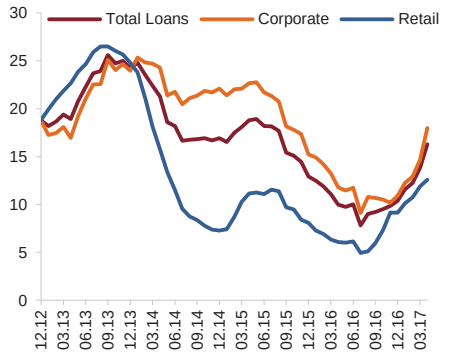
III. Financial Sector

As a result of the fiscal incentive policies, *easing macroprudential measures and interest rate developments spurring demand for retail loans, credit growth started to accelerate as of September 2016 in retail loans and as of the end of the year in corporate loans. Loan growth has been supported by developments both on the supply and the demand sides. NPL ratios have been stable thanks to the moderate increase in economic activity, the recovery in credit growth, and changes in regulations on restructuring. The recovery in credit growth is expected to continue in the upcoming period with the effects of supportive measures and developments in economic activity.*

Banks' resilience to liquidity risk continues. The tendency of the sector to roll-over its short-term external debt with long-term resources has largely continued in the recent period. The extension of the maturities of banks' external borrowing has increased the resilience of the banking sector against possible global liquidity shocks. The liquid buffers that banks can use in the face of any potential volatility in international markets are also strong enough to respond to the most negative scenario. Recently, the impact of favorable international market conditions has led to an increase in long-term bond and subordinated bond issues.

Credit growth rates picked up following regulatory changes in retail loans and supportive measures in corporate loans.

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



Note: FX-indexed loans are included in FX loans and adjusted for exchange rate using a weighted basket of 0.3 for euro and 0.7 for US dollar. Based on stock data, annual growth rates are calculated over monthly values until March 2017, and weekly data for April.

Source: CBRT (Latest Data: 04.17)

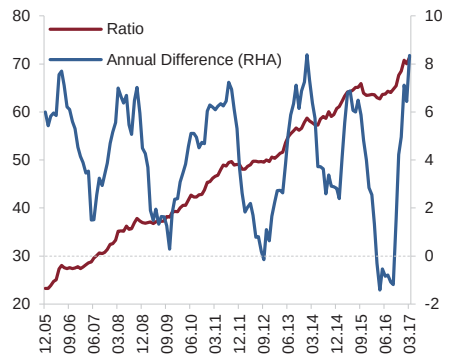
Although the general outlook of short-term interest rate-sensitive TL and FX positions are similar, the ratio of FX open positions with a maturity of up to month to total interest rate-sensitive liabilities has been on the rise due to the recent shift towards FX deposits. Nevertheless, the analysis show that the system's own resources are at a sufficient level against any shocks that may arise. On the other hand, it is observed that the banks hold reasonable FX open positions in their balance sheets and they are rather prudent in hedging these positions with off-balance sheet transactions.

Although the profitability indicators of the banking sector displayed a flattening trend in the final quarter of the previous year, they continued their uptrend in 2015. An analysis of factors affecting profitability based on income statement items reveals that improvement in net interest income, continued austerity measures in non-interest expenses and the positive outlook in securities, foreign exchange and derivatives position have affected return on assets (ROA) positively whereas the impact of the limited increase in NPLs have affected ROA negatively. Meanwhile, although capital adequacy ratios (CAR) decreased slightly due to the rapid increase in risk-weighted assets on the back of the recovery of TL loans and appreciation effects in FX assets; the CAR has attained the third quarter figures thanks to stabilization of FX rates, increase in profitability and arrangements in risk weights

III.1 Credit Developments and Credit Risk

Credit growth rates started to recover with the revival in retail loans starting as of September 2016 and commercial loans as of December, and total loan growth adjusted for the exchange rate effect registered at 16.3 percent in the last week of April 2017 (Chart III.1.1). The recovery in retail loans was driven by falling interest rates in housing loans, fiscal incentives for private consumption expenditures, the partial easing in macroeconomic measures applied to retail loans and new regulations on debt restructuring. The growth in retail loans was mainly steered by the dynamics in housing and demand loans. Corporate loans have started to recover across all firm sizes in TL loans with the supportive incentives and measures introduced. Following the increase in the KGF (Credit Guarantee Fund) collateral guarantee limit, loan growth was driven by public and several large-scale banks in the first months of the year, while the recent sector-wide spread of the KGF implementation has accelerated loan growth. As a result of these developments, credit growth increased faster than GDP growth and credit/GDP ratio surpassed the 70% level (Chart III.1.2). Annual net credit usage from the banking system has also accelerated, while the exchange rate-neutral series has tended towards its long-term average (Chart III.1.3).

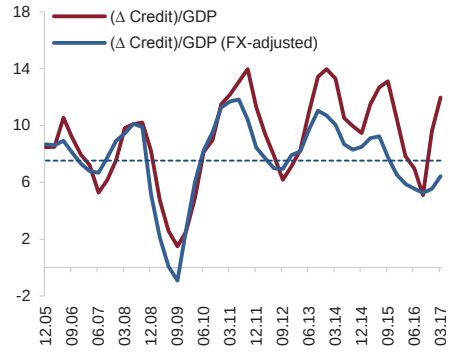
Chart III.1.2
Credit/GDP Ratio
(Percent)



Note: The ratio takes stock of credit over the sum of monthly GDP over the past 12 months.

Source: CBRT, TURKSTAT (Latest Data: 03.17)

Chart III.1.3
Annual Change in Credit Stock to GDP
(Percent)

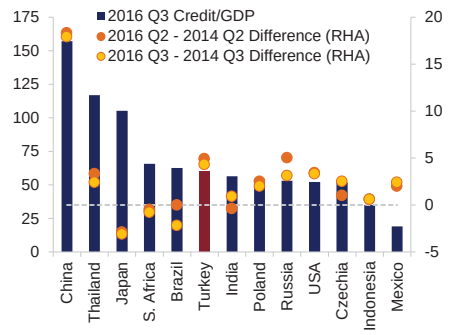


Note: The annual change in credit is reported as a ratio of flow GDP. The change in corporate FX credits takes 3-month differences of stock values to calculate the flow variable. The value is then FX adjusted using 3-month averages of CBRT buy rates. Annual values are calculated by adding up 4 quarters. FX-indexed are included in FX loans. The blue dashed line shows the long term average since 2004 of the FX-adjusted value.

Source: CBRT, TURKSTAT (Last Data: 03.17)

Credit growth rate and two-year differences in growth are high in international comparisons.

Chart III.1.4
International Comparison of Credit/GDP
(Percent, Percentage Points)



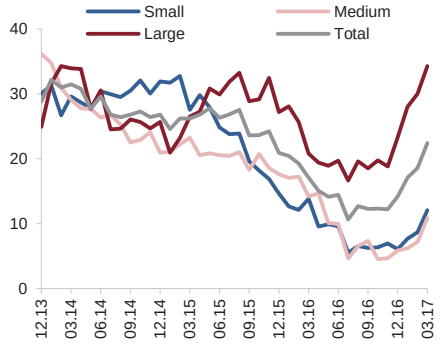
Note: Data covers all private non-financial sector credit, with the latest data available from 2016Q3. The dashed line marks the zero line for the RHA, the two year differences are calculated between the second and third quarters of the years indicated.

Source: BIS (Latest Data: 09.16)

In the third quarter of 2016, bank lending to non-financials as a share of GDP in Turkey and the annual change in this ratio have been higher than those of peer developing countries. It is expected that Turkey will rise higher in this ranking on the back of the recovery both in consumer loans and corporate loans (Chart III.1.4).

While TL corporate loans are increasing across all firm sizes ...

Chart III.1.5
Annual Growth in TL Corporate Loans by Firm Size
(Percent)



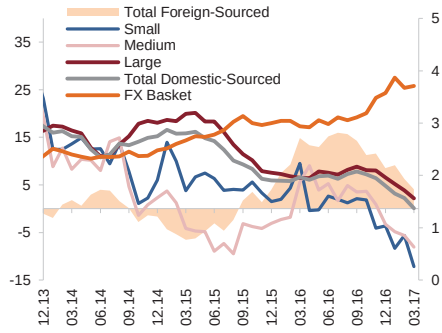
Note: FX-indexed loans are excluded. Micro and Small SMEs are grouped together under the Small heading.

Source: CBRT (Latest Data: 03.17)

Both supply and demand-side dynamics have been influential in the recent recovery in bank lending. The increase in demand was mainly driven by the decline in housing loan interest rates, changes in macroprudential measures supportive of borrowing, sectoral measures and fiscal policy incentives. Banks have kept credit supply standards stable compared to the previous period in the face of Treasury support and individual credit incentives. It is anticipated that the positive impact of the mentioned factors on credit demand and supply developments will continue in the upcoming period.

...Domestic-sourced FX corporate loans are declining in tandem with rising foreign exchange rates.

Chart III.1.6
Annual Growth in FX Corporate Loans by Size
(FX-adjusted,Percent, TL)



Note: Total foreign sourced FX credit growth takes the foreign FX loans and other FX liabilities of all non-financials, excluding foreign branches and affiliates of domestic banks, in USD. FX-indexed loans are included in the total and figures denominated by size. Micro and Small SMEs are grouped together under the Small heading. The weighted FX basket uses weights of 0.3 for euro and 0.7 for the US dollar.

Source: CBRT (Latest Data: 03.17)

III.1.1 Corporate Loans

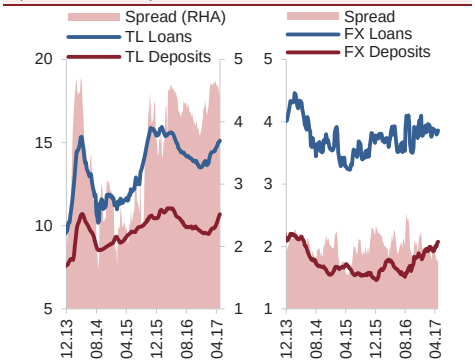
Since December 2016, corporate loans have accelerated their growth rate with incentives such as KOSGEB's interest-free loan support, TOBB's low-interest Respite Loan and Treasury-backed KGF guarantee.[1] The growth rate of total corporate loans adjusted for exchange rates, which was recorded at 14.6 percent in March, matching previous year's rates (Chart III.1.1). The growth rate of TL credits was 22.4 percent with a significant pick up across all scales, including SMEs, with the introduction of the KGF collateral guarantee stimulus (Chart III.1.5). Simultaneously with the increase in foreign exchange rates, small and medium-sized firms' domestic FX loans continued to shrink and large-scale FX loans continued to increase albeit at declining rates. The decline in large-scale firms' use of FX loans, which make up 84 percent of all FX loans, was the chief determinant in the general course of total FX credit growth, while

[1] Details of which can be found in Special Topic IV.2 titled Measures on Corporate Sector's Access to Finance.

domestic FX loans growth decelerated and registered no growth in March (Chart III.1.6).

In the past, when growth rates of domestically sourced corporate FX loans decelerated, foreign-sourced FX loan growth rates would increase, as firms met their FX loan needs by shifting sources from domestic to foreign. Nevertheless, currently, we see a slowdown in the growth rates of all FX loans with both domestic and foreign origin. As this development is synchronous with the increase in exchange rates, it is evaluated that the corporates have tended towards TL loans rather than FX loans instead of replacing their domestic usage with foreign resources (Chart III.1.6).

