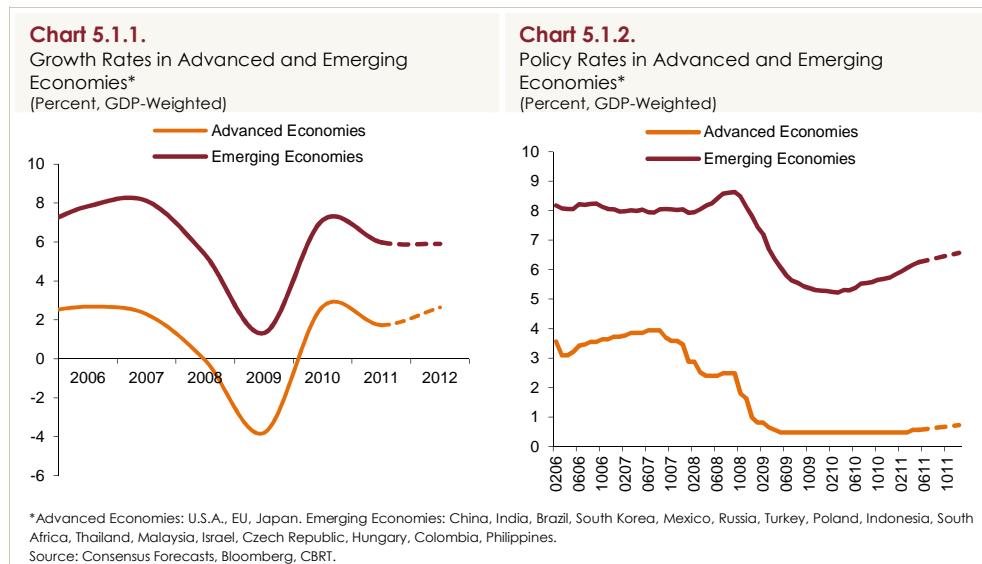


## 5. Financial Markets and Financial Intermediation

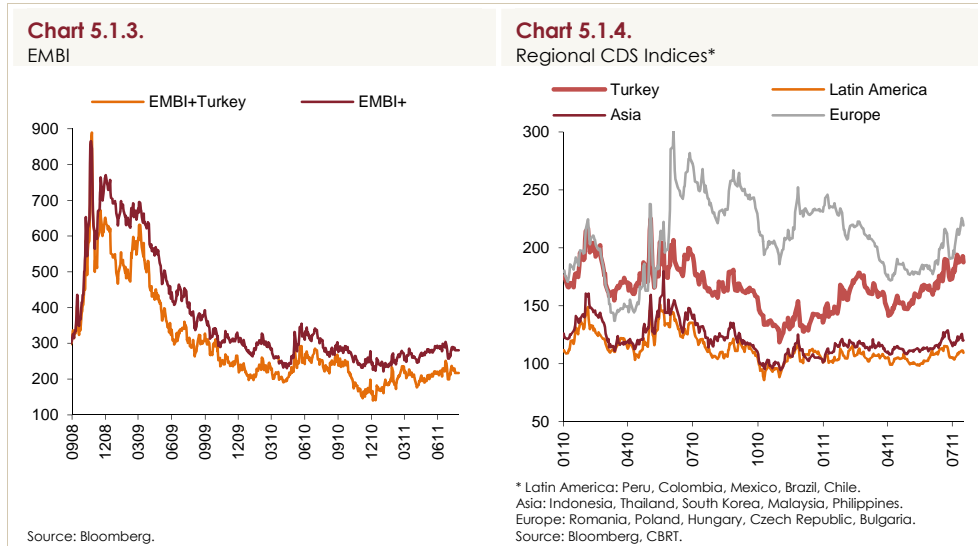
### 5.1. Financial Markets

The second-quarter data indicate that the global economy continues to recover, albeit at a slower pace. Mounting concerns over sovereign debt problems in the euro area, especially in Greece, coupled with soaring energy prices and the natural disaster in Japan, increased downside risks to global economy. Moreover, the recovery of employment in advanced economies has yet to reach the desired level. Amid the recent decline in commodity prices, all these invigorated the perceptions that the normalization of monetary policy in advanced economies may be delayed. Meanwhile, domestic demand continues to stimulate economic growth in emerging economies. Monetary tightening lingers on in many emerging economies in order to contain upside risks to inflation owing to robust domestic demand and soaring commodity prices (Chart 5.1.2). Accordingly, short-term interest rates are raised on one hand, and macroprudential measures are employed to limit risks against financial stability, on the other. Amid expectations of a delay in policy rate hikes in advanced economies, central banks of emerging economies are expected to further enforce macroprudential measures in the upcoming period.

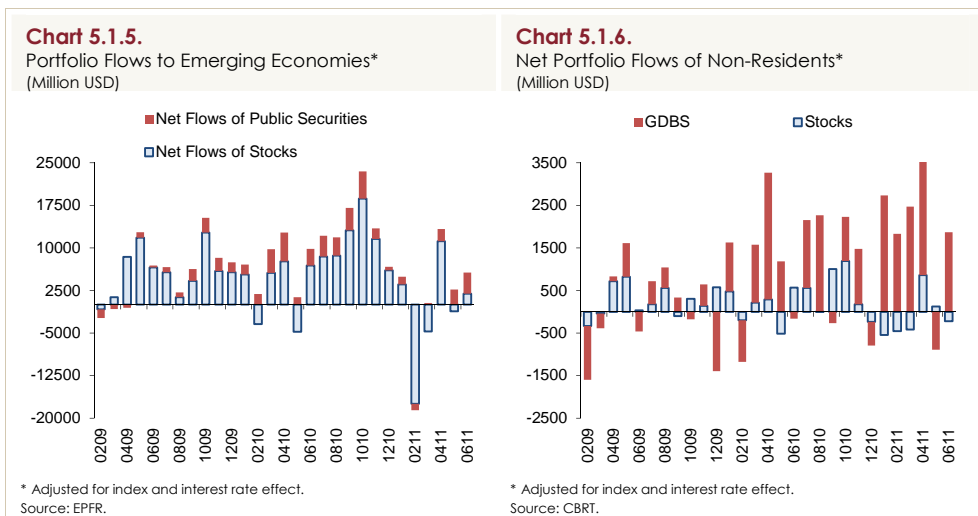


Heightening concerns over sovereign debt crisis in Europe coupled with the apparent downside risks to global economy caused deterioration in global risk perceptions, leading to surge in risk premium indicators in emerging

