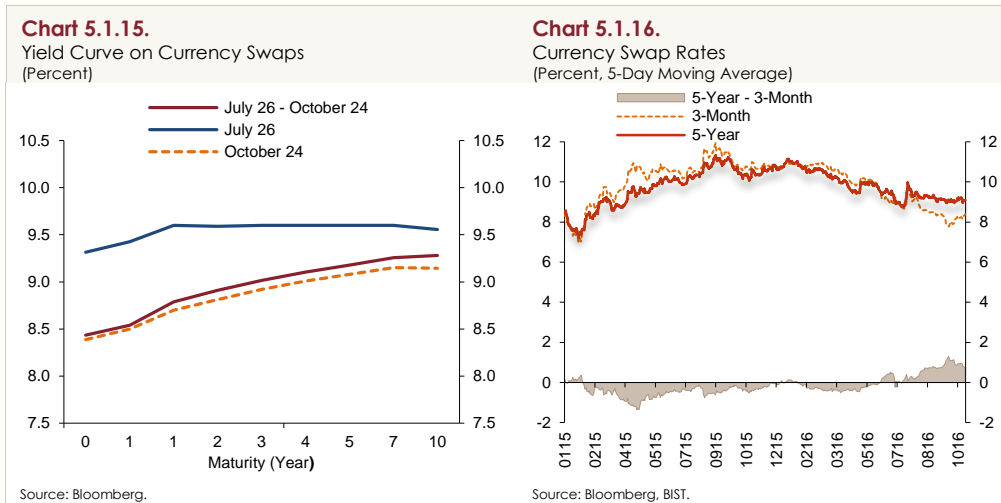
One-week repo auctions, which account for a large portion of the CBRT funding, were up from the previous reporting period, while the share of marginal funding fell slightly (Chart 5.1.11). In line with the increased share of weekly repo and the reduced marginal funding rate, the average funding rate of the CBRT also fell by about 20 basis points from the previous reporting period and stood at 7.80 percent as of October 24. Interbank overnight repo rates continued to fall on a par with the marginal funding rate cut (Chart 5.1.12).



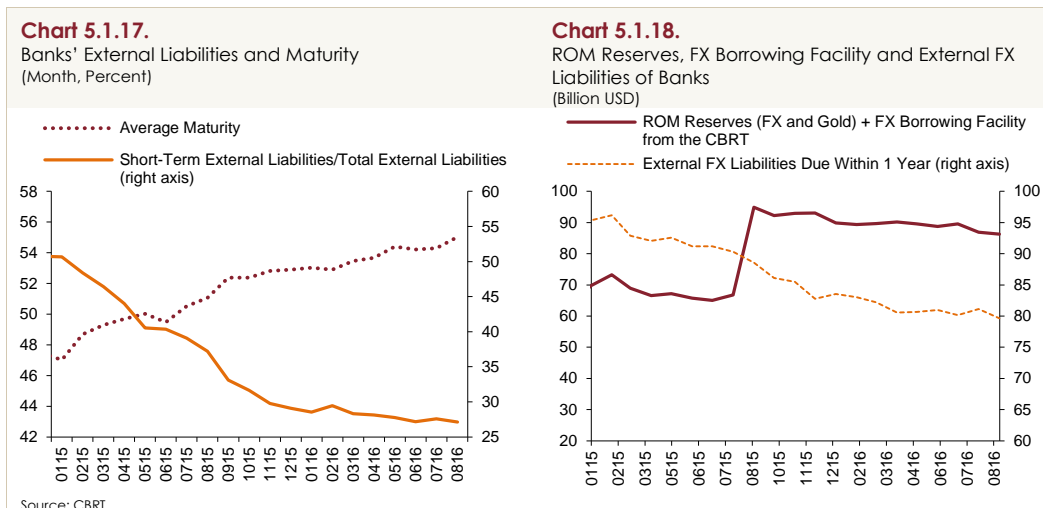
In the money market, non-CBRT market funding with up to one-week maturity is mostly obtained via swap markets. This is followed by funds transacted under the BIST Interbank Repo and Reverse Repo Market and those which are exchanged by intermediaries under the BIST Repo and Reverse Repo Market (Chart 5.1.13). The effective funding rate, which is calculated by the weights of the CBRT and non-CBRT funds in total funds, was 7.79 percent on October 25 (Chart 5.1.14). Falling short-term market rates driven by the reductions in the upper band of the interest rate corridor cause the effective funding rate to approach the average funding rate. The fact that different types of interest rates in the money market hover close to each other is viewed to be favorable in terms of the effectiveness of the monetary policy transmission.



Ongoing expectations for an extended period of low policy rates across advanced economies, the benign course of domestic macroeconomic indicators and further reductions in the marginal funding rate caused the yield curve derived from currency swap rates to shift down across all maturities in the inter-reporting period (Chart 5.1.15). Short-term rates registered a faster decline in line with the CBRT's reduced funding rate. Accordingly, the yield curve based on the gap between 5-year and 3-month currency swap rates trended higher compared to the previous reporting period (Chart 5.1.16).



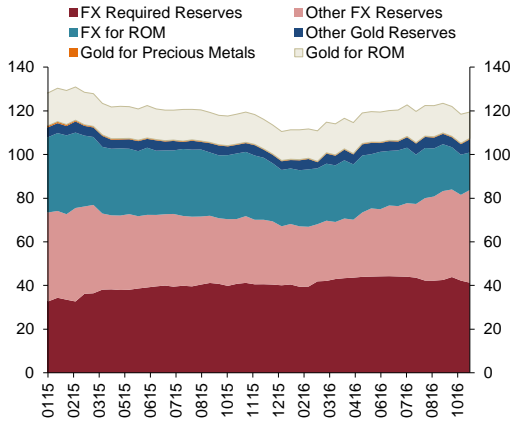
Thanks to the measures taken by the CBRT since early 2015 to support financial stability, the average maturity of banks' non-core FX liabilities has followed a relatively flat course as of August 2016 (Chart 5.1.17). The extended maturity of banks' external borrowing helps to alleviate the rollover risk and also strengthens the resilience of banks against global shocks. The CBRT took measures to enhance the flexibility of the FX liquidity management as of the second half of 2015. Accordingly, deposit limits allocated to banks and the sum of gold and FX-denominated assets held at the CBRT under the ROM reached a level that could easily meet all the external liabilities of banks in the next one year. This level has been maintained as of August 2016 (Chart 5.1.18).



The CBRT's gross FX reserves remained flat as of October 21 compared to the previous reporting period (Chart 5.1.19). On the other hand, other FX reserves increased by 8.8 billion USD in this period amid the contribution of rediscount credits for exports as well as the fact that the CBRT's direct FX sales to energy-importing state institutions declined and the amount of daily FX auctions were lowered to zero. The FX amount obtained by rediscount credits through 2016 equaled 10.9 billion USD as of September (Table 5.1.1). Appreciation in exchange rates led to a decline in the amount held by banks under the ROM.

Chart 5.1.19.

CBRT FX Reserves*
(Billion USD)



Source: CBRT.

Table 5.1.1.

CBRT FX Reserves and Contribution of Rediscount Credits to FX Reserves
(Billion USD)

	Rediscount Credits	CBRT FX Reserves
2015	15.18	113
2016	10.95	122
January	1.08	111
February	1.1	111
March	1.13	114
April	1.03	116
May	1.37	118
June	1.4	120
July	1.35	120
August	1.02	122
September	1.44	118

Market Rates

In the inter-reporting period, global monetary policy actions were the key factors affecting market rates in emerging economies, and both short-term and long-term rates dropped in many countries. Market rates were on the rise in Mexico, where interest rates are still hiked, but went down in India and Indonesia, where policy rates are still cut and in Brazil and Colombia, where interest rates are no longer hiked (Charts 5.1.20 and 5.1.21). In addition, market rates also declined in Turkey, where the marginal funding rate was lowered until October. The fall in market rates was higher in Turkey after the mid-July fluctuations, particularly for shorter maturities, compared to other emerging economies. However, market rates are still high in Turkey compared to other emerging economies (Charts 5.1.22 and 5.1.23).