Chart III.1.7
Corporate Loan Interest Rates and Spreads
(4-weekMA, Percent)

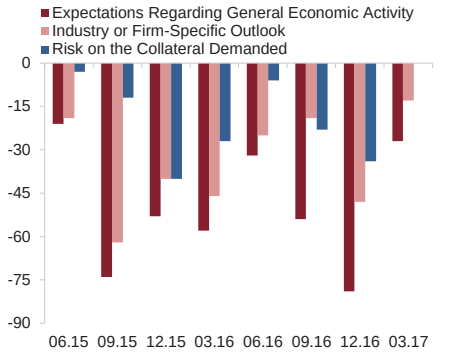


Note: Overdraft accounts and credit cards, as well as loans with zero interest starting from July 2015 are excluded.

Source: CBRT (Latest Data: 28.04.17)

Interest rates on loans are an important factor affecting demand. **The rise in TL loan growth despite the increase in loan rates and the rise in the difference between loan rates and deposit rates shows that the recent incentives have had a significant impact on loan demand.** In this period, banks increased their TL and FX deposit rates due to their funding needs for loans and this pushed TL loan rates up, while the gap between FX loan rates and FX deposit rates narrowed (Chart III.1.7). The rapid increase in demand for TL loans amid a rise in depositors' FX preferences urged banks to intensify currency swap transactions with the aim to obtain TL resources. The fact that companies that have used FX loans in the past have reduced their FX loan demand in the current period when the FX loan-deposit gap narrowed should be evaluated based on the exchange rate developments rather than cost factors.

Chart III.1.8
Contributions to Corporate Loan Supply
(Net Percent Change)



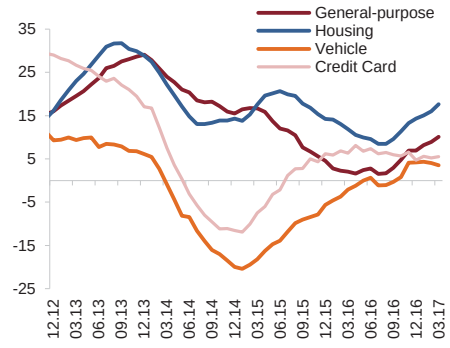
Note: The quarterly Survey asks respondents to compare the current quarter to the previous. Zero is the neutral state indicating no change.

Source: CBRT (Latest Data: 03.17)

According to the Bank Loans Tendency Survey, in the first quarter of 2017, on the back of fiscal policy incentives, banks relaxed the standards that they applied to the SME loans compared to the last quarter of 2016. In loans given to large enterprises, the standards remained flat. The credit supply standards have been loosened in TL loans, both short and long term, but tightened in FX loans. The developments in credit supply conditions coupled with the decreasing credit demand played a role in the deceleration of FX loan growth. While banks expect credit standards to remain largely the same over the next three months, FX credits have also differed in this benchmark, as nearly half of the surveyed banks reported that the tightening in FX loan standards would continue. As

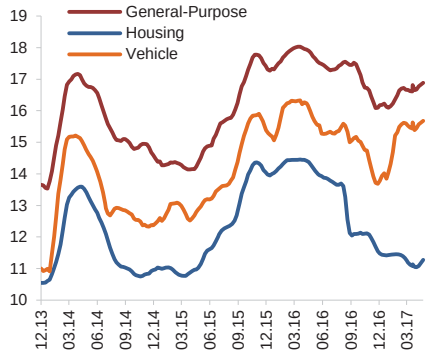
Retail loan growth has accelerated especially due to housing and general purpose loans.

Chart III.1.9
Annual Growth in Retail Loans
(Percent)



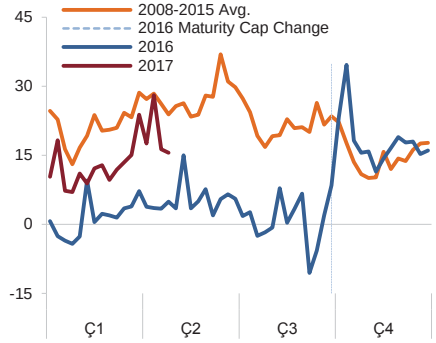
Source: CBRT (Latest Data: 03.17)

Chart III.1.10
Retail Loan Lending Rates
(4-week MA, Percent)



Source: CBRT (Latest Data: 28.04.17)

Chart III.1.11
General Purpose Loan Weekly Growth Rates
(4-week MA, Annualized Percent)

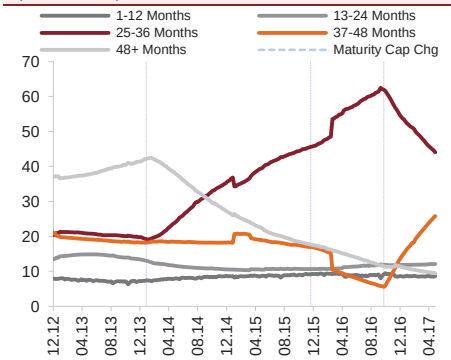


Note: The maturity cap change is shown to include the week it took effect in.

Source: CBRT (Latest Data: 03.17)

General-purpose loan maturities are shifting in favor of the 37-48 month bracket.

Chart III.1.12
General-Purpose Loan Maturities
(Stock, Percent)



Note: The maturity cap change in 2013 limited the maturities to 36 months. The change at the end of 2015 removed the cap for education loans, and in 09.2016, the 36-month maturity cap was increased to 48 for all general-purpose loans. The sharp movements in the beginning of 2015 and 2016 are due to changes in definition and coverage. As general-purpose loans and "other" types of retail loans not classified elsewhere are reported together since 2015, they are graphed together for the entire duration of the Chart. The maturity cap changes are shown to include the weeks they took effect in.

Source: CBRT (Latest Data: 28.04.17)

expectations for general economic activity and industry-specific risk perceptions played a tightening role in standards as they did in the last two years, the risk perception of collaterals has differed from this trend owing to the stimulus packages (Chart III.1.8).

III.1.2 Retail Loans

In March 2017, retail loans grew by 11.9 percent, due to the decline in housing loan rates observed since August 2016, and the increase in retail loans since September driven especially by housing and general purpose loans owing to the changes made in macroprudential regulations which increased credit and installment facilities for borrowers (Chart III.1.1, Chart III.1.9 and Chart III.1.10). The annual growth rate of vehicle lending by banks, which remained stable despite the rising market share of financing companies can be attributed to consumption brought forward by the impending special consumption tax (SCT) increment at the end of 2016, and to the base effect in 2017. The increase in credit card growth rate, which stemmed from the base effect in the past several months, was replaced by a horizontal growth rate.

Amid falling interest rates on housing loans, demand remained robust and housing loans continued to be the fastest growing type of retail loan. Within the scope of the amendments to existing macroprudential measures, the maximum loan/value ratio limit applied to housing loans was raised to 80 percent from 75 percent in September 2016 which contributed to the housing loan growth following the fall in interest rates.[1]

The growth rate of general-purpose loans, which lagged behind its long-term average, caught up with the average growth rate in the last quarter of 2016 with the expansion of the maximum maturity limit from 36 months to 48 months and the simultaneous

[1] According to the amendments made to the regulations regarding the credit transactions of, and credit cards issued by banks on 27 September 2016; The maturity cap for general-purpose loans, while retaining some exceptions, has been raised to 48 months and current balances on performing loans are allowed to be restructured with maturities up to 72 months. If this restructuring requires a new credit to be issued, the maturity is again limited by 48 months. The loan-to-value ratio for housing loans or loans with housing as collateral other than vehicle loans has been increased from 75 percent to 80 percent. With the exclusion of various consumption items, the number of installments in retail and corporate credit card spending and cash withdrawals has been increased from 9 to 12 months, and as in general-purpose loans, current balances on performing loans are allowed to be restructured with maturities up to 72 months.

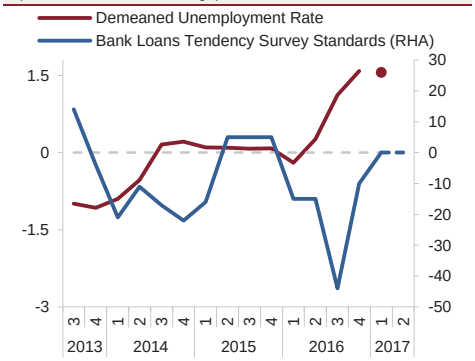
decline in interest rates (Chart III.1.11). At the beginning of 2017, the gradual rise in interest rates brought the growth rate below the average, but the growth path has continued to be stronger compared to the previous year. In this period, the incentives for consumption of domestic appliances and furniture, and the additional demand created in these consumption items due to the increasing demand for housing have created a favorable effect on the demand for general-purpose loans. In terms of loan maturity breakdown, the share of loans with maturities between 25-36 months which had been steadily growing, lost ground to loans with maturities between 37-48 months and this confirms that the regulatory change played a major role in credit developments (Chart III.1.12).

Household indebtedness and indicators of general economic activity will be influential on the credit risk outlook of retail loans (Chart III.1.13). As stated in Section II.1, household leverage ratios have been declining since 2014. Consumers' debt service opportunities have become more favorable as economic activity revived since the beginning of 2017, the credit standards that had been tightening for over a year were held stable, and longer term and installment opportunities were introduced. These developments are expected to have a positive effect on individuals' loan repayments.

III.1.3 Non-Performing Loans

Thanks to the positive contribution of the credit stimulus packages and the moderate recovery in economic activity, the NPL ratio has stabilized slightly above 3 percent (Chart III.1.14). Growth in retail loans especially driven by housing and general-purpose loans and the exit from assets due to portfolio sales to asset management companies contributed to the decline in NPL ratios in retail loans (Chart III.1.15). Meanwhile, the flat movement of large firms' NPL ratios at relatively low levels favors the credit risk outlook of corporate loans (Chart III.1.16).

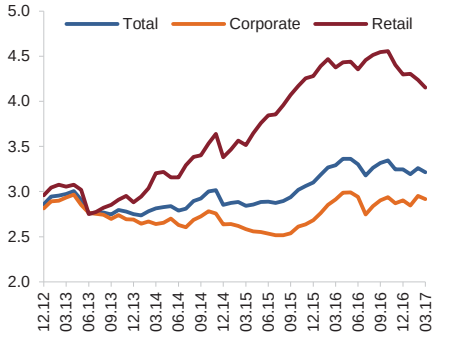
Chart III.1.13
Credit Standards and Economic Outlook
(Percent, Net Percent Change)



Note: The standards shown are only for general-purpose loans. The zero line shown in dashed marks is the neutral level; values below indicate tightening standars, values above indicate easing standards. Seasonally adjusted monthly laborforce statistics are used to calculate the unemployment rate over 3-month periods which is then demeaned. As the latest data available is for February, Q1 data for 2017 shows values calculated for the first two months only, indicated with a marker.