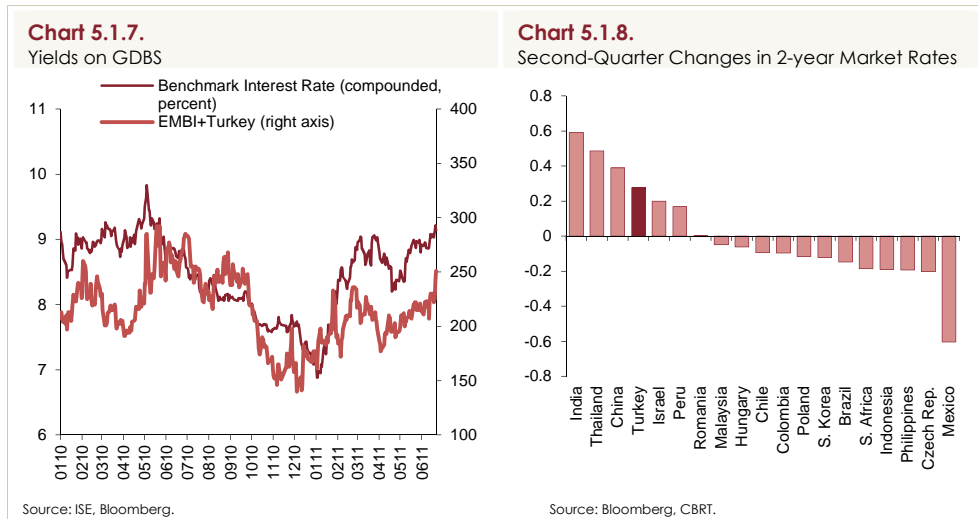
economies (Charts 5.1.3 and 5.1.4). Owing mainly to escalated concerns over current account deficit and the quality of the financing of this deficit, the risk premium increase in Turkey was above the average in this period. In addition, the expectations for a delay in the upgrade of Turkey's sovereign rating to investment grade also fed into the soaring risk premium.



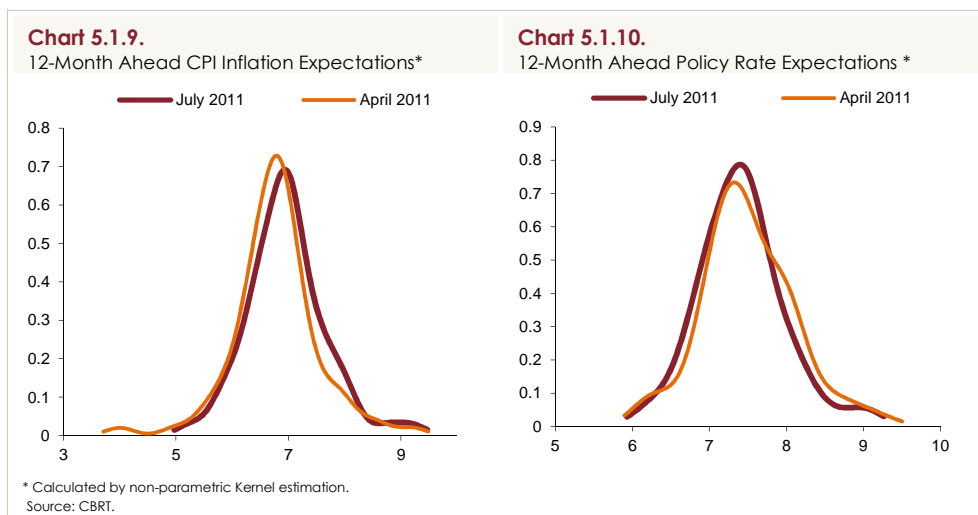
The unfavorable course of global risk perceptions was also influential on portfolio flows to emerging economies, and foreign portfolio investments to these countries lost pace (Chart 5.1.5). A similar trend was also observed in Turkey and net capital inflows slowed down, especially after more-than-expected widening of current account deficit in May (Chart 5.1.6).



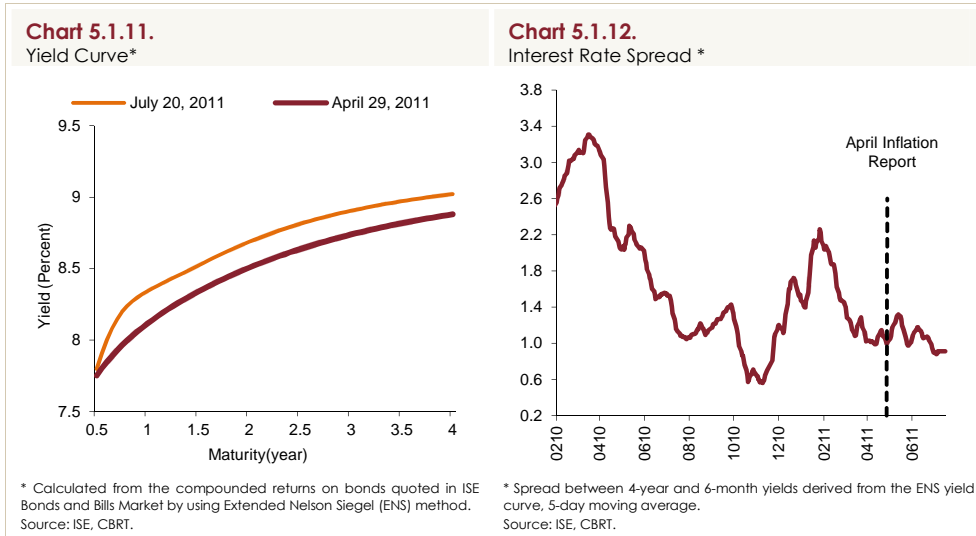
Amid the deterioration in global risk perceptions and the monetary tightening implemented by the CBRT, market interest rates went up and benchmark bond rate recorded the 1-year high in the second quarter (Chart 5.1.7). Consequently, market interest rates increased slightly above other emerging economies (Chart 5.1.8).