Chart 5.1.20.

Changes in 5-Year Market Rates*
(Percent)

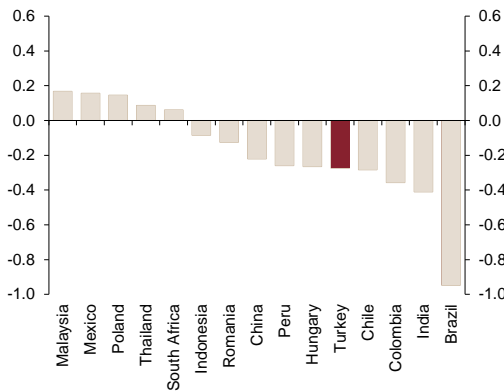
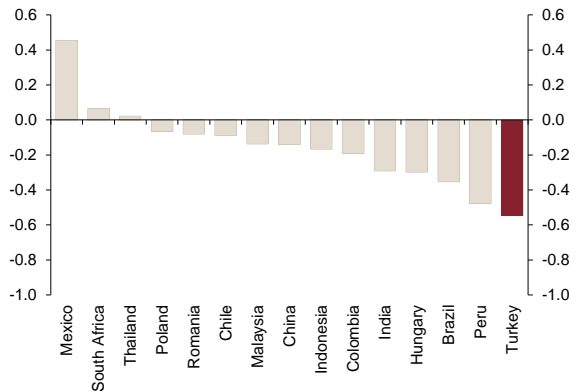
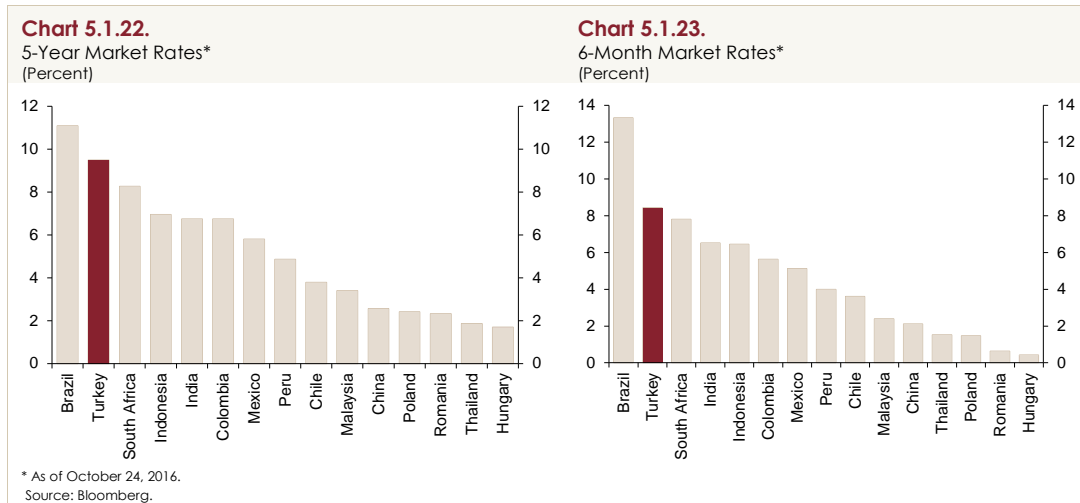


Chart 5.1.21.

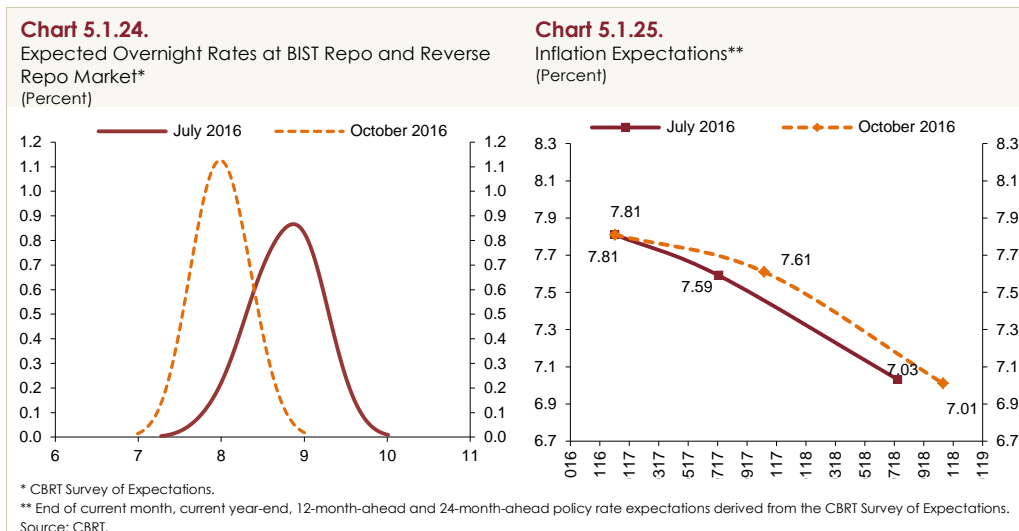
Changes in 6-Month Market Rates*
(Percent)



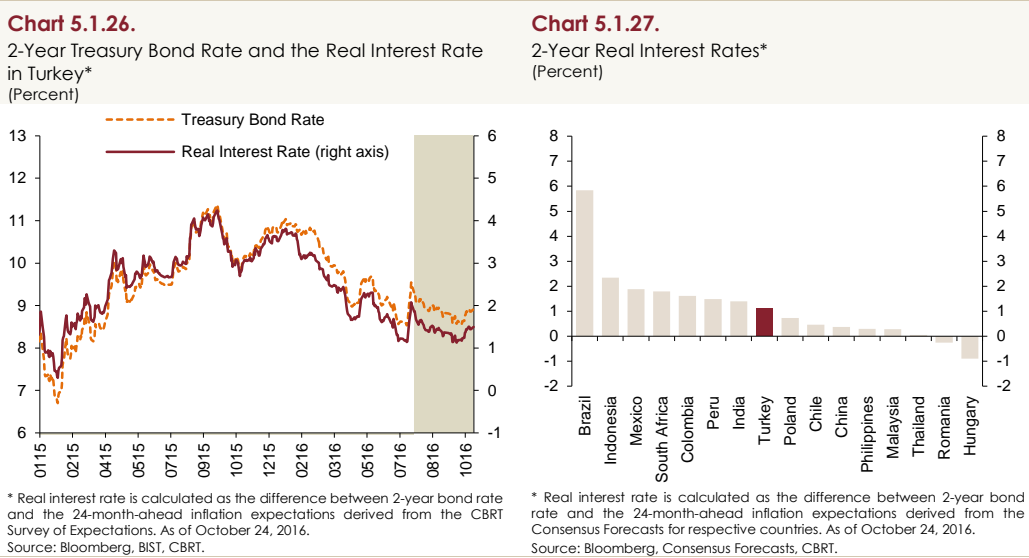
* Between July 26 and October 24, 2016.
Source: Bloomberg.



The CBRT has continued to take steps towards monetary policy simplification by lowering the marginal funding rate gradually since the previous reporting period. The expected overnight rate distribution at the BIST Repo and Reverse Repo Market implied relatively lower volatility in October compared to July, whereas the mid-point of the distribution continued to fall to about 8 percent as of October (Chart 5.1.24). In this period, inflation expectations for the current year-end remained unchanged while medium-term inflation expectations changed slightly (Chart 5.1.25).