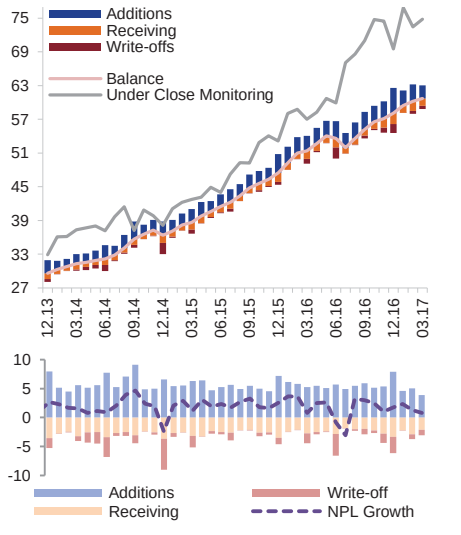
Source: CBRT, BRSA (Latest Data: 03.17)

Chart III.1.14
NPL Ratios
(Percent)



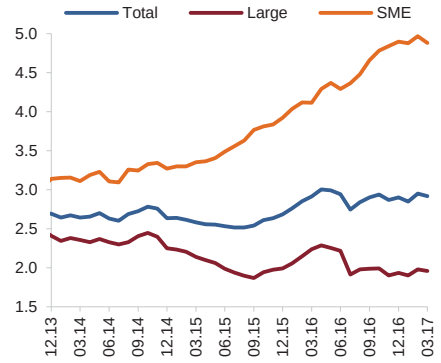
Source: BRSA (Latest Data: 03.17)

Chart III.1.15
Components of NPL and Their Contributions to the Monthly Growth Rate of NPL
(Billions TL, Percent and Percentage Points)



Source: CBRT (Latest Data: 03.17)

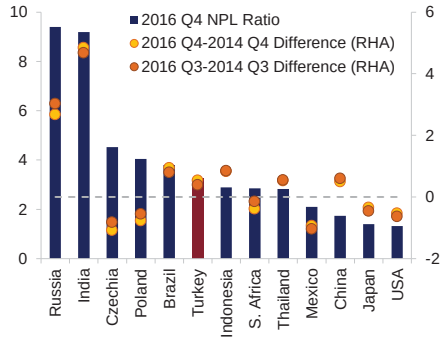
Chart III.1.16
Corporate NPL Ratios
(Percent)



Source: CBRT (Latest Data: 03.17)

The NPL ratio is relatively moderate in an international comparison.

Chart III.1.17
International Comparison of NPL Ratios and Differences (Percent)



Note: The dashed line marks the zero line for the RHA, the two year differences are calculated between the third and last quarters of the years indicated. As Japanese data is not available for Q4, the bars show values for 2016 Q3 and the two-year differences are taken for 2016 Q3 and 2016 Q1. Data not yet reported for Brazil, Czechia, China, Mexico and Thailand have been obtained from national sources, with monthly data averaged for Brazil.

Source: IMF-IFS, BRSA, Banco Central do Brazil, Banco de Mexico, Bank of Thailand, Czech National Bank, China Banking Regulatory Commission (Latest Data: 12.16)

Table III.1.1
Sectoral Breakdown of NPL Ratios
(Percent)

	03.16 NPL	03.17 NPL	Percent Chang	Share of Credit
Manufacturing Industry	3.1	3.6	17.8	24.7
Wholesale and Retail Trade	3.6	4.1	15.4	20.5
Construction	4.1	3.6	-12.7	11.5
Energy (Electricity, Gas, Water Res.)	1.1	0.5	-55.2	9.4
Transport., Inventory, Communicat.	1.6	1.8	9.4	7.7
Real Estate, Renting,Management	1.1	1.1	-1.5	7.3
Agriculture, Livestock, Forestry	2.4	2.8	19.0	5.9
Hotels and Restaurants	2.3	2.3	-1.8	4.4
Mining and Quarrying	4.4	2.4	-44.7	1.8

Note: Sectoral breakdown is based on the loan purpose indicated at the time of application. The shares are calculated excluding retail loans and the financial sector, and the selected sectors represent 93% of real sector loans.

Source: BRSA (Latest Data: 03.17)

Turkey's NPL ratio in 2016, and the change in the ratio over the last two years are close to those of peer developing countries (Chart III.1.17).

Corporate loans NPL ratio, registered at 2.9 percent in March 2017 while NPL ratios differed across firm sizes (Chart III.1.16). As large-scale corporations have the largest share of loans in volume, their NPL ratio, which was stable at about 2 percent, was influential on the aggregate NPL ratio of corporate loans. Meanwhile, NPL ratio of SME loans, which has been increasing since 2014, registered at around 5 percent. Recent loan incentives targeting especially the SME segment through KOSGEB, the Respite Credit and KGF guarantee schemes are expected to be effective in improving the NPL rates with the reviving economic activity along with a limited debt rollover effect. As stated in Section II.2, corporate leverage ratios have recently increased, however maturities have continued to lengthen. As noted in the April Inflation Report, the expected steady course of economic activity as well as developments in consumption demand and credit access will be decisive in the course of the NPL rates of both SMEs and large-scale enterprises in the coming periods. It is expected that the developments will positively affect the firm revenues and therefore the firms' debt turnover capacities.

While corporate NPL ratios diverge in terms of currencies, developments in the aggregate ratio are largely driven by TL loans (Chapter II.2). The flat course of FX loan NPL ratios confirms that firms are resilient to exchange rate shocks.

Corporate NPL ratios differ across sectors, as they do on a basis of scale and currency. NPLs in the manufacturing industry and the wholesale and retail trade sectors, which together constitute approximately half of the corporate sector's credit utilization, play an important role in the increase in the total corporate NPL ratio (Table III.1.1). It is estimated that these sectors will be positively affected by forthcoming developments in economic activity fueled by both domestic and international demand. There has been a noteworthy decline in the construction sector NPL ratios following the recovery in housing loans. As for tourism sector NPLs, the improvement observed in the sector's NPL ratios, despite the difficult

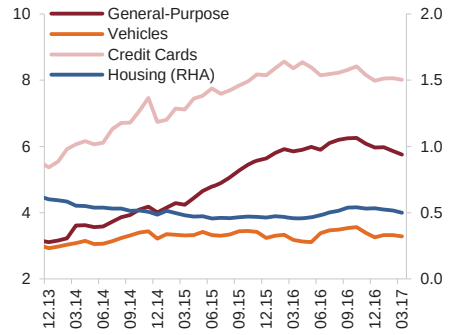
period that the tourism sector is going through, can be attributed to restructuring in loans and inclusion of the sector in the recent incentive programs. It is estimated that restructuring opportunities also played a role in the improvement in the energy sector NPL ratios.

Recently, with the recent growth in retail loans, NPL ratios in retail loans have shown a downward trend across all types as of the third quarter of 2016 (Chart III.1.14 and Chart III.1.18). The NPL ratio in housing loans, which is a stable balance sheet item in terms of both its collateral structure and its loan-to-value measures introduced as a part of the macroeconomic policy framework, remained flat at 0.5 percent in the last two years.

NPL ratios in vehicle loans and personal credit cards fell by a limited amount, to 3.3 and 8.0 percent, respectively, in March. Growth in credit card purchases repaid in installments showed a limited increase, offsetting the horizontal trend in the last year on the back of the increase in the maximum number of installments and the facility allowing long-term structuring of existing loans (Chart III.1.19). As a result of this limited variation between installment and non-installment balance growth rates, the increase in the share of installment balance to the total credit card balances did not last long and the rate has shifted back to levels observed before the regulatory changes.

NPL ratios of general-purpose loans decreased to 5.8 percent in March owing to the regulatory amendments made in September 2016. The amendments extending the maturity cap and allowing restructuring of existing balances with long maturities are expected to ease credit customers' debt service by reducing their monthly obligations. This development will increase current and future payment rates, and reduce the rate at which said loans become NPL. Another factor that will affect the influence of these developments on NPL ratios are the developments in credit standards that banks employ in assessing credit applications. According to the Bank Loans Tendency Survey, standards remained stable in the first quarter of 2017, ending the tightening of almost a year (Chart III.1.20). Standards are expected to stay flat and demand is expected to increase in the second quarter of 2017.

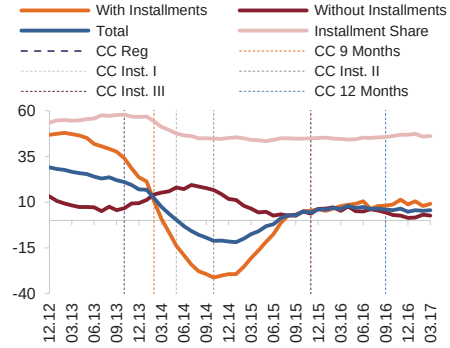
Chart III.1.18
NPL Ratios in Retail Loans
(Percent)



Source: CBRT (Latest Data: 03.17)

Balances with installments are gaining ground.

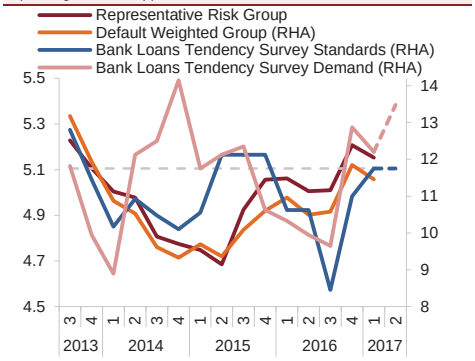
Chart III.1.19
Growth in Personal Credit Card Balances and Installment Share
(Percent)



Note: The changes in the relevant regulations are respectively: in 2013, among other changes minimum payments were linked to card limits and new card limits to income. In February 2014, the number of monthly installments were limited to 9, and jewelry, telecommunications, food, and petroleum expenses were exempted from the right to installments. The 1st regulation removed the right to installments for gift cards and cheques; the 2nd brought about 4 months of installments to jewelry; the 3rd extended household goods, furniture and educational expenses to 12 months of installments. In September of 2016, the maximum installment numbers were extended to 12, and in addition to the existing exceptions, electronics and computer spending was limited by 6; airline, transportation, travel agency, hotels, health and social services, health products, club and association membership and tax payments were limited to 9months, and direct sales, sales abroad, and cosmetic and office supplies spending were exempted from installments.

Source: CBRT (Latest Data: 03.17)

Chart III.1.20
New General Purpose Loans and the Survey
(Average Risk Group)

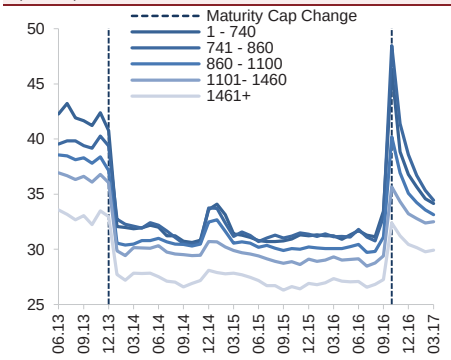


Note: Standards and demand values from the Survey are only for general-pupose loans. These values, which were also graphed in Chart III.1.14 as net percent change, are rescaled in this Chart to fit the risk group range on the RHA. The dashed zero line shows the neutral point for the Survey. Values above are easing and below are tightening. 2017 Q2 values for the Survey are expected values and are shown in dashed lines. The representative and default weighted risk groups show a plain average and default probability weighted average of RLS groups for general purpose loan customers.

Source: Credit Bureau of Turkey (KKB), CBRT (Latest Data: 03.17)

General-purpose loan maturities are longer across all RLS brackets.

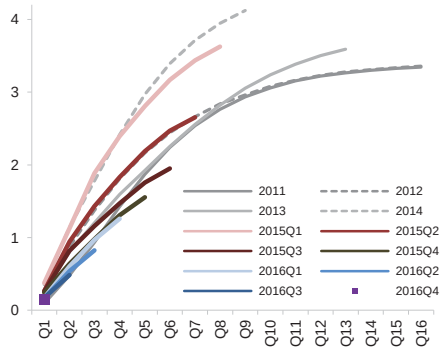
Chart III.1.21
General-Purpose Loan Maturities by RLS
(Percent)



Note: Group means are calculated using the 11 RLS groups for scores between 1 and 1900.

