IV. Financial Sector

The acceleration observed in credit growth in the past quarters eased and growth rates converged to historical averages due to funding costs reflections onto credit rates, abated supportive incentives, and exchange rate developments. The NPL balance increased moderately as additions were balanced by collections and the banking sector maintained its strong asset quality with a stable NPL ratio. The recent rise in closely-monitored loans is attributed to the new reporting system TFRS 9; and the debt restructuring demands are not representative of a system-wise need, but rather reflect the demanding firms' desire to harmonize their loan maturities with their cash flows. Economic growth and strong macro prudential policies are supporting the sector's robust asset quality in 2018.

The banking sector's TL and FX liquidity coverage ratios are significantly above the legal limits and the sector's external borrowing has been rising. The safe trend in banks' short and long-term liquidity positions, the positive outlook in external debt maturity composition and the diversity in the number of countries/ banks that Turkish banks borrow from all enhance Turkish banks' resilience against likely fluctuations in international markets. Banks' foreign funding cost spreads have slightly improved, there has been some increase in total costs due to the rise in Libor rates, but still banks' external debt renewal ratio is above 100 percent and these factors indicate that there has been no remarkable change in financial corporations' credit supply (Chart IV.2.9). In the last Report period, because of their TL liquidity needs, banks sought alternative funding sources, and they have been incrementally using long-term and subordinated bonds.

The interest rate sensitivity that the sector is exposed to via repricing channel of TL and FX-denominated on and off- balance sheet asset and liabilities has not significantly changed year-on-year and has remained subdued. The FX Net General Position/ Capital Ratio remained significantly below the two-way legal limit and stood at 3 percent. The off-balance sheet FX transactions were mostly dominated by currency swap transactions in this Report period as well.

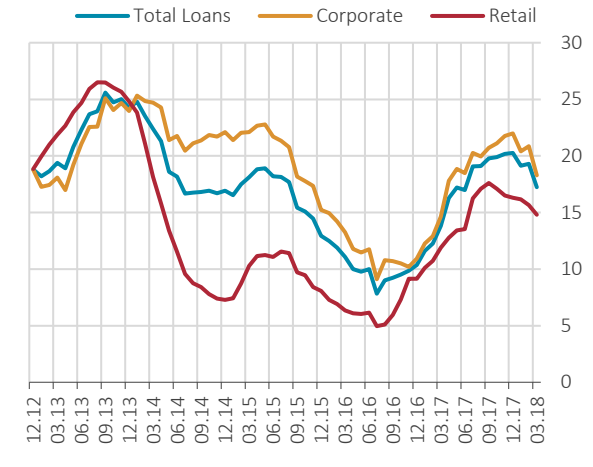
The relatively stable trend in capital and asset profitability ratios since the last Report period was mainly driven by the rise in capital markets transaction losses and the limited rise in deposit interest expenses. The utilization of KGF-guaranteed loans came closer to the upper limit in the final quarter of 2017 and the flat trend in net interest margin driven by the stable rise in deposit interests curbed the impact from the volume channel. The positive outlook in net interest income continued owing to the supportive impacts of the new KGF loan facility introduced in January 2018 and the additional loans released after repayments of old credits. The remarkable drop in NPL coverage ratios in January 2018 was mainly driven by the decline in provisions in the aftermath of the transition to TFRS 9 implementation.

The strong capital adequacy ratio can be attributed to several factors such as: increased profitability, the increase in borrowing instruments taken under the scope of capital calculation, and positive valuation of securities of affiliates, subsidiaries and joint ventures. Due to tightened financial conditions, the sector is expected to preserve profitability via interest margins in 2018.

IV.1 Credit Developments and Credit Risk

The acceleration in credit growth, which started in 2016Q3 on the back of the stimulus policies introduced, decelerated in 2017Q4 and converged to historical averages both in corporate and retail loans in 2018. As of March 2018, the FX-adjusted rate of total credit growth was 17 percent (Chart IV.1.1).

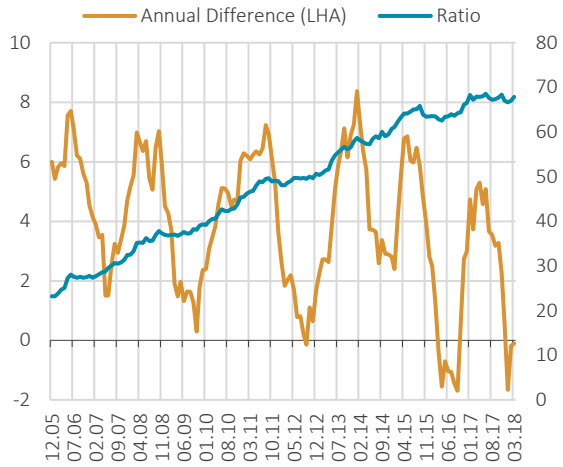
Chart IV.1.1: Annual Loan Growth (FX-adjusted, %)



Source: CBRT Latest Data: 03.18

Note: FX-indexed loans are included in FX loans and adjusted for exchange rates by using a weighted basket of 0.3 for the euro and 0.7 for the US dollar.

Chart IV.1.2: Credit/ GDP Ratio (%)



Source: CBRT, TURKSTAT Latest Data: 03.18

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

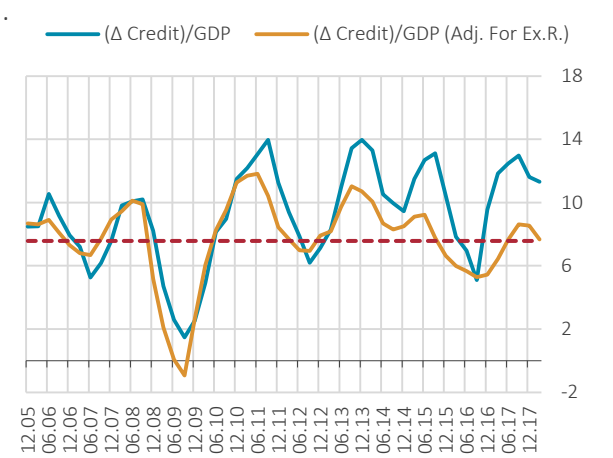
The deceleration in credit growth was mainly driven by banks' reflection of increased funding costs on credit rates, particularly on TL commercial and housing loans. Subdued usage of FX loans and developments in commercial loans were other factors influencing credit growth. Meanwhile, the uptrend in retail loan growth decelerated and reached a plateau at a relatively high level. The deceleration stemmed from several factors such as interest rate developments, termination of fiscal stimulus measures introduced for private consumption expenditures and partial easing of the initial impact of the changes introduced in macroprudential measures. On the other hand, corporate loans were influenced by decreasing incentives and measures underpinning TL loans and high interest rates. The contractionary impact of exchange rate developments on FX loan demand and supply continued, albeit in an alleviated manner, and FX corporate loans remained below the long-term average. As a result of these developments, the ratio of credit to GDP remained unchanged, the annual difference in the ratio contracted, and net loan utilization from the banking sector as well as current and X-adjusted series converged to the long-term averages (Chart IV.1.2 and Chart IV.1.3).

As of the third quarter of 2017, the ratio of loans extended by banks to the non-financial sector as a share of GDP in Turkey was close to those of peer developing countries while the two-year change in this ratio was high. The acceleration in this change was mainly driven by the recovery in corporate loans owing to the implementation of the Treasury-backed KGF program. As utilization of loans in this scope decelerated, the two-year differences in the third quarter moved closer to the average.

Both supply and demand dynamics have played a role in the recent credit developments. According to the Bank Loans Tendency Survey, strong general-purpose loan demand as well as corporate working capital and restructuring needs have been factors contributing to loan demand channel. On the supply channel, compared to the previous quarter, credit standards were slightly tightened for corporate loans

in the first quarter of 2018. In the upcoming period, the impacts of the tight stance in monetary policy are expected to become more evident and credit growth is expected to continue to moderately decelerate.

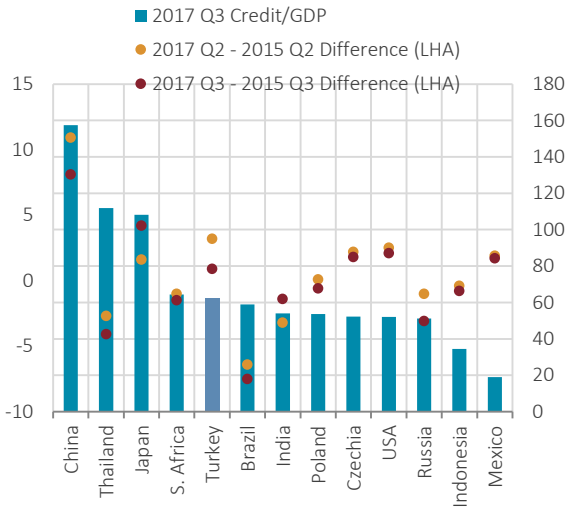
Chart IV.1.3: Annual Change in Credit Stock to GDP (%)



Source: BRSA, CBRT, TURKSTAT Latest Data: 03.18

Note: Shows the ratio of annual credit growth to GDP. Quarterly stock change in FX loans are calculated by taking the 3-month averages and the average of the related month is adjusted for exchange rates by converting to TL by using CBRT buying rates. The total FX-adjusted annual credit stock difference has been calculated by summing up 4-quarter differences in TL and FX-adjusted values.FX-indexed loans have been included in FX loans. The dashed line shows the long-term average since 2004 for the FX-adjusted value.

Chart IV.1.4: International Comparison of Credit/GDP (%, Percentage points)



Source: BIS Latest Data: 09.17

Note: Data covers all private non-financial sector credits, with the latest data available from 2017Q3. Two-year differences have been calculated between the second and third quarters of the years shown.

IV.4.1 Corporate Loans

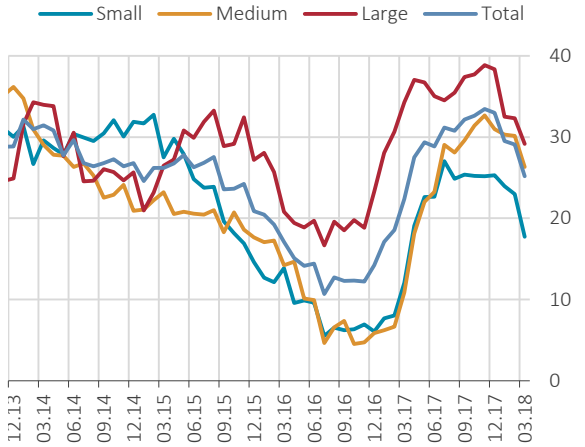
Corporate loan growth rates, which accelerated in the last Report period on the back of the KOSGEB's interest-free loan support, the TOBB's low-interest Respite Credit, and the Treasury-backed KGF guarantee scheme, continued to grow despite some slowdown due to recent limits imposed on new credits, additional set of rules on utilization areas aiming to increase the economic value added and base effects. In March, the FX-adjusted total corporate loan growth was 18 percent (Chart IV.1.1). The growth in corporate loans was mainly driven by the growth in TL loans and FX developments. The total TL loan growth came in at 25 percent as credit growth across all firm sized decreased (Chart IV.1.5). The additional KGF guarantee limit of TL 55 billion announced at the turn of the year coupled with the TL 35 billion limit that became available owing to credit repayments of past credits is expected to support TL credit growth in the upcoming period.

Compared to the last Report period, FX credits of small scale firms continued to decline mainly due to the rise in exchange rates and banks prudent implementation of FX risk management regulations earlier-than legally stipulated, and FX loans of medium and large-scale firms recovered slightly owing to the base effect (Chart IV.1.6). Large-scale firms use four fifths of all FX loans and the recent flat trend in these loans was a determining factor of the FX loan growth, meanwhile FX loans used from domestic banks slightly picked up compared to last year and grew by 2.4 percent.

Firms generally use FX loans for their long-term investments and they use domestic and external FX loans interchangeably according to interest rate and exchange rate developments. Even though, contrary to this general trend, growth in both domestic and external FX loans decelerated in the first three quarters of 2017, growth rate of external FX loans increased as against stagnant domestic FX loans in the current

period (Chart IV.1.6). Domestic FX loans were influenced by developments in both the demand and supply channels. Banks started an early implementation of the provisions of an amendment to Decree No.32 - which bans FX loan utilization of firms with no FX earnings for firms with a loan balance of maximum USD 15 million - to take effect by 2 May 2018 earlier than this date which significantly affected FX loans used by small-scale firms. .

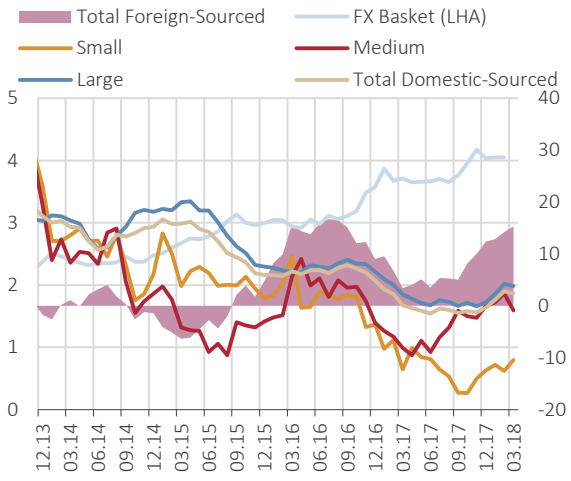
Chart IV.1.5: Annual Growth in TL Corporate Loans by Firm Size (%)



Source: CBRT Latest Data: 03.18

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

Chart IV.1.6: Annual Growth in FX Corporate Loans by Size and the Exchange Rate (FX Adjusted %, TL)

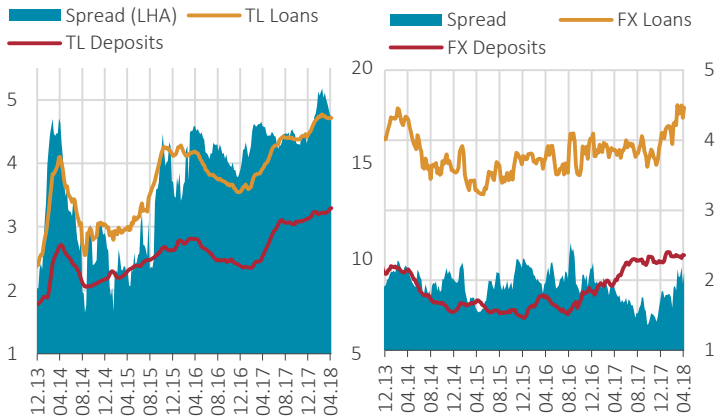


Source: CBRT Latest Data: 03.18

Note: Total external FX credit growth includes the foreign FX loans and other FX liabilities of all non-financials in USD, excluding foreign branches and affiliates of domestic banks. FX-indexed TL loans have been included in calculations. Micro and Small SMEs are grouped together under the Small heading. The weighted FX basket uses weights of 0.3 for the euro and 0.7 for the US dollar.

Recently, deposit interest rates have increased due to the funding need for TL loans and FX deposit accounts remain robust owing to exchange rate developments (Chart IV.1.7). At the same time, while the rise in the LIBOR rate increased external funding costs, FX deposits became less favorable as a funding source due to increased currency swap costs.

Chart IV.1.7: Corporate Loan Interest Rates and Spreads (4-week MA, %)

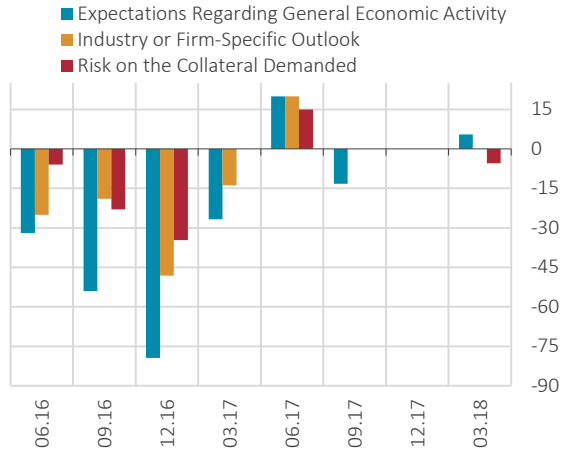


Source: CBRT Latest Data: 06.04.18

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

FX deposit rates were not affected by banks' weak performances in FX loans, cost management and profitability motivations or by the rise in funding rates (Chart IV.1.7). Following the rise in both TL and FX loan rates, the loan-deposit spreads across all commercial loans indicates that financial conditions have been further tightening.

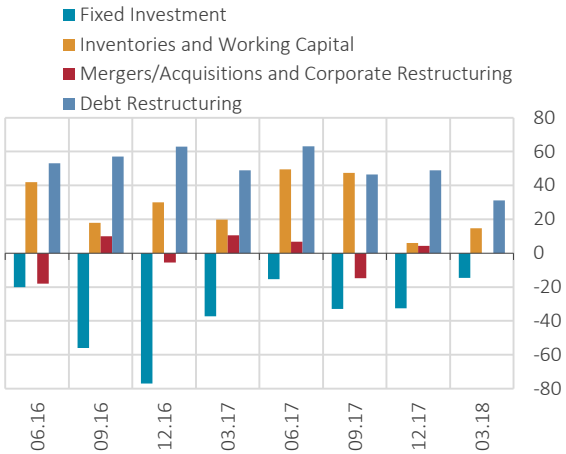
Chart IV.1.8: Factors Contributing to Corporate Loan Supply (Net % Change)



Source: CBRT Latest Data: 03.18

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

Chart IV.1.9: Factors Contributing to Corporate Loan Demand (Net % Change)



Source: CBRT Latest Data: 03.18

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

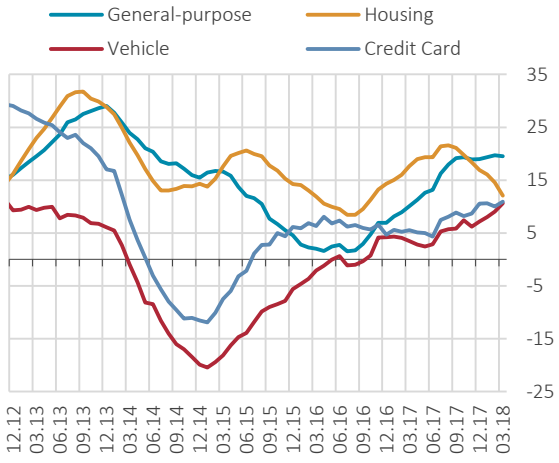
According to the results of the Bank Loans Tendency Survey, in the third quarter of 2017, the standards that banks applied to corporate loans generally remained unchanged quarter-on-quarter. Credit standards for corporate loans for SMEs were eased, while those for large-scale firms were slightly tightened. This was in tandem with eased standards for TL loans and tightened standards for FX loans that are generally utilized by large-scale firms. This change in FX credit supply coupled with the decreased demand are believed to have played a role in the flat trend in FX loan growth. As a result of the positive impact of expectations about the general economic activity and the continued contribution of incentives on risk perceptions of collaterals despite some decline, the risk factors pertaining to industry, corporate and collaterals had a limited tightening impact on credit standards (Chart IV.1.8). According to the Survey, on the demand side, the decrease in demand for FX loans continues against a rise in short-term TL loan demand. The increase in demand was mainly driven by short-term, operating cycle-dependent working capital needs such as inventory increase and restructuring of debts (Chart IV.1.9). As it was the case in the last two years, survey results show a decline in loan demand for fixed investments which are generally financed by long-term and FX-denominated loans which is consistent with decreasing FX demand.

