

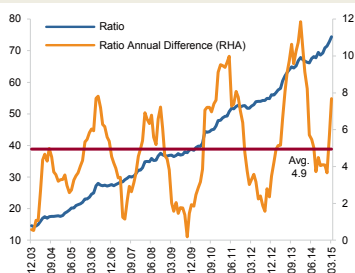
## II. Financial Sector

Loan growth rates are at reasonable levels thanks to the tight monetary policy implemented and the macroprudential measures. In addition, commercial loan growth has outpaced consumer loan growth. These two factors support a balanced growth. Loan rates have been flat despite increased exchange rate volatility in the recent period and the returns on government securities. The non-performing loan ratio in the banking sector is also flat and the current capital buffers of the sector are seen to be strong enough.

Volatilities in the financial markets call for an analysis of the sensitivity of the sector to interest rate and exchange rate risks. The hike in interest rates negatively affects the sector's net interest income due to the short-term liability structure on the one hand and causes a loss of value in the securities portfolio on the other. The decreased weight of securities in the balance sheet and the presence of floating-rate securities limit the interest rate risk that the sector may face. Banks' current net interest margins and capital adequacy ratios are sufficient enough to cover the likely losses that may originate from interest rate hikes. Moreover, as the net FX short position of the banking sector is low, exchange rate shocks do not lead to pressure on the banking sector directly via the balance sheet channel.

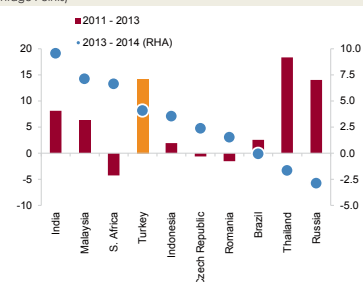
The liquidity position of the banking sector remains strong. Banks are able to meet the legal liquidity coverage ratios put into effect by the BRSA in early 2015 in line with Basel III regulations. The banking sector, which has no problem in obtaining and rolling over external debt despite global uncertainties, seems to have adequate buffers against likely external liquidity shocks. With the contribution of the change that the CBRT introduced in its reserve requirement implementation to extend the maturity of non-deposit FX sources, the share of short-term sources in banks' external funding sources has decreased and average maturities of borrowing have extended. The CBRT started remunerating the portion of TL required reserves maintained in terms of TL such that to encourage core liabilities. Accordingly, banks' increased use of core funding sources is believed to be a positive development in terms of financial stability.

**Chart III.1.1**  
Loan/GDP Ratio<sup>1</sup>  
(Nominal, Percent)



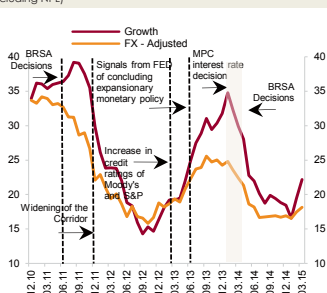
(1) January and February 2015 data are GDP projections.  
Source: CBRT, BRSA, TÜRKSTAT (Latest Data: 03.15)

**Chart III.1.2**  
Loan/GDP Ratio Change  
(Percentage Points)



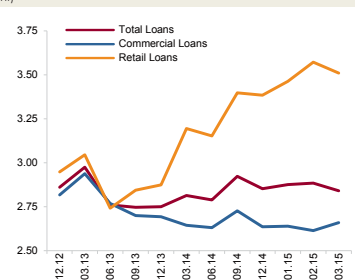
Source: CBRT for Turkey data, SNL Financial for other countries data.

**Chart III.1.3**  
Annual Loan Growth<sup>1</sup>  
(Percent, Excluding NPL)



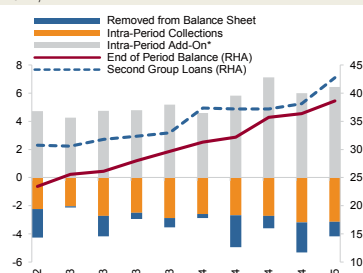
(1) The basket value used to adjust for the exchange rate effect is composed of 70 percent USD and 30 percent euro. FX-indexed loans have been included in FX loans.  
Source: CBRT, BRSA

**Chart III.1.4**  
NPL Ratios  
(Percent)



Source: CBRT, BRSA

**Chart III.1.5**  
Flow NPL Developments and Loans under Close Monitoring  
(Flow, Billion TL)



\* Intra-Period Add-On + Movements Across Groups  
Source: CBRT, BRSA

### III.1. Credit Risk

The cautious monetary policy stance of the CBRT and the macroprudential measures taken by the BRSA have helped to contain the rapid increase in the loan/GDP ratio, bringing it close to the historical average. The deceleration has been more visible in retail loans due to macroprudential measures, whereas it has been rather limited in commercial loan growth rate. As of April 2015, the exchange rate-adjusted annual growth in corporate loans was 22.9 percent, while the retail loan growth remained limited at 11.1 percent. Despite the sluggish economic activity, the annual change in the loan/GDP ratio stood below the average value in end-2014 due to the deceleration in loan growth rate. However, the ratio was slightly above the historical average as of March 2015 (Chart III.1.1).

The high increase in the loan/GDP ratio caused Turkey to diverge from emerging countries between 2011 and 2013. However, this increase dropped to a level similar to that in other countries by end-2014 (Chart III.1.2). The exchange rate-adjusted loan growth continued on a downtrend until the end of 2014 and posted a moderate rise in March 2015 with the contribution of both TL and FX loans (Chart III.1.3). The slightly upward movement in TL loans was triggered by the surge in retail loans observed due to the previous year's base effect.

The NPL ratio has been flat despite the slowing in the loan growth rate. Retail loan NPL ratios have been higher than those of corporate loan. Corporate loan NPL ratios hover around relatively low levels (Chart III.1.4).

Non-performing loans written off since the second half of 2014 account for 10.4 percent of the total NPL amount registered in March 2015. Of these assets, 69 percent have been sold to asset management companies in return for an average of 13.6 percent of the balance sheet value.<sup>3</sup> Notwithstanding the written-off loans, the increase in intra-period add-ons, though it lost pace, was the main determinant of the growth in NPL. Loans under close monitoring (2nd group loans), which have a

3 Data on assets sold to asset management companies are as of March 2015.

potential to turn into non-performing loans and are accepted as an important indicator for risk accumulation in performing loans, display an upward movement (Chart III.1.5).

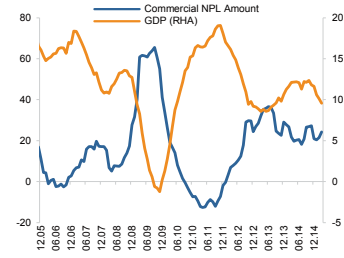
The recent uptrend in corporate loan NPL ratios is primarily related to economic activity developments. Corporate loan NPL ratios, which are historically closely related to GDP developments, posted only a limited increase due to the lagged effects of the growth performance that have weakened since the second quarter of 2014 (Chart III.1.6).

**An analysis of corporate loans in terms of scale reveals that NPL ratios in both SME loans and large corporate loans have been at low levels in the last six-month period (Chart III.1.7).** Historical data suggest that NPL ratios in SME loans increase in a faster and stronger manner in times of stress. However, in terms of scale, the recent NPL divergence is lower than the levels in times of stress, while in terms of level, the SME loan NPL ratio lingers at levels close to the historical average.

**NPL ratios in loans extended to sectors with high shares in terms of gross NPL amount display a positive outlook in general.** The NPL ratio in the "Construction, REIT and Real Estate Dealer" sector, the sector with the highest NPL ratio, was flat in the second half of 2014 but has been in a downtrend since November. Meanwhile, NPL ratios in the "Textile and Textile Products", "Agriculture and Livestock" and "Food and Beverages" sectors have slightly decreased, while the NPL ratio in the "Wholesale and Retail Trade" sector has been generally horizontal in recent months (Chart III.1.8).

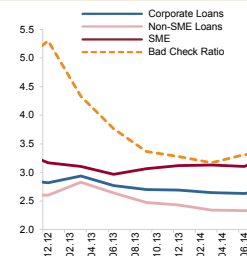
As explained in the "Corporate Sector Developments" section of the Report, there is no sign of a weakening in banks' credit appetite. Results of the Bank Loans Tendency Survey for the first quarter of 2015 imply that banks have been closely monitoring the slowdown in the economic activity but have not introduced a further tightening in corporate loan standards (Chart III.1.9). On the other hand, the same survey reveals that banks have adopted a more cautious stance on FX loans (Chart III.1.10). The cautious stance on FX loans is believed to be

**Chart III.1.6**  
Corporate Loan NPLs and GDP  
(Annual Percentage Change)



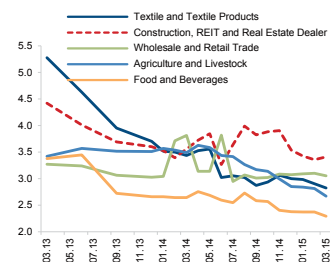
Source: CBRT, BRSA (Latest Data: 03.15)

**Chart III.1.7**  
Development of NPL Ratios and Bad Cheque Ratio<sup>1</sup>  
(Percent)



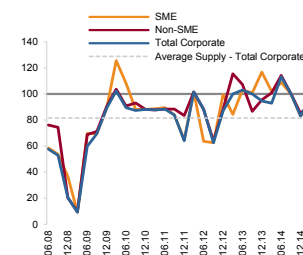
(1) Bad cheque ratios have been calculated based on amounts and refer to 3-month moving averages.  
Source: CBRT, BRSA (Latest Data: 03.15)

**Chart III.1.8**  
Development of NPL Ratios by Selected Sectors  
(Percent)



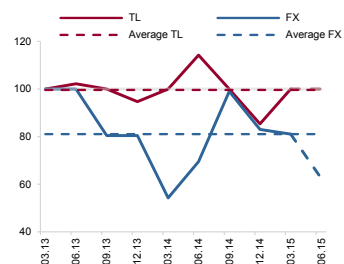
Source: CBRT, BRSA

**Chart III.1.9**  
Corporate Loan Standards  
(Percent)



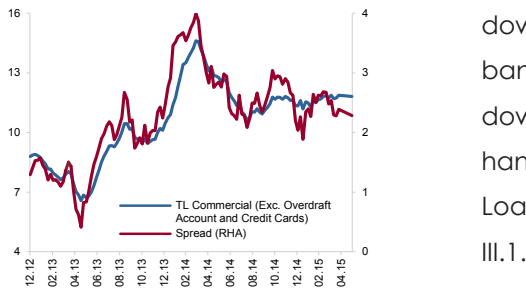
(1) Derived from Bank Loans Tendency Survey. Values below 100 imply a tightening, values above 100 imply an easing. June 2015 data are estimations taken from the survey.  
Source: CBRT

**Chart III.1.10**  
TL and FX Loan Standards<sup>1</sup>  
(Percent)



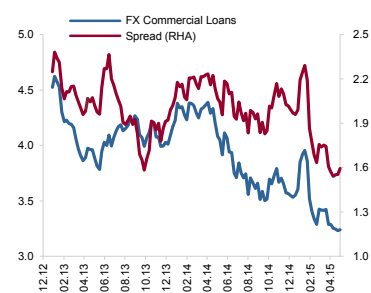
(1) Derived from Bank Loans Tendency Survey. Values below 100 imply a tightening, values above 100 imply an easing. June 2015 data are estimations taken from the survey.  
Source: CBRT

**Chart III.1.11**  
TL Commercial Loan Spreads<sup>1</sup>  
(Flow Data, 4-Week Moving Average, Percent)



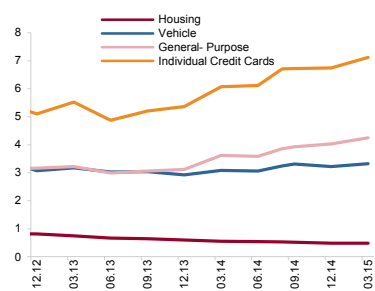
(1) Zero-rate loans extended in the relevant week have been excluded.  
Source: CBRT (Latest Data: 30.04.15)

**Chart III.1.12**  
FX Commercial Loan Spreads<sup>1</sup>  
(Flow Data, 4-Week Moving Average, Percent)



Source: CBRT (Latest Data: 30.04.15)

**Chart III.1.13**  
NPL Ratios in Retail Loans  
(Percent)



Source: CBRT, BRSA

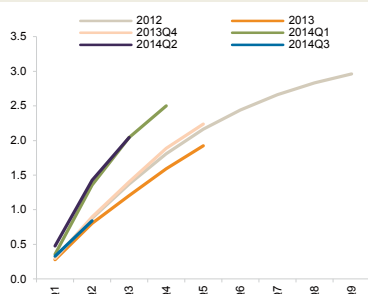
**Table III.1.1**  
Number of Credit Card and Consumer Loan Defaulters<sup>1</sup>  
(Thousand people)

	12.12	12.13 <sup>2</sup>	12.14	03.15
Banks	1,487	1,339	1,380	1,412
Asset Management Companies	782	898	1,045	1,237
Financing Companies	8	10	10	10
Total <sup>2</sup>	1,949	2,001	2,149	2,332

(1) Customers with more than one registry in a particular financial institution group are counted as a single customer. The minimum amount of non-performing loans to be disclosed by each bank has been set as 20 TL as of September 2013. Amounts less than 20 TL have not been included in the calculation.