Source: KKB (Latest Data: 03.17)

Chart III.1.22
General-Purpose Loans Vintage Curves
(Percent)



Note: The vintage analysis reports NPL ratios cumulatively in the quarter following the issuance of a loan.

Source: CBRT (Latest Data: 03.17)

With the increase in the maturity cap in general-purpose loans, maturities have increased in all Retail Loan Score (RLS) groups (Chart III.1.21). Although in the period immediately after the amendment new loan maturities registered at levels close to those prior to the 2013 maturity cap announcement, they have recently begun converging to pre-September 2016 levels across all RLS groups. This development shows that the increase in maturities following the amendment was not a reflection of a permanent change in individuals' consumption habits or banks' maturity practices, but merely a short-term phenomenon.

With the amendments to regulations, maturities have lengthened and households' debt service capacity has increased. Therefore, both loans that have been already extended, through new restructuring facilities that have been introduced, and loans to be extended in the forthcoming periods are expected to have lower NPL conversion rates. As a matter of fact, according to the vintage analysis, general-purpose loans issued as of the first quarter of 2015 keep performing better in terms of asset quality every quarter (Chart III.1.22). It is expected that the improved macroeconomic outlook, increased employment opportunities in the current period, and longer loan maturities will lead to a favorable NPL outlook for retail loans in the coming period.

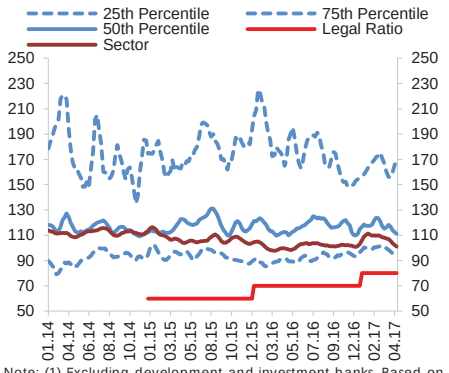
III.2 Liquidity Risk

The resilience of banks to liquidity risk continues. The maturities of non-core funding items have lengthened due to the measures in force and have increased the resilience of the banking sector against possible global liquidity shocks. The tendency of banks to roll over their short-term external debt with long-term resources has continued to a great extent in the recent period, implying that there is no significant change in the sector's access to external resources. In addition, the Reserve Option Mechanism and FX required reserves, which provide room for maneuver for banks to cover FX liquidity shocks even under the most negative scenarios within the one-year window, and the Liquidity Coverage Ratio (LCR), which enables banks to keep their 30-day windowed liquidity positions in the safe zone, strengthen the sector's long and short-term liquidity positions. Foreign exchange denominated issuances, which are relatively more sensitive to global liquidity developments, have been stimulated by the expectation that the monetary policies in advanced country central banks will continue to support liquidity conditions and the increase in the global risk appetite. In light of these developments, it is envisaged that liquidity constraints will not play a binding role for the banks in the near future.

The sector's LCR calculated for the total is well above the legal limits.

Banks are sturdy against short-term liquidity shocks. The LCRs, which show how banks can meet 30-day net cash outflows of high-quality liquid asset stocks, are well above the legal lower limits. (Chart III.2.1 and Chart III.2.2).[1] The LCRs of the sector, which are calculated for both the total and FX, currently meet the legal lower limit of 100 percent for the total amount to be reached in 2019 and 80 percent for FX. The development of the ratios of the banks in the 25th, 50th and 75th percentiles from the smallest to the largest, respectively, indicates that all banks satisfy the legal limits by a significant margin. The foreign exchange and gold reserves and the required reserves of banks held within the ROM as well as their

Chart III.2.1
Quantiles of Banks by Total Liquidity Coverage Ratio
(Percent, 4-Week Moving Average)



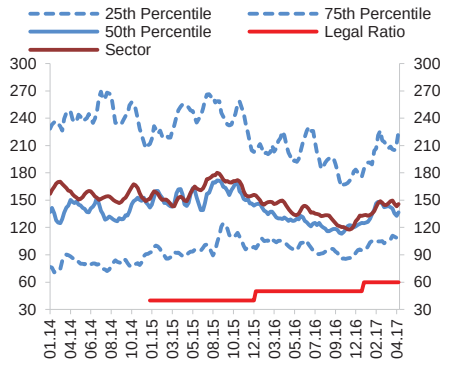
Note: (1) Excluding development and investment banks. Based on non-consolidated reportings. These quantiles represent the banks in the 25th, 50th and 75th percentiles, respectively, from the smallest to the largest.

Source: CBRT (Latest Data: 05.05.16)

[1] The BRSA applies legal lower limits for LCRs, which aim to keep the short-term liquidity position of the banks in a safe zone. Since 2014, the BRSA has requested from the banks to calculate their LCR and has set the legal rate as 60 percent for the total and 40 percent for the foreign currency (FX) as of January 1, 2015. It is stated that these legal limits will be increased by 10 points each year and that in 2019, the level of 100 percent and 80 percent will be implemented as legal ratios for the total and FX, respectively.

securities portfolios constitute a significant portion of the high-quality liquid asset stock and limit the liquidity risk of the sector.

Chart III.2.2
Quantiles of Banks by FX Liquidity Coverage Ratio
(Percent, 4-Week Moving Average)



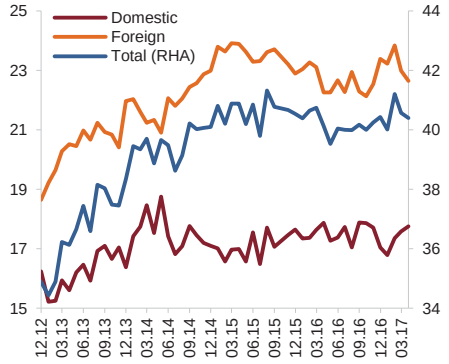
Note: (1) Excluding development and investment banks. Based on non-consolidated reportings. These quantiles represent the banks in the 25th, 50th and 75th percentiles, respectively, from the smallest to the largest.

Source: CBRT (Latest Data: 05.05.16)

The share of non-core liabilities in total resources has been following a fluctuating but flat course since the end of 2014. The resources provided through bonds issued in foreign markets and the debts obtained from banks constitute about 60 percent of non-core liabilities. The TL equivalent amount of the funds provided from foreign sources, which constitute a significant part of non-core resources, has increased by a limited amount due to exchange rate movements during the last report period. In this framework, the share of non-core liabilities in total resources has also increased moderately. Domestic non-core sources consist mainly of repo transactions, bank borrowings and bond issues. In this period, domestic issuances followed a flat course. With the effect of the CBRT's liquidity policies, there has been a significant contraction in the domestic repo funding, while the debt to banks has increased by the same amount.[1] The share of domestic funds in total foreign resources did not show a significant change as a result of the overall flat course of borrowing and repo funding (Chart III.2.3).

The share of non-core liabilities in total resources remains flat.

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



Source: CBRT (Latest Data: 03.17)

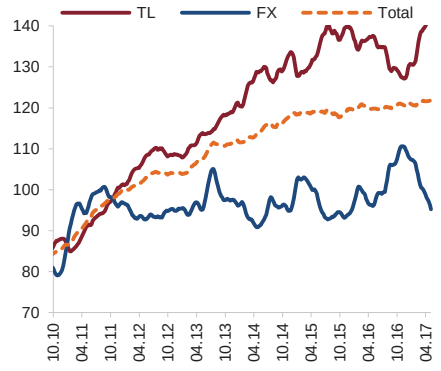
The Loan/Deposit ratio (L/D), which represents the extent to which the loans having the largest share in banks' illiquid assets are funded with deposits, maintains its flat course. Being one of the key indicators of the long-term liquidity position of the banking sector, the L/D ratio approximated 120 percent by the end of 2014 and has since assumed a flat course (Chart III.2.4). Deposit growth being close to credit growth is a factor supporting financial stability. The change in the L/D ratio in terms of currencies may vary depending on various reasons, in particular the exchange rate movements. In fact, during the last report period, depositors' preferences for FX deposits strengthened. Triggered by the increased market awareness of the management of foreign exchange risk on various platforms, the foreign exchange credit demand weakened and consequently the FX L/D ratio declined. On the other hand, the TL L/D ratio moved upwards with the revival in TL loans, which had also

[1] With the announcement made on January 10, 2017, banks' borrowing limits at the Interbank Money Market established within the CBRT were lowered to TL 22 billion by the CBRT. Moreover, it has been lowered to TL 11 billion as of 13 January 2017. It was stated in the announcement made on January 13, 2017 that on the days deemed necessary, the amount of funding provided by the CBRT through Borsa Istanbul repo markets may be limited. Banks will be able to meet their remaining liquidity needs without limits at late liquidity window funding rate at the end of the day.

a positive effect on deposit growth. It is predicted that the difference between the TL and FX L/D ratios will decrease slightly as a result of the decline in volatility in foreign exchange rates due to the CBRT's monetary policy in the last few months and the depositors' revived interest in TL deposits.

The flat course in L/D ratio has continued since 2015.

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

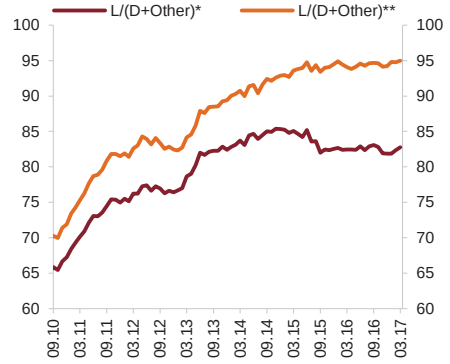


Source: CBRT (Latest Data: 05.05.17)

Although the L/D ratio is an important indicator in terms of following the long-term liquidity positions of banks, it does not provide a comprehensive measure because it does not take into account the maturity matching between assets and liabilities and does not consider non-deposit sources a stable source of funds. While the definition of core liabilities is still a controversial issue, it is generally accepted that deposits are a stable source of funds for banks. In addition to deposits, equities, subordinated debts, long-term issuances and debt items with a maturity of longer than one year are also sources of funding that can be considered stable for banks. In this context, the ratio of banking sector's L/(D + other stable resources) calculated by including the mentioned resources was 82 percent as of March 2017 (Chart III.2.5). This suggests that banks can meet credit demands with relatively stable long-term funding sources by keeping liquidity positions in a safe zone.

Banks are able to sustain credit growth without weakening the quality of their funding by using relatively stable funding sources.

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



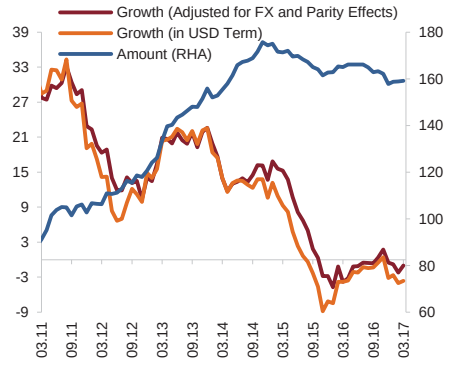
Note: (*) Other includes equity, long-term issues, subordinated loans and other loans with maturities longer than one year. (**) Other includes equity, long-term issues, subordinated loans.