IV.1.2 Retail Loans

In March, the annual retail loan growth became 15 percent. The recent decline in annual retail loan growth was mainly driven by the fall in housing loans, one of the two largest items of retail loans, against the flat course seen in general purpose loans (Chart IV.1.10). The acceleration in general purpose loan growth began slowing down on the back of rising interest rates, and loan growth rate remained flat at a high level owing to retail demand fueled by increased employment (Chart IV.1.11). The rise in general purpose loan growth was mainly driven by increased retail debt service capacity of consumers underpinned by increased employment opportunities as well as an increase in maximum loan maturities

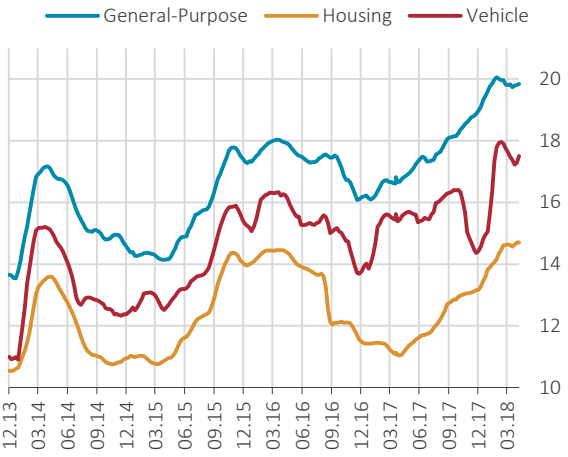
as of September 2016.[1] Growth in retail credit card balances and vehicle loans reached their highest point in the past three years. The rise in credit card balances can be attributed to the base effect and increased consumption demand as a result of higher employment rates. Although the banking sector's share in the retail vehicle loan market has significantly decreased, growth in vehicle loans continued on the back of exchange rate developments and the base effect.

Chart IV.1.10: Annual Growth in Retail Loans (%)



Source: BRSA Latest Data: 03.18

Chart IV.1.11: Retail Loan Lending Rates(4-week MA, %)



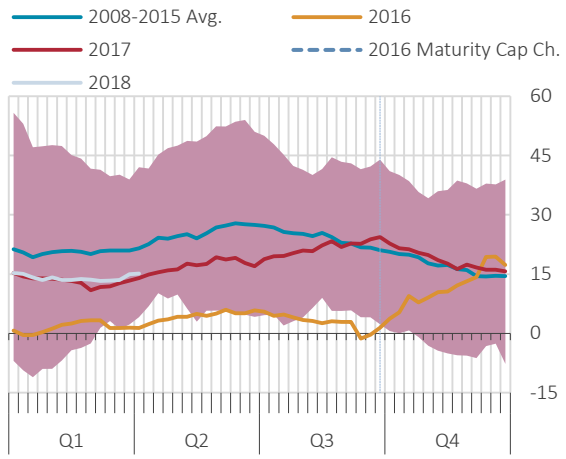
Source: CBRT Latest Data: 13.04.2018

Despite rising rates in housing loan rates since April 2017, housing loans became the fastest growing retail loan type last year. This growth is attributed to the fact that the maximum loan-to-value ratio limit applied to housing loans was raised from 75 percent 80 percent in September 2016 (Chart IV.1.13). In the current Report period, the housing loan growth rate rapidly declined and displayed a growth rate below the long-term average rate in 2018Q1. This decline was driven by several factors: housing loan rates rapidly increased and surpassed the levels seen in 2016 and investors pulled out of the market, especially in the luxury home segment as rental incomes remained relatively lower compared to other profit opportunities offered by deposits and foreign exchange. The tax incentives introduced recently, steps taken in housing loan rates and price developments are expected to support housing loan growth as of the second quarter.

The maturity cap change and simulateneous interest rate movements in 2016 have been successful in bringing general purpose loan growth rates, which were hovering below the averages of the period between 2008-2015, in line with the averages (Chart IV.1.12). Since the beginning of 2018, general purpose loan growth rates have been performing slightly below the long-term averages similar to the case in 2017. The recent perfromance in credit demand despite the levels seen in the interest rate can be attributed to demand developments motivated by increased employment rates and decreased consumer sensitivity to interest rates owing to extended maturities. Consumers' credit demand and banks' lending policies have been very sensitive to the maturity cap change in this period and general purpose loans with a maturity of 37-48 months have increased their shares at the expense of the old maturity cap bracket of 25-36 months (Chart IV.1.13).

[1] As per the Regulation Amending the Regulation on Debit Cards and Credit Cards dated 27 September 2016: the maturity cap for general-purpose loans, while retaining some exceptions, was raised to 48 months from 36 months and current balances on performing loans were allowed to be restructured with maturities up to 72 months. If this restructuring required a new credit issuance, the maturity was again limited by 48 months. The loan-to-value ratio for housing loans or loans with housing as collateral other than vehicle loans was increased from 75 percent to 80 percent. With some exclusions of various consumption items, the number of installments for retail and corporate credit card spending and cash withdrawals has been increased from 9 to 12 months, and current credit card balances on performing loans were allowed to be restructured with maturities up to 72 months.

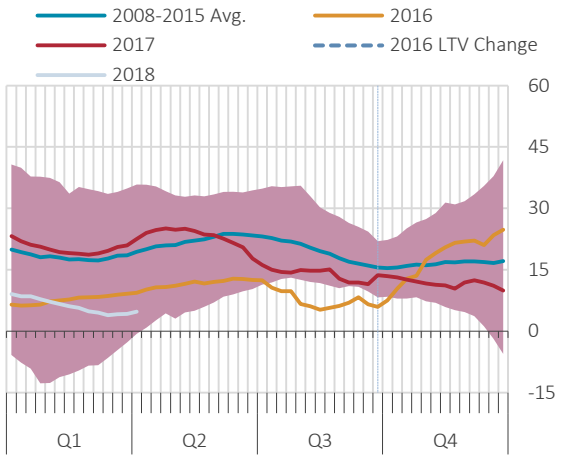
Chart IV.1.12: Weekly Growth Rates of General Purpose Loans (13-week MA, Annualized %)



Source: CBRT Latest Data: 13.04.18

Note: 2016 has been shown to include the week that the changes to maturities took effect. The pink area marks the highest and lowest of the values used in the 2008-2015 averages.

Chart IV.1.13: Weekly Growth Rates of Housing Loans (13- week MA, Annualized %)

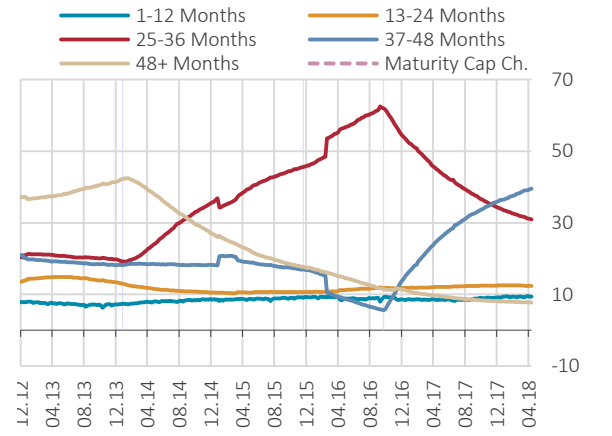


Source: CBRT Latest Data: 13.04.18

Note: 2016 has been shown to include the week that the changes to credit/value ratio limitation took effect. The pink shaded area marks the highest and lowest of the values used in the 2008-2015 averages.

Another factor supporting credit growth is the growing use of digital banking services that are very cost effective and have a high utilization rate. With the proliferation of digital banking platforms, the consumers are now able to apply for credits via various platforms and compare the offers, which contributes to competition between banks. As stated in the Bank Loans Tendency Survey, in this Report period, this facilitation has had an easing impact on credit standards and thus underpinned credit growth.

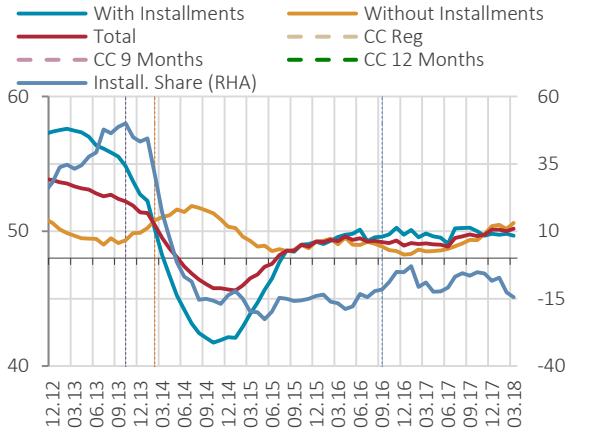
Chart IV.1.14: General-Purpose Loan Maturities (% Share)



Source: CBRT Latest Data: 13.04.2018

Note: Calculated using stock of loans. With a change introduced at the end of 2013, the maturity cap for general purpose loans was set at 36 months, and the cap was raised to 48 months as of September 2016. The sharp movements in 2015 and 2016 stemmed from changes in definition and coverage. As general purpose loans and "other" types of retail loans have been reported together since 2015, they are graphed together for the entire duration shown. The maturity cap changes are shown to include the weeks they took effect in.

Chart IV.1.15: Annual Growth in Personal Credit Card Balances (%)



Source: CBRT Latest Data: 03.18

Note: The 2013 regulation linked minimum payments to card limits and new card limits to income. In February 2014, the number of monthly installments for credit card payments was limited to 9 months with some exceptions, and with another change in September 2016, the maximum number of monthly installments for credit card payments was raised to 12 months, with some exceptions.

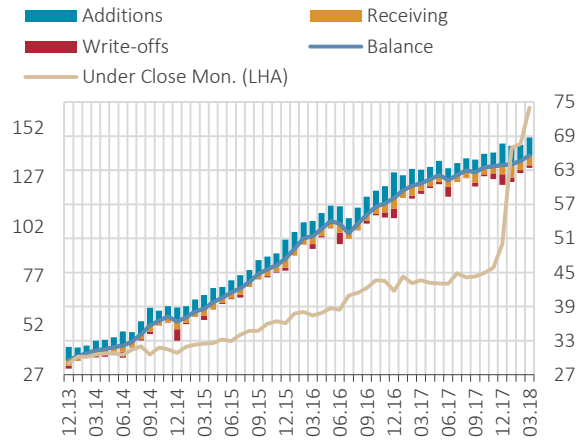
In this period, credit cards were used intensively and credit card balance growth rates reached the highest level in the past medium term (Chart IV.1.15). This came after changes introduced in macroprudential policies which elongated the installment facility and were quite influential in the last

Report period, followed by increased consumption demand underpinned by elevated employment rates. In the period following the rise in the number of installments, the ratio of installment credit card balances to total balances increased as expected, and registered at slightly above 45 percent.

IV.1.3 Non-performing loans

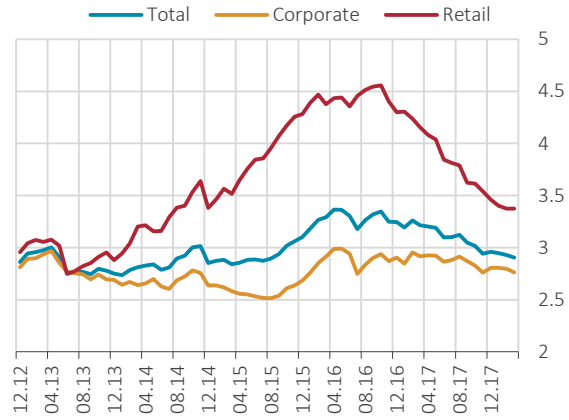
Despite the recent additions in NPL, collections in the period increased compared to the last Report period and the NPL balance rose slightly in this period (Chart IV.1.16). As a result, the NPL ratio continued its flat course at around 3 percent (Chart IV.1.17).

Chart IV.1.16: Components of NPL (Billion TL)



Source: CBRT Latest Data: 03.18

Chart IV.1.17: NPL Ratios (%)



Source: BRSA Latest Data: 03.18

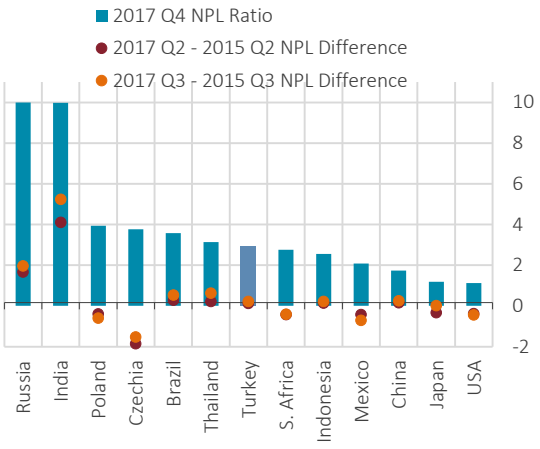
The ongoing rise in retail loans particularly in general purpose loans; increased installment caps and debt restructuring opportunities for existing balances underpinning consumers' debt service; and NPL sales to asset management companies have been factors contributing to the decline in the NPL ratio in retail loans (Chart IV.1.16). On the corporate loan side, the rise in SME loans on the back of the incentives provided did not only have a lowering impact on NPLs but also contributed to preserving banks' asset quality by positively effecting the corporate sector debt service indicators. The large firms' NPL ratios, which are relatively low and stable, became a determining factor in the asset quality of banks (Chart IV.1.19). As a result of the factors mentioned above, in the final quarter of 2017, the Turkish banking sector's NPL ratios and the change in this ratio over the last two years remained below the average of peer countries (Chart IV.1.18).

Another noteworthy development with respect to asset quality outlook in this Report period has been the rise in the closely-monitored loans particularly over the last quarter (Chart IV.1.17). This rise can be attributed to developments in high-volume corporate loans and the transition to the new reporting system, the TFRS-9 which hase been put into practice by 35 banks since the beginning of the year. The new set of standards provide a dynamic system in which in addition to the quantitative measures such as overdue date and leverage ratios that banks used to employ for classification of loans before, the system also entails qualitative measures that allow adjustments in classification of loans for not only loan-based reasons but also for sector-based factors, macroeconomic dynamics and international developments. The impact of the systemic change exerted by this methodological change on closely-monitored loan balance is likely to continue in the upcoming term.

The recent rise in big corporate firms' debt restructuring demands is not reflection of a system-wide need, but rather resonates the firms' desire to harmonize their loan maturities with their cash flows. The

supportive structure of economic growth and strong macroprudential policies continue to uphold the sector's asset quality in 2018.

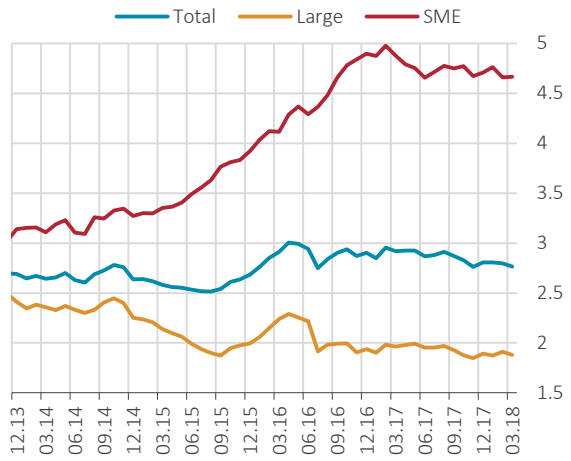
Chart IV.1.18: International Comparison of NPL Ratios and Differences (%)



Source: IMF-IFS, BRSA Latest Data: 12.17

Note: As data for China, Czechia, Japan, S. Africa, Thailand and USA have not been updated yet, bars show 2017Q3 values with the two year differences taken over 2017Q2.

Chart IV.1.19: Corporate NPL Ratios (%)



Source: CBRT Latest Data: 03.18

Corporate NPL ratios, which have been hovering below 3 percent for the last 2 years, registered at 2.8 percent in March 2018 and differences by firm scales remained unchanged (Chart IV.1.19). The NPL ratios of large firms, which has been below 2 percent for over a year, has been a determining factor in the total corporate NPL ratio given the high share of large firm loans in total credit portfolio. SME NPL ratio decreased during periods when SME loan utilization accelerated in response to intense utilization of incentives, but these ratios became flatter again as incentive schemes lost pace. The KGF-guaranteed corporate loans extended in 2017 were mostly used by SMEs, and almost a fifth of them had a nonrecourse period. As the repayment of these loans started in the first half of 2018, the credit performance of this portfolio is expected to become clearer in the upcoming period. As stated in Section II.2, the firms' leverage ratios have been stable since the beginning of 2017. The recent recovery in economic activity and increased consumer demand are expected to influence corporate income and firms' debt service positively.