(2) As customers may be registered in more than one financial institution group, the sum of the three rows in the table and grand total are not equal.  
Source: CBRT and Banks Association of Turkey Risk Center

**Chart III.1.14**  
Vintage Analysis in NPL Ratios of General-Purpose Loans  
(Percent)



Source: CBRT

related to recent fluctuations in the value of the TL. The recent downtrend in the TL loan rate spreads supports the finding that banks have not tightened TL corporate loan standards. The downtrend in FX commercial loan rate spreads, on the other hand, suggests that the cautious stance underlined in the Bank Loans Tendency Survey has not been reflected in pricing (Chart III.1.11 and III.1.12).

The recent uptrend in the NPL ratio of individual credit cards is attributed to the deceleration in the growth of credit card balances, besides the rise in NPL amounts. NPL sales registered in the last quarter of 2014 contained the expected negative effects on unsecured loan NPL ratios to a certain extent. Meanwhile, the positive outlook in secured consumer loans persists. Despite the contraction in the vehicle loan balance, vehicle loan NPL ratios remain almost flat due to receding NPL amounts. The gradual decline in housing loan NPL ratios continues on the back of the relative revival in loan growth (Chart III.1.13).

The number of credit card and consumer loan defaulters indebted to asset management companies escalated significantly compared to the third quarter of 2014 as a result of NPL purchases from banks, whereas the number of defaulters indebted to banks increased slightly (Table III.1.1).

**The surge in the general-purpose loan NPL ratio stemmed from general-purpose loans extended in the first two quarters of 2014.** The vintage analysis based on the loan's extension period shows that the general-purpose loan NPL performance for 2013 was better than the performance for 2012. However, this performance started worsening in the last quarter of 2013, and NPL ratios particularly in the first and second quarters of 2014 stood above the levels in the preceding years (Chart III.1.14).

Historically the most significant increase in general-purpose loan NPL ratios has been recorded in the second quarter following the loan extension. Especially, for general-purpose loans extended in the first half of 2014, the second quarter increase in NPLs was remarkably high (Chart III.1.15). However,

the uptrend in general-purpose loan NPL ratios is expected to stop as the quarterly contributions to NPL ratios calculated for 2014-Q1 loan extensions converge to the averages of previous years and the surge in the unemployment rate ceases.

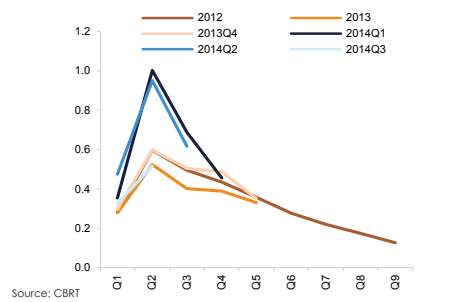
**The vintage analysis indicates that the favorable trend in housing loan NPL ratios will be maintained in the upcoming periods as well.** The housing loan NPL ratio was relatively high in loans extended in 2011 and 2012. In 2014, NPL ratios, which decelerated in 2013, hovered at levels close to the NPL ratio levels observed in 2013 (Chart III.1.16).

**The tightening in general-purpose loan standards of banks continues.** Housing loan standards remain close to historical averages, while the tightening observed in general-purpose loan standards since 2014 continues. General-purpose loan standards are estimated to ease considerably in the second quarter of 2015, whereas housing loan standards are expected to tighten slightly (Chart III.1.17).

There has been an upward movement in general-purpose loan rates in recent weeks. The downtrend observed in general-purpose loan rate spreads in the last two-month period has reversed in the most recent week, indicating that banks have started reflecting their cautious stance regarding the general-purpose loan extensions on their pricing (Chart III.1.18).

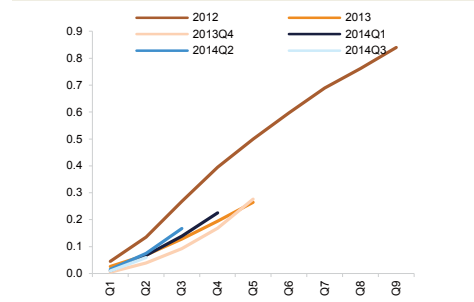
Housing loan rates have not registered a significant change since the last quarter of 2014, whereas interest rate spreads dropped at first and then assumed a flat trend (Chart III.1.19).

**Chart III.1.15**  
NPL Ratios of General-Purpose Loans - Quarterly Contributions (Percent)



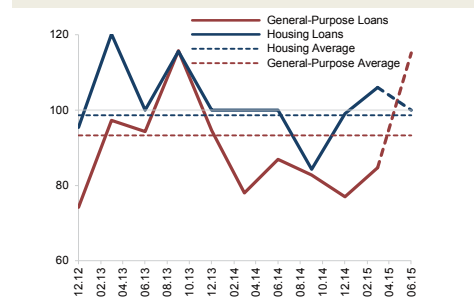
Source: CBRT

**Chart III.1.16**  
Vintage Analysis in NPL Ratios of Housing Loans (Percent)



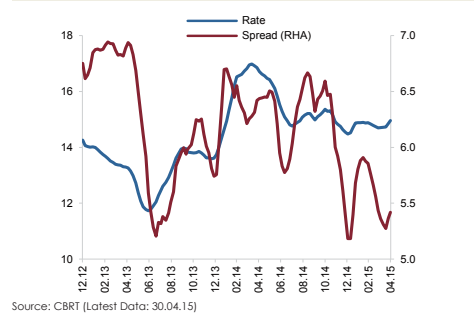
Source: CBRT

**Chart III.1.17**  
General-Purpose and Housing Loan Standards<sup>1)</sup>



(1) Derived from Bank Loans Tendency Survey. Values below 100 imply a tightening, values above 100 imply an easing. June 2015 data are estimations taken from the survey. Dashed lines display averages since 2009. Source: CBRT

**Chart III.1.18**  
General-Purpose Loan Rates and Spreads (Flow Data, 4-Week Moving Average, Percent)



Source: CBRT (Latest Data: 30.04.15)

**Chart III.1.19**  
Housing Loan Rates and Spreads (Flow Data, 4-Week Moving Average, Percent)



Source: CBRT (Latest Data: 30.04.15)

Box  
III.1.1

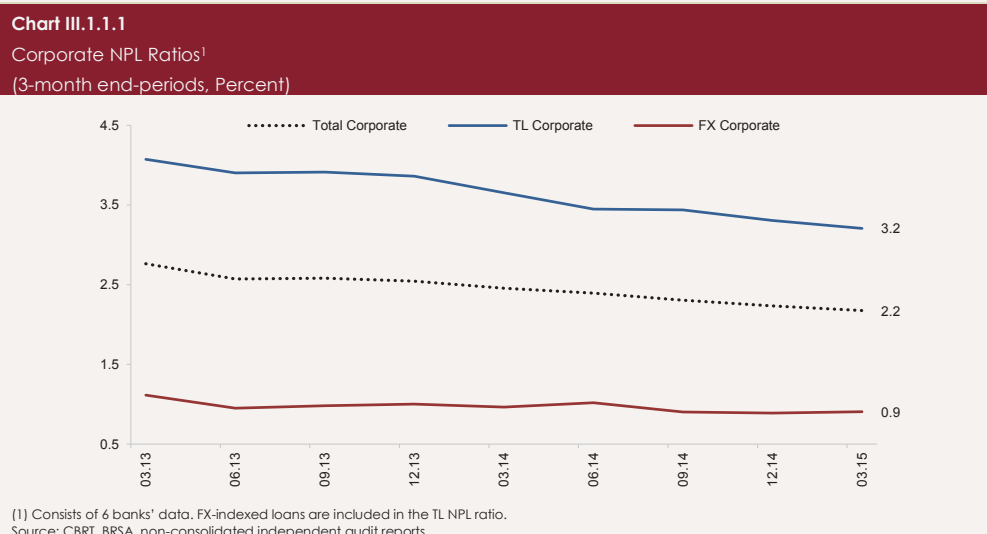
## Corporate Non-Performing and Close Monitored FX Loans

There have been significant fluctuations in the value of TL against reserve currencies since 2013. It is important to identify the credit quality impact of this fact, which may unfavorably affect corporate liabilities and borrowing costs, as the FX short positions of the corporate sector firms need to be monitored in terms of financial stability.

This box presents an analysis of the developments in the non-performing loan (NPL) ratio in FX corporate loans via banks' balance sheet data (For an analysis of corporate exchange rate risk through firms' balance sheets, see Special Topic IV.1).

Since the related legislation allows tracking FX loan NPL amounts within TL loan NPLs, and banks mostly use this facility, it is not possible to obtain FX NPL data from bank reportings. However, these data are accessible in independent audit reports. In this scope, for the period between 2013Q1 and 2015Q1, FX NPL developments have been analyzed by using the independent audit reports of six banks comprising approximately 66 percent of FX loans of the sector.

Data suggest that on average, FX corporate NPL ratios remain considerably below the TL ones and do not diverge negatively from TL corporate NPLs in times of serious exchange rate volatilities (Chart III.1.1.1).



Different from NPLs, bank loans under close monitoring can be obtained on a currency unit basis. Loans extended to households and firms, which are currently less than 90-days past due or do not have any repayment problem but for which there are estimations for a weakening repayment capability in the future, are classified as "loans under close monitoring". If the delay in the repayment of loans under close monitoring exceeds 90 days or the belief that their collection will be problematic strengthens, these loans start being monitored under the non-performing loan (NPL) class.

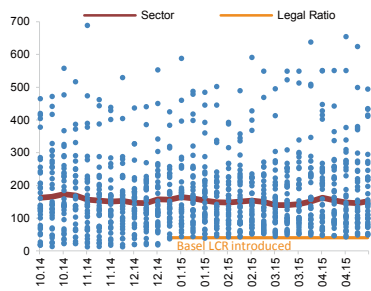
In this respect, TL and FX corporate loans under close monitoring are thought to be a possible leading indicator of NPL developments. In fact, historically, there has been a lagged connection between annual growth rates of total loans under close monitoring and intra-period NPL add-ons (Chart III.1.1.2).

In this framework, a close look at annual growth rates of TL and FX loans under close monitoring reveals that these loans move together in general. Moreover, there was a downward movement in the annual growth rate of FX loans under close monitoring in the period following the second half of 2013 in where TL displayed a fluctuating trend against the USD (Chart III.1.1.3).



To sum up, an analysis of the developments in FX loan quality based on data for NPLs and loans under close monitoring suggests that NPL ratios in FX loans are lower than NPL ratios in TL loans on average, and neither the current trends in NPLs nor the loans under close monitoring which are good leading indicators for NPLs point to a negative trend in FX loans.