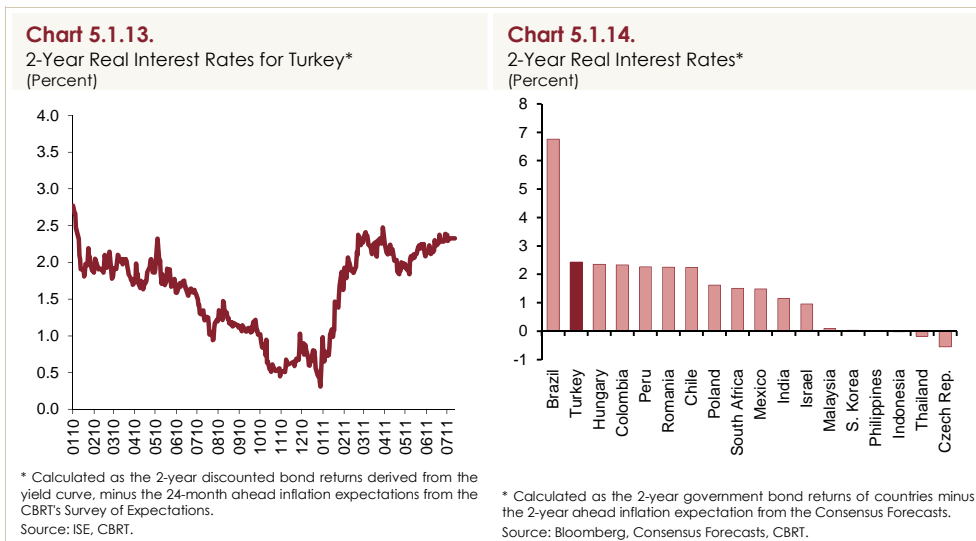
Inflation and policy rate expectations remained subdued in the second quarter, indicating that the rise in market interest rates mainly stems from monetary tightening (Charts 5.1.9 and 5.1.10).



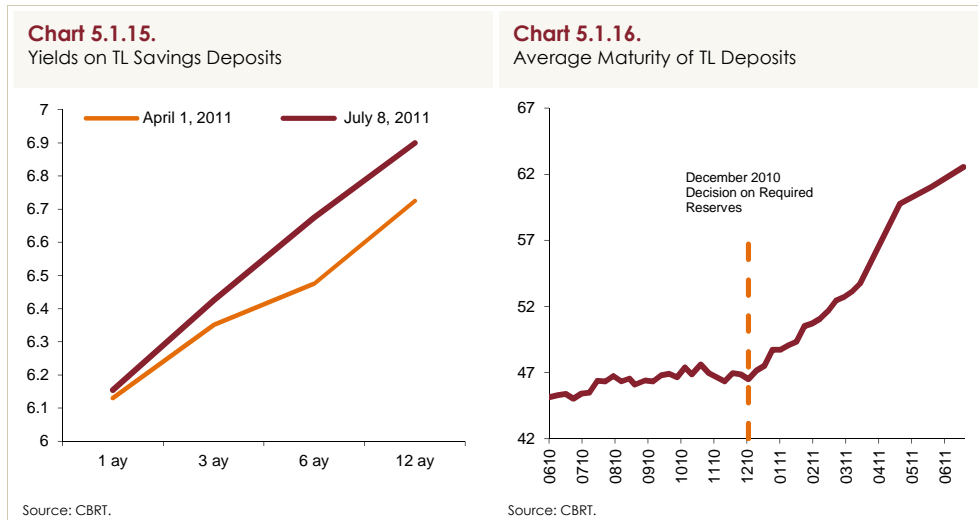
Market interest rates went up across all maturities with the slope of the yield curve remaining unchanged, and indicating that the monetary tightening and the deterioration in risk perceptions were influential across all maturities (Charts 5.1.11 and 5.1.12).



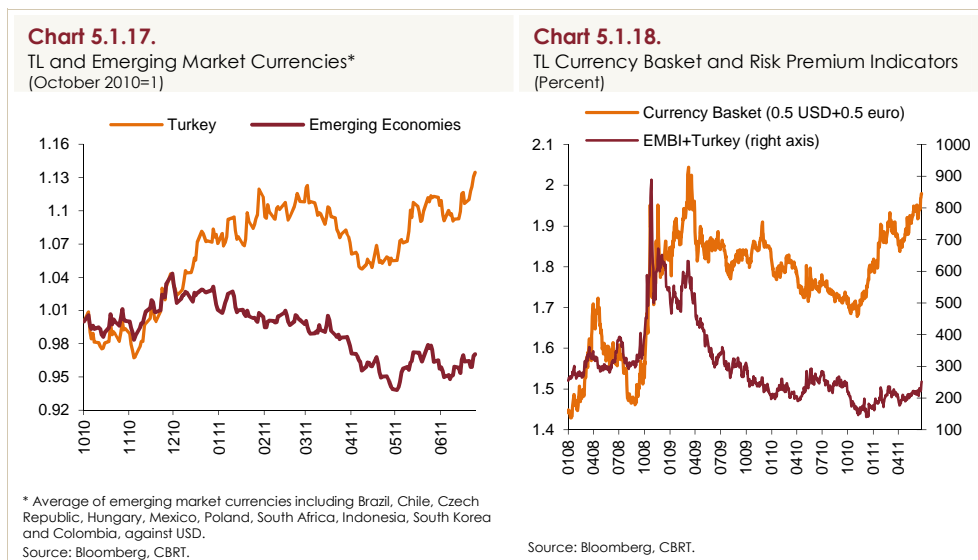
Having increased slightly amid the rise in market interest rates, the real rates remained essentially unchanged quarter-on-quarter with real interest rates remaining higher in Turkey compared to other emerging economies (Charts 5.1.13 and 5.1.14).



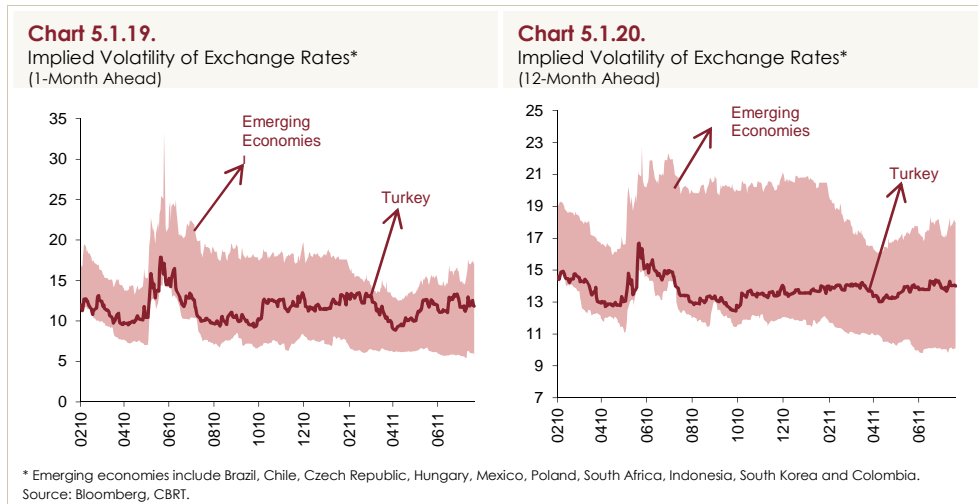
CBRT's monetary tightening is also manifested on deposit rates. In fact, the yield curve of TL savings deposits steepened further, and similarly, the average maturity of TL deposits maintained its uptrend in the second quarter (Charts 5.1.15 and 5.1.16).