The corporate NPL ratios continued to diverge based on both size and sectors. The NPL ratios of manufacturing industry making up a quarter of total corporate loans and construction sector with a 15 percent share of the total both decreased year-on-year and became a determining factor in NPL developments (Table IV.1.1). NPL ratios of the construction sector, which had started to decrease previously due to incentives and favorable interest rate developments, were also underpinned by restructuring schemes. In this period, NPL ratios of real estate, renting and management sector increased and this rise can be attributed to NPL ratios of the real estate services sub-sector that climbed because of a fal in retail housing demand. Tourism sector's NPL ratios are expected to improve as the sector's early booking data registered better than last year’s. NPL ratios of the energy sector loans remained stable as these loans have been included in the scope of incentive schemes and restructuring facilities were provided for the sector.

Retail loan NPL ratios continued to decrease in in general and across all loan sub-items thanks to expanded installment facilities and growth rates (Chart IV.1.15 and Chart IV.1.20). NPL ratios in housing loans, which traditionally have a stable outlook owing to the strong collateral structure and the maximum

loan/value ratio limits implemented since 2013, continued to decrease despite the recent fall in housing loan growth. Vehicle loans, which are also subject to loan/value ratio limits like housing loans, saw a decline in NPL ratios supported by the loan growth in the sector and remained stable at around 3 percent. NPL ratios of retail credit cards have been falling since September 2016 thanks to the increased number of installments allowed and the restructuring facility introduced for existing balances. NPL ratios of the said item came down to the level recorded two years ago and were marked at 6.5 percent.

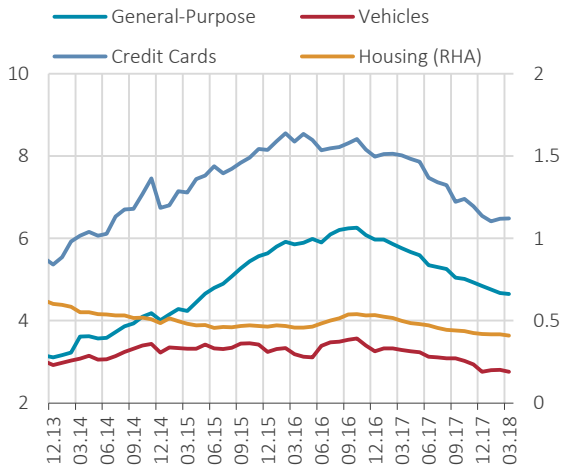
Table IV.1.1: Sectoral Breakdown of NPL Ratios (%)

	03/17	03/18	Change	Share
Manufacturing Industry	3.64	3.24	-11.0	24.9
Wholesale and Retail Trade	4.13	4.05	-1.8	20.6
Construction	3.61	3.07	-14.8	12.1
Energy (Electricity, Gas, Water)	0.49	0.46	-7.6	9.0
Transport, Inventory, Communication	1.79	1.73	-3.1	7.2
Real Estate, Renting, Management	1.12	1.40	25.6	8.0
Agriculture, Livestock, Forestry	2.82	2.89	2.5	57
Hotels and Restaurants	2.28	2.92	27.8	4.3
Mining and Quarrying	2.41	3.07	27.4	1.6

Source: BRSA Latest Data: 03.18

Note: Sectoral breakdown of credits is based on the loan purpose stated in the applications. The shares are calculated excluding retail loans and the financial sector, and the selected sectors represent 93.3% of real sector's performing loans.

Chart IV.1.20: NPL Ratios in Retail Loans (%)



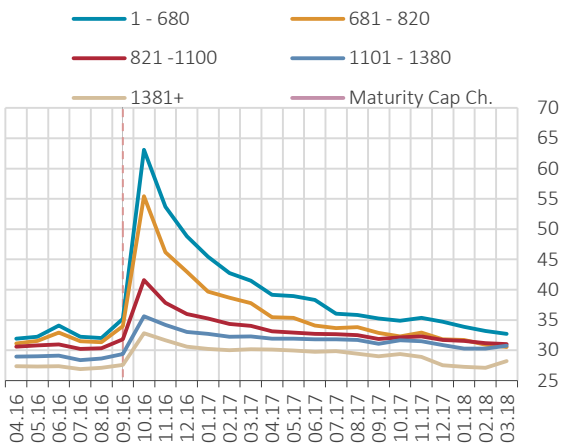
Source: BRSA Latest Data: 03.18

The changes made in macroprudential policies in September 2016 did not only instigate a fall in NPL ratios of credits cards but also of general purpose loans. NPL ratios of general purpose loans had increased when the maximum maturity cap for general purpose loans was 36 months. After the change introduced in the maturity cap, NPL ratios of such loans decreased also with the supportive effect of the stable growth rates, and NPL ratio was recorded at 4.7 percent in March 2018. The changes, which extended maximum maturity limits by 12 months and allowed restructuring of existing balances up until 5 years, helped decrease consumers' monthly credit debt burden, eased their debt service and increased repayment rates of existing and future debts. As consumers preferred to pay their debts over longer maturities, average maturities of newly issued general purpose loans became longer (Chart IV.1.21). After the introduction of changes in maturity caps, the extended maturities had a positive impact on credit risk developments as well as on consumers' risk levels measured by the Retail Loan Score (RLS). For instance, the highest increase in maturities was observed in the low RLS group that is likely to have the highest level of difficulty in paying credit debts. After this group's debt service was facilitated by the arrangements, this group played an important role in the decline in NPL ratios.

The short-term impacts of the changes to maturity caps and the long-term impacts of the said changes on credit performances due to the resulting compositional changes should be evaluated separately. Even if extension of maximum maturity limits makes a significant contribution to the decline in NPL ratios, it also entails risks as it also means that banks will be providing a risky group with limited debt service capacity a facility to repay their debts in long maturities. However, there are several factors alleviating this impact: the rise in maturities of newly issued loans in 2016 declined after a rather short time and stabilized at around 37 months. This points to the fact that the implementation changes have neither led to a permanent shift in consumers' consumption tendencies nor in banks' credit standards and indicates that the rise in maturities was rather a short-term trend allowing the use of the new facilities.

The potential risk level of the loans extended in this period can be analyzed by using the RLSs of newly issued loans and default rate probabilities associated with these scores. The analysis reveals that there has been no shift in the average riskiness and default-weighted riskiness of new credits extended in 2017 and the risk level of the representative credit customer only rose slightly in 2018 (Chart IV.1.22). The moderate decrease in Household Financial Stance Index points to a likely easing in credits standards that are shaped by several factors such as liquidity indicators, NPL developments and the macroeconomic outlook (Chart IV.1.23).

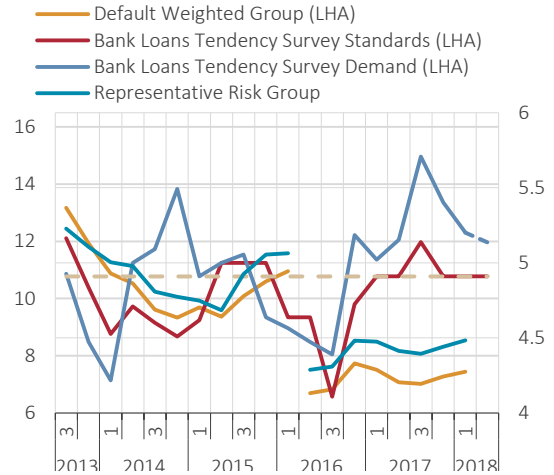
Chart IV.1.21: General-Purpose Loan Maturities by RLS (Months)



Source: Kredi Kayıt Bürosu Latest Data: 03.18

Note: Group means are calculated using the scores of 11 RLS groups in which each customer has a RLS score between 1 and 1900.

Chart IV.1.22: New General Purpose Loans and the Survey (Average Risk Group)



Source: CBRT Latest Data: 03.18

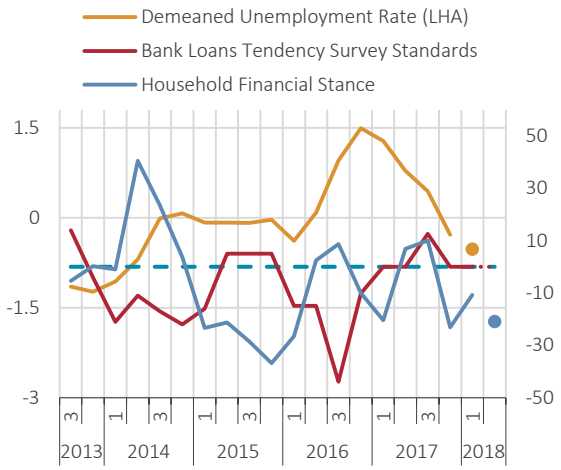
Note: Standards and demand values from the Survey are only for general-purpose loans, expectations are shown with dashed lines. The survey results, which are reported as net percentage change been re-scaled and the zero point showing the neutral level is shown in dashed lines. The representative and default weighted risk groups show a plain average and default probability weighted average of RLS groups for general purpose loan customers. Following a methodological change in the second quarter of 2016, the series have shifted and should be evaluated independent of their past levels.

The credit risk of retail loans for the upcoming period will be determined by household indebtedness, banks' credit policies at the time the credits were extended and the macroeconomic outlook following this period. It was mentioned in Chapter III.1 that the ratio of household indebtedness to GDP, which has been decreasing since 2013, stood at 18 percent recently. Since the turn of 2017, consumers' debt service capacity have improved on the back of recovery in economic activity, still increasing employment opportunities, downtrend in unemployment rates, extended maturities and increased number of installments allowed (Chart IV.1.14). All these factors are expected to contribute positively to the retail credit risk outlook.

In addition, banks' lending policies at the time of credit issuance and the macroeconomic outlook in the period after issuance has an effect on the transition of performing loans into non-performing territory which can be analyzed by means of vintage analysis. The vintage curves which indicate the NPL course of new loans starting from the first quarter following their issuance contain valuable information on the performance of retail loans issued since 2013. According to the vintage analysis, general purpose extended since 2014 in general performed better than the previous year and quarters in terms of asset quality (Chart IV.1.24). Following the extension in the maximum maturity cap for general purpose loans to 48 months, a limited increase was observed in loans extended in 2016Q4 and this rise converged to the year's average over time. The NPL ratios of loans extended in 2017 are significantly lower than medium-

term averages and this is attributed to extended maturity facilities. In the scope of macroprudential measures introduced in 2009, retail FX loans were banned which protects households from exchange rate risk and will support the positive outlook in household NPL ratios.

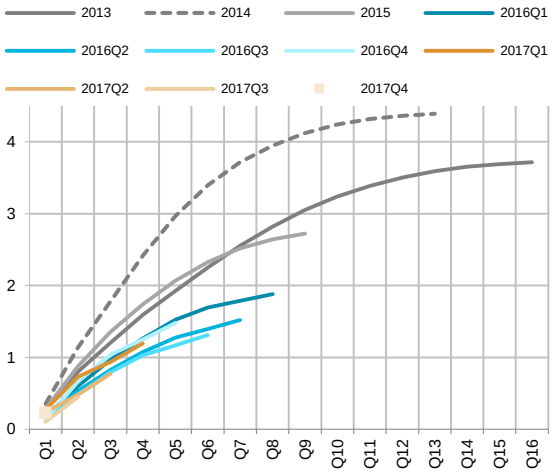
Chart IV.1.23: Credit Standards and the Economic Outlook (%, Net % Change)



Source: CBRT, TURKSTAT Latest Data: 04.18

Note: The standards shown are only for general-purpose loans, expectations are shown with dashed lines. The zero point showing the neutral level is shown in dashed lines, values below zero indicate tightening standards, values above zero indicate easing standards. Seasonally adjusted monthly labor force statistics are used to calculate the unemployment rate over 3-month periods which is then demeaned. Household financial stance data is rescaled to fit the RHA. The January-February averages for the unemployment series representing 2018Q1 and the latest household survey data from April representing 2018Q2 are shown with a marker.

Chart IV.1.24: General-Purpose Loan Vintage Curves (%)



Source: CBRT Latest Data: 03.18

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

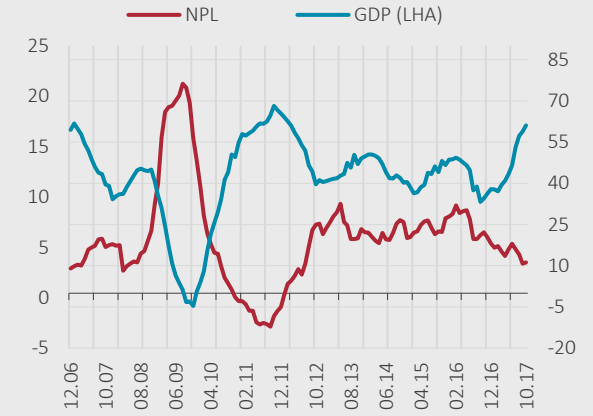
Box IV.1.I

Sectoral Concentration Risk in Banks' Credit Portfolios

Credit concentration risk is among factors such as FX lending risk, country risk and counterparty credit risks that affect banks' credit risks (Holub et al., 2015). The literature examines various forms of credit concentration such as sectoral, geographical and industrial concentration. Credit concentration can lead to vulnerabilities in the financial sector in the event of heightened macroeconomic or sector-driven volatilities, yet it can also positively affect banks' asset quality as it brings about specialization, thereby enabling monitoring and control of risks easily.[1]

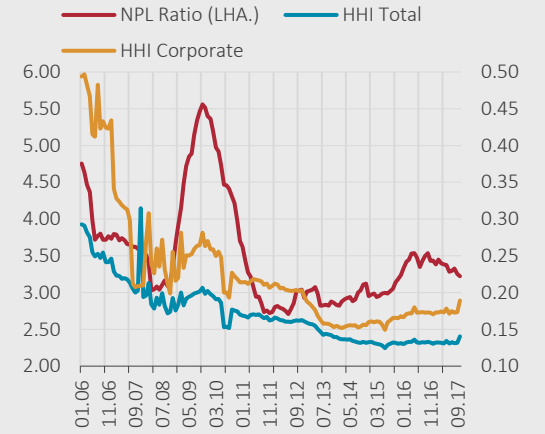
Given that the banking sector generally has a large share within the financial system in financing consumption and investment expenditures in emerging market economies, credit risk has a significant impact on economic activity and financial stability. The strong inverse relationship between the growth in NPL -a measure of credit risk- and GDP growth rate also corroborates this fact (Chart IV.1.I.1). Therefore, monitoring of sectoral concentration risk as a component of credit risk comes to the fore as a necessity. The box at hand investigates this question, examines how sectoral concentration of banks' credit portfolios - which may reflect investment motivations of corporates and banks' lending strategies as well as affecting GDP outcomes - has evolved over time with a breakdown by TL-FX lending.

Chart IV.1.I.1: NPL Amount and GDP (Annual Growth, %)



Source: BRSA Latest Data: 10.17

Chart IV.1.I.2: HHI Index and NPL Ratio (%)



Source: BRSA Latest Data: 10.17

Note: HHI Total has been calculated by including retail loans in the sectoral distribution of corporate loans.

Banks' credit portfolios may also change over the years depending on cyclical developments (Table IV.1.I.1). Within TL loans, there is a noteworthy concentration in retail loans. While retail loans had had the largest share in total loans before the global crisis and maintained a growth in shares during the crisis period due in particular to high growth rates posted in general purpose loans in line with the employment developments of that time, retail loan shares decreased substantially after this period. This decrease is mainly attributed to banks' revision of their credit portfolios for the corporate sector and to their gradually diminishing share in the automobile loan market in retail loans. Meanwhile, there was a noteworthy increase in corporate loans to wholesale, retail and construction sectors in the post-crisis period. The share in TL loans of these sectors with high cash flows and dynamic operating cycles evolved in tandem with their increasing

[1] (Acharya et al. ,2006) and (M. Kurul, 2011)

share in GDP.

The shares of energy and construction sectors, which have the largest share in FX corporate loans used mostly for long-term investments, increased after 2012. This increase is mainly attributed to the need for financing in high volumes and at long maturities for investments in certain sectors such as manufacturing industry and energy as well as for large scale construction and infrastructure projects undertaken in public private partnerships. On the other hand, textile and metal sectors that had large shares in FX loans before the global crisis decreased their shares in the post-crisis period whereas TL loans, used by these sectors to finance mainly their operational needs showed a more stable course.