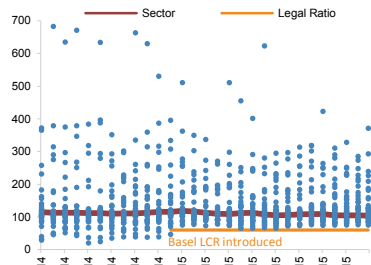
**Chart III.2.1**  
FX Liquidity Coverage Ratio<sup>1,2,3</sup>  
(Percent)



(1) Excluding development and investment banks.  
(2) Based on non-consolidated reports.  
(3) Dots stand for banks.

Source: CBRT, BRSA (Latest Data: 30.04.15)

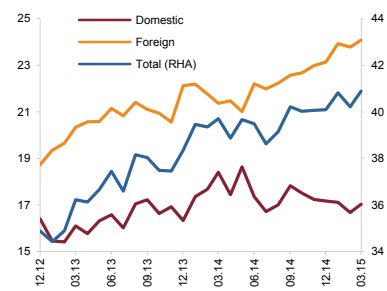
**Chart III.2.2**  
Total Liquidity Coverage Ratio<sup>1,2,3</sup>  
(Percent)



(1) Excluding development and investment banks.  
(2) Based on non-consolidated reports.  
(3) Dots stand for banks.

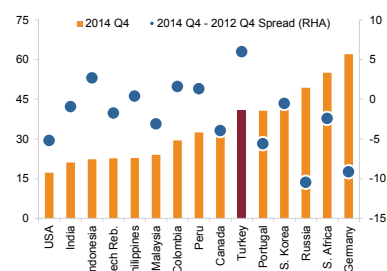
Source: CBRT, BRSA (Latest Data: 30.04.15)

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



Source: CBRT, BRSA

**Chart III.2.4**  
Ratio of Non-Deposit Funding to External Funding in Selected Countries and Its Change<sup>1,2</sup>  
(Percent, Percentage Points)



(1) For S. Africa, S. Korea and Portugal, 2014Q2 data; for the US and Russia, 2014Q3 data; for Turkey, February 2015 data; for other countries, 2014Q4 data have been used.  
(2) In FSI data, deposits are customer deposits.

Source: CBRT, BRSA

## III.2. Liquidity Risk

### Banks are meeting the legal liquidity coverage ratios.

As of 1 January 2015, the liquidity coverage ratio (LCR), which shows the capability of banks to cover net cash outflows from the high-quality asset stocks in their balance sheets in a significant stress scenario lasting 30 calendar days, has been set as 40 percent and 60 percent for FX and total, respectively, for all banks except development and investment banks. Weekly "non-consolidated" and monthly "consolidated" reports suggest that banks remain resilient to short-term liquidity shocks. The liquidity risk of the sector is contained by the securities portfolio that continues to occupy a significant place in banks' balance sheets despite a weakening in recent years, as well as by foreign currency and gold reserves that banks hold in the scope of the ROM mechanism and required reserves (Chart III.2.1 and III.2.2).

**Non-deposit funding of banks continued to increase in the last quarter of 2014 and onwards, while its share in external funding has not changed significantly.** The TL equivalent of external funding that constitutes the majority of non-deposit funding continues to increase on the back of the exchange rate effect, whereas the contribution of exchange rate-adjusted external funding to the total non-deposit funding growth remains rather limited. An important portion of the rise in non-deposit external funding has originated from funding obtained from debt to banks, issues and repo transactions. Domestic non-deposit funding moderately increased compared to the previous Report period, whereas its share in overall external funding fell slightly. A comparison with selected countries reveals that Turkey, which registered the highest increase in the banking sector's non-deposit funding between 2012 and 2014, has a non-deposit funding/external funding ratio that is above other countries' averages (Chart III.2.3 and III.2.4).

**The escalation in non-core liabilities corresponds to a significant trend observed in emerging economies in recent years.** Although non-core funding introduces several advantages for banks such as financing flexibility, it increases the sensitivity of banks to liquidity shocks spread over the market, due to its short-term and unstable nature. The Turkish



banking sector has had a growing interest in non-core liabilities in recent years, backed by the favorable external borrowing facilities. In fact, the ratio of deposits and equity to loans, which is accepted as the core liabilities ratio of the sector, has long been in a downtrend. It is critical for financial stability that banks follow a balanced growth path with stable funding sources. Following the October 2014 announcement by the CBRT regarding the remuneration of TL required reserves to encourage core liabilities, the deposits and equity to loans ratio of some banks increased. However, these increases have not been at a high enough level to change the ratio of the sector yet (Chart III.2.5 and III.2.6).

Though it does not have a standard definition in academic literature or global practices, the core liabilities ratio that can be calculated as the ratio of deposits and equity to loans, may vary depending on the economic structure and the financial development level of countries. An analysis of selected countries shows that this ratio displayed a downward movement in the majority of countries between 2012 and 2014. On the other hand, this ratio has posted a more significant decline in Turkey than in other countries. Meanwhile, the core liabilities ratio has been in an uptrend in advanced economies in the last two-year period (Chart III.2.7).

**The average maturity of TL deposits, which shortened after the volatility in exchange rates and interest rates picked up again in the second half of 2014, has slightly increased in recent months.** Although an important portion of TL deposits is still composed of deposits with maturities between 1 and 3 months, depositors have had an increased inclination for demand deposits in recent months. Unlike the case in TL deposits, the share of demand deposits in FX deposits has dropped and there has been a shift from demand deposits to time deposits. Nevertheless, the shortening in the average maturity of FX deposits was driven by the marked drop in the share of deposits with relatively long-term maturities of 3 to 6 months (Chart III.2.8 and III.2.9).

**Chart III.2.5**

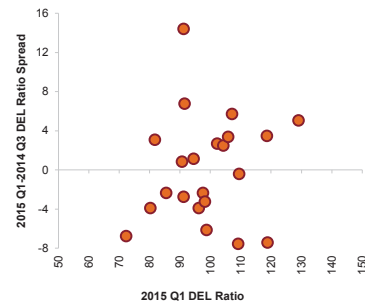
(Deposits+Equity)/Loans Ratio<sup>1,2</sup>  
(Percent)



(1) Official deposits excluded.  
(2) Development and investment banks excluded.  
Source: CBRT, BRSA

**Chart III.2.6**

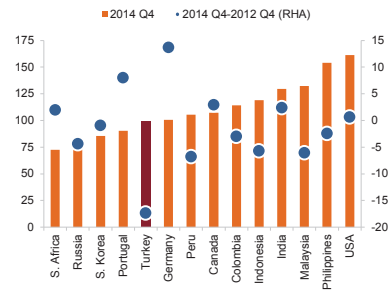
(Deposits+Equity)/Loans Ratio by Banks<sup>1,2</sup>  
(Percent, Percentage Points)



(1) Outliers excluded.  
(2) Development and investment banks excluded.  
Source: CBRT

**Chart III.2.7**

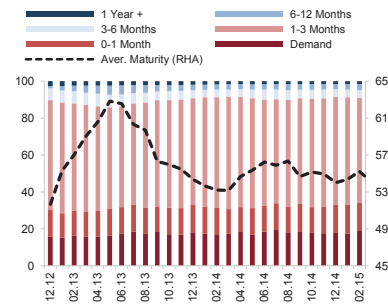
(Deposits+Equity)/Loans Ratio in Selected Countries<sup>1,2</sup>  
(Percent, Percentage Points)



(1) For S. Africa, S. Korea and Portugal, 2014Q2 data; for the US and Russia, 2014Q3 data; for Turkey, March 2015 data; for other countries, 2014Q4 data have been used.  
(2) In FSI data, deposits are customer deposits.  
Source: CBRT, BRSA, IMF-FSI

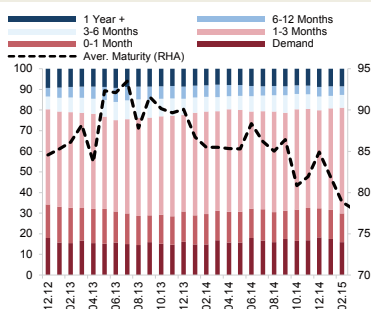
**Chart III.2.8**

Breakdown of Maturity of TL Deposits<sup>1</sup> and the Average Maturity<sup>2</sup> (Percent, Days)



(1) Banking sector deposits and precious metal deposit accounts excluded.  
(2) Participation banks excluded.  
Source: CBRT, BRSA (Latest Data: 03.15)

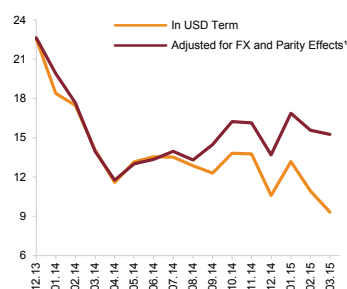
**Chart III.2.9**  
Maturity Breakdown of FX Deposits<sup>1</sup> and the Average Maturity<sup>2</sup>  
(Percent, Days)



(1) Excluding banking sector deposits and precious metal deposit accounts.  
(2) Participation banks excluded.  
Source: CBRT, BRSA (Latest Data: 03.15)

The USD-based growth rate of funding obtained by banks from banks abroad displayed a weak trend, whereas the growth adjusted for the exchange rate and the parity effect was more robust in the same period (Chart III.2.10). The appreciation of the USD and the sliding euro/dollar parity in recent months have exerted a decreasing effect on the USD equivalent of the banking sector's external debt amount. The external debt amount, which was on the rise for a long time, decreased in the first quarter of 2015. In this period, the banking sector reduced its short-term external debt and continued to obtain medium and long-term funding.

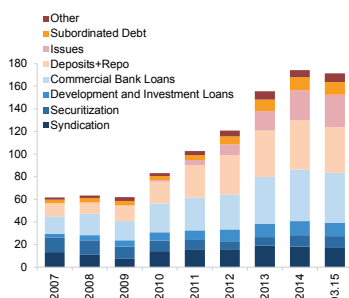
**Chart III.2.10**  
Growth in Banks' External Liabilities  
(Annual Percentage Change)



(1) Calculated based on the EUR/USD parity in December 2013.  
Source: CBRT, BRSA, CMB, PDP

Commercial bank loans and issues continue to predominate the external funding obtained by banks. The share of relatively long-term securitization loans and issues has grown compared to September 2014, whereas that of repo, deposits and syndicated loans has dropped. Securitization loans slumped to USD 6 billion in June 2013 following a prolonged downtrend and then bounced back to USD 11 billion by February 2015. The sliding euro/dollar parity also had a downward effect on the share of syndicated loans, which are predominantly euro-denominated unlike other borrowing instruments, in overall external loans. However, banks continued to access funding through syndicated loans by rolling over their matured syndicated loans by 100 percent or above. In light of these developments, banks do not show any difficulty in accessing syndicated and securitization loans. Banks' repo transactions with banks and other similar institutions abroad decreased in terms of both amount and share in the first quarter of 2015. The decline in short-term transactions was instrumental in the decrease in amount. Moreover, in addition to banks' short-term repo transactions, short-term commercial bank loans also weakened (Chart III.2.11).

**Chart III.2.11**  
Composition of Banks' External Liabilities  
(Billion USD)



Source: CBRT, BRSA, CMB, PDP (Latest Data: 03.15)

Having no difficulty in accessing new external funding sources and rolling over its due debt despite the uncertainties in global financial markets, the banking sector has a sufficient amount of buffers against likely external liquidity shocks. The banking sector has a total of around USD 96 billion external liabilities due within the upcoming one-year period. Euro liabilities and TL liabilities correspond to USD 24 billion and USD 4.5 billion

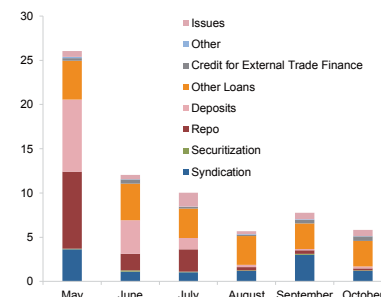
portions of these external liabilities, respectively, as they build up together 30 percent of the external debt. The majority of external liabilities that is due in a short time period is composed of repo, deposits and other loans, whereas syndicated loans mature predominantly in May (Chart III.2.12).