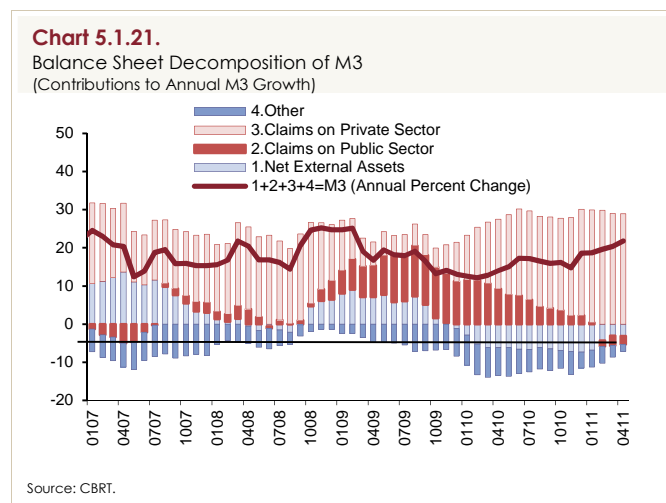
The divergence between TL and other emerging market currencies since the launch of the new monetary policy mix by the CBRT was also maintained in the second quarter, and the Turkish lira depreciated further (Chart 5.1.17). This divergence was not only driven by the CBRT's policies, but also by the deterioration in the risk premium due to decline in the global risk appetite (Chart 5.1.18).



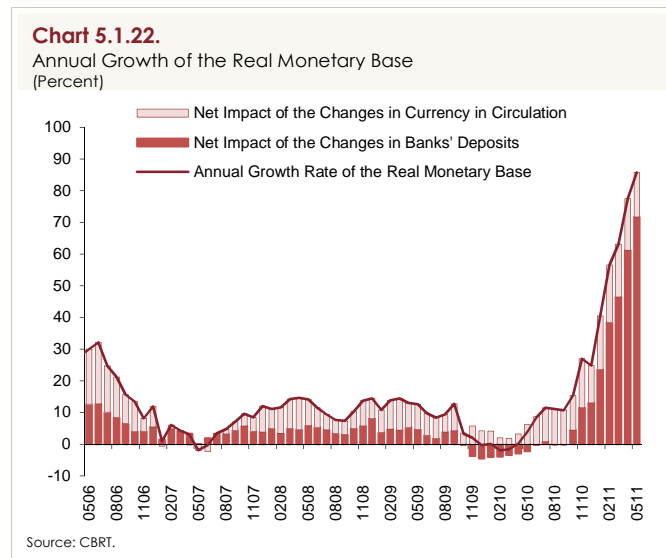
Besides the recent depreciation, the implied volatility of TL increased remarkably across short-term maturities in comparison to other emerging market currencies (Chart 5.1.19). This increase is attributed to the launch of the policy mix as well as the deterioration in risk perceptions. Meanwhile, 12-month ahead implied volatility of TL remained virtually unchanged (Chart 5.1.20).



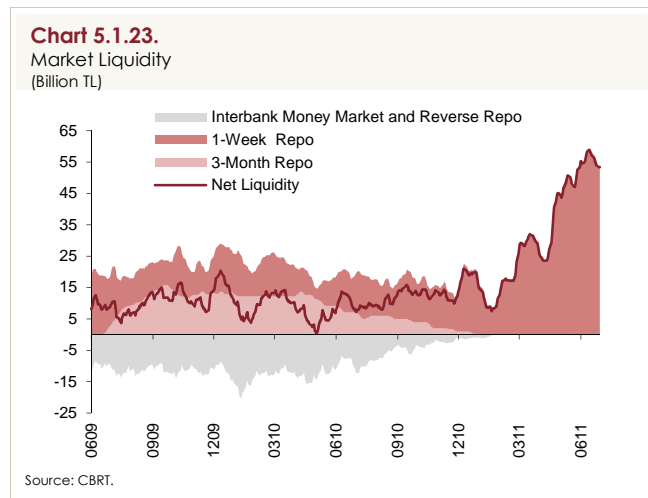
Amid the ongoing volatility in financial markets, domestic and external economic climate also started to weigh on monetary indicators. In fact, balance sheet decomposition of M3, the broad measure of money supply, reveals a limited slowdown in the strong pace of Claims on Private Sector, mostly consisting of bank loans extended to non-financial private individuals and institutions. Meanwhile, the negative contribution of Claims on Public Sector to M3 growth continues since bank resources are channeled as loans rather than being invested on government bills with low returns. Net External Assets continue to fall mainly owing to the increase in commercial banks' external borrowing, albeit slowly quarter-on-quarter. Lastly, the negative contribution of the item Other, i.e. the monetary sector's non-deposit resources, to the M3 growth has slightly decreased amid reduced bank profitability (Chart 5.1.21).



The monetary base continued to expand in real terms in the second quarter amid the economic growth. The expansion in the monetary base was largely driven by soaring banks' deposits at the CBRT (Chart 5.1.22). Meanwhile, the growth of the currency in circulation slowed down slightly as the economic activity, which was robust in the first quarter on the back of the strong domestic demand, started to lose pace in the second quarter.