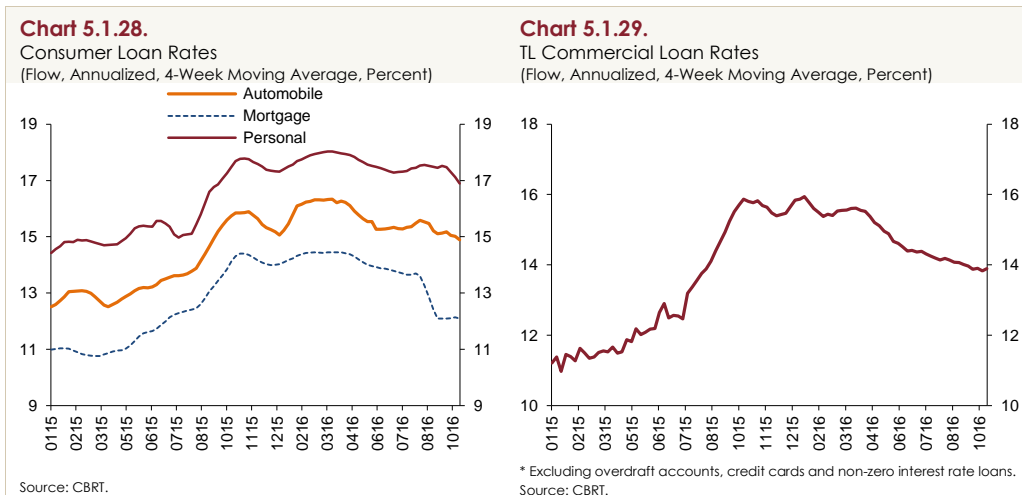


After rising rapidly following the mid-July turmoil in financial markets, the 2-year bond yield has declined recently due to both global financial conditions and the CBRT's cautious and measured steps towards simplification (Chart 5.1.26). While average 24-month-ahead inflation expectations barely changed, 2-year real interest rates decreased remarkably on a par with nominal interest rates. As a result, Turkey's real interest rates have been close to the average of other emerging economies (Chart 5.1.27).



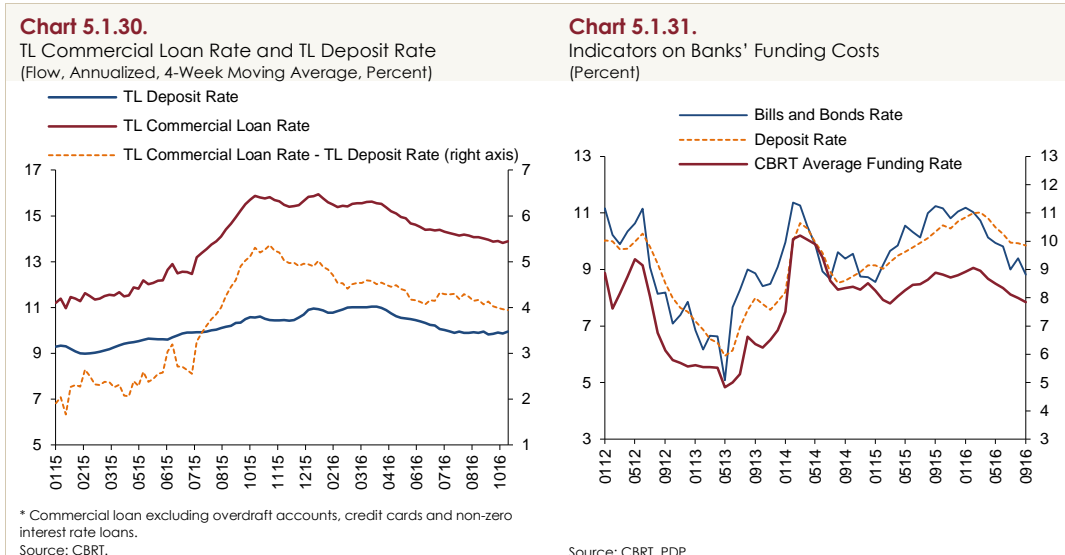
Loan Rates and Banking Sector Funding Costs

In the third quarter of 2016, rates on loans extended to the non-financial sector remained flat except for mortgage and commercial loans (Chart 5.1.28). The marked fall in mortgage loan rates since August was the main reason behind the fall in consumer loan rates. Rates on commercial loans, which have a shorter maturity than consumer loans, continued to decrease for the second quarter in a row (Chart 5.1.29). In this period, the marginal rate cuts by the CBRT contributed significantly to the slowdown in loan rates.



Rates on deposits with maturities shorter than three months, which are the primary financing resources of the banking sector, continued to post a quarter-on-quarter decline, albeit limited, in the third quarter of 2016. As of October 14, deposit rates decreased by 106 basis points compared to March 2016 when the CBRT started to cut the marginal funding rate. Meanwhile, commercial loan rates dropped by 171 basis points. As commercial loan rates decreased more than deposit rates, the spread between commercial loan rates and deposit rates contracted to 394 basis points (Chart 5.1.30). While the spread between loans and deposit rates has narrowed, it still remains high compared to past

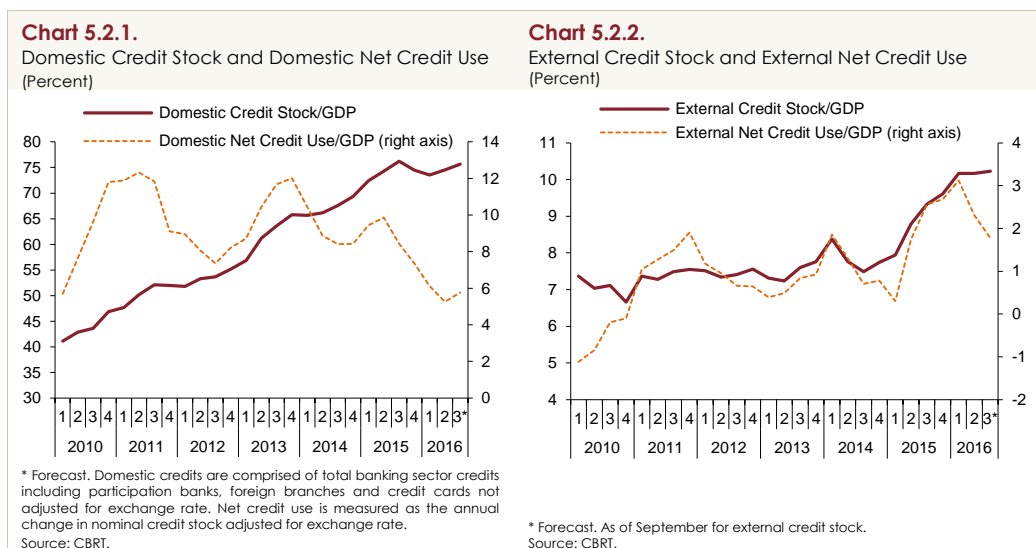
years. In fact, the Loan Tendency Survey results for the July-September period also suggest continued tightness in loan standards (Box 5.2). In tandem with lower deposit rates, banks' rates on bills and bonds receded further in the third quarter (Chart 5.1.31).



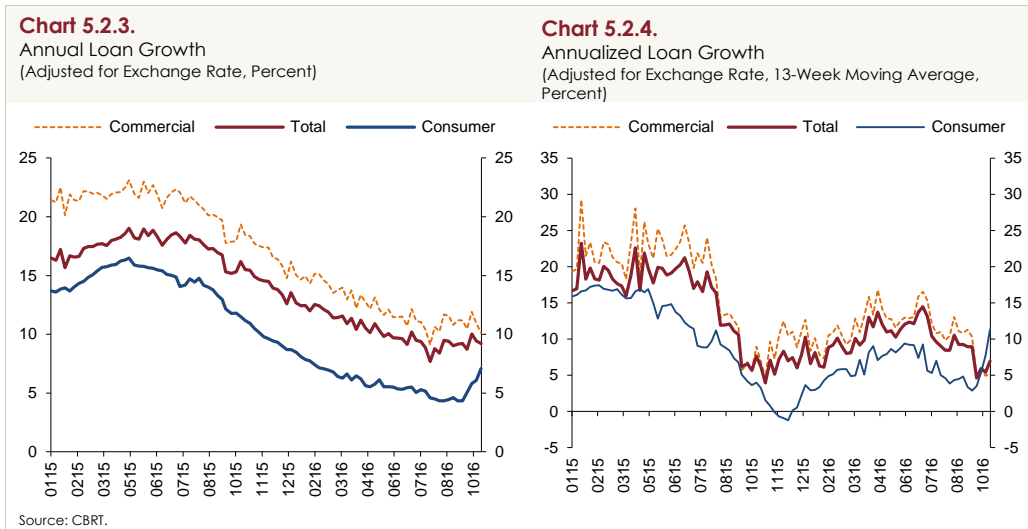
5.2. Credit Volume and Monetary Indicators