Approximately 47 percent of banks' external liabilities are of a short-term nature. As of March 2015, this percentage dropped by 6.4 points compared to end-2013 and by 4.3 points compared to end-2014. This drop was mainly triggered by the fall in the share of borrowings with 3 months to 1 year maturities (Chart III.2.13). The average maturity of the external debt of banks, which do not have any difficulty in accessing long-term external funding, extended to approximately 4 years in the first quarter of 2015 from 3.8-3.9 years in 2014 (Chart III.2.14). Thus, the share of short-term liabilities in total decreased with the effect of the change that the CBRT introduced in its reserve requirement implementation to extend the maturity of non-deposit FX sources (Chart III.2.15). The upward effect of this change on the maturity of banks' external funding is expected to continue in the upcoming period as well, and the decline in the share of short-term liabilities in banks' external funding sources may ease the sector's sensitivity to external liquidity shocks.

Banks' external debt rollover ratio has been in a downtrend since July 2014, and stood at 101 percent in March 2015. However, the short-term external debt rollover ratio has fallen to 96 percent in the last one-month period. The fact that the total external debt rollover ratio has remained above 100 percent while the short-term external debt rollover ratio has fallen below shows that banks do not have any difficulty in rolling over their debt and have started cutting their short-term external borrowing. Sector-wide, rollover ratios for syndicated loans that have matured recently also remain above 100 percent. Costs of revolving syndicated loans have improved by up to 20 basis points, with variations depending on banks. Banks are estimated to continue to roll over syndicated loans at high rates in the upcoming period as well (Chart III.2.14).

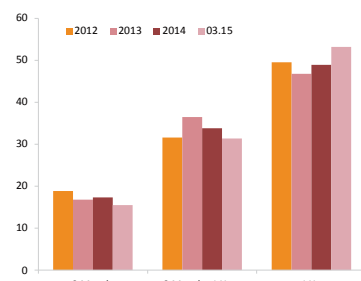
Despite the ECB's asset purchase program, capital flows to emerging economies are still likely to fluctuate in the upcoming

**Chart III.2.12**  
Payment Plan of Banks' External Liabilities in the Near Future  
(Billion USD)



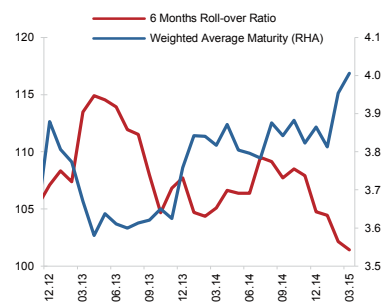
Source: CBRT, BRSA, PDP, CMB (Latest Data: 30.04.15)

**Chart III.2.13**  
Maturity Composition of Banks' External Liabilities  
(Percentage Share)



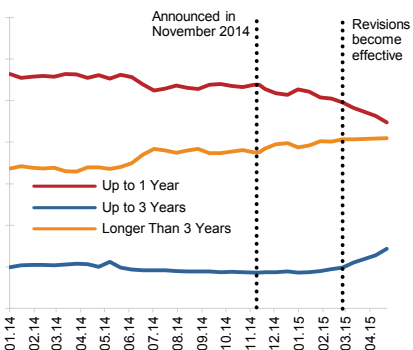
Source: CBRT, BRSA, PDP, CMB

**Chart III.2.14**  
External Debt Rollover Ratio of Banks and the Average Maturity<sup>1</sup>  
(Percent, Year)



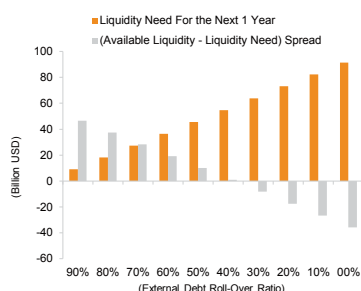
[1] Calculated based on 6-month moving totals of borrowings and repayments of total external liabilities including securities issued abroad.  
Source: CBRT, BRSA, PDP, CMB

**Chart III.2.15**  
Maturity Breakdown of Non-Deposit FX Liabilities  
(Percentage Share)



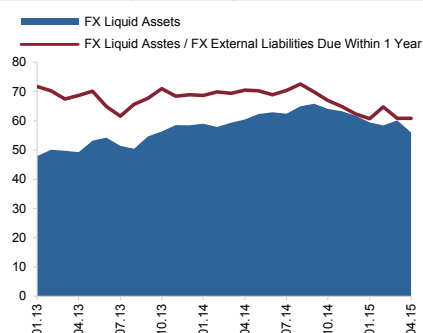
Source: CBRT (Latest Data: 08.05.15)

**Chart III.2.16**  
FX Liquidity Need of Banks Based on External Debt Roll-Over Ratio Assumptions<sup>1,2</sup> (As of April 2015)



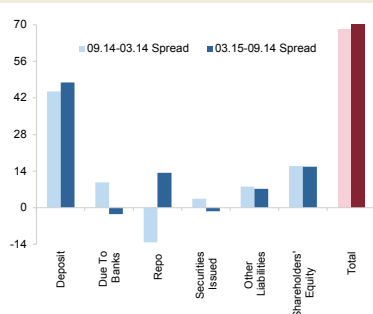
(1) Selected FX Liquid Assets: Cash+Foreign Banks (free)+Required Reserves held within the ROM facility  
(2) Liquidity Need: FX external debt due within 1 year x (1 - external debt roll-over ratio)  
Source: CBRT, BRSA, PDP, CMB

**Chart III.2.17**  
Ratio of Selected FX Liquid Assets to FX External Debt Due Within One Year<sup>1</sup> (Billion USD, Percent)



(1) Selected FX Liquid Assets: Cash+Foreign Banks (free)+Required Reserves held within the ROM facility  
Source: CBRT, BRSA, PDP, CMB (Latest Data: 30.04.15)

**Chart III.2.18**  
Periodical Change in the Banking Sector's TL Funding Sources (Billion TL)



Source: CBRT, BRSA

period due to the uncertainties regarding the Fed's interest rate hike policy and the downturn in global economic activity. Therefore, to manage the liquidity risk, it is crucial for banks to have adequate buffers to cover short-term external liabilities. The level of banks' FX liquid assets suggests that the banking system will not face any problem even if the external debt roll-over ratio falls to 39 percent from its current level of above 100 percent in case of stress. Moreover, banks have a portfolio of approximately TL 17 billion equivalent of FX-denominated unencumbered government debt securities that is not included in the calculation of their liquid assets due to increased price fluctuations in times of stress. The ratio of selected liquid assets to external debt due within one year decreased by 11 points from August 2014 to January 2015, due to the fall in FX required reserves held within the ROM facility and the surge in the external debt due within one year. This ratio has been relatively flat in the recent period (Chart III.2.16 and III.2.17).

**TL deposits continue to be the primary funding source of the banking sector.** Although especially legal person depositors have preferred FX deposits in the recent months due to increased exchange rate volatility, the uptrend in TL deposit amounts has accelerated in the last six-month period. In addition to TL deposits, funding from repo transactions has also increased in the same period, whereas other TL funding sources have weakened slightly. These changes in amounts point to a shift from other funding items to TL deposits in the TL funding composition. The increasing importance of deposits as a stable funding source strengthens the liquidity risk outlook in the Turkish banking sector. In recent months, there has been a deceleration in TL security issues that banks have used as an alternative source. Accordingly, the share of TL issues in TL liabilities has fallen (Chart III.2.18).

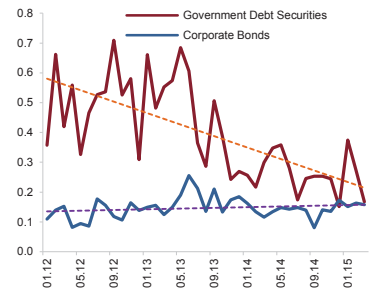
Investors holding the issued debt instruments can sell these instruments in the secondary market in case of any liquidity need. The rise in the transaction volume in the secondary market exerts a downward pressure on the securities-driven liquidity risk. For the last two years, the depth of the Government Domestic Debt Securities (GDDS) secondary market has been decreasing, whereas the corporate sector securities market has

been deepening in relative terms. The ratio of the corporate sector secondary market transaction volume to stock security issues, which had declined from April 2014 to September 2014, moved parallel to the recent years' trend in the immediate past (Chart III.2.19).

**The amount of FX reserves held within the ROM facility has eroded since mid-2014; however, the FX ROM facility utilization has picked up again particularly since end-2014.** The main determinant of this development was the new regulations that raised the coefficients for the upper tranches and reduced the coefficients for the lower tranches of ROM. In addition, the remuneration of TL required reserves and the year-end reconciliation of accounts with foreign correspondents have also been effective in banks' ROM utilization preferences. The total amount of FX and gold reserves held at the CBRT via the ROM facility was around TL 118 billion as of April 2015 (Chart III.2.20).

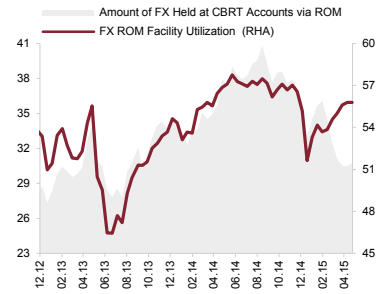
The coverage ratio of FX and gold reserves held via the ROM to banks' short-term liabilities has been in a downtrend since mid-2014 and stood at 16 percent as of end-March 2015. This trend originated overwhelmingly from the slump in banks' ROM reserves following the change in ROCs. For banks to smoothly use these reserves, they have to replace their withdrawal from reserves with their TL liquid assets. Currently, the banking sector's TL unencumbered GDDS portfolio after deductions is adequate to cover the whole of TL required reserves held via the ROM (Chart III.2.21). Moreover, banks have a maximum FX deposit transaction limit of a total of USD 21.6 billion for one-week maturity borrowings from the CBRT. The CBRT cut the foreign exchange deposit interest rates by 50 basis points in April in line with global interest rate developments.

**Chart III.2.19**  
Ratio of the Average Volumes of Secondary Market Security Issues<sup>1</sup> to Stock Security (Percent)



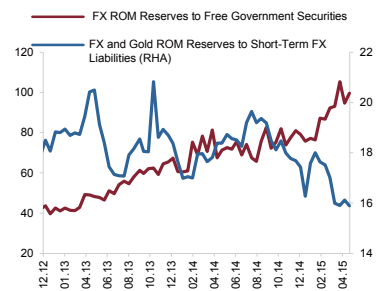
(1) BIST Outright Purchases and Sales Market Private Sector Security Issues for the public sector, it has been calculated based on bonds traded on the BIST. Source: CBRT, BIST, PDP, CMB (Latest Data: 31.03.15)

**Chart III.2.20**  
Amount of FX Held at CBRT Accounts via the ROM Facility and the FX ROM Facility Utilization (Billion USD, Percent)



Source: CBRT (Latest Data: 24.04.15)

**Chart III.2.21**  
Ratio of FX Reserves to Short-Term FX Liabilities<sup>1</sup> and Ratio of ROM Reserves to Free Government Securities (Percent)



(1) FX reserves maintained via the ROM and the banking sector's on-balance sheet FX liabilities up to 12 months have been compared. Source: CBRT, BRSA (Latest Data: 24.04.15)

Box  
III.2.1

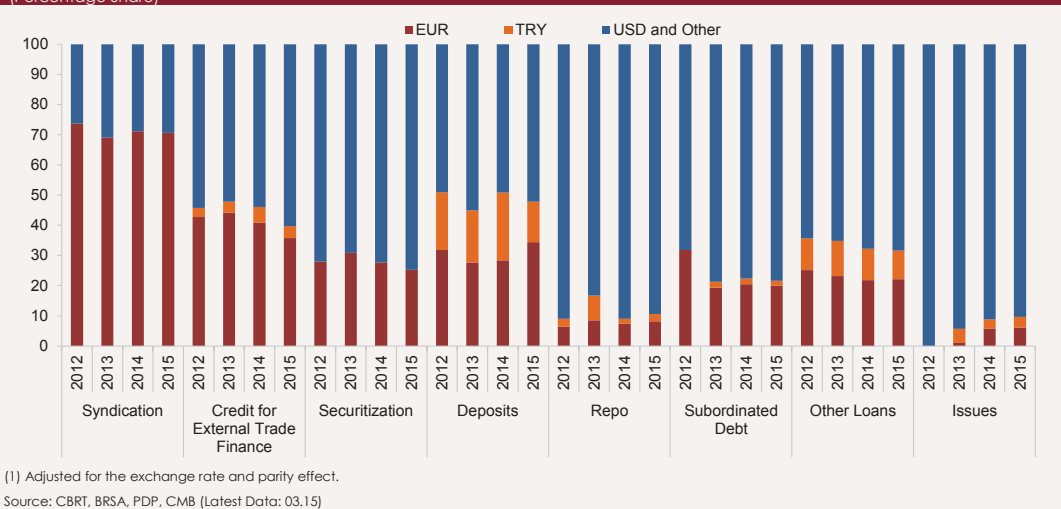
Developments in Financing Structure by Currencies

Steps to be taken by the Fed towards a rate hike are closely monitored in terms of their likely effects on the dollar liquidity and borrowing costs. On the other hand, since mid-2014, the euro liquidity has abounded and euro-denominated borrowing costs have significantly decreased due to expansionary monetary policies of the ECB. At this point, an important question emerges as to what extent the expansionary policies of the ECB can offset the impact of Fed policies. This box analyzes the effects of the divergence in Fed's and ECB's monetary policies on the Turkish banking system.