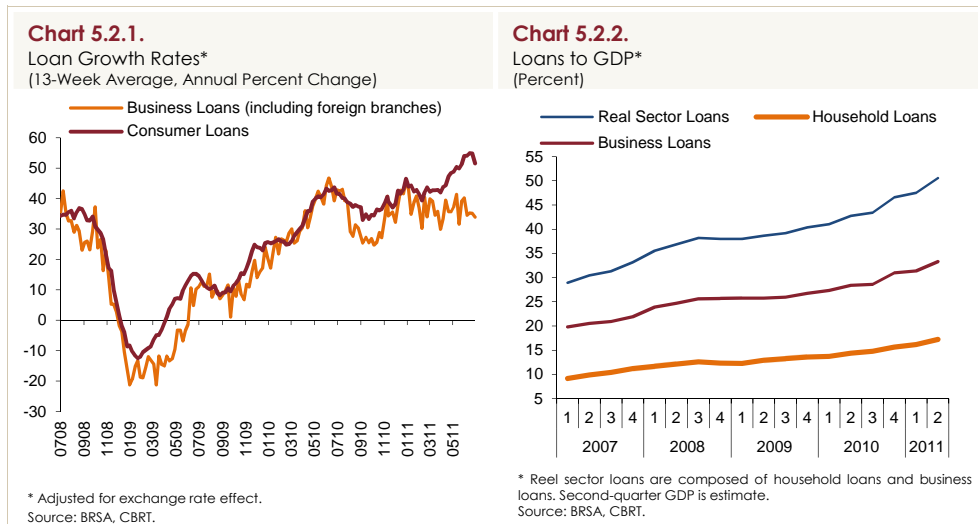


Due to the slowdown in portfolio flows in the second quarter, the daily amount to be purchased via FX auctions was reduced from USD 50 million to USD 40 million and USD 30 million, subsequently. Towards the end of July, FX buying auctions were suspended in order to monitor the effects of the new decisions taken by the EU to solve sovereign debt problems. The amount of FX withdrawn from the market through buying auctions dropped to USD 2.9 billion with a limited quarter-on-quarter decline, and around TL 4.5 billion liquidity was injected to the market in return. While FX buying auctions narrowed the TL liquidity deficit in the Interbank Money Market, the substantial increase in the amount set aside by the banks for required reserves led to a quarter-on-quarter widening in the net liquidity deficit (Chart 5.1.23). Moreover, the Treasury's average account balance at the CBRT increased quarter-on-quarter, feeding into the widening of the liquidity deficit.



## 5.2. Financial Intermediation and Loans

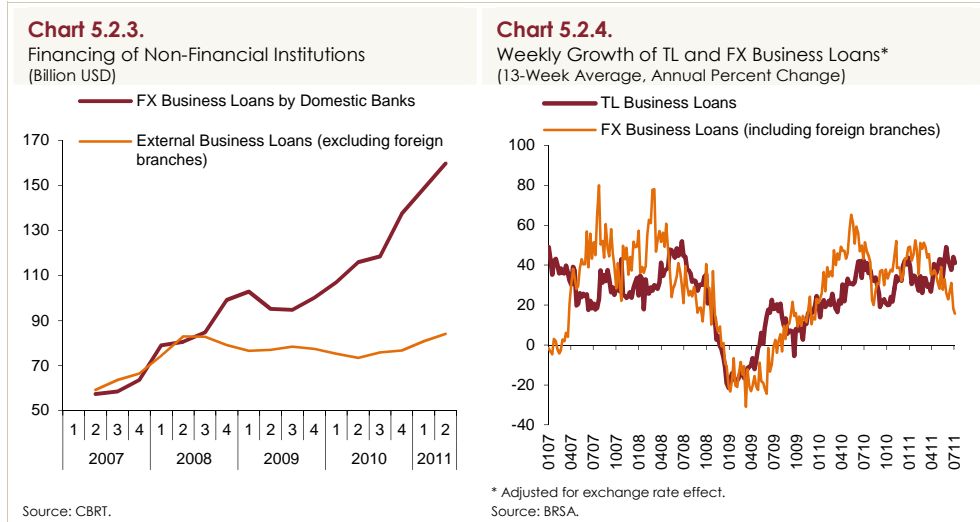
Real sector loans by domestic banks continued to grow in the second quarter, while the growth rates diverged notably across sub-items (Chart 5.2.1). In annualized terms, business loans making up around two thirds of the real sector loans went up by 31 percent, consumer loans recorded an increase of 51 percent and total real sector loans grew by 37 percent in this period. Loans-to-GDP ratio also remained on the rise in the second quarter amid the ongoing rapid growth in loans (Chart 5.2.2).



In addition to robust growth of the domestic loans, the mild course of growth in loans extended by external institutions and organizations has been maintained since the third quarter of 2010. In fact, these loans, a major source of funding for non-financial institutions, grew by a year-on-year 26 percent in the



first two months of the second quarter, despite the contraction in May (Chart 5.2.3).

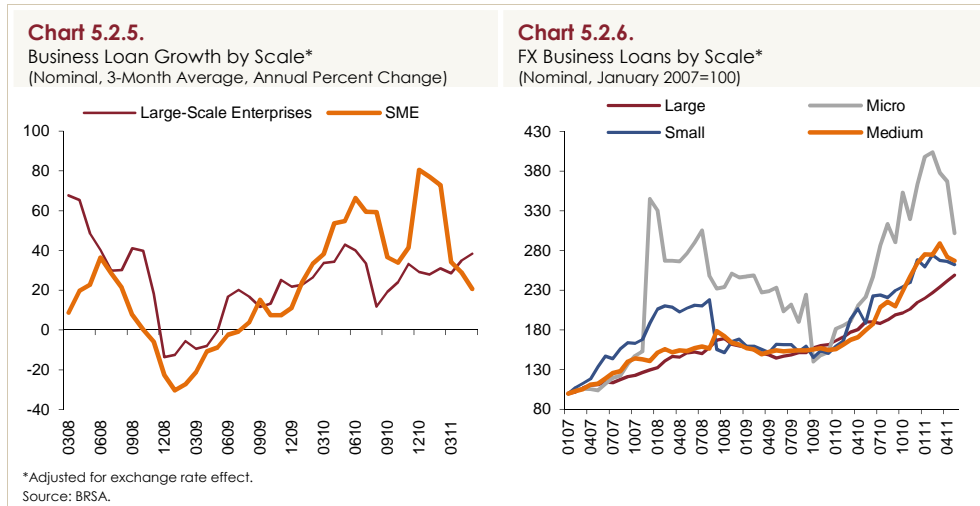


An analysis of business loans by currency denomination indicates a significant divergence between TL and FX loans in terms of growth rates. Hence, unlike the first quarter, TL-denominated loans recorded a higher increase compared to FX-denominated loans in the second quarter, owing to various factors (Chart 5.2.4). Firstly, soaring current account deficit feeding into mounting concerns over exchange rate risk is likely to have compelled enterprises to opt for TL-denominated loans in order to avoid costs stemming from a possible FX volatility. Moreover, demanding loans to benefit from the tax amnesty is another factor that may have contributed to the rise in TL loans.<sup>1</sup> Lastly, the slowdown in investment demand in the second quarter may have restricted the increase in FX loans, since a majority of the loans extended for investment purposes are FX-denominated loans. In the meantime, banks' access to external funding to finance FX-denominated loans was not subject to any tightening in this period, and the rate hikes were more notable for TL-denominated business loans than FX-denominated business loans. Hence, there is no concrete evidence explaining the role of bank's preferences on the higher growth of TL-denominated loans compared to FX loans.