Credit Developments

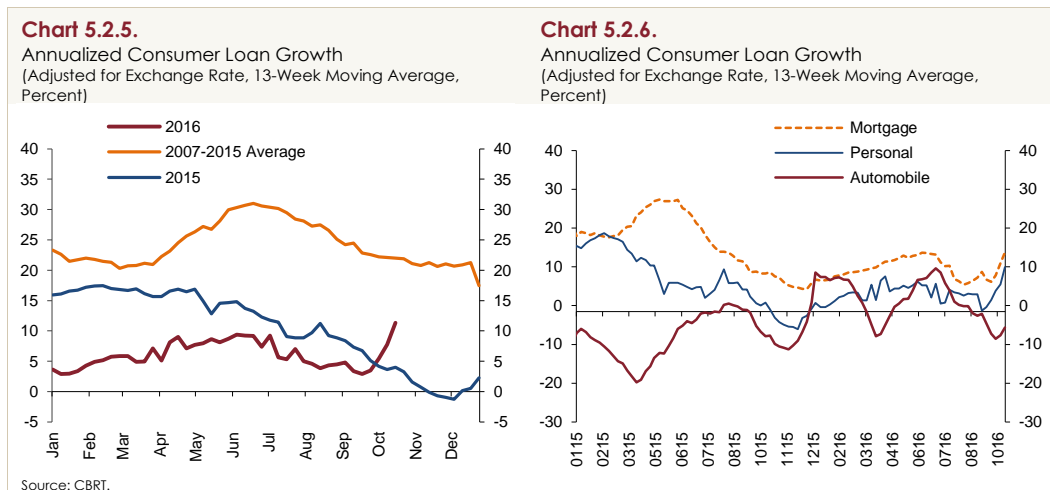
Accommodative macroprudential policies, the CBRT's liquidity measures and fiscal incentives helped to stimulate credit growth in the third quarter of 2016. The ratio of net credit use to the GDP, which is critical to financial stability and an indicator of the relationship of credit growth with economic activity and aggregate demand, ended the downtrend and surged to 5.8 percent in the third quarter (Chart 5.2.1). While posting a decline, firms' use of net external credits still hovers above its historical average (Chart 5.2.2).



The trend in the annual growth rate of loans extended to the non-financial sector was no longer downward in the third quarter. A breakdown of total loans shows that commercial loans grew faster than consumer loans on the back of the BRSA's measures in recent years and the historically low consumer confidence. Yet, consumer loans are currently edging up thanks to the improving consumer confidence and the adjustments to consumer loans and credit cards.

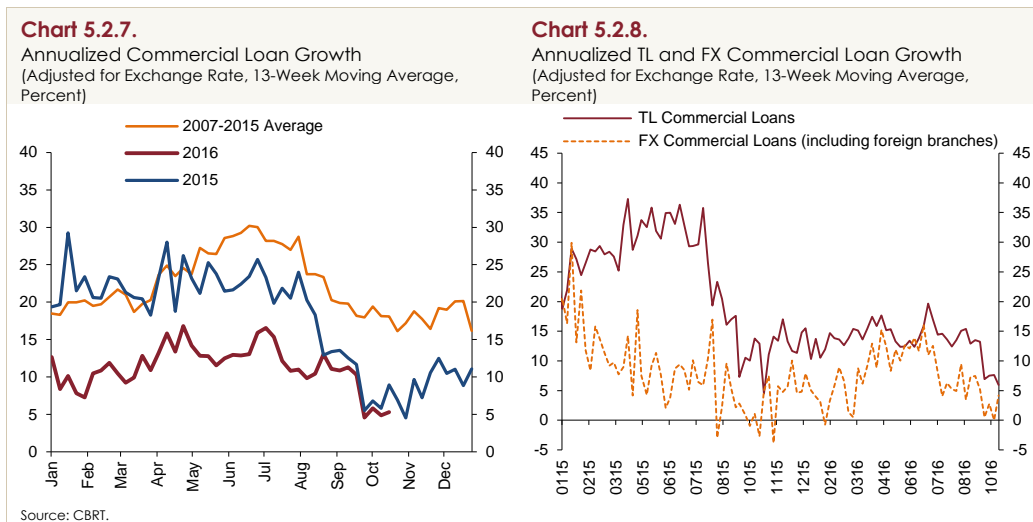


In the third quarter of 2016, loans extended to the non-financial sector were up 10 percent year-on-year in exchange rate adjusted terms (Chart 5.2.3). 13-week moving averages, which reflect the third-quarter developments, reveal that total loans grew by an annual 5.9 percent (Chart 5.2.4). The recent slide of the annualized 13-week growth rate of loans extended to the non-financial sector ended, suggesting that the annual growth rate of total loans may pick up again.



Having recovered in the first half of 2016, the annualized growth rate of consumer loans edged down on seasonal factors in the third quarter of 2016 (Chart 5.2.5). Thus, consumer loan growth ended the third quarter at 5.4 percent in annualized terms, yet recovered rapidly in recent weeks to 11.36 percent on October 14. With an average 5-year maturity and higher interest rate sensitivity, the annualized growth rate of mortgage loans was higher than others, but fell below past years' averages,

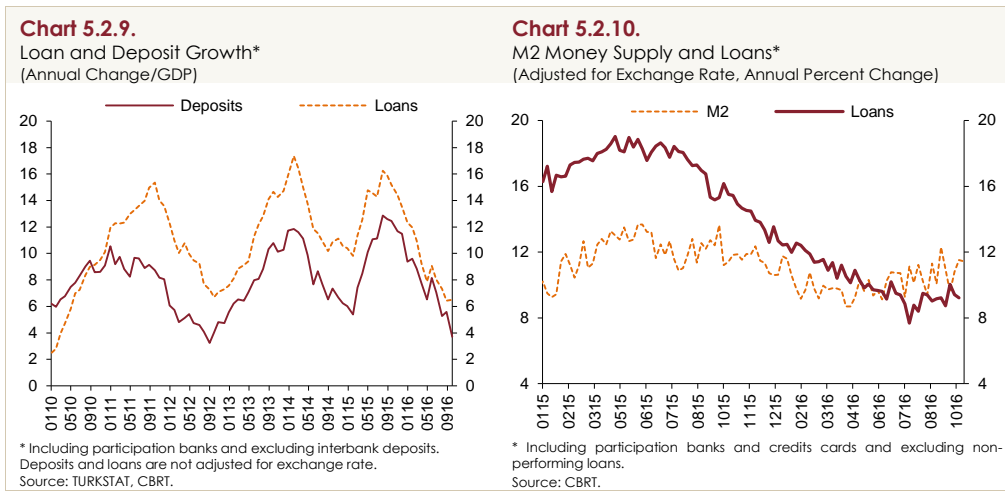
standing at 7.8 percent. However, it climbed back to 13.7 percent on October 14. According to the results of the Loan Tendency Survey, the demand for mortgage loans inched down in the third quarter while loan standards tightened more aggressively quarter-on-quarter. Weakening since mid-2015, the annualized growth rate of personal loans remained subdued, ending the quarter at 3.8 percent, while it increased to 9.9 percent as of October 14. After the sharp second-quarter recovery, the annualized growth rate of automobile loans dropped markedly by the third quarter, ending the quarter at -8.6 percent and creeping up to -5.6 percent as of October 14 (Chart 5.2.6). Data from the Loan Tendency Survey suggest that loan standards tightened for automobile loans, and especially personal loans in the third quarter. Meanwhile, the demand for both automobile loans and personal loans contracted. The ratio of non-performing loans differed across subcategories of consumer loans. The ratio of non-performing mortgage loans remained flat in this quarter, whereas the ratio of non-performing automobile loans and personal loans posted a mild increase.