The banking sector obtains a significant amount of funding from abroad due to the insufficiency of domestic savings and the cost-effectiveness of external funding. As of March 2015, the USD, euro and TL make 67 percent, 25 percent and 6 percent of this funding, respectively. The remaining part is composed of other currencies. Average maturities of euro borrowings and USD borrowings are close to each other, hovering around 3 to 5 years. In terms of types of borrowing instruments, the USD prevails in all instruments except syndicated loans. In repo transactions and issues, the share of euro borrowings is very low compared to other financing instruments. Nevertheless, the share of euro-denominated issues has grown compared to end-2013. In addition, compared to end-2013, the share of euro in credits for external trade finance has retreated, whereas its share in other borrowing instruments has not changed significantly (Chart III.2.1.1).

Chart III.2.1.1

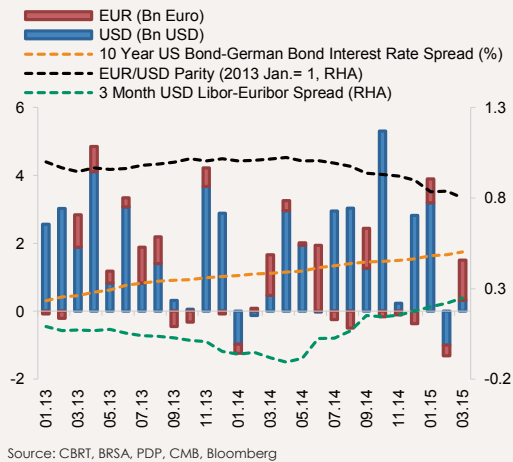
Breakdown of External Debt Instruments by Currency Units<sup>1</sup>  
(Percentage Share)



The USD Libor-Euribor spread has increased and the euro has depreciated against the USD since May 2014. From May 2014 to the end of Q1-2015, banks' euro-denominated funding climbed by EUR 3.3 billion at a rate of 11 percent, while their USD-denominated funding swelled by USD 18.1 billion at a rate of 17 percent (Chart III.2.1.2 and III.2.1.3). Banks' euro borrowings are not very strong despite the expansionary policies of the ECB and the cut in the euro borrowing cost. Meanwhile, the average maturity of euro debt shortened until the second half of 2014 in which relative borrowing costs started decreasing but has extended since then.

**Chart III.2.1.2**

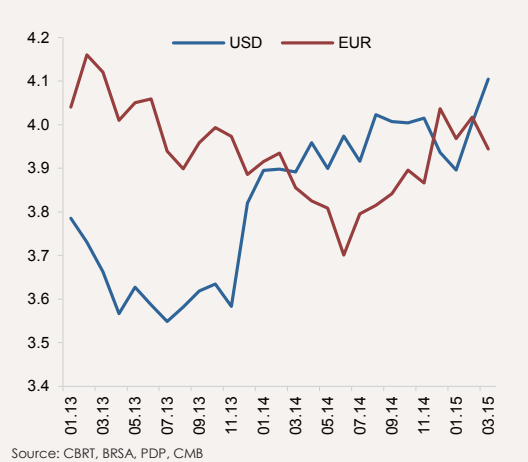
Monthly Amount Changes in Euro and USD External Debt and Parity and Interest Rate Developments



Source: CBRT, BRSA, PDP, CMB, Bloomberg

**Chart III.2.1.3**

Change in the Average Maturity of Euro and USD External Debt (Year)



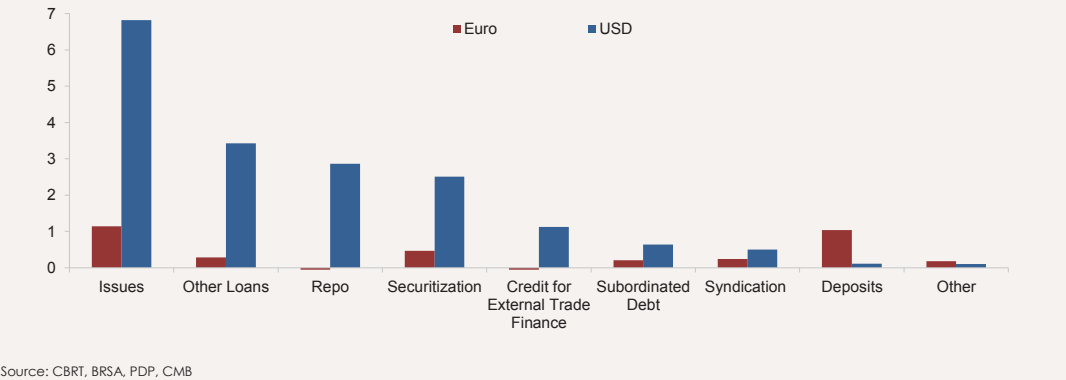
Source: CBRT, BRSA, PDP, CMB

Compared to May 2014, banks have slightly boosted their euro-denominated external debt stocks predominantly via issues, deposits and securitization. Yet, not shifting to euro borrowing, banks have opted for USD borrowings in security issues, securitization loans, other loans based on bilateral agreements, secured repo transactions and credits for external trade finance (Chart III.2.1.4).

**Chart III.2.1.4**

Change in Borrowing Instruments Between 2015Q1 and May 2014

(Billion Euro, Billion USD)

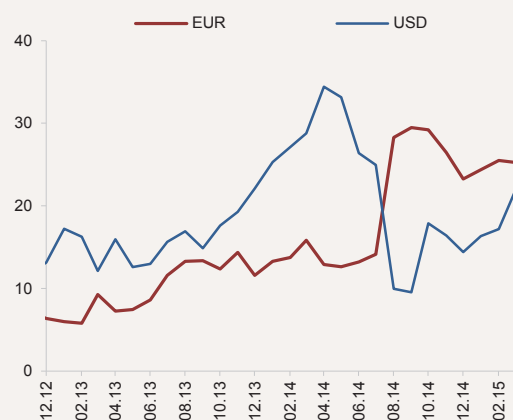


Source: CBRT, BRSA, PDP, CMB

The lack of a shift towards euro in external borrowing despite reduced costs may be attributed to the developments on the assets and liabilities front. A shift towards euro in external borrowing while the balance sheet structure remains intact would mean that banks will have a short cross currency position. As a matter of fact, although there was not a significant change in euro-denominated external borrowing, the on-balance sheet euro short position jumped in mid-2014 and stood at a higher level (Chart III.2.1.5). A close look at the changes in USD and euro denominated assets and liabilities in banks' balance sheets during the period between May 2014 where euro interest rates started to decline and March 2015 reveals that as opposed to the decline in the USD deposit amount, the euro deposit amount has grown and its share in total deposits has increased. On the asset side, the increase in euro loans outpaced that in USD loans. Meanwhile, the amount of decline in the euro-denominated portion of other assets, which are largely composed of foreign exchange held within the ROM facility, has approximated the increase in loans. Consequently, changes in items other than external debt have increased the on-balance sheet euro short position.

**Chart III.2.1.5**

On-Balance Sheet Euro-USD Short Position  
(Billion Euro, Billion USD)



Source: CBRT, BRSA (Latest Data: 03.15)

**Table III.2.1.1**

Change in Amount of On-Balance Sheet Euro-USD Items  
(May 2014 - March 2015, Billion Euro- Billion USD)

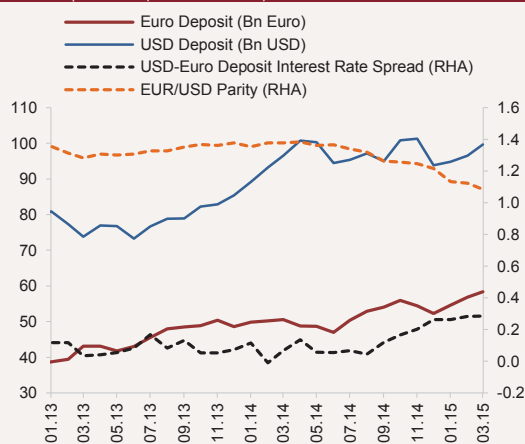
	Asset	Liability	
Δ EUR Loan	+9.6	Δ EUR Deposit	+9.7
Δ USD Loan	+8.0	Δ USD Deposit	-0.7
Δ EUR Sec. Portf.	+0.2	Δ EUR External Debt	+3.3
Δ USD Sec. Portf.	+4.0	Δ USD External Debt	+18.1
Δ EUR Other	-9.2	Δ EUR Other	+0.3
Δ USD Other	+15.8	Δ USD Other	-1.1
Δ EUR Total	+0.6	Δ EUR Total	+13.3
Δ USD Total	+27.7	Δ USD Total	+16.3

Source: CBRT, BRSA

It is remarkable that there has not been any weakening in the inclination of depositors towards euro deposits despite the interest rate advantage of the US dollar and the depreciation trend in the euro (Chart III.2.1.6). An analysis of currency swap transactions that the depositors have preferred as an alternative to TL deposits in the recent period suggests that only a 10-percent portion of the growth in euro deposits has originated from these transactions.<sup>4</sup> The ongoing interest in euro deposits is believed to be mainly related to the expectations of depositors regarding cross rate movements. In recent years, depositors who want to take advantage of exchange rate movements have taken an opposite position against exchange rate movements with the impulse of making a profit, shifting to FX deposits when the TL appreciates and vice versa. Probably, the same motivation was in place in the preferences for euro and dollar deposits. Actually, when the monthly rate of increase in the EUR/USD parity and the monthly rate of increase in the amount of euro deposits since early 2003 are analyzed together, a relation appears in the negative direction (Chart III.2.1.7).