Source: CBRT (Latest Data: 03.17)

Similarly, according to the perspective set out in the Basel III accord, it is estimated that long-term borrowings other than deposits may be a stable source of funding, provided that the maturity structure of them is compatible with the assets. In this framework, the Net Stable Funding Ratio (NSFR) has been developed by the Basel Committee in order to measure the long-term liquidity position of banks more extensively and to limit the risks arising from the maturity difference between banks' assets and liabilities. According to the NSFR, which is expected to be put into practice in Turkey as of 2018, banks will be able to sustain credit growth without weakening the quality of funding by extending the maturities of their foreign debts.[1]

As a result of the weakening in banks' demand for foreign resources, there is a limited decline in external debt of the sector.

Chart III.2.6
Amount and Growth Rate of Banks' External Liabilities (Annual Percentage Change, Billion USD)



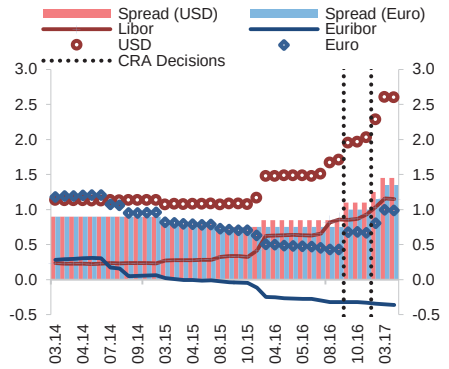
Note: The series that is adjusted for FX and Parity Effects is calculated based on the USD/TRY and EUR/USD parity at end-2013.

Source: CBRT, MKK (Latest Data: 03.17)

There has been a limited weakening in the banking sector's use of foreign resources. The decline in the external debt of the sector observed since the beginning of 2015 is caused by the

[1] In order to monitor the long-term liquidity position of the banks in a more comprehensive manner, the Basel Committee has applied the NSFR taking account of the maturity matching of the assets and liabilities. Details of this ratio are given in Box III.2.1.

Chart III.2.7
Cost of Syndicated Loans with a Maturity of 367 days (Transaction Based, Percent)

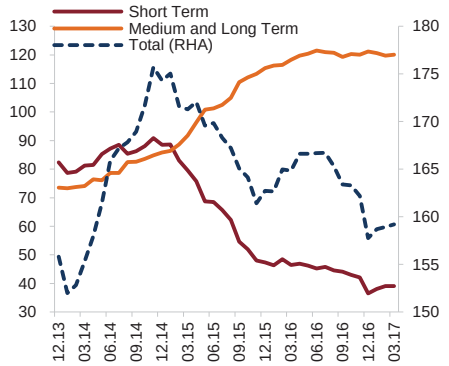


Note: Includes only large scale banks. CRA Decisions represent the date of credit rating agencies' decisions.

Source: PDP (Latest Data: 04.16)

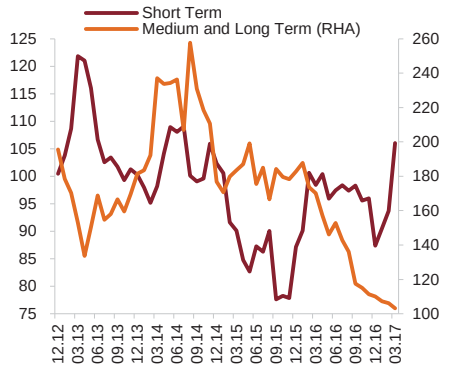
The maturities for the banking sector's external liabilities continue to lengthen.

Chart III.2.8
Change in Banks' Short Term and Medium-Long Term External Liabilities (Billion USD)



Source: CBRT, MKK (Latest Data: 03.17)

Chart III.2.9
External Debt Roll-Over Ratio
(Percent)



Note: Roll-over ratios are calculated based on 3-month and 12-month moving totals of banks' borrowings and repayments of total external liabilities including securities issued abroad for short term, and medium and long term, respectively.

Source: CBRT, MKK (Latest Data: 03.17)

weakening in banks' demand for foreign sources, rather than the conditions and costs of external borrowing of banks**.** The weak course in domestic FX credit growth and the slowdown in real sector investments are believed to have limited banks' demand for foreign sources. It is estimated that the recovery in the real sector investments in the recent period and the high credit growth rate in the first quarter of 2017 as well as the increasing risk appetite and fund flows towards the emerging countries will increase the external borrowing of banks. (Chart III.2.6).

There was a limited increase in the cost of roll-over of external debt. Fluctuations in the borrowing costs of syndicated loans before the Moody's credit downgrade decision were a reflection of the movements in the Libor and the Euribor interest rates only, as the cost margins remained unchanged (Chart III.2.7). However, after Moody's credit rating decision on 23 September 2016 and Fitch's decision on 27 January 2017, there was a limited increase in the borrowing cost margins. The increase in costs is thought to be in line with the additional cost of capital that the creditor institutions will incur depending on the increase in risk weights applied to receivables from banks.

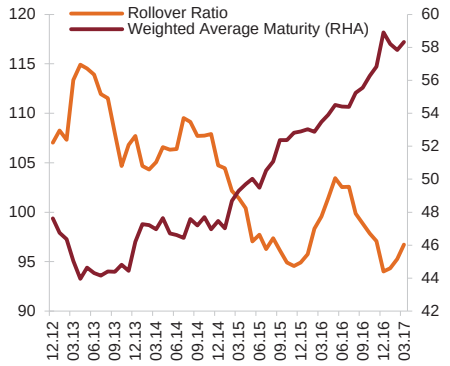
The fact that the increases in the costs of banks have been very limited in the period following the decisions of the credit rating agencies means that foreign financial institutions have not changed their credit supply. This supports the argument that the deceleration of external borrowing since the beginning of 2015 is largely due to the preferences of domestic banks rather than foreign investors' supply constraints. In the same period, the increasing diversity of the composition of the lender countries is considered to have limited the risks associated with the creditor concentration and alleviated the effects of supply-side factors.[1]

Fuelled by the supportive measures, the maturity composition of foreign bank debts continues to change in favor of the long term. With the contribution of the regulations introduced by the CBRT to promote long-term non-core liabilities, banks have significantly

[1] The details and possible impacts of increasing diversification in the countries/banks that provide funds to the Turkish banking sector are given in Special Topic IV.1.

reduced their borrowings with up to one year maturity from abroad and increased their medium and long-term resources (Chart III.2.8). The long-term external debt roll-over ratio remained well above 100 percent for a long time, as the sector preferred to roll over its short-term debt with long-term resources (Chart III.2.9). The long-term and short-term external debt roll-over ratios are now close to 100 percent since the transition from short-term to long-term has largely been achieved in the recent period. The average weighted maturity of the sector's foreign debts has reached 58 months as of March 2017, with a slight decrease in the last two months (Chart III.2.10). In this period, the roll-over of one-year maturity syndicated loans with maturities of up to three years, the weakened preference for short-term repo funding, and the tendency to issue long-term bonds constitute the fundamental dynamics of the change in the maturity composition in favour of the long-term (Chart III.2.11).

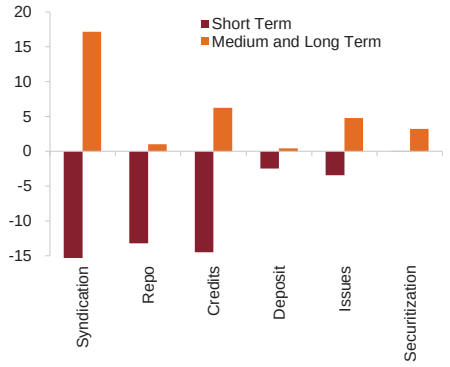
Chart III.2.10
External Debt Roll-Over Ratio and its Average Maturity (Percent, Month)



Note: The external debt roll-over ratio is calculated based on 6-month moving totals of banks' borrowings and repayments of total external liabilities including securities issued abroad.

Source: CBRT, MKK (Latest Data: 03.17)

Chart III.2.11
Change in External Borrowing Instruments by the End of 2014 (Billion USD)

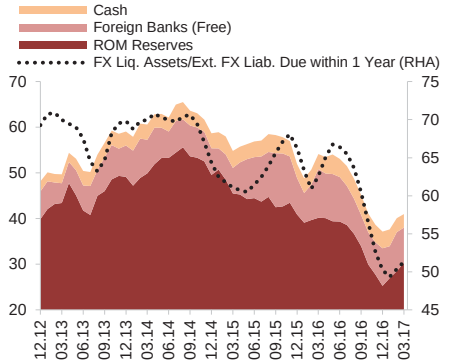


Source: CBRT, MKK (Latest Data: 03.17)

The banking sector has sufficient liquidity buffers against liquidity shocks. The change in the maturity composition of the external debt in favor of long-term increases the resilience of the banking sector to any possible volatility in international markets. In addition, the liquid asset portfolio of the sector provides room for maneuver for banks to cover FX liquidity shocks even under the most negative scenarios within the one-year window. As of March 2017, the banking sector has foreign currency debt payments of USD 46 billion and USD 77 billion in the next six months and one year, respectively. In this framework, the developments in global markets as well as the developments in our country will continue to be of particular interest to banks in terms of the roll-over of external debt at favorable maturities and costs. A significant portion of the banks' liquid assets consists of gold and foreign exchange assets held within the framework of ROM; and in the second half of 2016 when capital inflows weakened, both the rise in FX costs and the increase in exchange rates led to a decline in ROM reserves. As of February 2017, there was an increase in ROM reserves as a result of the strengthening capital movements and falling exchange rate volatility. In this framework, liquid assets of banks such as cash, free accounts at foreign banks and ROM reserves are strong enough to meet half of the foreign debt (Chart III.2.12). The ROM provided by the CBRT and the FX borrowing facilities with a limit of USD 50 billion are sufficient to respond to the most negative shocks (Chart III.2.13).

Banking sector has sufficient liquidity buffers providing a one-year window for banks to hedge themselves against liquidity shocks.

Chart III.2.12
FX Liquid Assets and FX External Liabilities Due Within 1 Year (Billion USD, Percent)

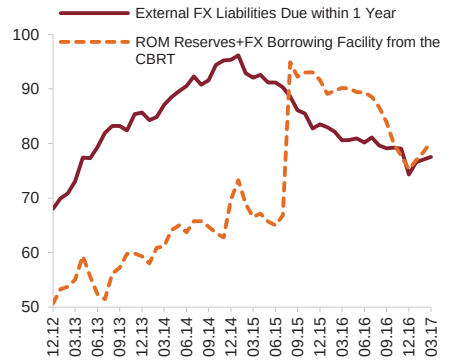


Note: Selected FX Liquid Assets: Cash+Foreign Banks (free) + Required Reserves held within the ROM facility. The dashed line represents 3-month moving average of the FX Liquid Assets / External FX Liabilities Due within 1 Year ratio.

Source: CBRT, MKK (Latest Data: 03.17)

In addition to liquid assets, the free Eurobond portfolio of USD 7 billion increases the capacity of banks to meet short-term foreign debts.