The annualized growth rate of commercial loans fell well below past years' averages, amounting to 5.8 percent in the third quarter of 2016 (Chart 5.2.7). Among subcategories of commercial loans, FX-denominated loans grew by an annualized 2.8 percent (Chart 5.2.8). The annualized growth rate of FX-denominated commercial loans has been slightly on the rise in recent weeks, reaching 4.2 percent as of October 14. Used primarily for operating capital, TL-denominated loans ended the quarter at an annualized growth rate of 7.5 percent. According to the Loan Tendency Survey, standards on commercial loans remained tight in the third quarter of 2016. Meanwhile, standards tightened for both TL and FX-denominated commercial loans, but more severely for FX loans. By size of business, loan standards were much tighter for SMEs than for large-sized firms. Broken down by maturity, loan standards tightened for both short and long-term loans, albeit considerably more for the latter. In the third quarter, standards were tighter for FX-denominated and long-term commercial loans than for other types of commercial loans, which might be linked to the weakening investment spending.

As for factors affecting commercial loan standards, expectations for overall economic activity were the main driver of tightening in the third quarter of 2016. Additionally, restrictions on capital adequacy had some positive effect on loan standards. In this period, banks kept profit margins constant for average loans but raised them for riskier loans. Moreover, collaterals and maturity standards tightened.

According to the Loan Tendency Survey, commercial loan standards are expected to remain tight in the fourth quarter of 2016. Expectations have shown no divergence in size, yet standards on long-term loans and FX-denominated loans are expected to be much tighter. On the demand front, firms' loan demand may surge in the final quarter of 2016. This likely upturn may be more apparent for SMEs, longer-term loans and TL-denominated loans.



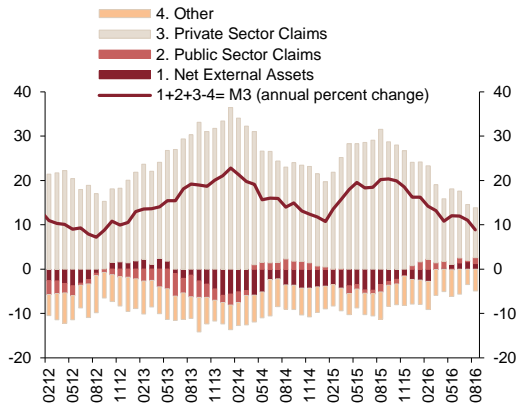
Growth rates of deposits and loans continued to slow in the third quarter of 2016 (Chart 5.2.9). Thus, the loan-to-deposit ratio remained on a horizontal track. The relationship between M2 and loans suggests that the downtrend in the annual growth rates of total loans and M2 that started in mid-2015 ended as of the third quarter of 2016 (Chart 5.2.10).

Monetary Indicators

Having declined in the first half of 2016, the annual growth of M3, the broad measure of money supply, decreased further in the third quarter, down to about 9 percent as of August. In terms of the decomposition of M3, this trend was driven primarily by Private Sector Claims, which mostly include bank loans extended to non-financial private individuals and institutions. Net External Assets made further positive yet small contributions to the M3 growth. Public Sector Claims continued with the recent contributions to the M3 growth. Lastly, the item Other maintained a steady course in line with bank profitability, and remained a non-deposit funding source for the banking sector (Chart 5.2.11).

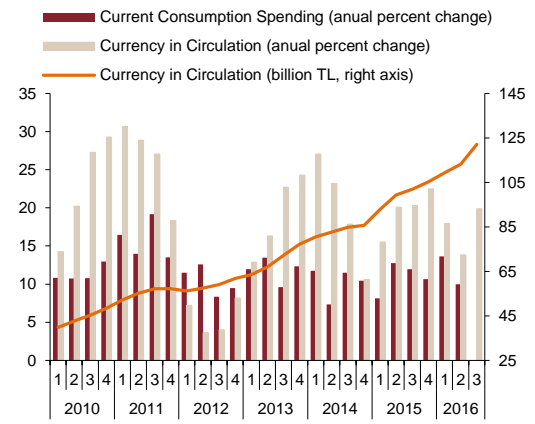
After the first-half slowdown, the seasonally adjusted currency in circulation picked up again in the third quarter of 2016 and increased remarkably in quarter-on-quarter terms. The annual growth in current consumption spending, which is a key driver of the currency in circulation, recorded a quarterly decline in the second quarter. The third-quarter upsurge in the currency in circulation indicates a possible recovery of the current consumption spending in this period (Chart 5.2.12).

Chart 5.2.11.
Balance Sheet Decomposition of M3
(Contributions to Annual M3 Growth)



Source: CBRT.

Chart 5.2.12.
Currency in Circulation and Current Consumption Spending*
(Seasonally Adjusted)



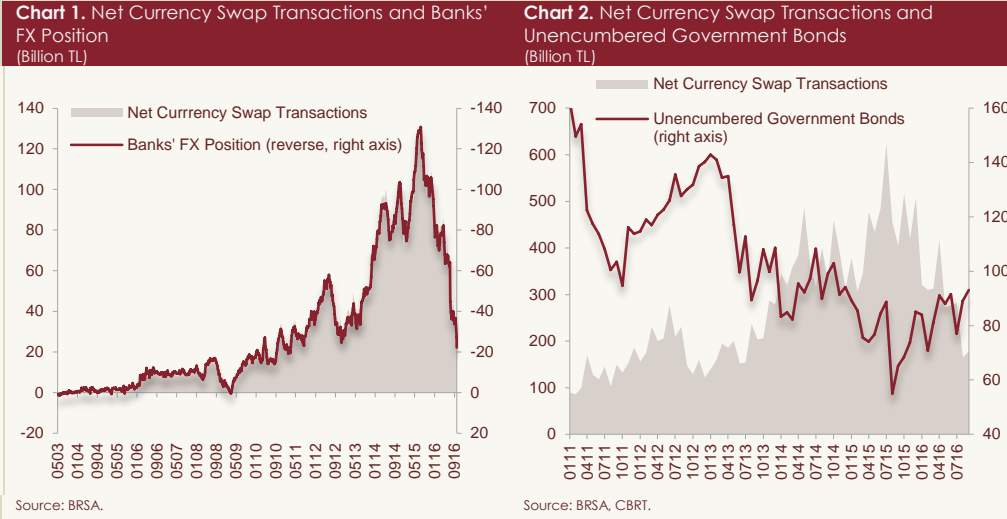
* Consumption spending includes private and public consumption excluding furniture, household appliances, transport and communication services at current prices.
Source: TURKSTAT, CBRT.

Box
5.1

The Collateral FX Deposit Facility and Its Impact on Currency Swap Markets

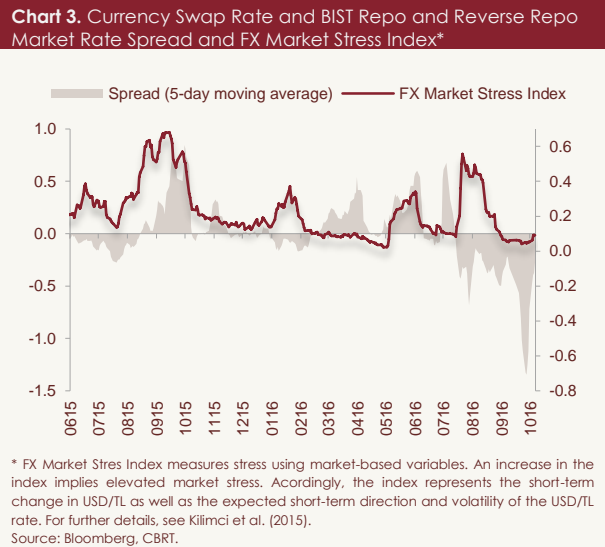
Inflation-targeting central banks have an immediate effect on short-term market rates within the monetary policy transmission mechanism. This ensures the effectiveness of the monetary policy by subsequent pass-through of short-term rates to exchange rates and long-term rates, which are influential on consumption and savings decisions of economic agents. One of the most important benchmarks for short-term market rates in Turkey is the overnight rates (BIST repo rates) at the BIST Interbank Repo and Reverse Repo Market, where only banks can make repo transactions. Besides the BIST Interbank Repo and Reverse Repo Market, banks can also use the short-term currency swap market for liquidity management. The currency swap market is an important market where banks can also obtain liquidity especially from foreign investors. The BIST repo rate has a significant role in the pricing of the overnight rate at the currency swap market. Hence, the cost of funds obtained via the currency swap market is expected to be close to the BIST repo rate (Kara, 2015). On the other hand, in periods of heightened volatility in both domestic and global markets, the deteriorated risk perception of market players and increased motive for hedging may cause swap rates to hover above BIST repo rates. Moreover, banks in need of collateral use the currency swap market more effectively for liquidity management, which imposes an upward pressure on TL interest rates and causes an inefficiency in the monetary transmission mechanism. Accordingly, various arrangements were made by the CBRT to maintain efficiency in TL and FX markets and to support banks' liquidity management. This box provides a discussion of the main motivation for the implementation of the collateral FX deposit facility and presents a graphical analysis of its impact on the currency swap market.