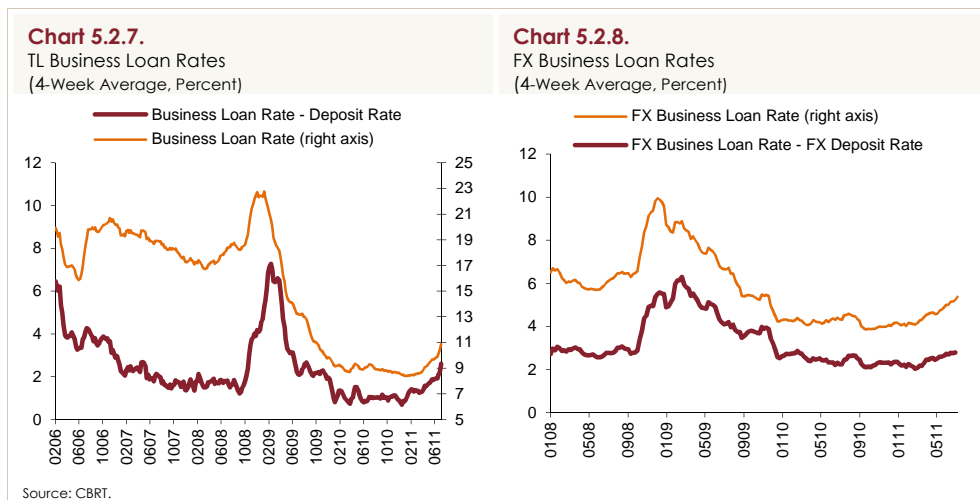
Business loans by scale reveal that following a boost in the post-crisis period, the first-quarter slowdown in SME loans is stronger. Accordingly, after an extended period, SME loans recorded a slower rate of growth than loans to

<sup>1</sup> Tax collection in May and June 2011 within tax amnesty amounted to TL 7.9 billion, and TL 5.4 billion of this amount was paid in full as announced by the respective institutions. A part of this lump payment is believed to have been financed by loans.

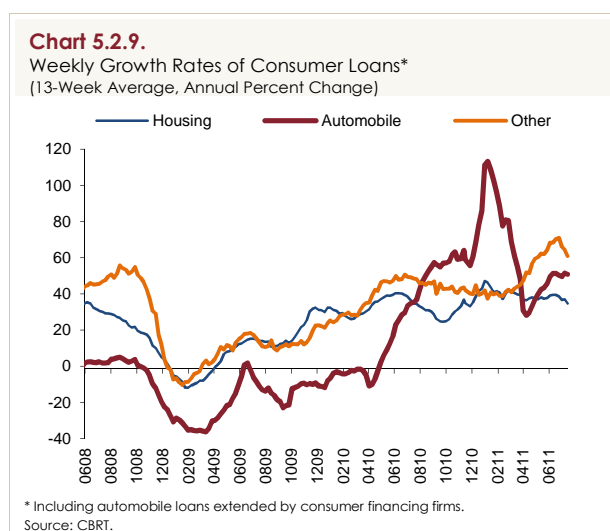
large-scale enterprises. In fact, the slowdown in FX loans is driven by the slowdown in FX loans extended to SMEs, where FX loans to large-scale enterprises remained unchanged in effect (Charts 5.2.5 and 5.2.6).



While loans continue with high-rated increases, rapid rate hikes were observed in both FX and TL-denominated business loans (Charts 5.2.7 and 5.2.8). Consequently, the spread between business loan and deposit rates increased far above the costs brought about by the arrangements on required reserve ratios in this period. Moreover, a divergence is also evident between TL business loan rates and yields on GDBS with similar maturities. This surge in interest rate margin, which is more evident in TL business loans, is attributable to the contraction in banks' funding sources as well as the deterioration in liquidity positions.

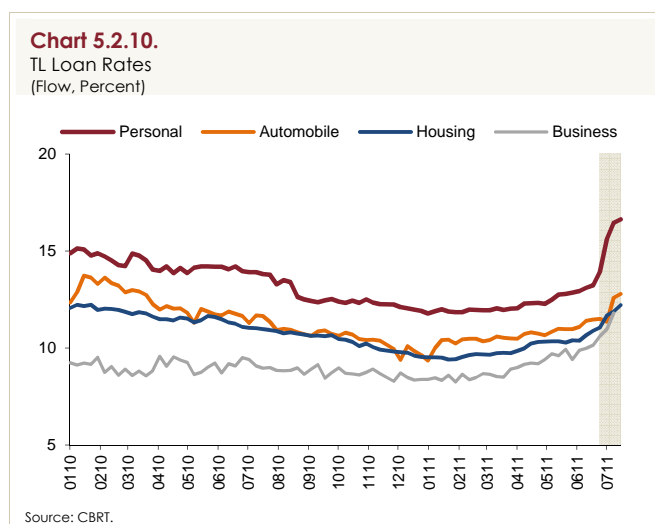


The robust growth was maintained in consumer loans in the second quarter, while the growth rates by sub-items notably diverged. The sub-item Other, making up half of consumer loans, increased by a year-on-year 70 percent, driving the rise in consumer loans in this period (Chart 5.2.9). Housing and automobile loans registered a year-on-year increase by 40 percent and 51 percent, respectively. Credit cards with installments, which are not classified under consumer loans, yet functioning as a consumer loan, recorded a nearly 60 percent increase on an annualized basis.



Domestic demand continues to grow robustly in the post-crisis period, leading to a stable increase in employment and high consumer confidence, which feed into higher demand for consumer loans, and thus, growth of loans. However, soaring consumer loans are not only driven by demand but also by supply-side factors. In fact, the sub-item Other, which is considered to have the lowest interest rate elasticity and the highest sensitivity to loan standards and conditions recorded the fastest growing, pointing to the presence of supply-side factors. Under current economic conditions with intense competition and escalated loan costs, banks willing to maintain their profits opt for other loans with high profit margins in order to ease loan standards and conditions. Another factor to be underlined is the possibility that payments within the tax amnesty having been financed by other loans, composing a certain portion of the increased demand for this sub-item. In fact, stock figures for other loans soared in May and June, during tax payment period.

With the objective to maintain a sustainable robust growth for consumer loans, on June 20, 2011, the BRSA introduced regulations on risk weights underlying general provision and capital adequacy estimations for consumer loans excluding housing and automobile loans (Box 5.1). As a result, the practically flat course of consumer loan rates in the first quarter was replaced by a strong uptrend, which is more pronounced for personal loans.