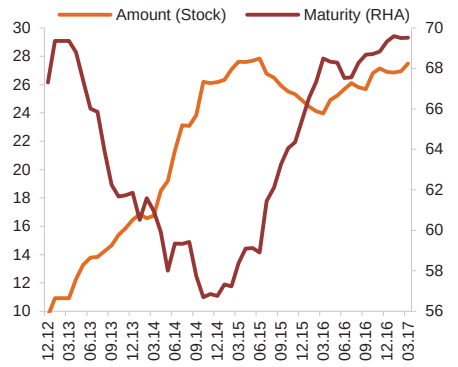
Chart III.2.13
ROM Reserves + FX Borrowing Facility and External FX Liabilities Due Within 1 Year (Billion USD)



Source: CBRT, MKK (Latest Data: 03.17)

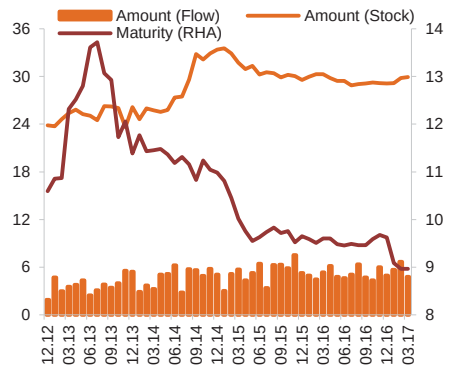
As a result of global liquidity developments, there is a recovery in FX-denominated securities issued abroad by the banks.

Chart III.2.14
FX Issues Abroad
(Billion USD, Month)



Source: MKK (Latest Data: 03.17)

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



Source: MKK (Latest Data: 03.17)

The revival experienced since the beginning of 2016 in FX-denominated securities issued abroad by the banking sector, which is highly sensitive to global liquidity developments, continues. The increased risk appetite in the global markets and the monetary policies of advanced countries' central banks supporting the liquidity conditions have led to a 13-percent increase in the sector's FX-denominated securities issues abroad since the beginning of 2016. The decrease in short-term issuances and the recent longer-term issuances have resulted in a 70-month average maturity for FX-denominated securities issues abroad (Chart III.2.14). Although the share of FX-denominated securities issued abroad by banks in total external debts has increased steadily since 2010, it has settled at a level of 16 percent since the end of 2014. Therefore, the risks related to the FX-denominated securities issued abroad by banks remain limited since the maturity of foreign securities, which are highly sensitive to global liquidity developments, is longer than other borrowing types and continues to lengthen, and since their share in total external debts is low and stable. In addition, depending on global liquidity and risk appetite developments, asset backed securities issues as well as standard securities issues are expected to increase in the coming period. The flat course in the amount of the domestic securities issues of the banking sector and in the average maturity of the new issues continues in this financial report period (Chart III.2.15).

Box III.2.I

Net Stable Funding Ratio

The global financial crisis showed the importance of developing and monitoring quantitative liquidity standards focusing on long-term stability of the asset and liability structure. Indicators such as loan to deposit ratio that are widely used in measuring funding risks and monitoring liquidity positions of banks fall short of providing an extensive risk assessment as they neglect stable funding sources other than deposits and ignore the maturity composition of assets-liabilities. In this respect, after the global financial crisis, the Basel Committee on Banking Supervision (Basel Committee) published principles for sound liquidity risk management for banks, and developed standards for minimum liquidity ratios. The first among them is the Liquidity Coverage Ratio (LCR)[1] that is intended to promote banks' resilience against short-term liquidity shocks. The Basel Committee member states have been implementing the LCR gradually since 2015. The second standard is the Net Stable Funding Ratio (NSFR) developed against long-term liquidity risk.

The NSFR aims to limit overreliance on short-term wholesale funding by encouraging a long-term and deposit-based funding structure. According to this ratio, the amount of available stable funding of a bank should be greater than the amount of required stable funding. Unlike the LCR, no gradual transition is foreseen for the NSFR. Therefore, banks have to meet this minimum ratio as of 1 January 2018.

$$\text{NSFR} = \frac{\text{Available Amount of Stable Funding}}{\text{Required Amount of stable Funding}} \geq 100\ \%$$

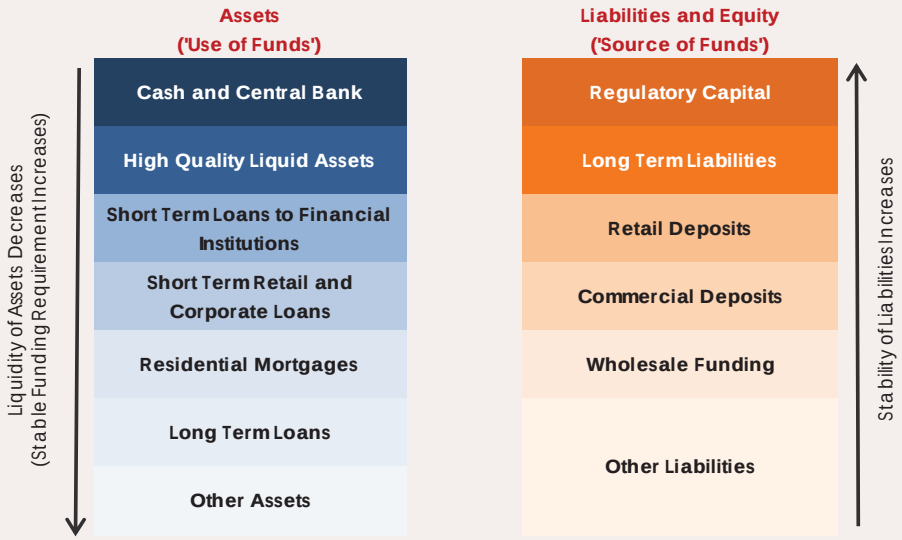
The "available amount of stable funding" of a bank is calculated by multiplying the bank's capital and liabilitiesby the available stable funding (ASF) factors taking into account the residual maturity and counterparty of its liabilities. Basically, regulatory capital, liabilities with effective residual maturity of one year or more, and deposits of retail and SME customers are regarded as stable funding sources while other liabilities are treated with pre-determined discount rates (ASF factors). The "required amount of stable funding" is calculated by classifying assets from the least to the most liquid according to their liquidity-generating capacity and multiplying them by certain required stable funding factors. In this calibration, it is assumed that banks will not roll-over part of their short-term assets and they will generate funding by encumbering liquid assets or selling them on the market. In this regard, while a required stable funding is sought for assets with a maturity of one year or more, this requirement is less for liquid assets. [2]

[1] LCR is calculated by dividing stock of high quality liquid assets to total net cash outflows over the next 30 calendar days. The minimum requirement for total LCR was set at 60 percent in 2015 and it will reach 100 percent by 2019 with a 10 points increase annually.

[2] See for funding factors. CBRT Blog, New Era in Liquidity Management in Banking Sector: Net Stable Funding Ratio.

https://tcmbblog.org/en/a-new-era-in-liquidity-management-in-banking-sector-net-stable-funding-ratio/

Figure III.2.I.1
Ranking Assets by Liquidity and Liabilities by Stability

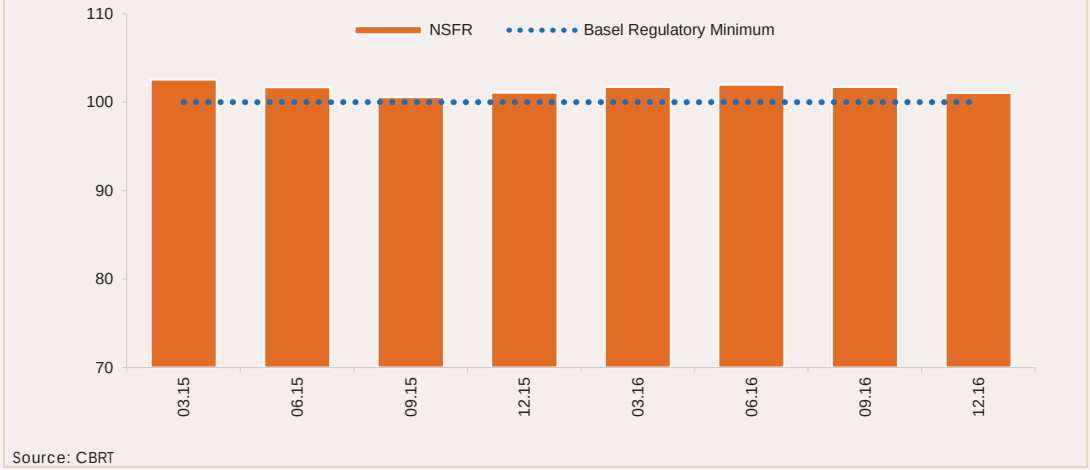


Although the NSFR reporting has not yet started in the Turkish banking sector, the NSFR of the sector can be calculated under certain assumptions. The strongest assumption made within the scope of the study is to calculate the NSFR based on original maturities.[3] In fact, all funding and asset items should be considered in view of the residual maturity in the NSFR calculation. However, the fact that the maturity of deposits that account for a significant portion of the funding is shorter than six months provides reasonable grounds for our assumption on the funding side. Whereas, on the asset side, although the fact that original maturities are longer than residual maturities poses a risk of underestimating the NSFR, it supports a cautious stance. The NSFR that is calculated for the Turkish banking sector is above 100 percent which is the minimum ratio set in the Basel standard.[4] In this framework, it is possible to ascertain that banks finance their assets with stable funding sources.

[3] In NSFR calculation, assets and liabilities are considered in view of the original maturity. Commercial deposits below TL 250 thousand are considered as SME deposits. All encumbered securities and the collateral for reverse repo receivables are deemed as "level 1" assets. The initial margin considered as 85 percent in derivative transactions is not decomposed and taken as 100 percent among other on-balance sheet items. Net receivables from derivative transactions are taken into account along with the required funding factor of 100 percent, regardless of the collaterals of transactions.

[4] The Basel Committee conducts a semiannual quantitative impact study to evaluate capital and liquidity ratios within the scope of Basel III. These studies are based on the data of a total of 230 reporting banks. Three banks from Turkey also contribute to this reporting. The weighted average NSFRs for group-1 and group-2 banks by June 2016 were 114 percent and 115 percent, respectively. Banks that contributed to reporting from Turkey meets the minimum NSFR as of this date and their weighted average NSFR at 114.6 percent remains above the average of group-1 banks in which they are listed.

Chart III.2.I.1
Net Stable Funding Ratio in the Turkish Banking Sector
(Percent)

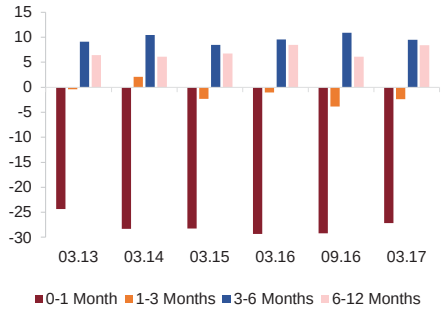


Source: CBRT

To conclude, the NSFR, which will be effective in 2018, will enable comprehensive measurement of the liquidity risk by taking into account the maturity of the assets and liabilities on banks' balance sheets. From a long-term perspective, the NSFR will be a supplementary liquidity ratio to the LCR that measures the resilience of the banking sector against short-term liquidity shocks. In light of current measurements, the long-term liquidity positions of Turkish banks are strong. Adopting the NSFR as another minimum requirement for banks in addition to the LCR would be important for the sustainability of this outlook.