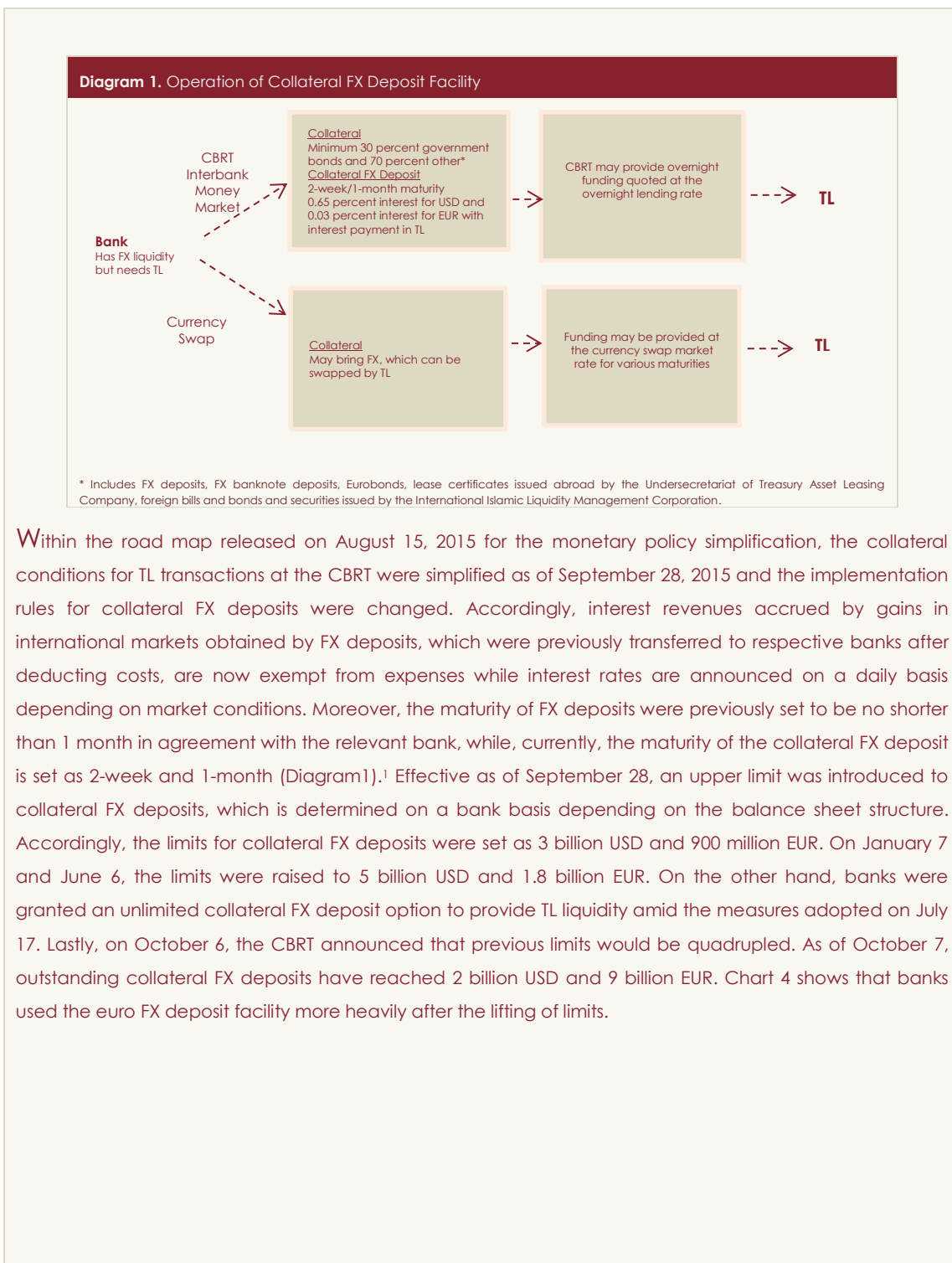
A well-functioning currency swap market provides hedging against the asset-liability mismatch and supports liquidity management by offering a short-term funding opportunity. Turkey's net international asset position shows that the banking sector has a deficit in the net FX position (Chart 1). Under current circumstances, a major portion of the currency swap market transactions originates from the hedging motives of the banking sector against the asset-liability mismatch. The banking sector closes on-balance sheet FX open positions by off-balance sheet transactions in the currency swap market (Chart 1). Also, another motive for banks to use the currency swap market for liquidity management is the increased funding need of the system. Banks meet their short-term liquidity needs through repo transactions within the CBRT's open market operations, which are generally collateralized by government bonds. Increases in the funding need of the system cause a need for collateral, which leads to lower liquidity in the banking sector, thereby increasing open market operations and lowering unencumbered government bonds in the banking sector balance sheets (Er and Güney, 2016). Moreover, due to motives such as the fact that government bonds, which are used as collaterals, are not being disseminated evenly across banks in proportion to their funding needs, banks may be urged to use the currency swap market as an alternative source for TL funding needs (Chart 2).



During periods of elevated stress in financial markets, all market players take a simultaneous and similar position, prompting undesirable tightness and volatility in financial conditions. In times of elevated exchange rate risk, the demand for currency increases due to the hedging motive, which leads to a surge in both the level and the volatility in the currency swap market and the spot market. Moreover, in stress periods with shallow liquidity in the FX market, the demand for currency may increase even more, thereby causing a vicious cycle. Meanwhile, during market stress, the co-movement of the currency swap rate and the BIST repo rate may be violated.

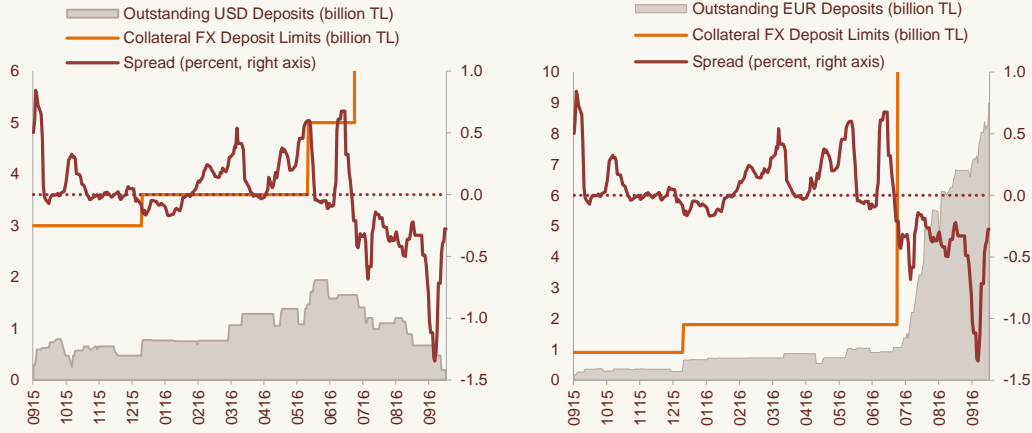
Chart 3 shows that in times of elevated stress in the FX market, the currency swap rate may deviate from the BIST repo rate. This is because of higher risk perception, which causes increased demand for currency, and this leads to higher TL sales and FX borrowing with precautionary and speculative motives, which cause higher forward FX rates. Also, investors demand a higher return for TL, which is perceived to be more risky, and this drives currency swap rates above the BIST repo rate. In this context, the collateral FX deposit facility is identified as an important tool in view of its similarities with the currency swap market as well as its support for TL during possible unilateral positioning in the currency swap market.