Table IV.1.I.1: Sectoral Distribution of Loans (% Share)

TL Loan	Dec 06	Dec 08	Dec 10	Dec 12	Dec 16	Feb 18
Retail Loan	46.2	49.6	48.5	49.5	41.6	37.4
Wholesale & Retail Trade	7.3	8.0	9.2	10.0	13.2	14.6
Construction	2.8	3.9	4.6	5.1	6.8	7.5
Agriculture & Husbandry	3.5	4.9	5.8	5.5	6.5	6.2
Food & Beverage	2.0	2.2	2.8	2.9	2.8	2.9
Motor Vehicle	1.8	2.0	2.0	2.4	2.5	2.6
Transportation & Storage	2.7	2.5	2.1	2.4	2.6	2.4
Defense	0.3	0.8	0.8	0.4	0.8	2.4
Research	0.4	0.6	0.9	0.7	1.9	2.2
Financial Institutions	2.9	2.1	4.0	2.5	2.8	2.2
Textile	1.9	1.7	1.8	1.7	1.6	2.0
Main Metal	1.5	1.7	2.0	1.5	1.4	1.6
Machine	2.1	2.2	1.5	1.6	1.4	1.5
Energy	0.3	0.5	0.5	0.6	1.5	1.5
Tourism	0.7	0.7	0.9	0.9	1.2	1.3
Other Social Services	3.6	3.4	1.5	1.4	1.3	1.2
Rubber & Plastic Products	0.5	0.6	0.7	0.8	1.1	1.2

FX Loan	Dec 06	Dec 08	Dec 10	Dec 12	Dec 16	Feb 18
Energy	2.1	4.4	8.5	11.5	15.4	14.6
Construction	6.2	7.4	8.9	8.2	11.1	11.7
Wholesale & Retail Trade	8.5	9.5	8.6	8.9	9.7	10.2
Transportation & Storage	4.6	6.1	6.1	5.5	6.9	6.5
Tourism	4.9	4.6	4.8	5.4	6.4	6.1
Textile	8.5	5.7	5.9	6.9	5.6	6.0
Research	2.3	1.9	3.3	3.7	4.8	5.5
Main Metal	7.9	7.7	8.0	7.6	5.3	5.3
Financial Institutions	6.7	6.9	5.7	4.1	4.7	4.8
Real Estate Brokerage	0.5	1.2	1.2	2.0	3.4	4.2
Communication	2.3	2.8	2.8	2.2	2.9	2.4
Machine	3.2	3.0	2.9	2.7	2.0	2.4
Food & Beverage	3.6	3.5	4.3	3.9	2.9	2.3
Mining	1.3	1.7	2.2	2.9	2.6	2.3
Transportation Vehicles	3.8	4.0	2.7	2.3	2.0	1.8
Cement	2.9	2.3	1.9	2.4	1.7	1.7
Chemical Products	2.2	2.4	2.1	2.0	1.7	1.7

Source: BRSA

Latest Data: 02.18

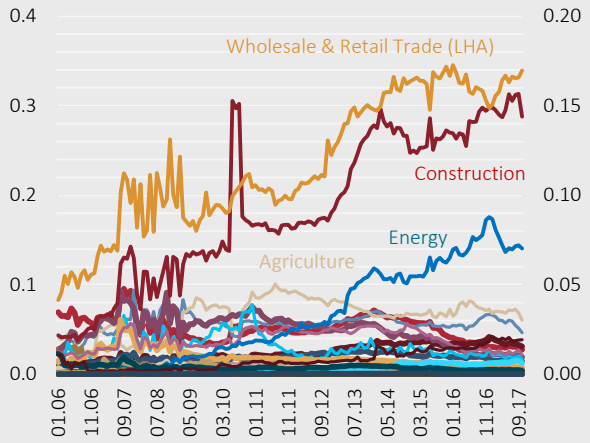
In order to measure the development of sectoral concentration over time, a weighted concentration index was calculated using bank-based monthly data covering the period from December 2006 to October 2017. The calculation was made by using the Hirschman-Herfindahl Index (HHI), which is a common practice in literature. This index is simply calculated as the sum of the square of sectors' shares in total loans. The HHI can take a value between 0 and 1, and the highest value 1 implies concentration in only one sector, whereas values near zero imply that bank loans are dispersed among all sectors more homogenously, in other words, there is no concentration in one specific sector (Bikker and Haaf, 2002).

The index results for Turkey are positive given that the sectoral concentration of loans is generally low except for the volatilities seen during the global crisis (Chart IV.1.I.2). The concentration index calculated for total loans fell below 0.3 in 2010 and below 0.2 in 2017 from its level of 0.5 in the pre-crisis period. Likewise, the index value for total corporate loans dropped below 0.15 in 2017 from its pre-crisis level of 0.3. This indicates that the increase in financial deepening widened the sectoral distribution of loans and sectoral discrepancies in access to credit diminished.

Additionally, the developments in the concentration index over time is congruent with the developments in the NPL ratio. The correlation calculated as 0.51 between the total index value and the NPL ratio reveals that sectoral concentration is an important factor that affects credit risk within the Turkish banking system and that credit risk improves during the periods in which the concentration diminishes.

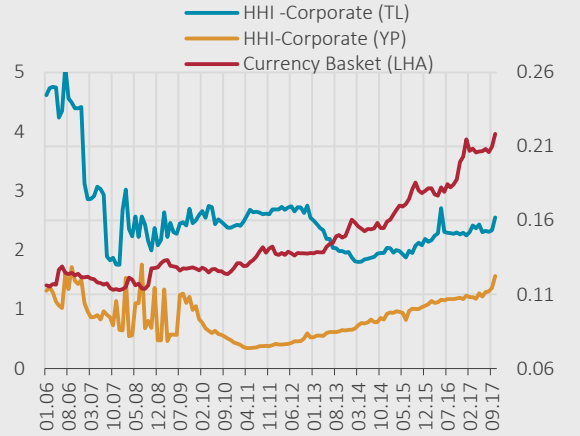
Although the general trend of the index value is downwards, it exhibited leaps during the global crisis. This situation shows that at times of heightened uncertainty, the slowdown in credit growth is not uniform across sectors, with credit tightening becoming more evident in some sectors. On the supply side, this situation can be interpreted as indicating that in times of crisis, banks do not tighten credit conditions equally for all sectors. According to the contribution of sectors to the concentration index for corporate loans, the most apparent concentration was seen in wholesale, retail, construction and energy sectors during the global crisis (Chart IV.1.I.3). The soar in the share of construction sector loans in 2010 is in line with the increase in housing loans in response to the interest rate developments of that period.

Chart IV.1.I.3: Contributions to Corporate Loan Concentration Index by Sectors



Source: BRSA Latest Data: 10.17

Chart IV.1.I.4. Corporate Loan Concentration Index by Currency (TL-FX) Breakdown



Source: BRSA Latest Data: 10.17

A currency-based analysis of concentration risk for corporate loans indicates that although concentration in FX loans has been lower than that in TL loans, it has been on the rise since 2013 (Chart IV.1.I.4). This is because FX loans have mostly been preferred by sectors seeking finance at long maturities and in high volumes in the recent period. Moreover, this concentration is also driven by the fact that the exchange rate volatility that hovered at high levels after 2013 compared to previous periods reduced FX loan utilization of sectors with relatively low level of natural hedge against the exchange rate risk. In terms of credit risk, the NPL ratio for FX loans is lower than that for TL loans, which is congruent with the low concentration level in FX loans as compared to TL loans.

In sum, the weighted concentration index calculated for the Turkish banking sector loans points to lower levels relative to previous years, which is evaluated positively in terms of concentration risk and credit risk. However, given the strong correlation between sectoral concentration risk and credit risk, the recent increase in the concentration risk in FX loan portfolios should be monitored with regard to credit risk and banks' asset quality. In this context, regulations on FX borrowing introduced by the CBRT such as the amendment to Decree No.32 and the Systemic Risk Data Monitoring System are anticipated to help reduce the likely implications of concentration-driven risks for banks' asset quality.

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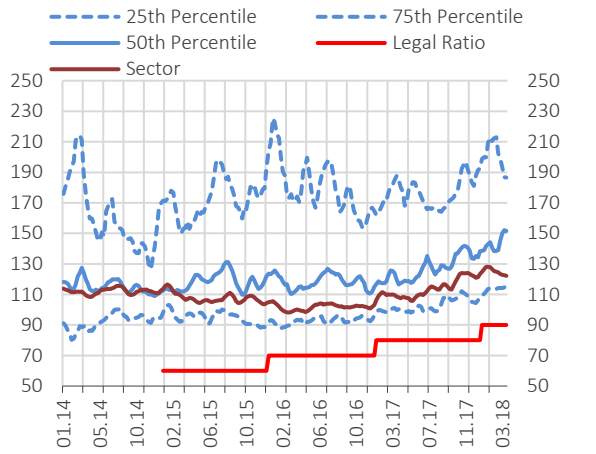
IV.2. Liquidity Risk

The Turkish banking sector's short-term liquidity position is on a safe path (Chart IV.2.1 and IV.2.2). As of 1 January 2018, the Liquidity Coverage Ratio (LCR), which shows the ability of banks to meet 30-day net cash outflows out of their high-quality liquid asset stocks, is implemented as 90 and 70 percent for total and FX, except for development and investment banks. The required reserves that the banks keep at the CBRT, gold and FX liquid assets held by the banks at the CBRT in the scope of the ROM as well as the securities portfolio -the weight of which may have declined over the years but still is an important element in banks' balance sheet- all curb the sector's liquidity risk and help banks to keep their short-term liquidity position on a safe path. ROM reserves, which have been increasing since the final quarter of 2016 underpinned by capital movements, continue to support the sector's liquidity position outlook. Accordingly, the Turkish banking sector's total and FX liquidity coverage ratios are both well above the legal limits[1].

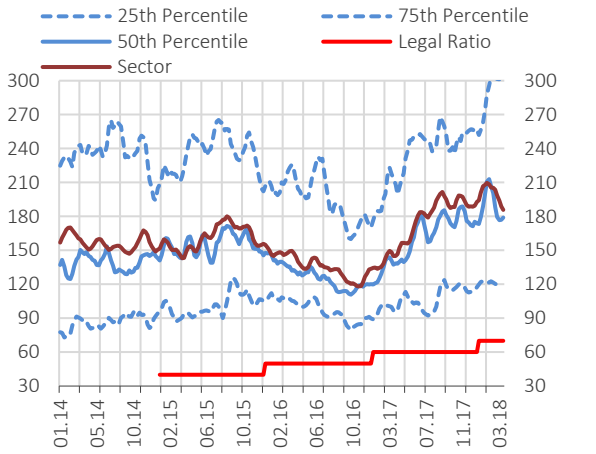
Chart IV.2.1: Quantiles of Banks by Total Liquidity Coverage Ratios (%, 4-Week MA)



Source: CBRT Latest Data: 30.03.18

Note: Development and investment banks are excluded. Based on non-consolidated reports. These quantiles represent the banks in the 25th, 50th and 75th percentiles, respectively, from the smallest to the largest.

Chart IV.2.2: Quantiles of Banks by FX Liquidity Coverage Ratios (%, 4-Week MA)



Source: CBRT Latest Data: 30.03.18

Note: Development and investment banks are excluded. Based on non-consolidated reports. These quantiles represent the banks in the 25th, 50th and 75th percentiles, respectively, from the smallest to the largest.

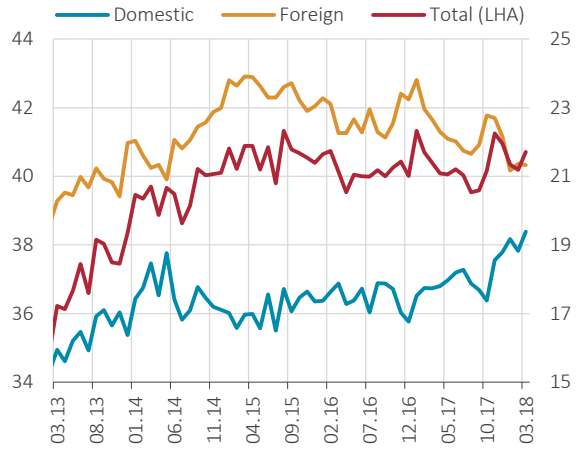
Another indicator of bank liquidity, the ratio of non-deposit funding sources to foreign funding sources, remained stable at 40 percent (Chart IV.2.3)[2]. Bank's key foreign funding sources are deposits, borrowing from banks, bond issues and funds from repo transactions. Since end-2014, the sector's total foreign funding sources have increased by 67 percent. The sector's deposits, which are accepted as a relatively stable funding source, have increased by a similar percentage indicating that the sector's funding structure has been trending on a path supportive of financial stability. In the last Report period, the share of foreign funding from domestic sources increased while the share of foreign funding from external sources decreased. This was mainly driven by the recent subordinated bonds and traditional domestic bond issues of banks as well as by the rise in the domestic borrowing item[3].

[1] Box IV.2.II explains the details of the LCR regulation.

[2] The fluctuations in the mentioned ratio mainly stem from the changes in the TL equivalent of funding obtained from abroad -constituting a significant part of non-deposit funding- due to exchange rate developments.

[3] The details of regulations regarding core liabilities are explained in detail in Box IV.2.II.

Chart IV.2.3: Ratio of Non-Deposit Funding to Foreign Funding Sources (%)



Source: CBRT Latest Data: 03.18

Note: Foreign funding sources include all liabilities except capital of banks.

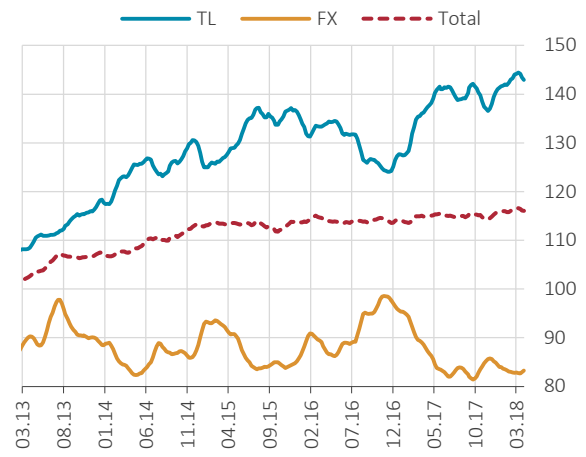
Banks' loan/ deposit ratio (L/D) is stable. The L/D ratio of the sector became approximately 115 percent by end-2014 and has hovered around this ratio since then (Chart IV.2.4)[4]. The incentives and macro prudential policies introduced in 2017 resulted in a strong growth in loans as well as in deposits, which did not lead to an additional rise in the sector's L/D ratio. Throughout 2017, a year marked by rapid credit growth, this development helped banks to keep a safe path in their long-term liquidity positions and supported financial stability. The L/D ratios for TL and FX diverged according to the preferences of firms, banks and depositors. KGF-guaranteed loans that are extended mostly in TL, exchange rate developments as well as increased FX risk management awareness led to a decline in firms' FX borrowing appetite and the credit composition of banks changed in favor of TL. In the same period, the increased FX deposit preferences of depositors resulted in the widening of the spread between L/D rates for TL and FX. By March 2018, the L/D for TL and FX was 143 and 84 percent, respectively.

According to the perspective drawn in the Base III accord, in order to measure the long-term liquidity position of banks more comprehensively and to limit the risks arising from the maturity difference between banks' assets and liabilities, the long-term stable funding sources except deposits contribute to banks' long-term liquidity positions[5]. Other non-deposit long-term funding sources are: equity, subordinated debts and borrowing items with maturities longer than one year, and the L/(D + other stable funding) was 84 percent for the total and 110 percent for TL, in March 2018 (Chart IV.2.5). Therefore, banks are able to meet credit demands without weakening funding quality and keep long-term liquidity positions in a safe zone by extending the maturity of foreign borrowing. The high TL L/D levels have recently become more important with respect to monitoring banks' liquidity risk. Banks' TL bond issues in Turkey and abroad are expected to support banks' TL liquidity outlook.

[4] Development and investment banks, which can grant loans but do not have the authority to collect deposits, have not been included in the L/D ratio calculation. When development and investment banks are included, the L/D ratio of the sector by March 2018 becomes 124 percent.

[5] The details of the Net Stable Funding Ratio (NSFR) developed by the Basel Committee were explained in detail in Financial Stability Report May 2017, in Box III.2.1 and in the blogpost "A New Era in Liquidity Management in Banking Sector: Net Stable Funding Ration" on the CBRT Blog.

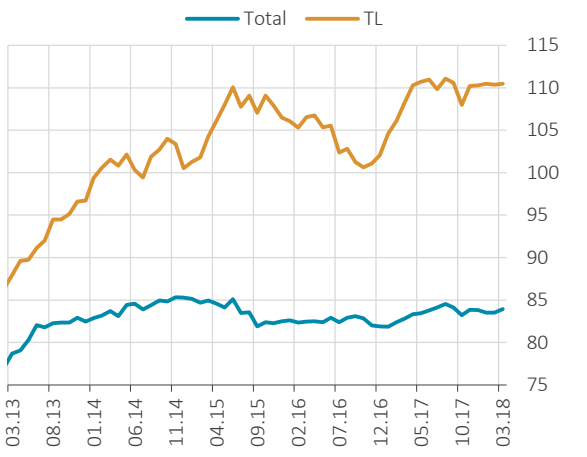
Chart IV.2.4: Loan/Deposit Ratio
(%, 4-Week MA)



Source: CBRT Latest Data: 30.03.18

Note: Development and investment banks are excluded.

Chart IV.2.5: Loan/ (Deposit+ Other Stable Sources) Ratio
(%)



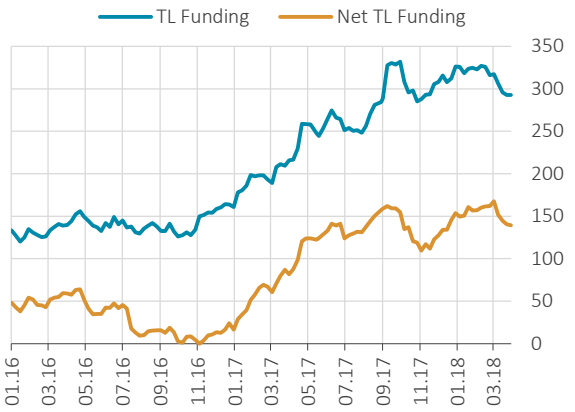
Source: CBRT Latest Data: 03.18

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

Developments in the credit composition in favor of TL as well as customers increased inclination for FX deposits led to a widening in the difference between TL L/D and FX L/D ratios indicating a TL funding need for banks. Meanwhile, the fact that households have been recently balancing exchange rate movements curbs TL liquidity need. As of end-2016, the difference between L/D TL and L/D FX increased by 27 percentage points and became 59 percentage points, and as a consequence of this rise, the banks started carrying out currency swap transactions with non-resident to meet their TL funding needs. The net TL funding that the sector generated by currency swaps with non-residents was about TL 140 billion in March 2018 (Chart IV.2.6). In this framework, the data on the amount, maturity, cost and counterparty became important to be able to monitor banks' liquidity risk. Banks generally use FX deposits in currency swap transactions and this limits risks from this channel. By March 2018, approximately 46 percent of these transactions had maturities shorter than three months and the number of banks and corporations acting like counterparties to these transactions was limited, therefore data pertaining to these transactions will continue to be important for monitoring banks' liquidity risk (Chart IV.2.7).