**Chart III.2.1.6**

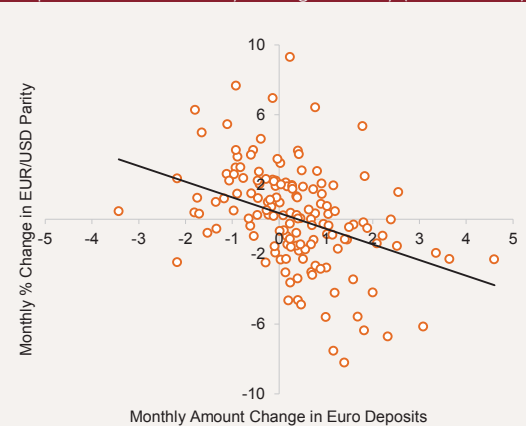
Euro and USD Deposits and Parity and Interest Rate Developments (Billion, Percent)



Source: CBRT, BRSA

**Chart III.2.1.7**

Relation Between the Monthly Amount Change in Euro Deposits and the Monthly Change in Parity (Billion, Percent)

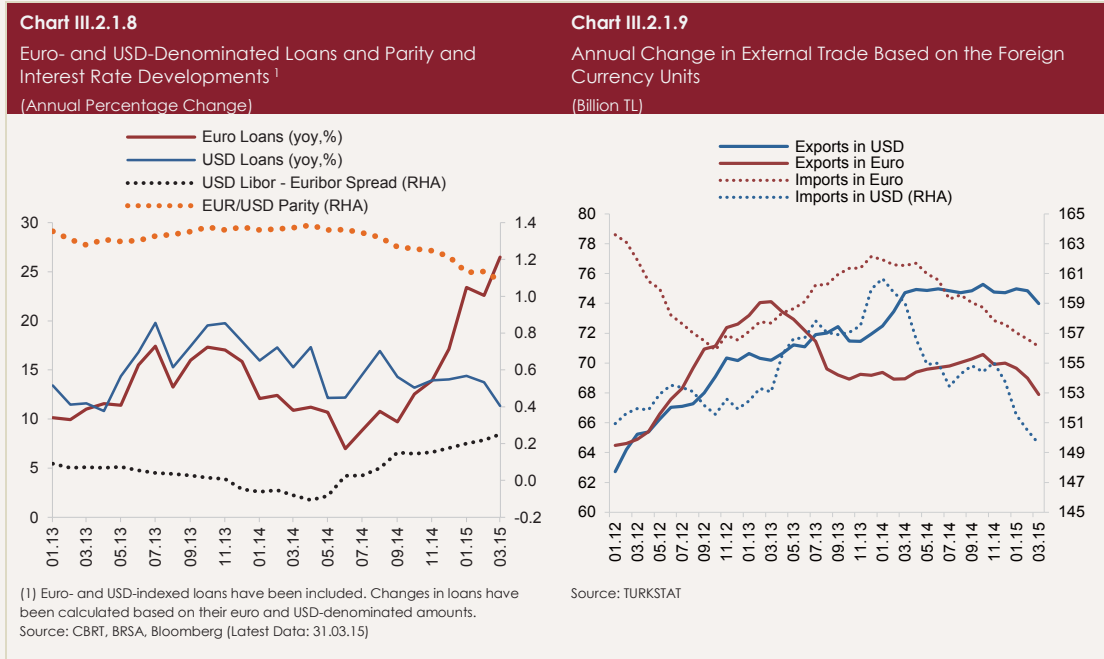


Source: CBRT, BRSA (Latest Data: 03.15)

<sup>4</sup> For a detailed explanation of currency swap transactions, see Financial Stability Report Issue: 18, Box II.1.1: The Impact of Resident Real Persons' Currency Swap Transactions on FX Savings Deposits.



Unlike the case with banks, firms are rapidly shifting to euro-denominated loans. Following the widening in the gap between USD Libor and Euribor in mid-2014, the growth rate of euro-denominated loans has accelerated, whereas the growth rate of USD-denominated loans has slightly decelerated (Chart III.2.1.8). Taking into account that the currency-based developments in external trade have not changed in a direction that will affect firms' loan preferences, it can be asserted that this was largely based on developments in relative borrowing costs (Chart III.2.1.9). At this point, it is important to emphasize the need to closely monitor the cross exchange rate risk that firms have born due to the advantage in borrowing costs.



To conclude, the relative advantage seen in euro borrowing costs as a result of the Fed's and the ECB's monetary policies has not affected banks' external borrowings yet. This has originated largely from the changes in other asset and liability items of the balance sheet. The CBRT's allowing for only USD maintenance within the ROM facility has also been influential. However, this implementation is believed to have its effects already observed. Hence, if the euro tendency in corporate loans continues in the upcoming period, banks' borrowings are also expected to slightly change in the euro direction.

Box  
III.2.2

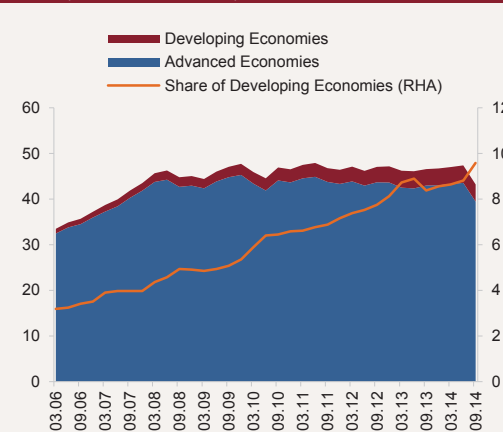
Developments in the Securities Market

In emerging economies, the private sector's borrowing through security issues has been increasing for a long time (Chart III.2.2.1). Security issues offer relatively longer term unsecured alternative funding sources for these institutions. Growing investor interest in these securities contributes to the development of the financial markets in emerging countries as well. On the other hand, investments in these instruments have increasingly come from portfolio management companies and this may expose issuers to more volatile funding conditions in times of stress.<sup>5</sup> This Box presents detailed information regarding the Turkish banking sector's security issues which have had an increased weight in total funding in recent years.

In Turkey, private sector's security issues are conducted predominantly by banks. While the security issues by the non-bank sector are in a rather limited amount, TL security issues by the banking sector account for 65 percent of the private sector's TL issues. This ratio is even higher in FX-denominated security issues abroad (Chart III.2.2.2). The contribution of security issues to the banking sector funding has grown in recent years; security issues by the banking sector has accelerated since the second half of 2010 reaching 5.2 percent of total funding sources (Chart III.2.2.3).

Chart III.2.2.1

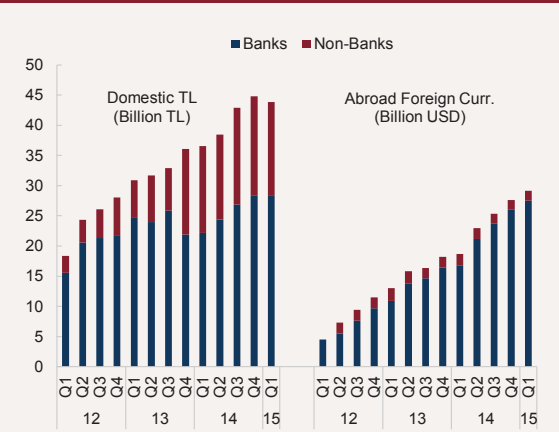
Banking and Non-Bank Sectors' Security Issues in Global Terms (Trillion dollar, Percent)



Source: BIS

Chart III.2.2.2

Banking and Non-Bank Sectors' Security Issues in Turkey



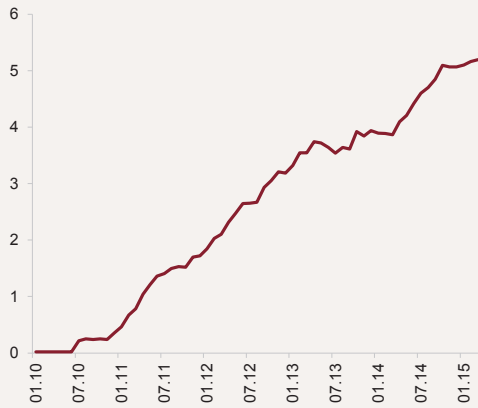
Source: PDP, MKK, CBRT

The banking sector's security issues are mostly FX issues abroad and only a small portion is composed of domestic issues (Chart III.2.2.4).

<sup>5</sup> IMF Global Financial Stability Report, April 2015, BIS Quarterly Review, "Asset Managers in Emerging Market Economies", September 2014.

**Chart III.2.2.3**

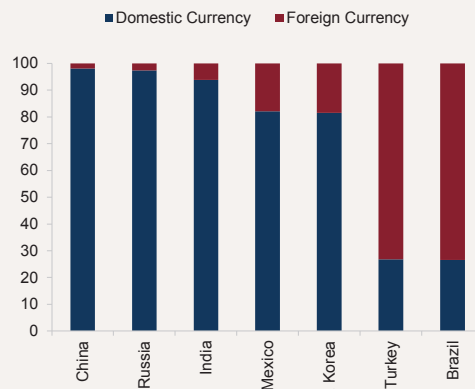
Share of Security Issues in Total Liabilities (Percent)



Source: BRSA, CBRT (Latest Data: 03.15)

**Chart III.2.2.4**

Share of Domestic and Foreign Currency Security Issues in Total Issues (Percent)

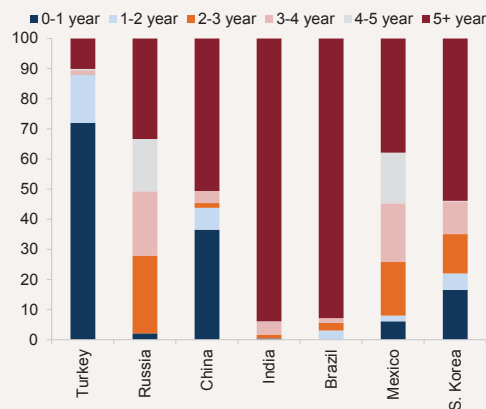


Source: Bloomberg, CBRT (Latest Data: 05.15)

A breakdown of maturities of domestic currency security issues in the Turkish banking sector reveals that most of the securities are issued with a maturity of 3 to 6 months. Although the maturity of domestic issues are longer than the average maturity of TL funding sources, it is shorter compared to other emerging economies. A large portion of domestic currency security issues in selected emerging countries other than Russia is composed of issues with a maturity of 5 years and longer (Chart III.2.2.5). As for FX-denominated issues, the Turkish banking sector's security issues, like those of other emerging countries, are predominantly made of securities with a maturity of 5 years and longer (Chart III.2.2.6).

**Chart III.2.2.5**

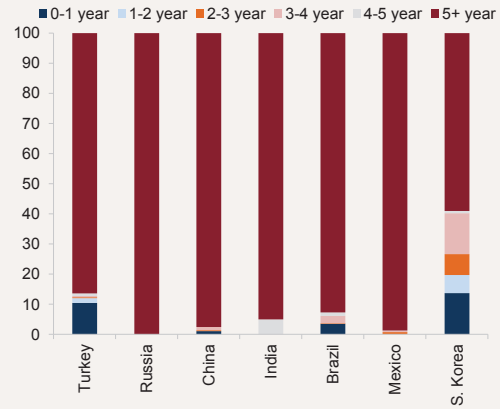
Maturity Breakdown of the Banking Sector's Domestic Currency Security Issues (Percent)



Source: Bloomberg, CBRT (Latest Data: 05.15)

**Chart III.2.2.6**

Maturity Breakdown of the Banking Sector's Foreign Currency Security Issues (Percent)



Source: Bloomberg, CBRT (Latest Data: 05.15)

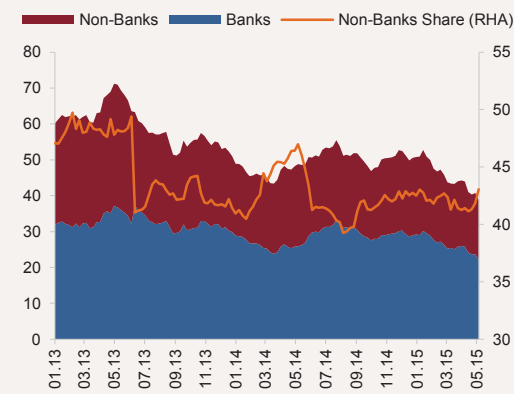
Data on international capital flows show that the share of portfolio management companies in emerging countries' securities has significantly increased in the aftermath of the global financial crisis. Recent studies claim that the flow of funding from portfolio management companies to emerging economies can follow a considerably unstable track in times of stress.<sup>6</sup> Being a support for this claim, in May 2013 when the FED signaled that it would taper off its asset purchases, non-bank foreign investors withdrew from GDDS, in which a change in the investor profile can be seen as a

<sup>6</sup> IMF, *ibid.*, BIS, *ibid.*

time series, in a faster and stronger manner than foreign banks (Chart III.2.2.7). On the other hand, behaviors of these two groups of investors did not significantly differ in times of more moderate fluctuations in countries' risk premiums (Chart III.2.2.8).