Within the road map released on August 15, 2015 for the monetary policy simplification, the collateral conditions for TL transactions at the CBRT were simplified as of September 28, 2015 and the implementation rules for collateral FX deposits were changed. Accordingly, interest revenues accrued by gains in international markets obtained by FX deposits, which were previously transferred to respective banks after deducting costs, are now exempt from expenses while interest rates are announced on a daily basis depending on market conditions. Moreover, the maturity of FX deposits were previously set to be no shorter than 1 month in agreement with the relevant bank, while, currently, the maturity of the collateral FX deposit is set as 2-week and 1-month (Diagram1).¹ Effective as of September 28, an upper limit was introduced to collateral FX deposits, which is determined on a bank basis depending on the balance sheet structure. Accordingly, the limits for collateral FX deposits were set as 3 billion USD and 900 million EUR. On January 7 and June 6, the limits were raised to 5 billion USD and 1.8 billion EUR. On the other hand, banks were granted an unlimited collateral FX deposit option to provide TL liquidity amid the measures adopted on July 17. Lastly, on October 6, the CBRT announced that previous limits would be quadrupled. As of October 7, outstanding collateral FX deposits have reached 2 billion USD and 9 billion EUR. Chart 4 shows that banks used the euro FX deposit facility more heavily after the lifting of limits.

¹ In addition to 1-month deposits, banks were granted the option to hold 2-week FX deposits as of May 16.

Chart 4. Currency Swap Rate and BIST Repo and Reverse Repo Market Rate Spread, Collateral FX Deposit Limits and Outstanding FX Deposits*

* Banks were granted unlimited collateral FX deposit opportunity as of July 17, 2016.
Source: BIST, CBRT.

The implementation of the collateral FX deposit facility serves as an alternative to currency swap transactions. It also restricts the divergence of the currency swap rate from the BIST repo rate, which is observed in periods of heightened hedging costs under financial stress. Chart 4 shows that the spread between the currency swap rate and the BIST repo rate declined after the introduction of the collateral FX deposit facility. Furthermore, the currency swap rate, which hovers above the BIST repo rate, posted a decline after collateral FX deposit limits were raised. Recently, with the lifting of limits on collateral FX deposits, overnight currency swap rates have tended to decline, while the swap rate has surged again and hovered close to the BIST repo rate with the announcement regarding the re-introduction of limits.

The CBRT's collateral FX deposit facility provides support for TL liquidity management by enabling banks to use their excess FX liquidity as a collateral in open market operations and interbank money market transactions. Furthermore, the CBRT's collateral FX deposit facility enhances the effectiveness of the monetary policy transmission by limiting the deviation of the currency swap rate from the BIST repo rate.

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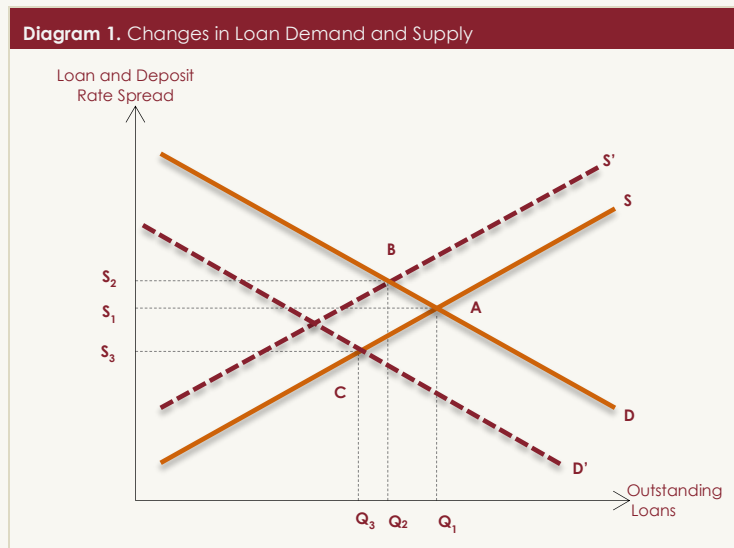
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Box
5.2

Recent Loan Developments: Some Indicators on Loan Supply and Demand

The recent tightness in financial conditions is mainly driven by developments in the loan market. Despite the relatively stable course of economic activity, the growth of both commercial and consumer loans has slowed remarkably since mid-2015 (Chart 5.2.4).² The question of whether this slowdown was caused by tight loan standards or poor loan demand is important for the transmission of the monetary policy. In cases where the slowdown is dominated by supply-side factors, for example when banks are reluctant to grant loans due to uncertainties about the economy, policy rate reductions may have limited effects on loans and economic activity compared to cases in which loan growth decelerates due to demand-side factors. Moreover, distinguishing between demand and supply-side factors is important for the effectiveness of loan market as the required monetary policy and macroprudential measures may differ depending on whether the slowdown is driven by demand or supply-side conditions. This box presents an analysis of some indicators on loan demand and supply to shed light on the recent loan developments.

Observed values for loans and loan rates reflect changes in both demand and supply-side factors, which makes it difficult to understand the dominating effect on loans. Diagram 1 presents a simple theoretical framework to decompose the effects of demand and supply-side shocks on outstanding loans and the spread between the loan rate and the deposit rate. Accordingly, assuming constant risk, loan demand is defined as a decreasing function of the interest rate spread, while loan supply is defined as an increasing function of the spread. The slopes of the two lines show the interest rate elasticity of loan demand and supply.

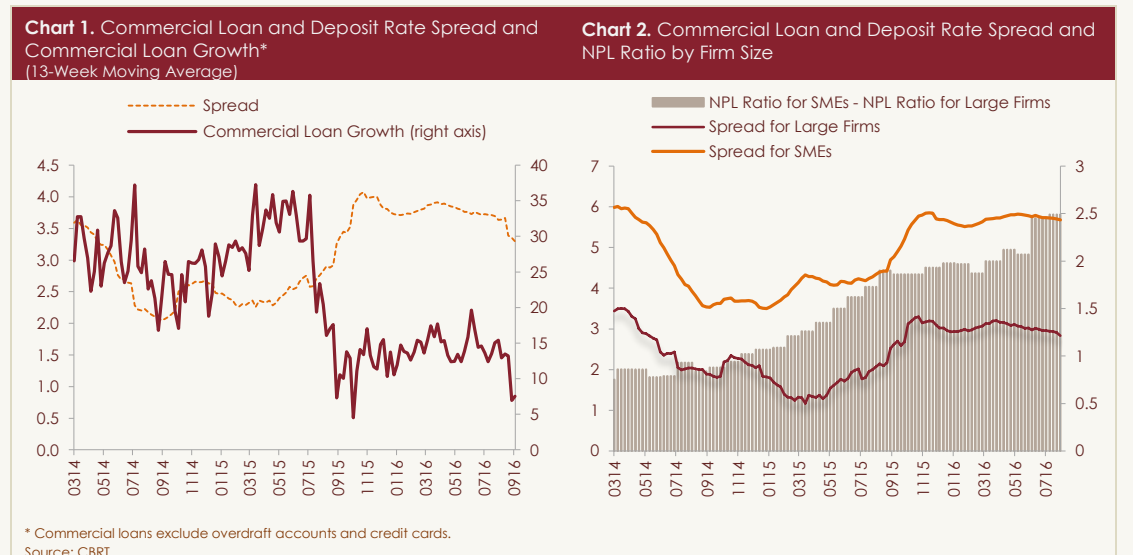


² Consumer loans decelerated before commercial loans due to the adoption of macroprudential measures to limit consumer loans, while consumer loan growth decelerated to even lower levels in the second half of 2015.