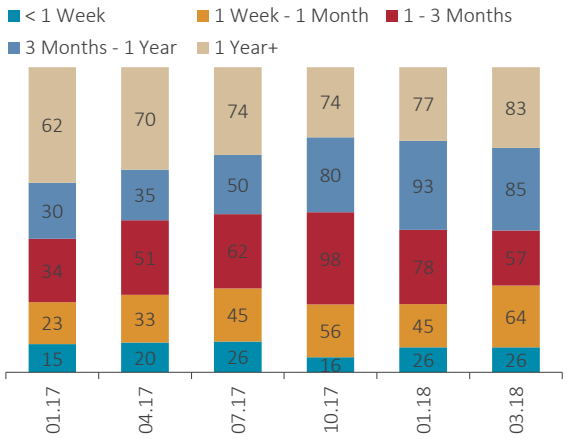
Recently, TL credit growth has come closer to historical averages, and thus, banks decreased -although marginally- their use of the currency swap market to meet their funding needs for credits, and maturities on this market have been extending. In the upcoming period, banks' demand for currency swap transactions will likely continue to be determined by the development of banks' assets and liabilities based on currency types, total funding costs and the international risk appetite.

Chart IV.2.6: Amounts of Currency Swap Transactions with Non-Residents (Billion TL)



Source: CBRT Latest Data: 30.03.18

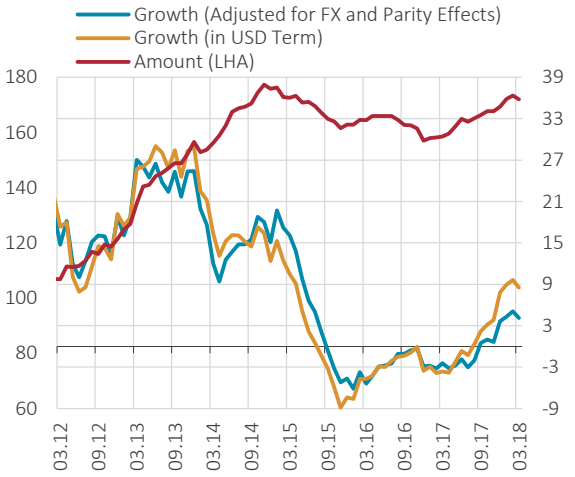
Chart IV.2.7: Maturity Brackets of TL Currency Swaps with Non-Residents (Stock, % Share)



Source: CBRT Latest Data: 30.03.18

The Turkish banking sector has a strong liquidity position and the foreign funding utilization of the sector is increasing (Chart IV.2.8). In the last Report period, the USD equivalent and the FX and parity effects adjusted equivalent of sources used from abroad increased by 3 percent and 1.2 percent, respectively. In the first three quarters of 2017, banks' funding needs increased due to credit growth exceeding the historical averages. Nevertheless, banks' foreign funding demand remained subdued as credit growth was driven by TL credits and credit growth was accompanied by deposit growth. As of the final quarter of 2017, TL credit growth came closer to the historical averages, a limited rise was observed in FC credit balance and banks' utilization of foreign funding increased.

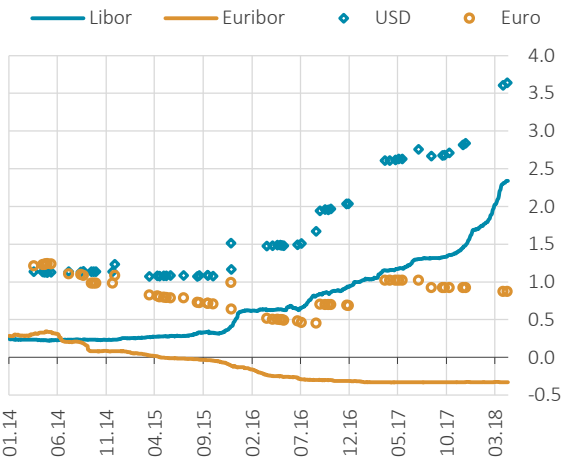
Chart IV.2.8: Amount and Growth Rate of Banks' External Liabilities (Annual % Change, Billion USD)



Source: CBRT, CDS Latest Data: 03.18

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

Chart IV.2.9: Cost of Syndicated Loans with a Maturity of 367 days (Transaction Based, %)



Source: KAP (Public Disclosure Platform) Latest Data: 11.04.18

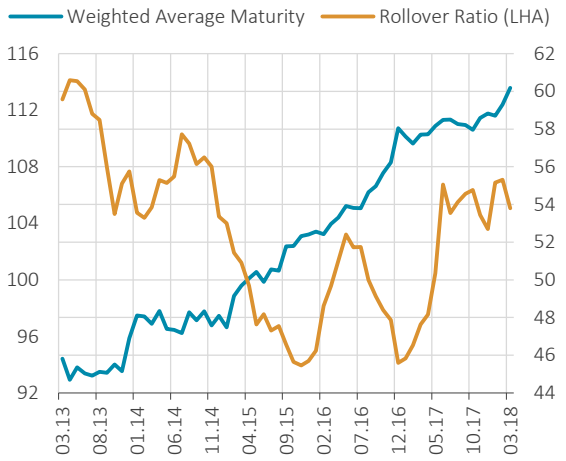
Note: Calculated for 10 large-scale banks.

The rise in banks' cost of external debt in USD continues because of the global interest rate developments. The gradual rise in Libor rates as a result of the Fed's monetary policy steps towards normalization, increases banks' external funding costs too. Even if the difference between the costs of USD-denominated and euro-denominated sources climbed in this period due to the developments in Libor and

Euribor rates, the share of debts in euros remained flat in total external debts as of the first half of 2016[6]. This indicates that the cost flexibility is low for USD-denominated sources that the banks are demanding or using, and that the rise in Libor rates will continue to directly affect 68 percent of costs of foreign debts. Meanwhile, there is some but limited decline in banks' foreign funding cost spreads, banks are able to continue borrowing amid increased foreign funding demand despite a rise in costs, banks can borrow with maturities up to two years in syndicated loans and roll-over ratios of syndicated loans are above 100 percent. All these factors listed indicate that there has been no remarkable change in financial corporations' credit supply (Chart IV.2.9).

Banks' external debt roll-over ratio was 104.2 percent in March 2018.The positive outlook in the maturity of external debts continues and is around 60 months (Chart IV.2.10). The positive outlook in the maturity of external debts has been a factor supporting financial stability with respect to managing risks that may arise from maturity mismatch as the maturity of the KGF-guaranteed credits, which were intensely used in 2017, were longer than maturities other commercial credits[7]. While the short-term external roll-over ratio is 100 percent, the long-term roll-over ratio has reached 130 percent (Chart IV.2.11). This shows that although banks continue to roll-over their short-term debts, the recent rise in external borrowing is mainly driven by medium and long-term borrowing.

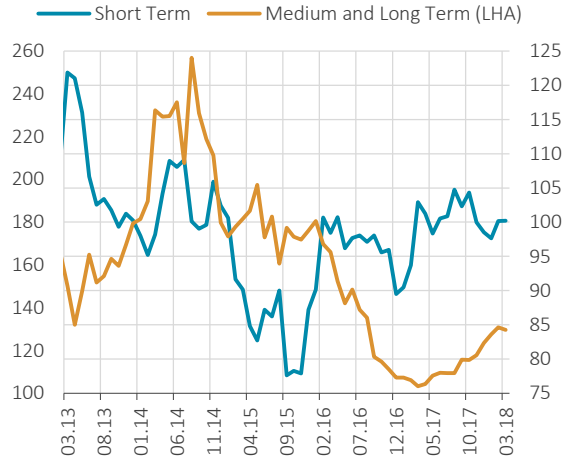
Chart IV.2.10: External Debt Roll-Over Ratio and its Average Maturity (%, Month)



Source: CBRT, CDS Latest Data: 03.18

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.

Chart IV.2.11: External Debt Roll-Over Ratio (%, Month)



Source: CBRT, CDS Latest Data: 03.18

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, medium and long term, respectively.

The banking sector has sufficient liquidity buffers against negative risk scenarios. The safe trend in banks' short and long-term liquidity positions, the positive outlook in external debt maturity composition and the diversity in the number of countries/ banks that Turkish banks borrow from all enhance Turkish banks' resilience against likely fluctuations in international markets[8]. Moreover, the liquid asset portfolio of the sector provides room for maneuver for banks to cover FX liquidity shocks even under the most

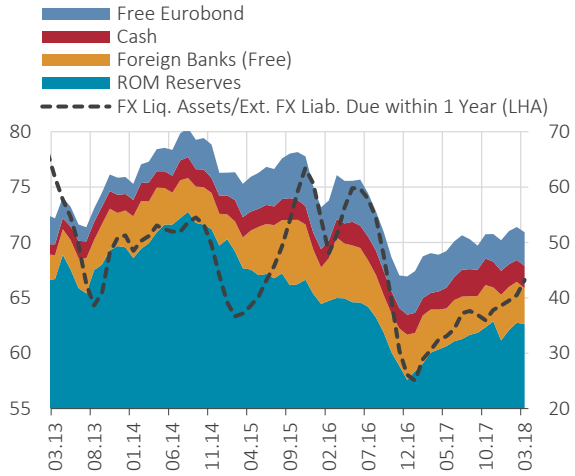
[6] 68 percent of banks' foreign debts are denominated in USD, 26 percent in euro and 4 percent in TL and 2 percent in other currencies.

[7] The average maturity of KGF-guaranteed loans is 40 months. In a Special Topic titled "Central Bank Policies and Maturity Management in the Banking Sector" in the Financial Stability Report of November 2017, it was stated that through its reserve requirement policies aiming at extending the maturity of non-core liabilities, the CBRT has supported financial stability by increasing the long-term external borrowing tendency of the banks, and thus enabled banks to offer longer-term loans to firms.

[8] The special topic titled "Global Liquidity and Regional Distribution of Cross-Border Bank Loans" in the Financial Stability Report issued in May 2017 analyzed the effects of diversification in the number of countries/banks those provide funds on the sensitivity of external debts to global liquidity conditions.

adverse scenarios within the one-year window. The liquid asset portfolios of banks are composed of cash, free accounts at foreign banks, free Eurobonds and ROM reserves, which are able to cover 67 percent of foreign liabilities which will be due in one year (Chart IV.2.12)[9]. The ROM reserves, which have been increasing since end-2016 with the contribution of capital movements, add to banks' liquid assets, and thus liquidity buffers. When the FX borrowing facilities allocated to the banks are included, the liquid assets of banks are strong enough to resist the most adverse shocks (Chart IV.2.13).

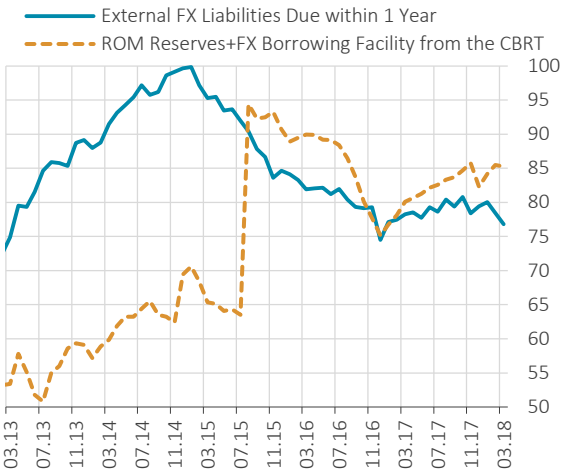
Chart IV.2.12: FX Liquid Assets and FX External Liabilities Due Within 1 Year (Billion USD, %)



Source: CBRT, CDS Latest Data: 03.18

Note: Selected FX Liquid Assets: Cash+ Foreign Banks (free) + free Eurobonds + 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.

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



Source: CBRT, CDS Latest Data: 03.18

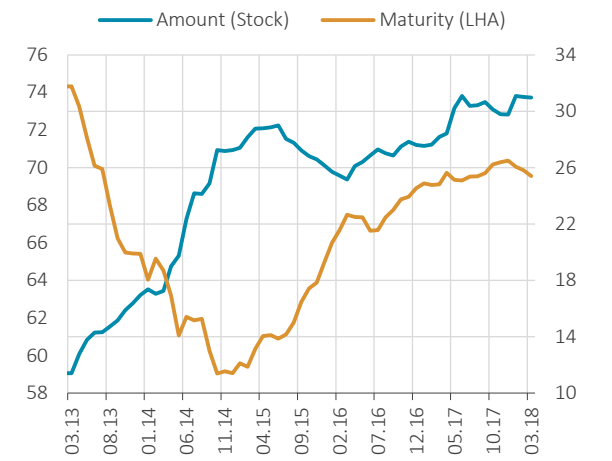
The increase that started in the first quarter of 2016 in bond issues that are relatively more sensitive to global liquidity developments continues, albeit with some loss of pace, thanks to the higher global risk appetite and advanced economy central bank' accommodative monetary policies. The sector's FX-denominated bond issues abroad have increased by 12 percent since the turn of 2017 and its maturity reached 69 months (Chart IV.2.14). The change in the credit composition favoring TL as of the end of 2016 coupled with depositors' preferences for FX deposits has pushed banks' TL funding demand and banks have issued TL and FX-denominated bonds abroad in this period. The ability of banks to borrow in TL from abroad in longer maturities reaffirms that supply-side conditions are favorable. Moreover, the rise in bond issues that are relatively move sensitive to global liquidity developments indicates that Turkish banks are able to access to external funding sources.

Banks' domestic bond issues, which started to increase as of the first quarter of 2017 due to their TL liquidity needs, have accelerated recently (Chart IV.2.15). Currently, the subordinated bonds issued by some banks contribute to extending maturities of domestic funding sources and diversification of sources[10].

[9] The amount of the banking sector's external debt due in one year is USD 76.8 billion and banks' cash, free accounts at foreign banks, free Eurobonds and ROM reserves are 4, 6.5, 61 and 35.2 billion, respectively.

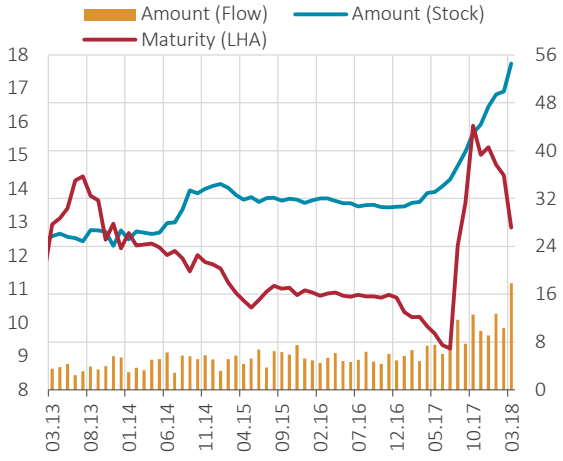
[10] The details of regulations regarding bond issuances are explained in Box IV.2.I.

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



Source: CDS Latest Data: 03.18

Chart IV.2.15: Domestic TL Bond Issues (Billion, Month)



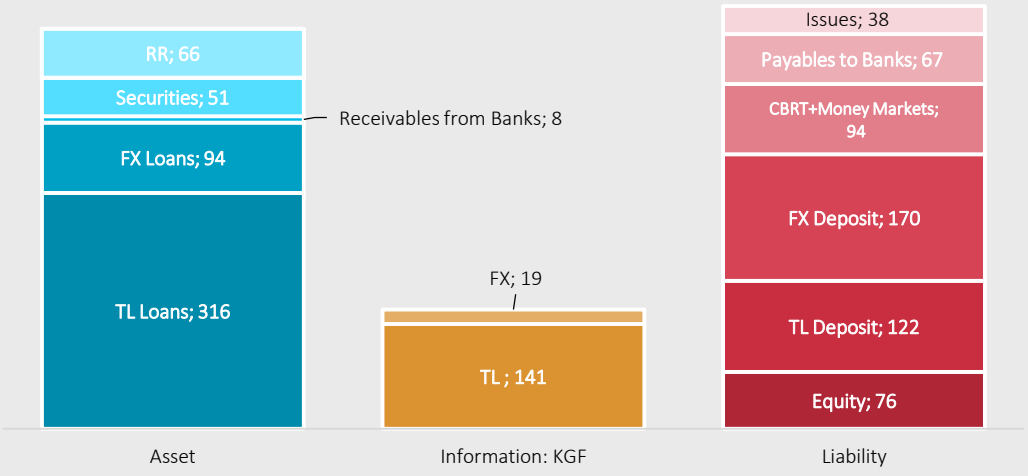
Source: CDS Latest Data: 03.18

Box IV.2.I

Security Issues by Banks

The year 2017 was marked by a strong credit growth due to the Credit Guarantee Fund (KGF) guaranteed lending. Loan growth was mostly funded by deposits that account for banks' major source of funding. Equity capital, boosted by profitability, also provided a significant contribution to core funding. Meanwhile, the increase in TL loans extended in the scope of the KGF guarantee led to a rise in the TL funding requirement of the banking system and banks covered part of their TL liquidity needs with alternative funding sources (Chart IV.2.I.1). In addition to syndicated and securitization loans as well as bilateral loans, bond issues became the primary sources of non-deposit funding.

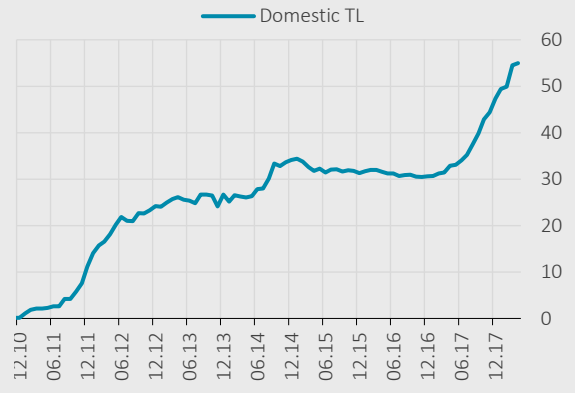
Chart IV.2.I.1. Changes in Leading Assets and Funding Items (December 2016-February 2018, Billion TL)



Source: BRSA

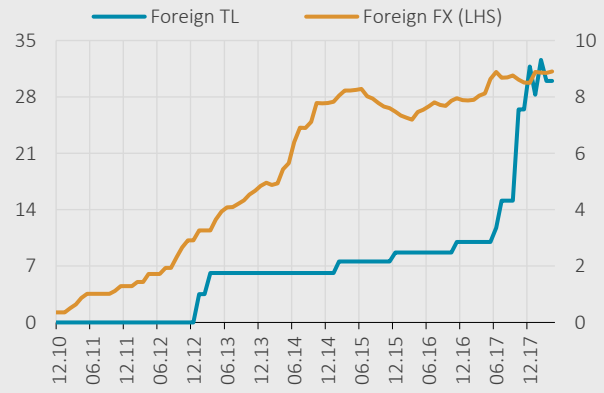
In 2017, banks made intensive use of the bond market. One noteworthy development in this period was that banks substantially increased their TL bond issues in particular. This trend also continued in the first four months of 2018. Domestic TL bond issues increased by approximately 24 billion TL and TL bond issues abroad increased by 5 billion TL (Chart IV.2.I.2 and IV.2.I.3).