Bank assets continued to grow steadily in the second quarter on the back of loans. On the liabilities side, despite the ongoing decline in the share of deposits, the major source, banks' loan to deposit ratio displayed a quarter-on-quarter increase (Table 5.2.1). Meanwhile, non-residents remain significant for the financing of loans. Nevertheless, in contrast to previous periods, external financing obtained from repo were on the rise in this period. The increase in required reserve ratios was mostly covered by the liquidity provided by the CBRT. Consequently, the ratio of banks' short-term liabilities to balance sheet size posted a noteworthy increase.

**Table 5.2.1.**  
Changes in Main Balance Sheet Items  
(Million TL)

		2011 Q1		2011/03 – 2011/05	
		TL	FX	TL	FX
Assets	Cash+Required Reserves+Claims from the CBRT	16232	692	23502	9183
	Claims on Banks	892	-461	-2357	1142
	Securities	-7089	-2208	-909	1969
	Loans	24375	14077	24032	10086
	<b>Total Assets</b>	<b>27723</b>	<b>12024</b>	<b>45109</b>	<b>23689</b>
Liabilities	Deposits (Participation Funds)	5608	6696	11220	3549
	Payables to Banks	2306	7460	-4632	14292
	Funds Raised by Repo Transactions	6137	2330	31212	6943
	Securities Issued (Net)	2598	1443	2455	2203
	Total Equity	827	-355	2701	-106
	<b>Total Liabilities</b>	<b>19629</b>	<b>20118</b>	<b>42358</b>	<b>26593</b>

Source: BRSA.

In sum, no significant slowdown was recorded in loan growth in the second quarter of the year (Chart 5.2.11). While the policy measures had an impact on loan rates in this period, the low interest rate elasticity of loan demand restricted the effectiveness of these measures. Due to intense competition, the liquidity and interest rate risk due to adopted measures were reflected on rates rather than on the quantity of loans. Moreover, the continuing easy access to external financing, a major factor in banks' ability to generate loans, was influential in limiting the effectiveness of the measures on loan growth. However, lagged effects of the measures taken by the CBRT as well as the BRSA are expected to be more pronounced in the second half of the year, and loan growth will significantly slow down in the coming period.

Box  
5.1

## Possible Effects of the Amendments to BRSA Regulations

This Box discusses the possible effects of the recent amendments by the BRSA to general provisions and capital adequacy regulation, on the banking sector and loans. Underscoring the potential risks associated with the rapid expansion of consumer loans excluding automobile and housing loans (other consumer loans) on household indebtedness and the banks granting these loans, the BRSA introduced amendments on the regulations for the calculation of provisions to apply to these loans and the capital adequacies of banks.<sup>2</sup> Accordingly, to be effective for loans to be extended as of June 18, 2011;

- The banks with a ratio of consumer loans to total loans above 20 percent and/or banks with a non-performing loan ratio for consumer loans excluding automobile and housing loans above 8 percent shall apply the general provisions for consumer loans excluding automobile and housing loans as 4 percent for those monitored in the first group, and as 8 percent for those monitored in the second group.
- Risk weights for other consumer loans, which were previously applied as 100 percent in capital adequacy calculations irrespective of the maturities, were diversified by maturities. In this context, the risk weight for other consumer loans with maturities between 1 to 2 years will be 150 percent, while that for maturities with more than 2 years will be 200 percent.
- General provision of minimum 10 percent will apply to loans, the contract conditions of which will be changed by the extension of the initial payment plan.

Currently, a large number of banks extending consumer loans are affected by the amendment to the regulation on general provisions, and the amendment to the capital adequacy affects all banks. A *ceteris paribus* amendment to general provisions decrease the marginal contribution of the newly-extended other consumer loans to balance sheet net profit. Meanwhile, the amendment on capital adequacy elevates the minimum capital requirement for long-term consumer loans, and in turn, increases the weighted average capital cost.

<sup>2</sup> BRSA Press Releases dated June 20, 2011.

The increase in the general provisions for other consumer loans creates an equivalent effect to the increase in marginal costs of bank loans that are classified under this group as per their effects on the banks' profits. Therefore, they are supposed to create an upside effect on the rates of the said loans. To what extent the banks will reflect the increasing costs on interest rates will mainly be determined by the current profit margin, competition in the sector, interest rate elasticity of the loan demand and the level of free reserves.

Historically, the interest rate on other consumer loans has been above the housing and automobile loan rates (Chart 5.2.10). It is difficult to explain the spread between other consumer loans and housing and automobile loans rates by the differences between credit risks of these loans. In fact, the deviation between non-performing loan rate and the loss-given default rate can fail to fully explain this spread. This indicates that profit margins in other consumer loans are relatively higher and supports the assertion that banks have a higher market power in this loan type. The relatively higher profit margins mean that banks may not be required to reflect all costs stemming from amendments to interest rates. In that case, interest elasticity of the loan demand shall also be influential on the extent to which other consumer loans rates are affected by the increasing costs.

The assertion that interest rate elasticity of demand for consumer loans excluding housing and automobile loans are lower than that of other loan types is a commonly shared view among sector representatives.<sup>3</sup> Sector representatives believe that for consumer loans, rather than the interest rate, other factors that affect the affordability of the loan is important for the client. Maturity conditions are the leading factors on the supply side. Maturity conditions determine the extent of the liquidity constraint which is binding for inter-period income substitutability. The low amount of other consumer loans and the availability for long-term borrowing restrict the effect of interest rate increases on loan installment amounts, in other words, limits the effects through the affordability of the loan as is the case in all consumer loans. Table 1 illustrates this situation with a numerical example. The table shows the monthly payments for a sample loan of TL 10,000, an average amount for personal loans representing a majority of other consumer loans that is paid in 36 months, the average maturity for personal loans. Accordingly, a rise of 300 basis points in interest rates to compensate for the whole cost of the amendment leads to an increase of 13 TL in the monthly installments. This increase in the monthly installments creates a limited change on the borrower's payment capacity.

<sup>3</sup> Alper *et al.* (2011).

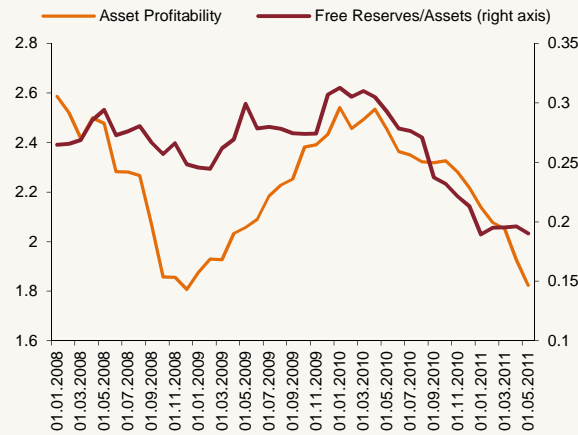
The above-mentioned information indicates that banks may reflect a great part of the cost stemming from the amendments on other consumer loan rates.