A contractionary supply shock means lower loan supply by banks for a given interest rate spread (which is a leftward shift of the supply curve, S). In this case, the interest rate spread should increase and the loan demand should consequently decrease to reach equilibrium. Hence, a tightening in supply conditions, which is independent from demand, leads to lower amount of loans while raising the interest rate spread (the move from point A to point B in Diagram 1). On the other hand, a contractionary demand shock causes lower demand by firms or households for a given interest rate spread, which is shown by the leftward shift in the demand curve, D. In this case, the interest rate spread should decrease to clear out the excess supply. In other words, a negative demand shock reduces both the outstanding loans and the interest rate spread (the move from point A to point C in Diagram 1). In either case, changes in outstanding loans and the spread are determined by both demand and supply-side factors, while the direction of the change makes it possible to understand whether the underlying reason is a demand or a supply shock. In cases where a decrease in outstanding loans is accompanied by an increase in the interest rate spread, the underlying shock is likely to be a contractionary supply shock.³

Chart 1 shows the spread between the commercial loan rate and the deposit rate jointly with the commercial loan growth. Accordingly, the spread has surged since mid-2015, which is marked by a rapid slowdown in commercial loan growth, and except for the recent period, the spread remained elevated throughout 2016. In this regard, the decelerating commercial loan growth since mid-2015 may be attributed mainly to a supply-side contraction.

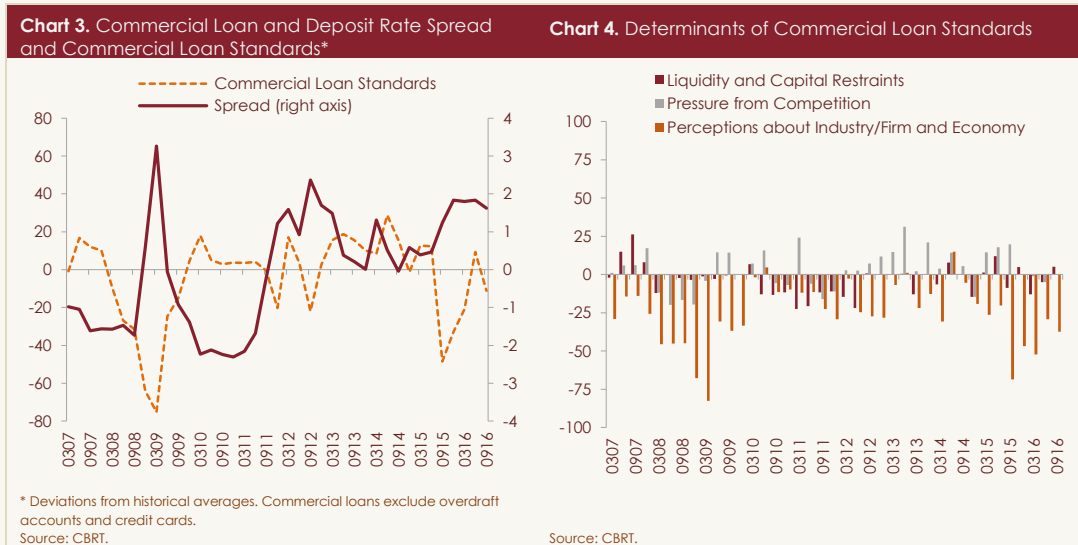
Besides factors regarding loan standards, the interest rate spread also reflects a maturity mismatch (Alper and Mutluer-Kurul, 2010). By controlling for maturity, Chart 2 shows the commercial loan and deposit rate spread and the NPL ratio by firm size. Accordingly, in the recent period, the spread declined for large firms but remained virtually unchanged for SMEs. The widening gap between the spread for SMEs and large firms can be attributed to the relative rise in the default risk for SMEs.



³ The simple theoretical framework described here forms the basis for the main identification strategy in structural VAR (SVAR) analysis that decomposes loan supply shocks as in Barnett and Thomas (2014) as well as Gambetti and Musso (2012).

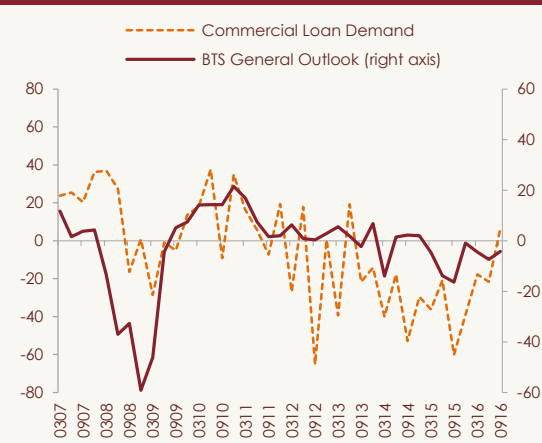
The Loan Tendency Survey, which has been conducted by the CBRT since 2004, presents important information regarding loan standards, loan demand and their determinants.⁴ Chart 3 shows the deviation of commercial loan standards and the interest rate spread from their historical averages. Accordingly, both indicators present a similar outlook for loan supply and show that loan standards have been tighter (below zero) compared to historical averages especially starting from mid-2015, while the interest rate spread has remained remarkably above the average.

Determinants of commercial loan standards reveal that tightness in loan standards is mainly driven by perceptions about industry/firm and the overall economy (Chart 4). As in Chart 2, these responses indicate that tightness in loan standards can mainly be attributed to default risk. Liquidity and capital constraints were supportive, while domestic funding conditions have recently been more accommodative compared to external financing opportunities. This may be due to reductions in the upper band of the interest rate corridor since March 2016.

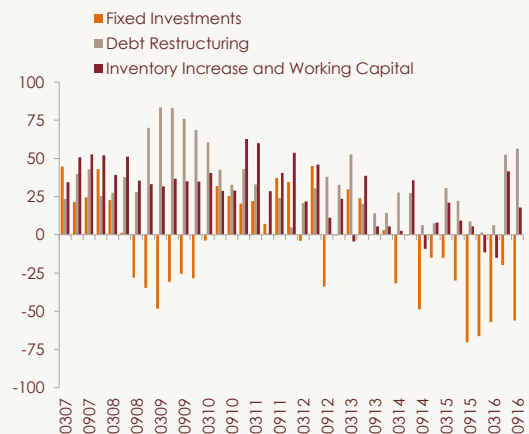


In line with the tightness in commercial loan standards observed since mid-2015, commercial loan demand has remained lower than historical averages (Chart 5). Commercial loan demand was mostly in tandem with the BTS response of firms on the general economic outlook, which confirms the weak tendency in loan demand. However, recently, commercial loan demand has increased slightly on the back of debt restructuring as well as inventory increase and working capital (Chart 6). Meanwhile, the continuing decline in loan demand for fixed investments indicates that commercial loan demand is still weak despite some improvements over the previous periods.

⁴ Explanation for survey methodology can be reached at <http://www.tcmb.gov.tr/wps/wcm/connect/TCMB+EN/TCMB+EN/Main+Menu/STATISTICS/Tendency+Surveys/Bank+Loans+Tendency+Survey/>.

Chart 5. Commercial Loan Demand and BTS General Outlook

* Deviations from historical averages for commercial loan demand.
Source: CBRT.

Chart 6. Determinants of Commercial Loan Demand

Source: CBRT.

Demand-side factors seem to be more dominant for personal loans.⁵ The tightening tendency in personal loan standards became more apparent in the second quarter of 2016, about a year after commercial loan standards tightened, while the personal loan and deposit rate spread increased only slightly compared to historical averages (Chart 7). On the demand side, banks' assessment for personal loan demand is mainly compatible with the consumer sentiment on durable goods orders from the Bloomberg Consumer Confidence Index, with both indicators displaying a downward shift as of the second half of 2013 compared to historical averages (Chart 8). During the period of weak personal loan demand observed after the second quarter of 2013, the growth of personal loans decelerated while the personal loan and deposit rate spread remained low relative to historical averages. Given the theoretical framework presented in Diagram 1, this indicates that the slowdown in personal loan growth was mostly determined by demand-side factors.

Mortgage loans are also dominated by demand conditions in general. Mortgage loans are high collateral loans, which are thus more sensitive to demand rather than supply conditions. In fact, with policy rate cuts passed through to mortgage loan rates and the loan-to-value arrangement on mortgage loans as well as the VAT reduction in house sales to stimulate demand, the growth rate of mortgage loans has already started to recover.

⁵ In addition to survey indicators, Tiryaki (2016) uses alternative indicators such as Google search to derive measures for personal loan demand.