Chart IV.2.I.2: Banks' Domestic Bond and Bill Issues (Billion TL)



Source: PDP Latest Data: 13.04.2018

Chart IV.2.I.3: Banks' Bond and Bill Issues Abroad (Billion TL, USD)

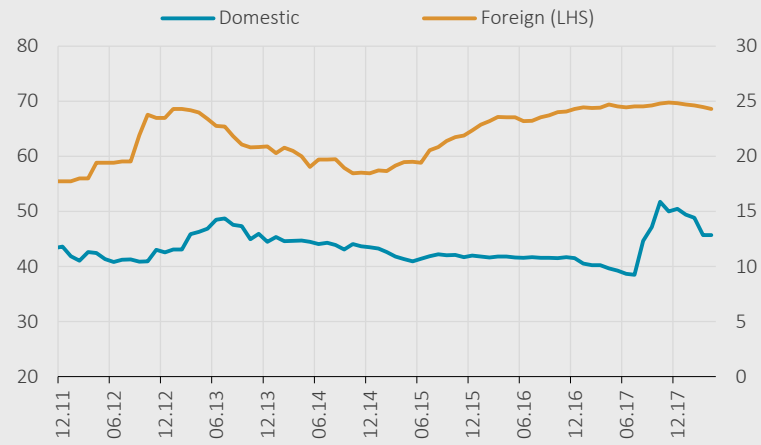


Source: PDP Latest Data: 13.04.2018

In TL denominated bond issues abroad, banks opted for mortgage-covered bond (MCB) issues through the private placement selling method. MCB issues are a relatively new instrument for banks[1]. In 2015, banks started to establish MCB programs and the first issue took place in the same year. In covered bond (CB) issues, the assets for collateral remain on the issuer bank's balance sheet. Due to their collateral structure, CBs provide a cost advantage for banks. Moreover, as these instruments have a lower credit risk, they are more attractive for investors and offer an advantage for banks with respect to diversity. For this reason, CBs are important instruments helping banks diversify their funding sources and borrow cost-effectively. The main reasons for banks to prefer CBs are: housing loans are collateralized, their non-performing loan ratio is less than 1 percent and the collateral for the loan is long-term as these loans are long-term. Moreover, the fact that collaterals (housing loans) are TL-denominated and MCBs are mostly TL-denominated eradicates exchange rate risk.

A noteworthy development regarding domestic bond issues is that banks issued TL-denominated subordinated bonds for the first time. These borrowings, which are long-term, provide an alternative investment instrument for domestic investors. This is also an important step for the deepening of the national capital market. Bond issues amounting to TL 3 billion reinforced the capital adequacy ratios of issuing banks by 30 to 145 points by acting as Tier 2 capital. Subordinated issuances that do not qualify for Basel III criteria are gradually excluded from the calculation of regulatory capital and there may be an increase in Basel III-compliant subordinated debt during the transition to Basel III minimum capital ratios that will last until 2019[2]. Rising capital adequacy ratios are also important with respect to supporting the lending capacity of banks.

Chart IV.2.I.4. Maturities of Bond Issues (Month)



Source: PDP

Latest Data: 13.04.2018

In tandem with the increase in bonds issued both domestically and abroad, maturities have been extended significantly. The maturity of bonds issued abroad has been extended by 12 months since end-2014 and reached 70 months. The maturity of domestic bonds increased with the

[1]Principles on MCB were first published in 2007. In 2014, amendments were made to the principles in the framework of the new Capital Markets Law, introducing the private placement selling method in addition to the methods of public offering and sale/selling to qualified investors. http://www.cmb.gov.tr/SiteApps/Teblig/File/495

[2] According to the Regulation on Banks' Equity, capital items issued before 2014 that do not meet the Basel III criteria are taken into account in regulatory capital with 20 percent deduction while increasing the deduction rate by 10 percent for each subsequent year after 2014. Accordingly, in 2018, 40 percent of the said subordinated debts are taken into account in the calculation of regulatory capital.

effect of subordinated TL-denominated bonds in 2017 (Chart IV.2.I.4). Long-term borrowing is expected to be a more important source of funding, once the Net Stable Funding Ratio which requires banks to maintain stable funding becomes a minimum standard[3]. In this context, it can be predicted that long-term bond issues will continue depending on the market conditions.

As a result, in 2017, banks expanded their deposit base on the one hand and used alternative sources of funding intensively on the other. Extension of maturities of TL funding resources with non-deposit instruments is considered as an element reinforcing banks' asset-liability maturity matching. Last year, when the TL loan-to-deposit ratio rose, long-term funding sources contributed positively to banks' funding composition. Domestic subordinated bond issues and TL-denominated bond issues abroad curbed the increase in the on-balance-sheet open position, while affecting bank balance sheets positively with respect to capital adequacy. In the upcoming period, continued diversification of funding sources will be important for contributing to both the financial deepening and the decline in the funding costs. However, as they provide cost advantage to investors, ensuring that these bonds are not close substitutes for deposits given their investor base should be taken into consideration in terms of deepening of capital markets.

[3] The Net Stable Funding Ratio is a liquidity ratio developed under Basel III. The rate aims to reduce the excessive dependence of banks on short-term wholesale funds by encouraging a long-term, deposit-based funding structure. For more information, please visit: https://tcmbblog.org/en/a-new-era-in-liquidity-management-in-banking-sector-net-stable-funding-ratio/

Box IV.2.II

Core Liabilities In the Context of Financial Regulations

As deposits, the main source of funding for banks, have a more stable structure than other liabilities with the same maturity, they are acknowledged as a component of core liabilities along with equity capital[1]. In times when the credit growth outpaces deposit growth, banks tend to use non-core liabilities, notably the external borrowings. In times of financial distress, significant fluctuations are observed in roll-over ratios of non-core liabilities such as external funds, repo and security issues. Compared to deposits, such liabilities are riskier for banks in terms of both the liquidity management and cost. Meanwhile, deposits are important as they remain the longest-lasting source of funding on banks' balance sheets despite their short maturities, since they are renewed pretty regularly as a reliable investment instrument by households and increase in line with the income level. This box explores the regulations that require use of a certain level of core liabilities as well as the recent policy steps that encourage these liabilities.

Basel III Capital Regulations and Core Capital

Of the three structural pillars of the Basel III regulations that were revised in the aftermath of the global financial crisis to reinforce the strength and shock resilience capacity of banks, one is minimum capital requirements[2]. In the context of capital framework, the Basel Committee on Banking Supervision (BCBS) reforms aim to raise the quantity and quality of the regulatory capital base and enhance the risk coverage. Common equity Tier 1 capital ratio, calculated by dividing the common equity Tier 1 capital, which includes paid-in capital and is accepted as the highest quality capital, by risk-weighted assets, was set at a 3.5 percent minimum in 2013, applied as 4 percent in 2014 and determined as 4.5 percent from 2015, according to the calendar for the Basel III transition period.

The Capital Conservation Buffer (CCB), another Basel III reform, aims to avert any deficiency in equity capital due to prospective losses that may stem from deterioration in economic and financial indicators compared to the levels stipulated in regulations regarding capital adequacy. The transition period for the CCB ratio that provides a base for calculation of the additional common equity capital that is required to be maintained as a CCB started in 2016, with the ratio set at 0.625 percent of risk-weighted assets. The buffer continued at 1.25 percent in 2017 and at 1.875 percent in 2018 and has been set at 2.5 percent to be effective as of 2019.

The second additional capital buffer introduced by Basel III is the countercyclical capital buffer, which is required to be set within a range from 0 percent to 2.5 percent according to country conditions and preferences. The countercyclical capital buffer aims to avoid any deficiency in equity capital compared to levels stipulated in regulations regarding capital adequacy in the event of a build-up of system-wide risk in the financial sector due to credit expansion and should be calculated on a bank basis considering the geographic breakdown of the banks' credit portfolios.

Due to the fact that the CCB and countercyclical capital buffer should consist of additional common equity Tier 1 capital according to the above-mentioned Basel III additional capital regulations, it is possible to assert that use of core, high quality capital is encouraged.

With the Regulatory Consistency Assessment Programme (RCAP) and the aim of timely transposition of Basel standards into domestic regulations along with their consistent and holistic

[1] Deposits as mentioned in this box include participation funds and exclude bank deposits.

[2] Effective supervision and market discipline are the other two structural pillars of the Basel III regulations.

implementation, the target is to contribute to global financial stability through harmonization of standards at an international level. Within the scope of this programme, in which each country is assessed individually, the BCBS completed Turkey's assessment on 15 March 2016, qualifying the country's relevant legislation fully compliant with Basel capital regulations. The Banking Regulation and Supervision Agency (BRSA)'s "Regulation on Measurement and Assessment of Capital Adequacy of Banks" was published in Official Gazette No.29511 dated 23 October 2015 and "Regulation on Capital Conservation and Countercyclical Capital Buffers" in Official Gazette No.28812 dated 5 November 2013.

Leverage Ratio and Tier 1 Capital

Considering that highly leveraged transactions are an important feature of previous financial crises, the BCBS, in the context of Basel III regulations, designed a leverage ratio requirement that is supportive of risk-based capital adequacy to ensure that banks keep adequate level of capital against risks to which they may be exposed due to such leverage. As the leverage ratio is not based on risk, its calculation is simpler than that of capital adequacy ratios. Having a high level of common equity Tier 1 capital for a bank is a supportive factor for its leverage ratio that is calculated by dividing the Tier 1 capital by the total (on-balance sheet and off-balance sheet) risk exposure amount[3]. The leverage ratio proposed at 3 percent minimum by the BCBS became effective on 1 January 2018.

The leverage ratio requirement for the banks in Turkey was aligned with the BCBS's proposal through the "Regulation on Measurement and Evaluation of Leverage Ratio of Banks" published in Official Gazette No.28812 dated 5 November 2013[4]. In addition, as per the Central Bank's "Communique on Reserve Requirements" No. 2013/15, banks' leverage ratio-based reserve requirement liability is determined on a quarterly basis according to the simple arithmetic mean of monthly leverage ratios. Accordingly, banks with a leverage ratio

-below 3 percent should maintain an additional 2 points,
-of 3 to 4 percent should maintain an additional 1.5 points, and
-of 4 to 5 percent should maintain an additional 1 point

required reserves for a duration of 6 reserve requirement periods.

Non-Bank Financial Sector and Leverage Ratio

Financial leasing, factoring and financing companies that account for the majority of shadow banking in Turkey are governed by the "Law on Financial Leasing, Factoring and Financing Companies". According to the Regulation drawing up their establishment and operational principles, these companies are required to achieve and maintain an equity capital/total assets ratio (standard ratio) of 3 percent at minimum. The Regulation stipulates that any company that fails to achieve the standard ratio cannot enter into a new financial leasing, factoring or financing contract until the requirement is fulfilled. Within this framework, the standard ratio is intended to prevent excessive leverage in these companies and implemented as an obligation similar to the leverage ratio that banks are obliged to meet.

Importance of Core Liabilities in Terms of Liquidity Risk

It is noteworthy that the core liabilities, which have a significance as a stable source of funding, is taken into account in calculation of Net Stable Funding Ratio (NSFR) developed by the BCBS to measure long-term liquidity risk. While the NSFR limits over-reliance on short-term wholesale funding, it also encourages better assessment of funding risk across all on- and off-balance sheet

[3] Total risk exposure amount consists of the sum of risk exposures of on-balance sheet assets, off-balance sheet transactions, derivative financial instruments and credit derivatives, and securities or commodity financing transactions.
[4] The “Draft Regulation on Measurement of Leverage Ratio of Banks" has been published for public consultation on the BRSA web site.

items, as well as stable funding. In this context, while calculating the NSFR -the ratio of the available stable funding amount to the required stable funding amount- mainly the regulatory capital, liabilities with maturity of more than one year and deposits of retail and SME customers are considered as the sources of stable funding. Therefore, it is possible to assert that deposits of retail and SME customers are accepted as core liabilities in the NSFR framework.

Besides, the Liquidity Coverage Ratio (LCR) devised by the BCBS to enhance resilience of banks' to short-term liquidity shocks ensures that banks have sufficient unencumbered, high-quality liquid assets to offset the net cash outflows they could encounter under an acute stress scenario over a 30-day-horizon[5]. In calculating the LCR, the "stable deposits" that can be qualified as core liability are generally subject to a lower run-off rate compared to other liabilities.

The LCR practice in Turkey has been regulated by the BRSA's "Regulation on Calculation of the Liquidity Coverage Ratio of Banks" published in Official Gazette No.28948 dated 21 March 2014 and has been evolving in tandem with the Basel III transition process.

Reserve Requirement Implementation and Core Liabilities

Reserve requirements, one of the monetary policy instruments, have been in use as a macroprudential policy tool in Turkey since end-2010 to support financial stability and reduce macro financial risks. Reserve requirements applied at different ratios for TL and FX liabilities to restrain exchange rate risk acquired two new dimensions based on maturity and type of liability within the context of the new monetary policy mix launched at end-2010. Accordingly, reserve requirement ratios have ben differentiated for deposits and other liabilities since early 2011 and lower reserve requirement ratios are applied to deposits corresponding to core liabilities than other (non-core) liabilities in general[6]. Since this period, reserve requirement ratios have been revised at various intervals to encourage the use of core liabilities and extension of maturities of core/non-core liabilities. The ratios applicable since 30 December 2016 are given in Table IV.2.II.1:

Table IV.2.II.1: Reserve Requirement Ratios (%)

	TL	FX	
Deposits			
Up to 3-month maturity	10.5	12	
Up to 6-month maturity	7.5		
Up to 1-year maturity	5.5		
Maturity longer than 1 year	4	8	
Borrower Funds*	10.5	12	
Other Liabilities**		Stock	Flow
Up to 1-year maturity	10.5	19	24
Up to 2-year maturity	7	13	19
Up to 3-year maturity		7	14
Up to 5-year maturity	4	6	6
Maturity longer than 5 years		5	4

Source: CBRT

* Borrower funds of development and investment banks are subject to reserve requirements and ratios applied to demand deposits/participation funds are also applicable to these liabilities.

** Since deposits and participation funds obtained from banks abroad are considered non-core liability, reserve requirement ratios applicable to liabilities other than deposits/participation funds are applicable to these liabilities.

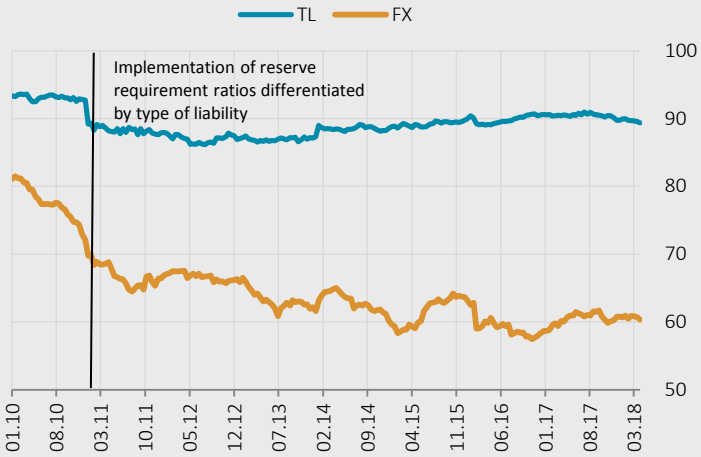
[5] Details of the LCR regulation are given in Box 3.

[6] As TL and FX reserve requirement ratios are differentiated by maturity as well as by type of liability, ratios applied to long-term non-core liabilities can be lower than those applied to short-term core liabilities to encourage longer maturities.

As "banks' deposits", included in the scope of banks' liabilities to other financial corporations are more likely to be withdrawn during stress periods, they are distinguished from customer deposits. Therefore, these funds are not included in the scope of core liabilities and since February 2016, deposits obtained from banks abroad have been subject to the reserve requirement ratios applicable to non-deposit liabilities[7].

In early 2011, when reserve requirement ratios applicable to deposits (core) and other (non-core) liabilities were differentiated, the decline in the share of deposits in banks' TL liabilities ended and the share was stabilized at 90 percent. Although the share of deposits in FX liabilities subject to reserve requirements has showed fluctuations, it has been on a flat course at around 60 percent since March 2017 (Chart IV.2.II.1). Core liabilities preserve their weight in the funding composition of banks, which is evaluated positively in terms of the liquidity risk.

Chart IV.2.II.1: Banks' Deposits Subject to Reserve Requirements / Total Liabilities (% Share)



Source: CBRT Latest Data: 06.04.2018

Incentive for Capital Companies: Financing with Equity

A financing incentive through tax cuts on cash capital increases was provided to capital companies by incorporating a subparagraph into Paragraph 1 of Article 10 of the Corporate Tax Law that governs deductions made on the corporation's income in calculation of the tax base, by Article 8 of the Law No.6637 on Amendment to Certain Laws and Decree Laws published in Official Gazette No.29319 dated 7 April 2015. The subparagraph reads as follows:

"Concerning capital companies excluding institutions operating in finance, banking and insurance sectors, and state-owned enterprises, 50 percent of the amounts calculated until the end of the relevant accounting period over the cash capital increases on companies' paid-in or issued capital recorded in the trade register in the respective accounting period or over the cash compensated portion of the paid-in capital of newly-established capital companies can be deducted from the profits by taking into account the most recent CBRT announcement on "weighted annual average interest rate applied to TL-denominated commercial loans extended by banks" regarding the year for which the deduction is applied."