**Chart III.2.2.7**

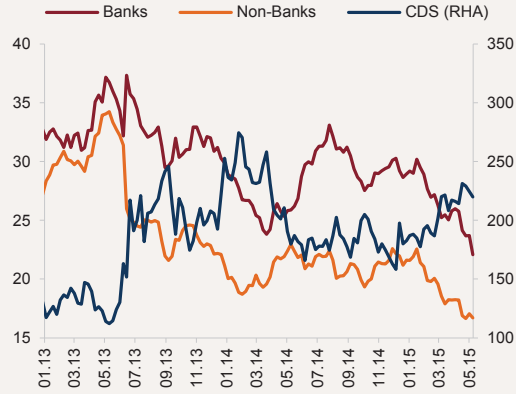
Changes in Non-Resident Holdings of GDDS (Billion USD, Percent)



Source: CBRT (Latest Data: 08.05.15)

**Chart III.2.2.8**

Changes in Non-Resident Holdings of GDDS and Turkey's 5-Year CDS (Billion USD)

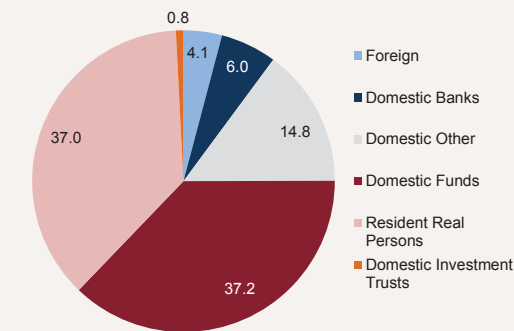


Source: Bloomberg, CBRT (Latest Data: 08.05.15)

According to up-to-date data, domestic issues of banks are mostly held by residents, whereas issues abroad are mainly held by portfolio management companies (Chart III.2.2.9 and III.2.2.10).

**Chart III.2.2.9**

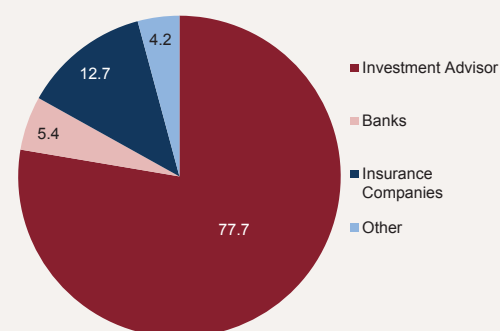
Breakdown of Holdings of the Banking Sector's Domestic Currency Security Issues (Percent)



Source: MKK, CBRT (Latest Data: 04.15)

**Chart III.2.2.10**

Breakdown of Holdings of the Banking Sector's Foreign Currency Security Issues <sup>1</sup> (Percent)



(1) The breakdown of holdings of over-the-counter traded issues is not available.  
Source: Bloomberg, CBRT (Latest data: 05.15)

In sum, there has been a steady growth in the share of funding through security issues in the banking sector's total liabilities, particularly stemming from foreign currency security issues abroad. Unlike domestic issues, issues abroad have longer maturities, which is likely to increase the resilience of the banking system to short-term fluctuations in financial markets. On the other hand, an important portion of securities issued by the banking sector is held by portfolio management companies which are able to change the investment composition in a fast and strong manner in times of stress. Therefore, potential risks of reliance on these security issues abroad should be taken into account.

### III.3. Interest Rate Risk and Exchange Rate Risk

**Global divergences in monetary policy and the lingering uncertainties regarding the normalization process in the US urge a close monitoring of the banking sectors' exposure to interest rate risks.** It was anticipated that the Fed's interest rate decisions and related expectations would directly affect both USD and TL funding costs. The current signals from the Fed for a rate hike have reverberations on the money markets of emerging economies. The interest rate risk has been analyzed in the framework of the impacts due to the re-pricing resulting from the maturity mismatch between the banking sector's assets and liabilities and due to the re-valuation in the securities portfolio.<sup>4</sup>

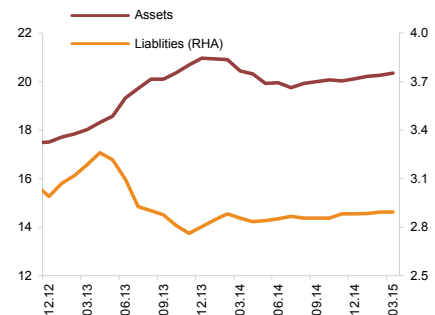
**The maturity mismatch between banks' TL assets and liabilities has not changed much in the last one-year period.**

The uptrend seen in maturities of both TL assets and TL liabilities since mid-2014 has remained at very limited level (Chart III.3.1). The extension in maturities of TL assets was mainly triggered by the rise in the share of fixed-rate assets that are relatively long-term, in overall assets. Meanwhile, maturities of floating-rate assets slightly increased, adding to the extension in the average maturity of assets.

With the impact of regulations introduced in early 2014 to limit the maturities of consumer loans except housing loans, the shortening trend in the maturity of fixed-rate TL installment loans continues. Nevertheless, the notable increase in the share of fixed-rate TL installment loans has led to a moderate extension in the average maturity of assets (Chart III.3.2).

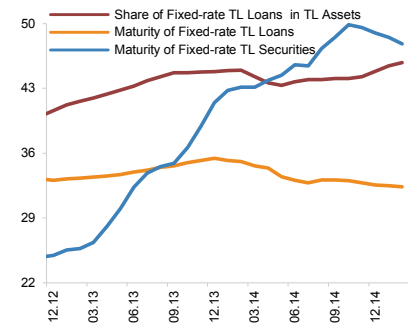
**On the other hand, the extension in the maturities of fixed-rate liabilities, particularly of derivatives liabilities, was instrumental in the extension in maturities of TL liabilities.** The ratio of fixed-rate TL derivatives liabilities to housing loans' outstanding balance lingers above 2013 and 2014 values and banks continue to hedge against interest rate exposures by cross-currency and interest rate swaps. Converting the FX-denominated long-term external funds to fixed-rate TL funds via

**Chart III.3.1**  
Maturities of TL Assets and Liabilities  
(Sum of Interest Sensitive Items, 3-Months Moving Average, Months)



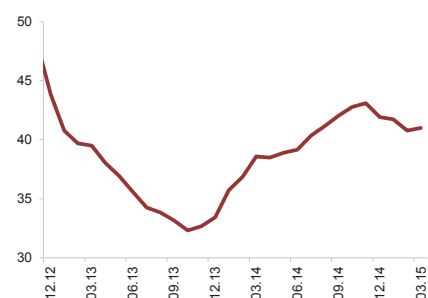
Source: CBRT, BRSA

**Chart III.3.2**  
Breakdown of Fixed-Rate TL Assets  
(3-Months Moving Average, Percent, Months)



Source: CBRT, BRSA

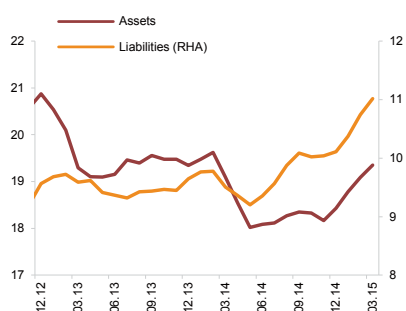
**Chart III.3.3**  
Ratio of Fixed-Rate TL Liabilities to TL Housing Loans  
(3-Months Moving Average, Percent)



Source: CBRT, BRSA

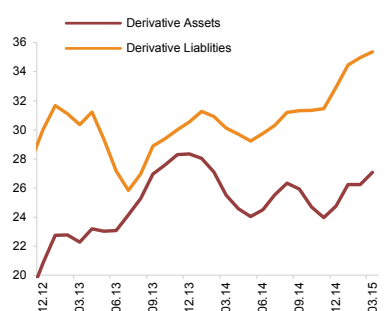
<sup>4</sup> In this section, participation banks have been excluded from the study. Maturity means remaining term to repricing.

**Chart III.3.4**  
Maturities of FX Assets and Liabilities  
(3-Months Moving Average, Months)



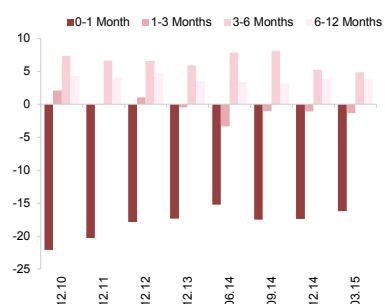
Source: CBRT, BRSA

**Chart III.3.5**  
Maturities of Fixed-rate FX Derivative Assets and Liabilities  
(3-Months Moving Average, Months)



Source: CBRT, BRSA

**Chart III.3.6**  
TL Assets-Liabilities Position / Total Liabilities  
(Interest Sensitive Assets-Liability Difference, Percent)



Source: CBRT, BRSA

**Chart III.3.7**  
FX Assets-Liabilities Position / Total Liabilities  
(Interest Sensitive Assets-Liability Difference, Percent)



Source: CBRT, BRSA

cross-currency swap transactions by banks continue to curb the interest rate exposure originating from long-term and fixed-rate consumer loans, primarily housing loans (Chart III.3.3).

**The maturity mismatch between banks' FX assets and liabilities displayed a trend similar to that on the TL side.** On the FX side, the average maturity of both assets and liabilities has slightly extended (Chart III.3.4). Similar to the case on the TL front, the extension in the maturity of FX assets stemmed from the growth in the share of fixed-rate assets that are relatively longer-term, and the extension in the maturity of floating-rate assets.

The increase in share and maturity of the marketable securities portfolio and derivatives instruments on the fixed-rate assets front, together with the increase in share and maturity of installment loans and the increase in maturity of derivatives instruments on the floating-rate assets front, has brought about an extension in the average maturity of FX assets. On the other hand, the rise in the share and maturity of fixed-rate derivatives instruments and of debt to banks has been influential in the maturity extension in FX liabilities (Chart III.3.5).

**In recent months, there has been a modest improvement in the interest rate-sensitive TL position subject to repricing.** The narrowing in the short position has mainly resulted from the decline in the short position in the maturity bracket up to one month. The position with a maturity of six-to-twelve months has also improved moderately. Conversely, there has been a slight deterioration in positions with a maturity of one-to-three and three-to-six months (Chart III.3.6).

**Contrary to the case in the TL position, in recent months, there has been a limited increase in interest rate-sensitive FX short position subject to repricing.** The FX position has deteriorated in one-to-three and three-to-six month maturities, whereas it has improved in other maturity brackets (Chart III.3.7).

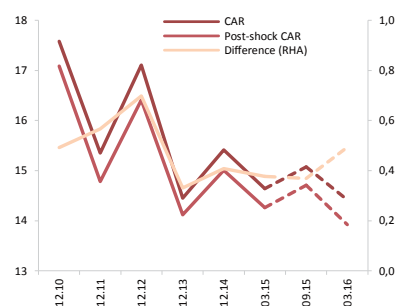
In the quantitative analysis made towards measuring interest rate exposure, based on banks' balance sheets at the

beginning of the specified period, their interest rate-sensitive TL and FX assets and liabilities with maturities of zero-to-one, one-to-three, three-to-six and six-to-twelve months have been repriced according to assumed interest rate hikes of 500 basis points and 250 basis points on each side, respectively. The losses, emerging due to repricing of interest rate-sensitive assets and liabilities under the assumption that interest rate shocks would last for one year, have been deducted from the regulatory capital amount of the subsequent year, and the Capital Adequacy Ratios (CARs) have been re-calculated. The difference between the actual CARs and the re-calculated CARs has been analyzed by periods. Asset and liability values for March 2015 have been used to calculate losses due to interest rate risk exposure for March 2016 and the last three years' average growth figures of the regulatory capital and risk weighted assets have been used to estimate the March 2016 CAR.