III.3 Interest Rate and Exchange Rate Risk

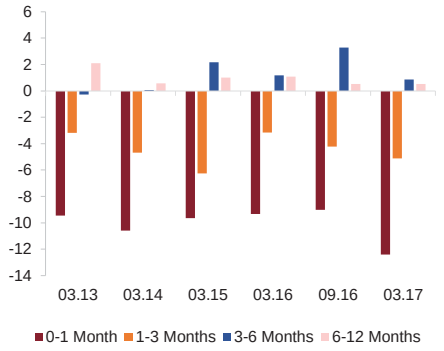
Chart III.3.1
Short Term Open Position in TL
(Ratio to Total TL Liabilities, Percent)



Source: CBRT (Latest Data: 03.17)

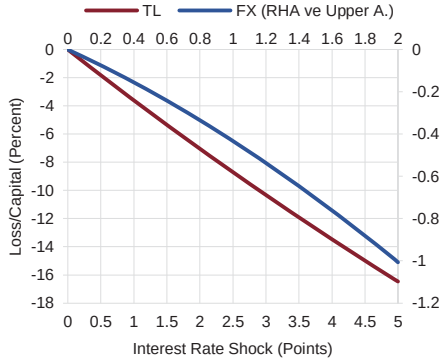
Transition to FX deposits increases open position in shorter maturities.

Chart III.3.2
Short Term Open Position in FX
(Ratio to Total FX Liabilities, Percent)



Source: CBRT (Latest Data: 03.17)

Grafik III.3.3
Interest Rate Risk via Repricing Channel Measured with Economic Value Approach



Source: CBRT, Authors' own estimation
(Latest Data: 03.17)

Sudden changes in interest rates affect banks primarily via two channels: the repricing channel, since maturity structures of assets and liabilities differ, and the balance sheet channel since the value of securities in their trading portfolio changes as interest rates change. In this respect, analyzing the maturity structure of assets and liabilities and the characteristics of securities portfolio is important to make a sound evaluation of the sensitivity of the sector to interest rate fluctuations.

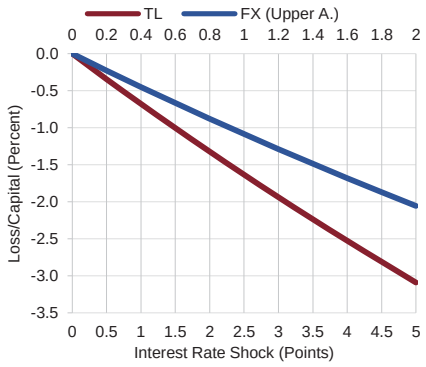
Weighted with repricing periods, the average maturity of interest rate-sensitive TL assets is 20 months and that of interest rate-sensitive TL liabilities is 3 months. Recently, both maturities have shown signs of extension. On, the FX side, the average maturity of assets is about 21 months and that of liabilities is approximately 12 months. The outlook of interest rate-sensitive TL and FX positions are similar. The open positions, which are relatively higher in shorter maturities, decrease as maturities extend and turn into long positions. On the FX side, the ratio of open positions with a maturity of up to one month to the total interest rate-sensitive liabilities has recently increased. Basically, this rise stemmed from the increasing demand for FX deposits, and it increases the potential risks posed by the upward movements in foreign interest rates on banks' income statements (Chart III.3.1 and Chart III.3.2).

In light of these premises, balance sheet and off-balance sheet positions of the banking sector have been exposed to interest rate hikes with a magnitude of 5 points for TL and 2 points for FX. In this respect, the potential loss was estimated by using the economic value approach and its ratio to capital was inspected. Accordingly, a TL shock of up to 5 points is estimated to generate a loss up to 16 percent of capital whereas an FX shock up to 2 points is estimated to generate a more limited impact, up to 1 percent of capital.

Other than repricing, another channel that may affect financial intermediation industry is the securities revaluation channel. Although the share of securities in total assets has been declining, the impact of the changes in values of securities in trading portfolio driven

by interest rate variations on capital is still important. This effect has been tested for an interest rate hike up to 5 points on the TL side and 2 points on the FX size across all maturities. Accordingly, the prospective losses in capital via securities revaluation channel are estimated to be up to 3 percent and up to 2 percent of capital for TL and FX, respectively (Chart III.3.4).

Chart III.3.4
Interest Rate Risk on Securities with Fixed Interest Rate in Trading Portfolio

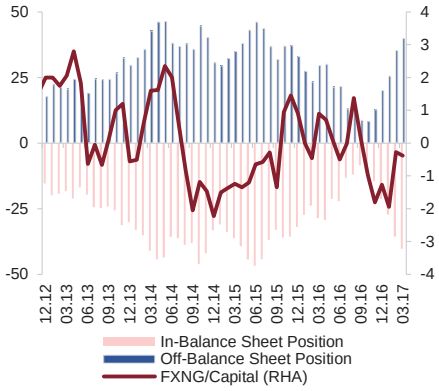


Source: CBRT, Authors' own estimation
(Latest Data: 03.17)

The Turkish banking sector preserves its resilience against direct FX risks via balance sheet items. It is observed that banks are holding their open positions on their balance sheets at reasonable levels and they are quite prudent in hedging these positions with off-balance sheet transactions. As a result, the FX net general position (FXNG)/Capital ratio is close to zero level, well below the two-sided legal threshold of 20 percent (Chart III.3.5).

FX net general position is close to zero level.

Chart III.3.5
FX position in the Banking Sector
(Billion USD, Percent)

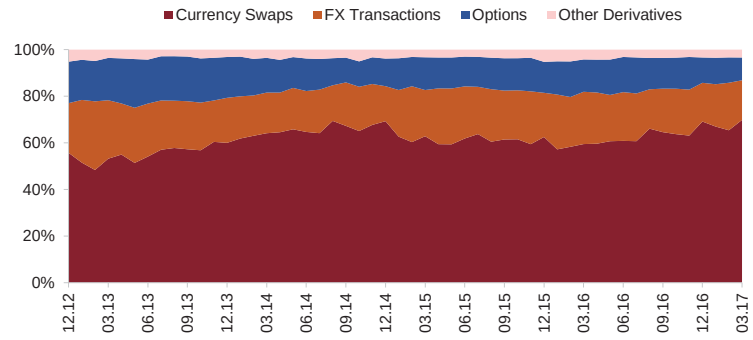


Source: CBRT (Latest Data: 03.17)

An analysis of the off-balance sheet FX transaction items by types reveals that currency swaps are the primary instrument in FX risks management and their weight has increased over time. Meanwhile, short and long-dated FX transaction commitments along with FX derivative options are preferred less in managing FX position. Nevertheless, the magnitude of currency swap transactions increases the sensitivity of profitability to currency swap rates (Chart III.3.6).

Currency swaps, increasing their weights, preserves their importance in FX position management.

Chart III.3.6
Shares of Gross Positions of Off-Balance Sheet FX Transaction (Assets + Liabilities)

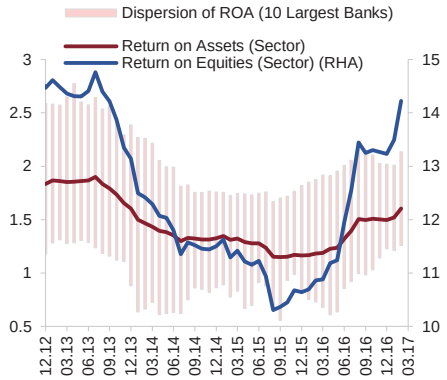


Source: CBRT (Lates Data: 03.17)

III.4 Profitability and Capital Adequacy

Profitability continues to recover.

Chart III.4.1
Return on Assets and Return on Equities (ROE)
(Percent)

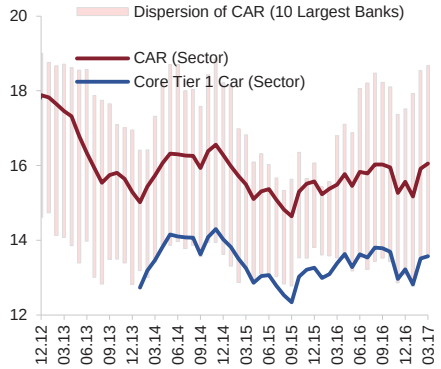


Note: Profitability ratios are calculated by dividing the annual cumulative profit by one year's average denominator.

Source: CBRT (Latest Data: 03.17)

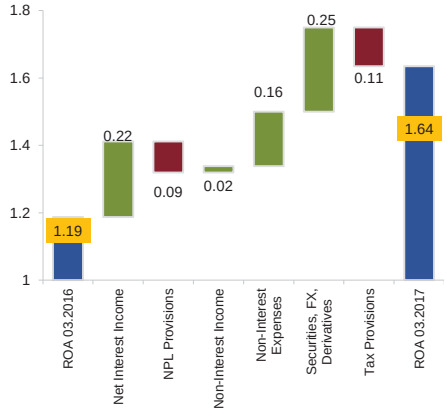
Capital adequacy preserves its vigorous position.

Chart III.4.2
CAR and Core Tier 1 CAR
(Percent)



Source: CBRT (Latest Data: 03.17)

Chart III.4.3
Effects of Income Statement Items on ROA
(Points)



Source: CBRT (Latest Data: 03.17)

The banking sector profitability indicators, which have been trending upwards since the last quarter of 2015, continued to rise in 2017 despite a flattening trend in the final quarter of 2016. While the recent movement is more evident in banks with relatively low profitability performance, the profitability indicators of large banks in the sector have converged (Chart III.4.1). While the capital adequacy ratios (CAR) were pulled down due to the rapid rise in risk-weighted assets because of the recovery in TL loans and appreciation effects in FX assets; these ratios have attained their levels recorded in the third quarter of 2016 on the back of the slightly decreased capital adequacy ratios (CAR), with the stabilization in FX rates, increase in profitability and regulation introduced for risk weights (Chart III.4.2).

III.4.1 Developments in Profitability

An analysis of the factors affecting return on assets (ROA) based on income statement items reveals that: the improvement in net interest income, the perpetuation of austerity measures in non-interest expenses and the trend of securities, foreign exchange and derivatives position have been positive whereas the impact of the limited increase in NPLs on collaterals has been negative. Tax provisions are based on net income and the higher the gross profit, the lower become the net profits (Chart III.4.3).

Over the last year, the impact of net interest income on ROA has been around 22 basis points. In this period, the impact from widening interest rate spreads on net interest income has become stronger. The rate cuts of the CBRT last year contributed to this phenomenon as well. However, the recent reversal of TL funding costs and the increased probability of the Fed continuing to raise rates is expected to limit the favorable impact coming via this channel. On the other hand, the revival of loans with the increase in the economic activity and the easing in rigidity in financial conditions with the help of the KGF stimulus are expected to play a positive part in net interest income via the volume channel (Chart III.4.4).

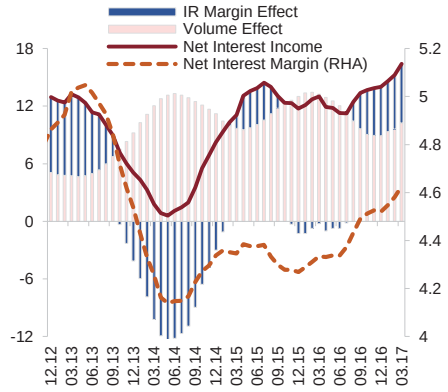
Over the last 12 months, the uptrend in NPL ratios decreased ROA around 9 basis points through provisions. Nevertheless, this uptrend has been partly decreased with the contribution of the recent loan expansion. For all that, the increase in NPL provision rates indicates that the banking industry preserves its prudential stance against probable risks. On the other hand, while the fading effects of refunds of fee and commissions collected in the past years considerably limit the adverse impact of these items on profitability. Moreover, non-interest expenses are contributing to increasing profitability as the austerity measures on operational expenses continue. In the forthcoming period, the non-interest income outlook is expected to be partly limited as the one-off inflows during 2016 wane.