Thus, use of equity (core liability) was encouraged for capital companies outside of the financial system, to be effective as of 1 July 2015.

[7] Liabilities of banks to domestic banks are out of the scope of the reserve requirement practice.

Conclusion

To conclude, core liabilities, being a more stable source of finance compared to wholesale funding, become more of an issue in terms of achieving and sustaining banks' resilience to liquidity risk. In this framework, Basel III reforms paved the way for implementation of the regulations requiring and encouraging use of core liabilities by banks. In addition to these regulations, further arrangements were made in Turkey to incentivize core liabilities for both banks and non-bank financial corporations and capital companies operating in the corporate sector, thereby enhancing stable funding.

Box IV.2.III

Basel Liquidity Coverage Ratio Standards and Key Points of Liquidity Coverage Ratio Arrangements in Turkey

The Basel Committee issued the first documents regarding liquidity coverage ratios (LCR) in 2010, aiming at controlling banks' short-term liquidity risks. The texts were revised in January 2013 after various revision processes. The starting date for LCR arrangements was set as 01 January 2015.

In Turkey, the Regulation on Calculation of the Liquidity Coverage Ratio of Banks was promulgated in the Official Gazette of 21 March 2014 and most of the arrangements introduced by the Regulation took effect as of 01 January 2014. The Regulation sets out the procedures and principles governing how banks keep adequate liquidity to cover their short-term liabilities.

The Regulation stipulates that two LCRs be calculated: total LCR and FX LCR. The total LCR is the ratio of Turkish lira and FX cash outflows covered by the total Turkish lira and FX liquid assets. Similarly, FX LCR is the ratio of foreign currency cash outflows covered by FX liquid assets.

Besides the total and FX LCR distinction, there is another distinction between consolidated and unconsolidated LCR. The unconsolidated total LCR and unconsolidated FX LCR are calculated by taking the simple weekly arithmetic mean of the daily LCRs for the total of TL and FX and LCR for FX, respectively. Similarly, consolidated total LCR and consolidated FX LCR are calculated by taking the simple monthly arithmetic mean of the daily LCRs for the total of TL and FX and LCR for FX, respectively.

Following the Basel criteria, in Turkey, the unconsolidated and consolidated total LCR may not be lower than 100 percent and unconsolidated and consolidated FX LCR may not be lower than 80 percent, although a gradually increasing transition period was prescribed until 01 January 2019. Accordingly, the minimum ratios for total LCR and FX LCR were set at 60 percent and 40 percent, respectively, on 01 January 2015, the date that the Regulation took effect, and it was stipulated that these ratios would each increase by 10 percent each year to reach 100 percent and 80 percent by 2019.

As per Paragraph 5 of Article 4 of the Regulation, development and investment banks are not subject to LCR limits as they have different business models, but their liquidity positions are monitored as per the provisions of the old Regulation on Measurement and Evaluation of Liquidity Adequacy of Banks.

The LCR is calculated by dividing high-quality liquid asset stock by net cash outflows.

$$Liquidity\ Coverage\ Ratio = \frac{High - quality\ Liquid\ Assets}{Net\ cash\ Outflows}$$

The high quality assets are divided into two types as first quality liquid assets and second quality liquid assets. For an asset to be qualified as a first quality liquid asset, it should be easily valuated, its trading margin shall be low, it shall have a high transaction volume and its market shall be broad and deep. The first quality and second quality distinction is mainly based on liquidity power and first quality liquid assets have a more liquid structure.

Table IV.2.III.1: Classification of High-Quality Liquid Assets

	HIGH QUALITY LIQUID ASSETS
A	First Quality Liquid Assets
B	Second Quality Liquid Assets
B1	2A Quality Liquid Assets
B2	2B Quality Liquid Assets

Source: LCR Regulation

The net cash outflows is the denominator in the LCR calculation and is described as the portion of net cash outflows exceeding the total cash inflows; 75 percent of cash inflows exceeding cash outflows is not taken into account. Cash outflows are calculated by multiplying probable cash outflows expected to take place from on-balance sheet and off-balance sheet liabilities within 30 days by run-off rates. There are four types of debts in cash outflows: covered debts, uncovered debts, structured debts and off-balance sheet debts. In cash inflows, the off-balance sheet and on-balance sheet items are multiplied by the related ratios run-off rates. These assets have been broken down into three types: covered assets, uncovered assets and other assets. In addition, collateral swap transactions generating cash inflows and outflows are included in net cash outflow calculations.

Table IV.2.III.2: Classification of Cash Outflows

	CASH OUTFLOWS
I.	Uncovered Liabilities-
II.	Covered Liabilities
III.	Liabilities out of Structured Financial Instruments
IV.	Off-Balance Sheet Debts
	CASH INFLOWS
I.	Covered Liabilities
II.	Uncovered Liabilities
III	Other Cash Inflows

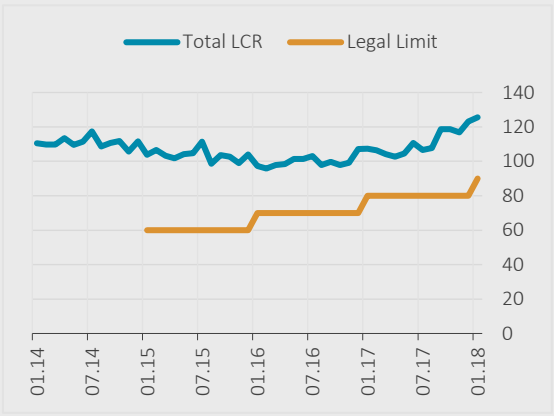
Source: LCR Regulation

While calculating high-quality liquid assets and net cash outflows, the haircuts and cut-off rates that these values will be multiplied by shall be taken into account. The haircut is 0 percent for first quality highly liquid assets, and higher for second quality liquid assets. Similarly, on the cash outflows side, the ratios are higher for higher probability outflows. Thus, the LCR is affected positively when the bank acquires highly liquid assets and negatively when the bank carries out a transaction with a high probability of cash outflow.

The case when the total and FX LCRs remain below the minimum levels prescribed is defined as a "mismatch" and in case of such a mismatch, the bank is required to report this mismatch along with its reasons and the remedial measures to be taken to the BRSA. Any mismatch in unconsolidated ratios shall be remedied within two weeks and there shall not be mismatches more than 6 times in a calendar year. On the consolidated side, there shouldn't be mismatches consecutively or more than two mismatches in a calendar year.

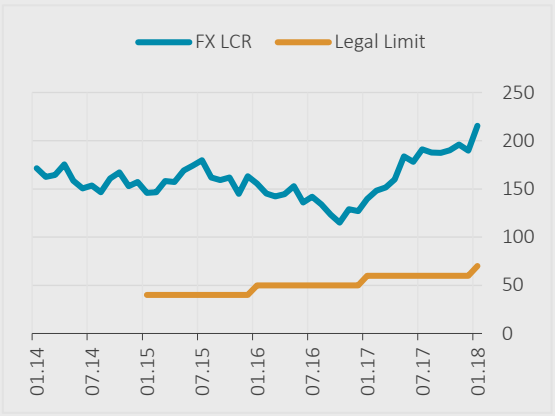
Experiences show that liquidity risk plays an important role in placing banks under stress or in the emergence of systemic risk. In Turkey, banks that experienced stress were those that had poor liquidity management records. The LCRs, implemented in tandem with the Basel arrangements, compel banks to maintain adequate short-term liquid assets. The Turkish banking sector's total and FX liquidity coverage ratios are both well above the legal limits.

Chart IV.2.III.1: Total LCR and Legal Limit (%)



Source: CBRT Latest Data: 01. 2018

Chart IV.2.III.2: FX LCR and Legal Limit (%)



Source: CBRT Latest Data: 01. 2018

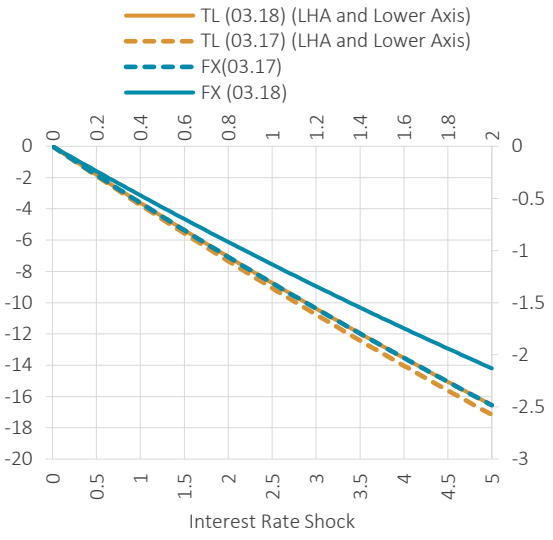
IV.3 Interest Rate and Exchange Rate Risk

Compared to the repricing period, the average maturity of assets and liabilities sensitive to TL interest rates remained flat at around 20 months and 3 months, respectively. While the average maturity of FX interest rate-sensitive liabilities remained at 12 months, that of assets contracted to 21 months. This development can be mainly attributed to the relatively shorter maturity composition of financial derivatives.

The sector's TL-denominated on and off- balance sheet interest rate sensitive positions have been exposed to a positive interest rate shock of 5 percent while FX-denominated on and off-balance sheet interest rate sensitive positions have been exposed to 2 percent, and the ratio of the probable loss to equity securities has been calculated by employing the economic value approach. A 5 percent positive interest rate shock exposure on TL-denominated on and off-balance sheet interest rate-sensitive positions leads to a probable loss of approximately 17 percent of capital. Meanwhile, a 2 percent positive interest rate shock exposure on FX-denominated on and off-balance sheet interest rate-sensitive positions leads to a probable loss of approximately 2 percent of capital. Compared to the same period of last year, while there has been no significant change in the probable loss stemming from positive interest rate shock on TL position/ capital ratio, there has not been a significant decline in the probable loss stemming from a positive interest rate shock on FX position/ capital ratio (Chart IV.3.1).

Fixed interest rate securities at fair value through other comprehensive income may influence capital according to the change in interest rates. This impact has been calculated by imposing an interest rate hike of up to 5 percent to TL -denominated securities and up 2 percent to FX-denominated securities. The probable loss/capital ratio of TL and FX securities, consistent with the previous report period, was estimated to be up to 3 percent and 2 percent, respectively (Chart IV.3.2).

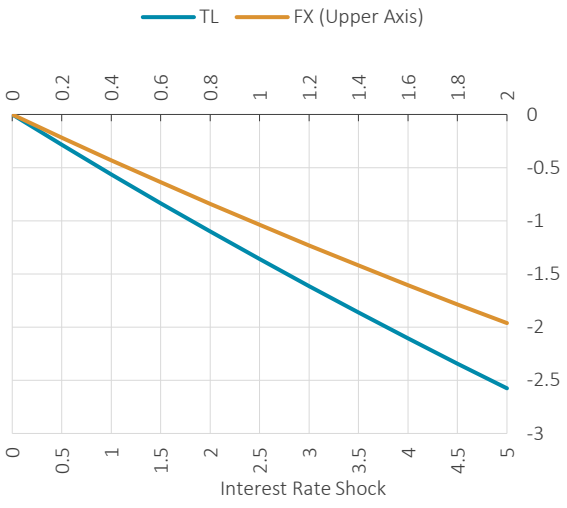
Chart IV.3.1: Interest Rate Risk Via Repricing Channel Measured with Economic Value Approach(%)



Source: CBRT, Authors' estimations. Latest Data: 03.18

Note: In the economic value approach, the change in the current value of interest rate-sensitive assets and liabilities is taken into account in the face of a change in interest rates.

Chart IV.3.2: Interest Rate Risk of Fixed Interest Rate Securities at Fair Value through other Comprehensive Income (%)



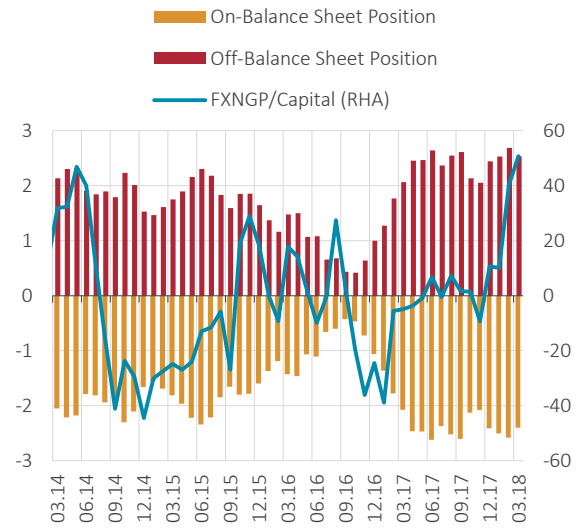
Source: CBRT, Bloomberg, Authors' estimations. Latest Data:03.18

Note: Since January 2018, when the TFRS 9 standards were put into effect, the Securities Available for Sale (Net) item on bank balance sheets was renamed "Fixed interest rate securities at fair value through other comprehensive income".

It is observed that the banking sector acts prudently while using off-balance sheet FX transactions in managing its FX risk that may stem from the limited on-balance sheet open positions. Accordingly, the sector's FX net general position / capital ratio was recorded at 3 percent, significantly lower than the two-way legal limit of 20 percent (Chart IV.3.3).

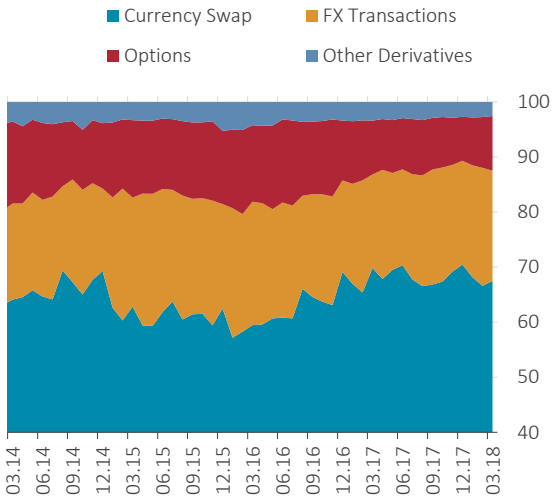
An analysis of the breakdown of off-balance sheet FX transactions that are actively used in FX risk management shows that currency swap operations continue to be the outstanding type. This composition is consistent with the previous report period (Chart IV.3.4).

Chart IV.3.3: Banking Sector's FX Open Position
(Billion USD, %)



Liabilities: CBRT. Latest Data:03.18

Chart IV.3.4: Shares of Gross Positions of Off-Balance Sheet FX Transactions (%)

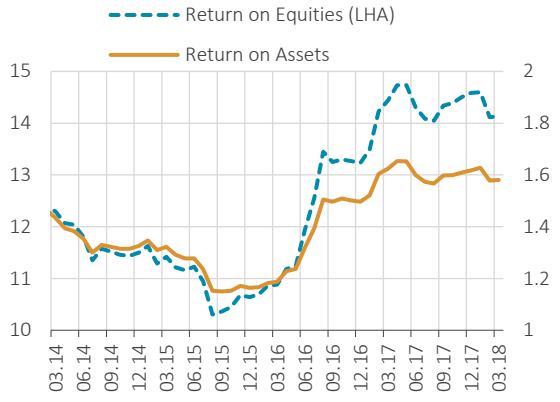


Source: CBRT. Latest Data: 03.18

IV.4 Profitability and Capital Adequacy

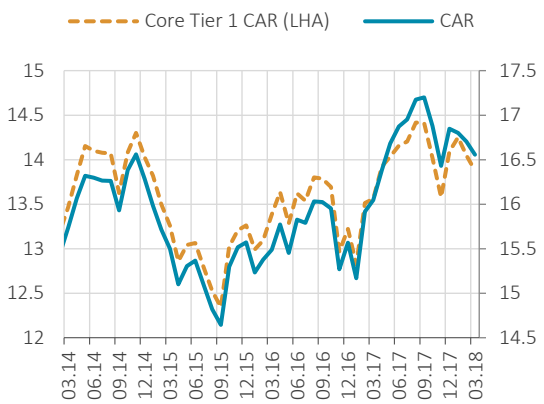
Profitability indicators of the banking sector, which had been increasing since the final quarter of 2015, remained strong in this Report period as well (Chart IV.4.1). The rise in capital market transaction losses and the limited rise in deposit interest expenses had a balancing impact on the flat course observed in capital and asset profitability ratios. Capital adequacy ratios, which displayed a limited decline in the final quarter of 2017 owing to the temporary rise in credit risk growth, rebalanced as of the end of 2017 (Chart IV.4.2).

Chart IV.4.1: Return on Assets and Return on Equities (%)



Source: CBRT. Latest Data: 03.18

Chart IV.4.2: CAR and Core Tier 1 CAR (%)



Source: CBRT. Latest Data: 03.18

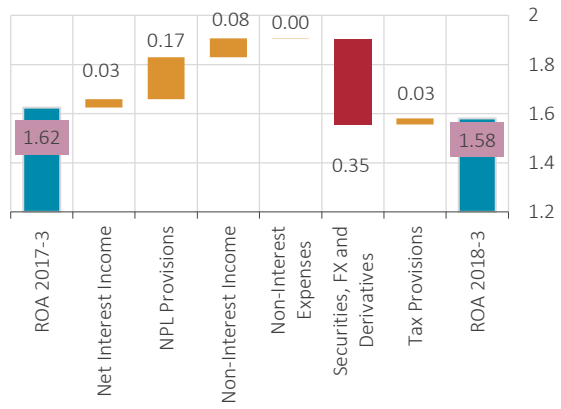
Note: Profitability ratios are calculated by dividing the annual cumulative profit by one year's average denominator.

IV.4.1 Profitability

An analysis of the factors affecting return on assets (ROA) by income statement items over the last year reveals that the increase in net interest income, the improvement in the asset quality, and the relative decrease in the non-interest expenses all positively affected profit, meanwhile, the decline in non-interest income, derivatives expenses stemming from the recent increase in the need for currency swaps and increased costs made a negative impact (Chart IV.4.3).