**Under the interest rate shock assumed to last for a year and in an up-to-one-year term, the banking system's sensitivity to interest rate risk is believed to be rather limited and the current CAR level of the system makes it robust in the face of interest rate shocks.** For the period analyzed, the impact of TL interest rate shock was stronger than that of FX interest rate shock. TL and FX interest rate shocks led to a decline of around 38 basis points and 11 basis points in the CAR, respectively. Almost half of this difference in the size of the impact results from the difference in the severities of the interest rate shocks that interest rate-sensitive TL and FX assets and liabilities are exposed to, while the remaining half stems from the difference between the absolute magnitudes of interest rate-sensitive short positions. In the last six-month period, losses due to the TL interest rate shock and the FX interest rate shock have increased by 10 basis points and 2 basis points, respectively. Thus, the total impact of shocks on the CAR has remained limited and has shown no significant change in the last six-month period (Chart III.3.8).

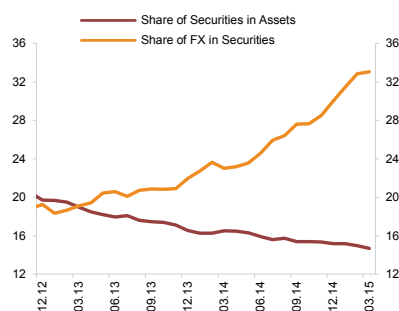
The share of securities in total assets of the banking sector has been in a downtrend in recent years. The share of FX securities, which build almost one third of the securities portfolio, in total securities has grown markedly since 2013 (Chart III.3.9).

**Chart III.3.8**  
CAR after TL and FX Interest Rate Shocks<sup>1</sup>  
(Percent, Points)



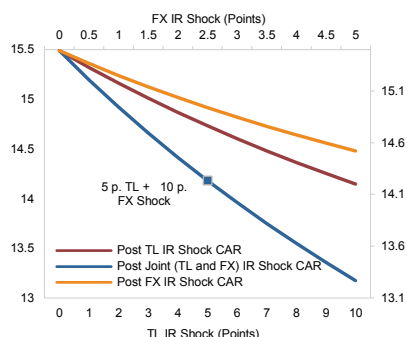
(1) Banks with assets over 6 billion TL (excluding Eximbank and İller Bankası) are considered in calculations.  
Source: CBRT, BRSA

**Chart III.3.9**  
Securities Portfolio  
(Percent)



Source: CBRT, BRSA

**Chart III.3.10**  
Effect of TL and FX Interest Rate Shocks on CAR<sup>1</sup>  
(Percent)

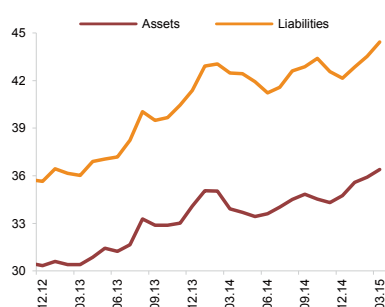


Source: CBRT, BRSA, Bloomberg

More than half of the securities portfolio, which still has a significant weight in banks' balance sheets, is composed of fixed-rate securities. This may affect banks' balance sheets via profit/loss accounts in case of negative shocks to both TL and FX interest rates.

Of banks' fixed-rate TL and FX securities, the interest rate risk analysis has been applied to Treasury bills and bonds, foreign government bonds and corporate sector bonds for which the market interest rates and current value data are accessible. In terms of amount, this sub-group of securities constitutes 98 percent and 92 percent of banks' fixed-rate TL and FX securities, respectively.

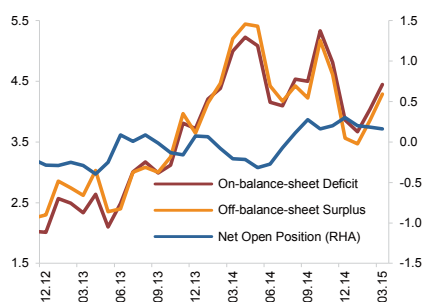
**Chart III.3.11**  
Share of FX in Banking Sector Assets and Liabilities  
(Percent)



Source: CBRT, BRSA

**The banking sector's sensitivity to securities portfolio-based interest rate shocks is believed to be limited and the sector with its current capital level is not expected to suffer significantly from an interest rate shock.** A TL interest rate shock of up to 1000 basis points will have up to 134 basis points of a negative effect on the sector's CAR, whereas an FX interest rate shock of up to 500 basis points will have up to 97 basis points of a negative effect on it. When 500 basis points of TL and 250 basis points of FX interest rate shocks mentioned in the repricing section are imposed simultaneously, the CAR of the sector drops by 131 basis points (Chart III.3.10).

**Chart III.3.12**  
Ratio of FX Positions to Total Assets  
(Percent)



Source: CBRT, BRSA

**Lingering uncertainties regarding the Fed's interest rate decisions also lead to exchange rate fluctuations.** Therefore, exchange rate risks that banks are exposed to because of the exchange rate volatility and their FX positions should also be monitored.

The share of FX assets and liabilities in the banking sector has assumed an apparent uptrend since 2011 (Chart III.3.11). Meanwhile, the on-balance sheet FX position has fluctuated on the back of assets and liabilities movements. However, the uptrend observed in the on-balance sheet position throughout 2013 reversed in 2014 and the on-balance sheet short position shrank. On the other hand, banks have hedged their on-balance sheet FX short positions via off-balance sheet



transactions to a large extent. In light of on-balance sheet and off-balance sheet FX positions, the net short position has been on a balanced track in terms of its size (Chart III.3.12).

Under the assumptions that balance sheet is stable and the short-position loss is directly deducted from equity, the effects of upward movements in the exchange rate on the CAR were analyzed. According to this analysis, an up-to-100-percent hike in the exchange rate gradually triggers down the CAR by up to 19 basis points via the net short position channel (Chart III.3.13). For the banking sector which has a high CAR, the risk directly originating from the exchange rate short position remains very limited. Banks have briskly hedged their FX short positions with derivative transactions, which makes the Turkish banking sector more resilient to exchange rate risks.

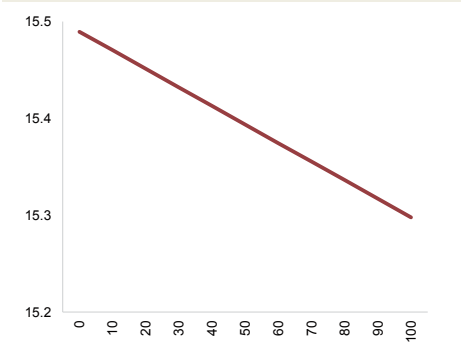
### III.4. Capital Adequacy, Profitability and Resilience to Shocks

The annual net profit of the banking sector started to increase again in the second half of 2014 and stood at TL 25.5 billion as of March 2015 (Chart III.4.1). The escalation in the net profit amount stemmed from the increase in the net interest income. On the other hand, the rise in non-interest expenditures and special provisions for non-performing loans has curbed the growth in net profit amount (Chart III.4.2).

The downtrend in return on assets and return on equity which is at historically low levels halted in the second half of 2014. As of March 2015, the return on equity and the return on assets were 11.4 percent and 1.3 percent, respectively (Chart III.4.3). The fact that the annual net profit of the sector increased while the return on assets remained unchanged suggests that the increased profitability has resulted from the growth in assets of the sector.

An analysis of the components of the return on assets reveals that the downtrend in the return on assets ceased in tandem with the halting contraction in the net interest margin. The interest rate hike in early-2014 led to a contraction in the net interest margin of banks. Changes in interest rates have more

**Chart III.3.13**  
Effects of Various Depreciations of TL on CAR  
(Percent, Horizontal axis shows percent changes in FX rate)



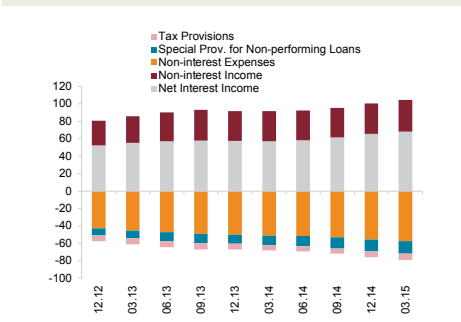
Source: CBRT, BRSA

**Chart III.4.1**  
Net Profit Developments  
(12-Month Cumulative, Billion TL)



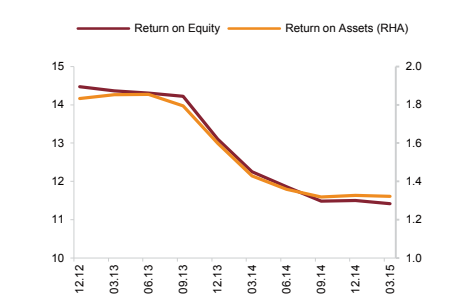
Source: CBRT, BRSA

**Chart III.4.2**  
Components of Net Profit  
(12-Month Cumulative, Billion TL)



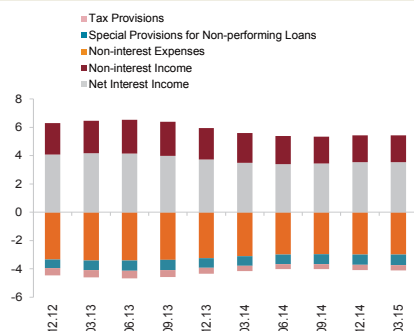
Source: CBRT, BRSA

**Chart III.4.3**  
Return on Assets and Return on Equity  
(Percent)



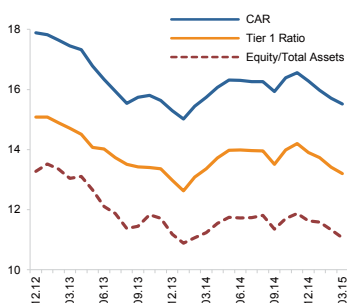
Source: CBRT, BRSA

**Chart III.4.4**  
Components of the Return on Assets  
(Percentage of Annual Average Assets)



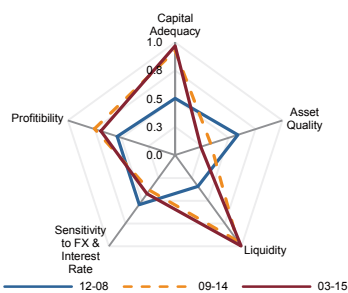
Source: CBRT, BRSA

**Chart III.4.5**  
Capital Indicators  
(Percent)



Source: CBRT, BRSA

**Chart III.4.6**  
Banking Sector Stability Map<sup>1</sup>



[1] A sub-field of the "Financial Stability Map"  
Source: CBRT, BRSA

immediate effects on costs of liabilities and lagged effects on return on assets due to the difference in maturities. In time, an interest rate hike affects the asset portfolio as well, leading to an improvement in the net interest margin in the subsequent periods. An analysis of components other than the net interest margin indicates that there has not been critical worsening in operational expenses and credit risk costs (Chart III.4.4).

In the March 2015 period, the capital adequacy ratio (CAR) of the banking sector declined to 15.5 percent and the Tier 1 capital ratio to 13.2 percent (Chart III.4.5). In the first quarter of 2015, the regulatory capital and total risk-weighted assets increased by 1.6 percent and 6.7 percent, respectively, compared to end-2014. The value at credit risk, which builds 89 percent of total risk-weighted assets, rose by 5.8 percent compared to end-2014, while the values at market risk and operational risk climbed by 17.6 percent and 15 percent, respectively. The rise in the exchange rate stimulates a surge in the TL value of banks' FX assets and accordingly in the amount subject to credit risk, thus negatively affecting the CAR. Since the value at operational risk is re-calculated every new year, it may post significant increases at the start of the year.

An analysis of the development in banking sector risk indicators shows that the asset quality and the profitability have improved compared to the previous report period, whereas there has not been any significant change in liquidity and capital adequacy indicators or in exchange rate and interest rate sensitivity indicators (Chart III.4.6).