The outlook of the other non-interest income/expenses item, in which banks recognize their position in securities trading, derivatives and exchange transactions, turned positive over the last one-year period. Although the profit derived from securities trading was marginal compared to previous periods, the decline in the net swap position due to the slowdown in loan expansion and the decrease in swap rates last year is believed to play a part in this positive outlook. Nevertheless, the increasing demand for swaps with the recent recovery in loan growth and the reversal in interest rates are expected to restrict this positive outlook in the upcoming period (Chart III.4.5).

III.4.2 Capital Adequacy

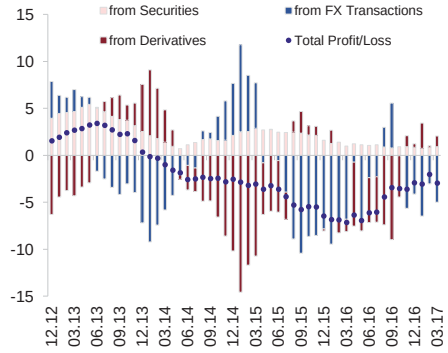
The significant rise in profitability was the main driver of the increase in the legal capital over the last year. In this period, because of the upward movement in government bond rates, the equity capital was adversely affected via the securities revaluation channel and this negative impact contained the strong positive impact from the fixed assets revaluation channel. Meanwhile, the new acquisitions of subordinated debts started to offset the adverse

Chart III.4.4
Contribution to Changes in the Net Interest Income
(Annualized Billion TL, Percent)



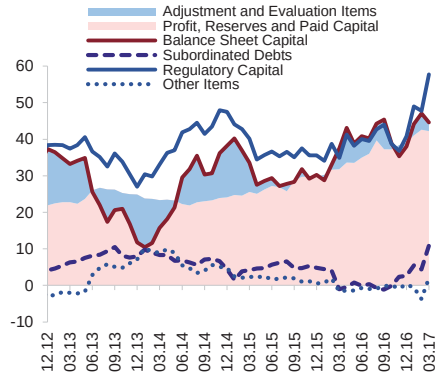
Source: CBRT (Latest Data: 03.17)

Chart III.4.5
Profit/Losses from Security, Derivative and FX Transactions (Annualized Billion TL)



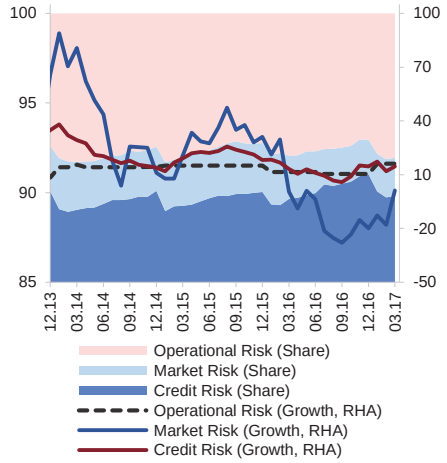
Source: CBRT (Latest Data: 03.17)

Chart III.4.6
Changes in Items Affecting Capital
(Annualized Billion TL)



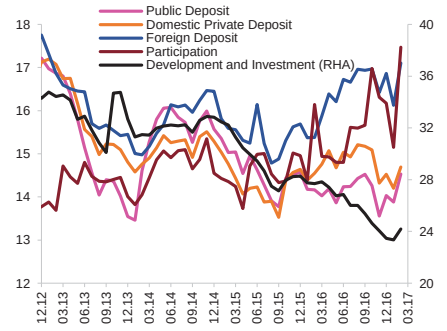
Source: CBRT (Latest Data: 03.17)

Chart III.4.7
RWA Components
(Annualized Billion TL)



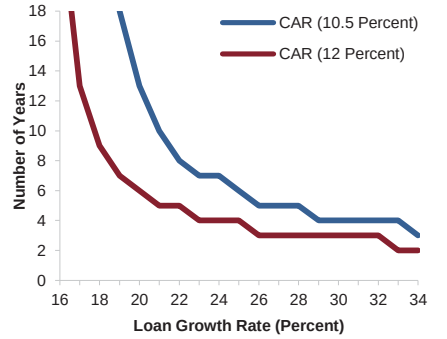
Source: CBRT (Latest Data: 03.17)

Chart III.4.8
CARs According to Bank Types
(Percent)



Source: CBRT (Latest Data: 03.17)

Chart III.4.9
Banking Sector 's Capacity of Supporting Loan Growth under Current Profitability and Capital Adequacy Levels



Source: CBRT (Latest Data: 03.17)

impact of previously acquired subordinated debt excluded from the legal capital definition by the regulations[1] introduced (Chart III.4.6).

There has been no significant change in the risk-weighted asset (RWA) composition over the last year, and credit risk preserved its dominant position with a 90 percent share. Credit risk, which had been increasing until recently due to the depreciation of TL and the recovery in TL loans, started to trend downward on the back of the rebalancing of exchange rates and the BRSA's lowering of the risk weights of FX required reserves to zero. The downtrend in credit risk is expected to continue as the volume of KGF guaranteed loans expand. The operational risk amount, which is generally updated once a year by banks, increased by about 16 percent year-on-year (Chart III.4.7).

While the rise in profitability has strengthened capital, the credit growth rate that was lower compared to previous periods has restricted the growth in RWA. As a result of these effects, the capital adequacy of the sector grew stronger over the last year. This impact is evident in all banking groups except development and investment banks, which have already high CARs, and domestic private banks because of the exclusion of some banks from this category due to changes in ownership (Chart III.4.8).

The relationship between CAR and loan growth is analyzed utilizing the method and parameters used in Box III.4.1 of the 2015 November Financial Stability Report taking into account the latest profitability levels. Accordingly, if the banking sector preserves the current ROA level of 1.64 percent, it would be able to support a loan growth rate of 15 percent without decreasing the current CAR level. With such a profitability level, a loan growth rate of 20 percent can be supported for up to six years and a loan growth rate of 30 percent can be supported for up to three years without going under the target CAR level (12 percent). Finally, if the CAR limit is assumed to be the legal minimum limit including capital preservation buffer (10.5 percent), the industry will not face any restriction of capital adequacy while supporting loan growth under 19 percent (Char III.4.9).

[1] Regulation on the Amendment to the Regulation on Equities of Banks (O.G. No.29511 of 3.10.2015 and O.G. No.29599 of 20.01.2016)

Box III.4.I Exchange Rate Developments and The Capital Adequacy Ratio

Banks, like other companies, obtain funding in two different ways: borrowing and equity. As a core source of funding, equity has no maturity and does not create a repayment obligation. In addition, equity also acts as a buffer to cover losses in periods when banks incur losses. Since equity has a risk-free structure in the funding of banks, regulatory authorities require banks to meet at least some portion of their funding need via equity. This ratio, which is known as "Basel Capital Adequacy" in the regulatory literature, is calculated by dividing the regulatory capital by risk weighted assets:

$$CAR = \frac{Regulatory\ Capital}{Risk\ Weighted\ Assets}$$

The capital adequacy ratio (CAR) is affected by changes in the regulatory capital and risk weighted assets. The regulatory capital increases with the positive contribution of new capital inflows and profitability. Since almost all of the subordinated debt is denominated in foreign currencies and is included in the regulatory capital, exchange rate hikes lead to an increase in the regulatory capital. On the other hand, that increase is limited since the share of subordinated debts in total regulatory capital is low. Risk weighted assets rise due to increases in average risk weights and the acceleration in total asset growth. The CAR is affected negatively by the increase in risk weighted assets and positively by the decrease in risk weighted assets. The risk-weighted assets of banks increase as the TL equivalent of the total assets of the banking sector increases during periods of escalating exchange rate. Therefore, in periods of TL depreciation, the CAR moves downward.

In this study, the effect of exchange rate movements on CAR is analyzed using a recent case study. The analysis was carried out using the end-October and end-November periods of 2016, when the value of the basket rose by 9.1% against the TL. In this period, the CAR of the banking sector decreased from 16 to 15.3 percent. In addition to the increasing effect of exchange rate on foreign currency denominated assets, the growth of other TL assets and the portfolio preferences were also effective in this decline. The exchange rate-driven increase in the regulatory capital did contribute positively to the CAR. In Table III.4.I.1, however, only the exchange rate-driven negative impact on the CAR is calculated through decomposition of the effects mentioned above.

The exchange rate adjustment is based on the assumption that at the end of November 2016, the exchange rate maintains its level at the end of October. On the other hand, the limited positive effects of the increase in the exchange rate on non-FX regulatory capital and TL assets are ignored. According to the calculations, the banking sector CAR moved downward by 41 basis points as a result of the 9.1 percent increase in the exchange rate basket in the October-November period. The changes in non-FX regulatory capital and in TL assets as well as the portfolio preferences have a downside effect on the CAR of about 27 basis points (Chart III.4.I.1). It can be concluded that with a linear calculation, a 10-percent depreciation of the currency causes the CAR to decrease by about 45 basis points in the short term.

Table III.4.I.1
Exchange Rate Effect on CAR Calculation
(Unless Otherwise Stated, Billion TL)

	October 2016	November 2016
Basket Exchange Rate (TL)*	3.19	3.48
TL Assets	1,575	1,607
FX Assets	1,007	1,095
Total Assets	2,581	2,702
FX Assets (billion FX basket)	315	314
Exchange Rate Adjusted Assets**	-	1,003
Exchange Rate Adjusted Total Assets (a)	-	2,610
Risk Weighted Assets/Total Assets (%) (b)	82.3	82.5
Total Regulatory Capital (c)	339	340
FX Regulatory Capital (d)	29	31
Exchange Rate Adjusted Regulatory Capital*** (e)	-	29
Exchange Rate Adjusted Total Regulatory Capital (c-d+e)	-	338
Total Risk Weighted Assets (f)	2,123	2,230
Exchange Rate Adjusted Risk Weighted Assets (a*b)	-	2,154
Capital Adequacy Ratio (%) (c/f)	16.0	15.3
Exchange Rate Adjusted Capital Adequacy Ratio**** (%)	-	15.7
Exchange Rate Effect (%)	-	0.41

* Composed of 70 percent USD and 30 percent Euro.
** Obtained by multiplying FX basket denominated value of end-November 2016 FX assets by the end of October FX basket value.
*** Subordinated debt assumed to constitute all FX regulatory capital and obtained by multiplying FX basket denominated value of end-November FX regulatory capital by the end of October FX basket value,
**** Calculated by dividing exchange rate adjusted total regulatory capital by exchange rate adjusted risk weighted assets.

Source: BRSA, CBRT calculations

Chart III.4.I.1
Decomposition of the Effects on CAR
(Percent)

Source: BRSA

It should be underlined that the calculations made are based on a partial analysis and do not reflect dynamic effects. For example, the increase in exchange rate has a downward effect on the short-term CAR, while in the md-term some of these effects have the potential to narrow on the back of an increase in profitability. Since the income from FX assets is in the form of FX, the profitability will also be positively affected from an increase in the exchange rate. Given that profitability is one of the major sources of equity growth, the CAR, which moves downward in the short run due to exchange rate developments, may rise in line with the increase in profitability in the longer run.