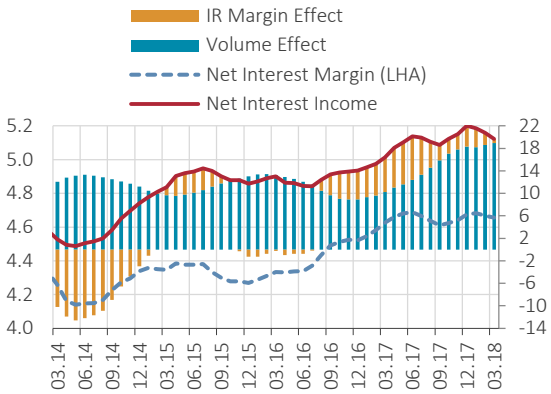
The impact of net interest income on the sector's asset profitability has been 3 percent over the last 12 months. Although utilization of KGF-guaranteed loans converged to the upper limit in the final quarter of 2017, curbing the impact from the volume channel, the flat trend in net interest margin continued. In January 2018, an additional KGF-guaranteed loan facility was introduced and borrowers were allowed to borrow for a second time throughout the year according to their payment performances and thus the positive outlook in net interest income continued (Chart IV.4.4).

Chart IV.4.3: Effects of Income Statement Items on ROA (%)



Source: CBRT. Latest Data: 03.18

Chart IV.4.4: Contribution to Changes in the Net Interest Income (12 Month-Cumulative, %, Billion TL)



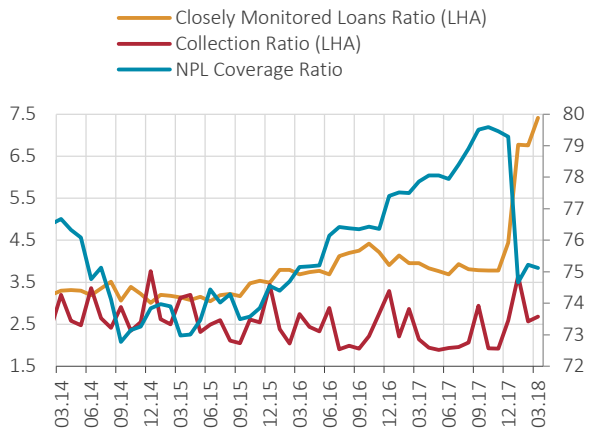
Source: CBRT. Latest Data: 03.18

Note: Red columns denote downward impact whereas yellow columns denote upward impact.

The decrease in NPL ratios on the back of rapid credit growth increased profitability by 17 basis points over the last one year. The rise in the closely-monitored loan ratios mainly stemmed from the fact that a large-volume loan was taken under the scope of close monitoring at the end of 2017 and that closely-monitored loans and other debts covered by the Turkish Financial Reporting Standards 9 (TFRS 9) were re-arranged. NPL collections remained strong. The remarkable drop in NPL coverage ratios in January 2018 was mainly driven by the decline in provisions in the aftermath of transition to TFRS 9 implementation (Chart IV.4.5).

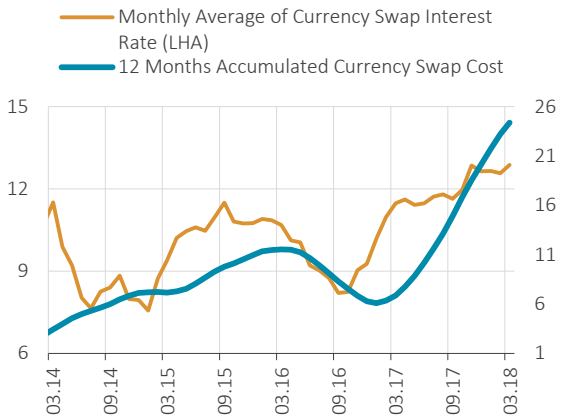
The other non-interest income/expenses item, in which banks record their position in securities trading, derivatives and foreign exchange transactions carried out primarily for hedging, has had a negative impact on profitability since the last Report period. The underlying reason was the limited increase observed in costs of currency swaps carried out to generate TL funding (Chart IV.4.6).

Chart IV.4.5: Additional NPL Indicators (%)



Source: CBRT. Latest Data: 03.18

Chart IV.4.6: Currency Swap Transaction Costs and Interest Rates (%, Billion TL)



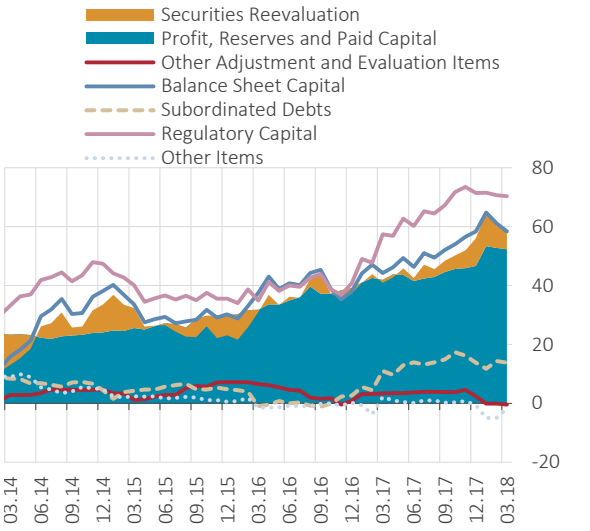
Source: CBRT ,Bloomberg, Authors' estimations. Latest Data: 03.18

Note: In calculating the currency swap interest rate, the monthly simple average of 3-month USD-TL currency swap interest rates were used as a reference rate and the cost was estimated by using the monthly average net TL-FX currency swap positions of banks and the monthly average USD rate.

Non-interest income pushed profitability 8 basis points higher as provisions for previous years were cancelled in the scope of the TFRS 9 standard that took effect in January 2018 and with the contribution of income from banking services Meanwhile, the positive impact from non-interest income on profitability continued, although at a limited measure, thanks to the sectors' efforts towards decreasing operational costs and tax arrangements underpinning the sector.

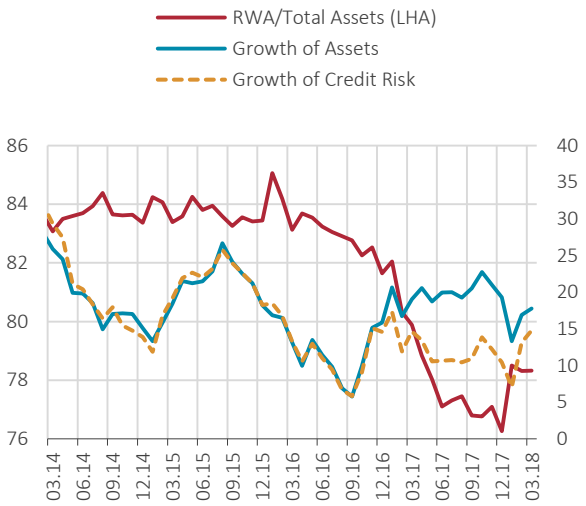
IV.4.2 Capital Adequacy

Chart IV.4.7: Changes in Items Affecting Equity (12-Month Cumulative, Billion TL)



Source: CBRT Latest Data: 03.18

Chart IV.4.8: Risks and Assets Developments (%)



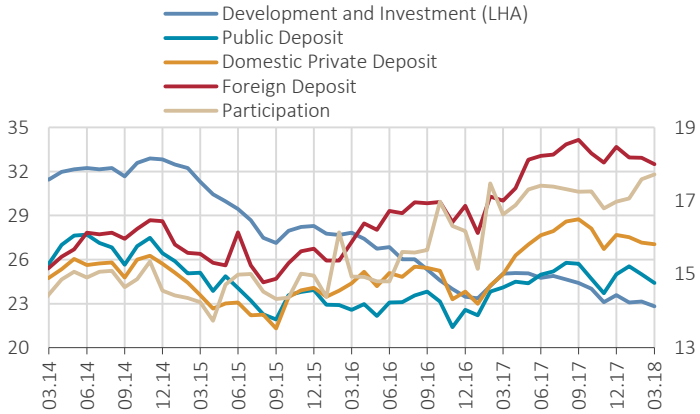
Source: CBRT Latest Data: 03.18

Over the last year, legal capital has been positively affected by escalating profitability and the rise in borrowing instruments that were included in capital calculations. The balancing in the supply of borrowing instruments that were included in the sector's capital calculation became more remarkable as of the final quarter of 2017. Meanwhile, with the positive impact of the valuation of affiliates, subsidiaries and joint ventures, valuation of securities stood out as a funding source (Chart IV.4.7).

Although there has been no significant change in the composition of risk-weighted assets, the balancing in credit growth in 2017Q4 temporarily limited growth in credit risk and asset growth. As a result of the balancing in asset growth, the ratio of risk-weighted assets in total assets increased moderately (Chart IV.4.8).

The sector's capital adequacy ratios remained strong owing to profitability growth and acquisition of borrowing instruments that are included in capital calculations (Chart IV.4.9). An analysis of the current profitability level and capital adequacy position reveals that capital adequacy does not pose any limitations on the banking sector's support for credit growth in the short and the medium term. Due to tightened financial conditions, the sector is expected to preserve profitability via interest margins in 2018.

Chart IV.4.9: CARs by Types of Banks (%)



Source: CBRT Latest Data: 03.18

Box IV.4.I

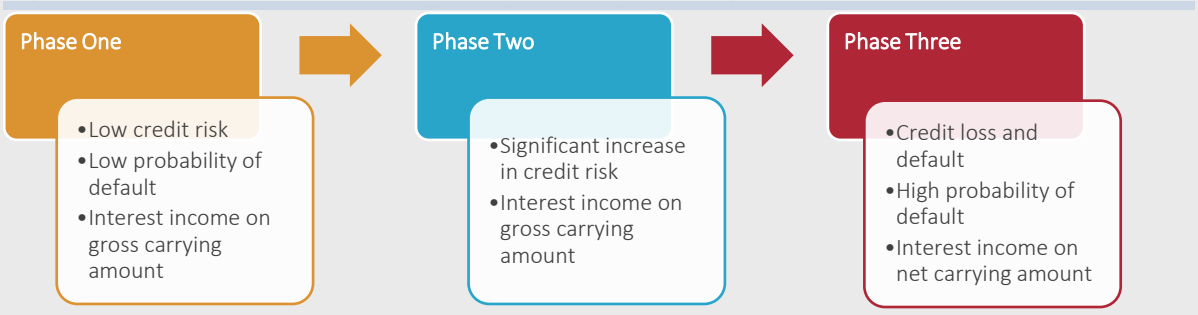
The TFRS 9 Practice and Its Implications on the Banking Sector

After the global financial crisis, policy-makers questioned the "incurred credit loss" approach and it became necessary to establish a more dynamic structure for accounting standards. Back in 2014, new arrangements were introduced concerning issues such as classification of measurement based financial instruments, expected credit losses and risk aversion accounting (CBRT, 2017). The Turkish Financial Reporting Standards 9 (TFRS 9), which took effect in January 2018, is a reflection of this risk-oriented approach that developed after the global financial crisis. This Box explains the expected credit loss (ECL) approach that enables a prudent provisioning mechanism as well as expectations and realizations of implementation results of the approach.

Until 2018, general provision rates applied to standard cash loans were 0-1 percent and general provision rates applied to cash loans under close monitoring were 1-2 percent while specific provision rates applied to non-performing loans varied between 20 and 100 percent. In the new period, for those banks that do not implement TFRS 9, the minimum limit for the general provision rate applied to standard cash loans has been raised to 1.5 percent and to 3 percent for cash loans under close monitoring. The objective of increasing provision requirements for banks that are not implementing TFRS 9 was to encourage banks to implement the TFRS 9 system.

While credit loss is defined as the present value of the difference between the cash flow as per the contract and cash flow expected to be collected, expected credit loss (ECL) is calculated by weighing of credit losses with probability of default. The calculation is performed in three steps based on the development of risk level of the credit (Figure 1).

Figure IV.4.I.1: Credit Provisions to be applied by Banks Implementing TFRS 9



In the New Regulation on Provisions revised in accordance with the TFRS 9 on 22.06.2016, the credit classifications and default periods of 30 and 90 days transitions between credit classes were retained. The "significant increase in credit risk" measure introduced to be applicable for transition from a standard loan to close monitoring category allows easy moving of this loan to the close monitoring category based on overdue period. Nevertheless, the credit risk evaluations shall not be solely based on defaulting information if some reasonable and verifiable forward-looking information is accessible without bearing an excessive cost and effort.

The banks' level of adaptation to the new standards is being closely monitored. This is because the impact of the changes on banks is not limited to ECL calculations or provision amounts. The transformation process also entails adaptation to new standards with respect to technological infrastructure, human resources and reporting preparations. The TFRS 9 requires banks to use internal risk evaluations such as probability of default, number of defaulted days, stress test results in addition to the structural technological changes while evaluating the "significant increase in credit

risk" measure. For instance, macro variables should be added to probability of default (PD) calculations on which the expected credit loss (ECL) calculations are based. Accordingly, calculating PD for each period will allow dynamic monitoring of periodic risks on income statements.

Although the 12-month ECL and lifetime ECL and "significant increase in credit risk" terms introduced by the TFRS 9 were formerly introduced by Basel, they are new terms for bank balance sheets. For instance, while the Basel principles only stipulate 12-month ECL, the TFRS 9 stipulates calculations of both 12-month ECL as well as lifetime ECL. In Basel principles, the ECL method is a statistical method taking into account past data, while the TFRS 9 has a dynamic structure incorporating future loss expectations. Basel principles take into account only adverse scenarios while calculating PD, whereas TFRS 9 uses positive scenarios as well (Avul, 2018).

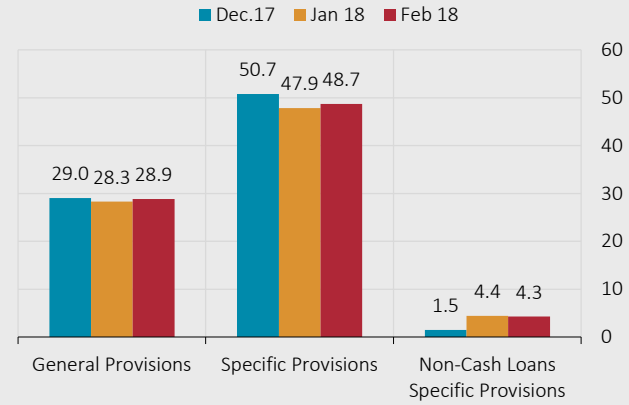
In a press release on 29 December 2017, the BRSA announced that most of the banks were eligible for ECL calculation in the scope of the TFRS 9 by the date the regulation took effect. By January 2018, 35 out of 51 banks in the Turkish banking sector had moved to the TFRS 9 implementation. The number of banks implementing TFRS 9 is expected to increase in the upcoming period.

Impacts of TFRS 9

There have been some changes in banking sector's provisions after the TFRS 9 took effect in January 2018. The provision items on the balance sheets of banks remained relatively stable throughout 2017. A comparison between banking sector balance sheets of December 2017 and January 2018 reveals the impact of the TFRS 9 implementation clearly. In January 2018, the banking sector's general provisions decreased by TL 0.7 billion, while specific provisions decreased by 2.7 billion TL (Chart 1). Whereas, specific provisions for non-cash loans (uncompensated and non-cash loans which are non-funded and non-transformed into cash) increased by 2.9 billion TL. In grand total, compared to December 2017, the banking sectors' specific and general provision amount decreased by 0.7 billion TL in January 2018. Meanwhile, the provisions amount for January 2018 includes the general provisions for credits extended in this period and the specific provisions for loans classified as non-performing loans. It should be borne in mind that there could have been a decline in provision amounts due to write-off loans. Even if write-off loans may be decreasing the provision amount, when the level of provisions for credits extended in this period are considered, it can be asserted that the net impact of TFRS 9 on shareholder’s equity and income statement may be higher than 0.7 billion TL. Notwithstanding, given this low level, we assume that the impact of the TFRS 9 implementation on the banking sector's comprehensive income is not so significant.

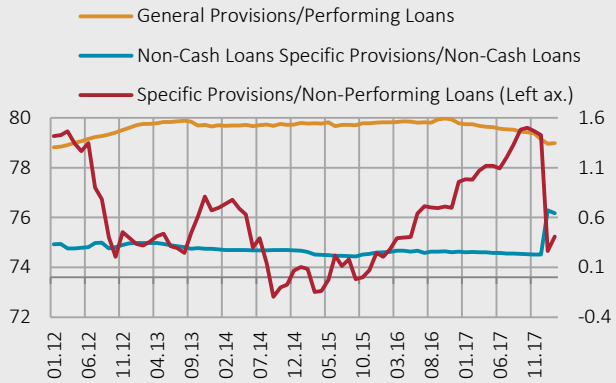
As expected, the changes in provision amounts also affect the banking sector's non-performing loans coverage ratio. The non-performing loans coverage ratio (specific provision/ non-performing loans) decreased to 74.7 percent in January 2018 from 79.3 percent in December 2017 with the effect of the decline in the specific provision amount. A similar change was observed in general provisions to performing loans ratio. The ratio of general provisions to total performing loans displayed a limited decline and decreased to 1.34 percent in January from 1.38 percent in December 2017. There has been a remarkable increase in the ratio of specific provisions for non-cash loans which are non-funded and non-transformed into cash to total non-cash loans. Compared to December 2017, this ratio increased by 44 basis to become 0.67 percent in January 2018. To conclude, in the new balance sheet structure stipulated by the TFRS 9, the general specific and general provisions for performing and non-performing loans was lower while specific provisions for non-cash loans was higher.

Chart IV.4.I.1: Development of General and Specific Provisions (Billion TL)



Source: BRSA Latest Data: February 2018

Chart IV.4.I.2: Development of Non-Performing Loans Coverage Ratio (%)



Source: BRSA Latest Data: February 2018

The TFRS 9 are now used by most of the banks in the banking sector and the implementation leaves some room for maneuver for banks that are implementing the provision policy very prudently. Moreover, the ever-improving cycle in ECL models is expected to continue to be the main focus of the TFRS 9 in the upcoming period.

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