Table 1. Increase in Loan Rates and Loan Installments

Amount (TL)	10,000	10,000
Maturity (Month)	36	36
Interest Rate (Percent)	13.23	16.23
Monthly Interest Rate (Percent)	1.04	1.26
Monthly Installments (TL)	334	347

Free reserves that are set aside by banks against potential future risks can play a restrictive role on the increase in general provisions. Banks can limit the effects of higher general provisions on their profitability to a certain extent by using free reserves that they keep without being subject to any legal requirement on provisions as provisions to be set aside for other consumer loans. In fact, banks have historically resorted to free reserves in times of low profits (Chart 1).

Chart 1. Profitability and Free Reserves (Percent)



Source: CBRT.

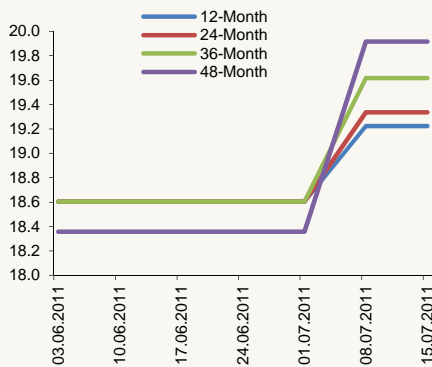
Meanwhile, by its nature, the amendment on capital adequacy regulation has the potential to play a restrictive role on the growth of consumer loans excluding automobile and housing loans. As per the new risk weights determined by the amendments, for each unit of extended other consumer loan, depending on the maturity of the loan, keeping 1.5 or 2 times more equity capital is required compared to the former formulation.



The equity capital being relatively costly compared to other liabilities and/or the relative difficulty of raising equity capital compared to raising other funding resources will require interest rates on consumer loans to be subject to the regulation to be higher in proportion to these costs. Nevertheless, capital adequacy ratios of banks are currently far above the minimum legal ratios and the new risk weights will apply to loans to be extended after the publication of the regulation. Therefore, these measures may not immediately cause banks to change attitudes regarding the loan maturities.<sup>4</sup> However, as the stock of other consumer loans get renewed over time, the effects of the amendments will be felt more deeply and urge banks to consider costs emanating from the additional capital requirements while extending other consumer loans. In fact, under the assumption that the current loan composition is maintained, when the other consumer loans stock is completely renewed, capital adequacy ratio is estimated to go down by 1.5 points.

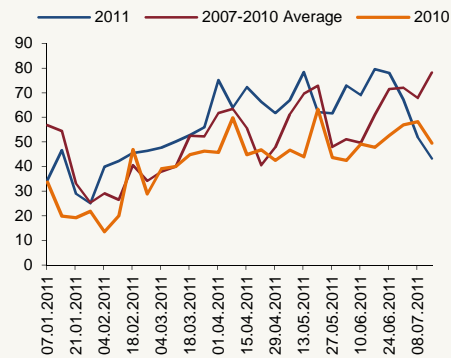
The date of the amendment is too recent to infer clear-cut judgments on its effects. Nevertheless, preliminary data suggest that, as envisioned by the above analysis, banks have largely reflected the increasing cost in other consumer loans on loan rates since the amendment in the regulation (Chart 2) and the loan type subject to the regulation has showed a remarkable slowdown (Chart 3).<sup>5</sup>

Chart 2.  
Personal Loan Rates (Percent)



Source: CBRT.

Chart 3.  
Other Consumer Loan Growth  
(4-Week Average, Annualized Percent)



Source: CBRT.

<sup>4</sup> If there is an implicit return on the portion of the capital adequacy ratio that is kept above the legal limits for the bank, the regulation on the risk weight is supposed to be effective in a shorter time.

<sup>5</sup> In deciding for the effects of the regulation, it should be considered that the payments within tax amnesty were due at the end of June and that for some portion of the payments to be made by the corporate sector within tax amnesty, other consumer loans may have been utilized.

To sum up, the amendments introduced by the BRSA to the regulations on the calculation of general provisions and capital adequacy, with a view to containing the risks against financial stability are expected to be effective on loans in the upcoming period. The extent of the effect shall largely be determined by the interest rate elasticity of the loan demand in the short term. Over time, the amendments to capital adequacy calculations are expected to become more binding, and therefore, affect the supply side through the volume and maturity structure of the loans subject to regulations. The slowdown in loans, which play a great role on the vigorous course of domestic demand and imports will support the policy mix implemented by the CBRT and contribute to the rebalancing of the domestic and external demand. Consequently, the decisions taken by the BRSA are crucial in mitigating the risks against financial and macroeconomic stability.

#### REFERENCES

Alper, K., D. Mutluer-Kurul, R. Karavaşin and H. Atasoy, 2011, Bankacılık Kesimi Kredi Davranışı Anketi (*in Turkish*), CBRT Working Paper (forthcoming).

[www.bddk.gov.tr](http://www.bddk.gov.tr).

Box  
5.2

## Credit Rating Upgrade to "Investment Grade"

Credit ratings determined by rating agencies are indicators representing the capacity of the countries to fulfill their financial liabilities, in other words, their credit riskiness. Therefore, with a credit rating upgrade, a country is expected to increase its access to ample, cheap and long-term foreign financing. "Investment grade" is a significant threshold for countries to be able to have access to foreign financing.<sup>6</sup> This is because countries with "investment grade" and countries with below grades are perceived and treated as different risk groups in global financial markets. In addition, the laws and regulations they are subject to allow many long-term funds like pension and insurance funds to invest only in countries with investment grades.

Despite upgrades in the post-crisis period, Turkey's credit rating is below the investment grade. Nevertheless, the improved risk perceptions for Turkey following the global crisis are likely to reflect on credit ratings by an upgrade to investment grade in the upcoming period. Within this context, this Box focuses on the pre- and post-upgrade trends of selected financial and macro variables in emerging economies, whose credit ratings were upgraded to investment grade in the last twenty years and remained at that level for a plausible period.<sup>7</sup>

The upgrade of the credit rating to investment grade is expected to bear a direct effect on portfolio flows. In this context, the average "relative" change in foreign capital in the form of portfolio investments in countries with upgrades is depicted in Chart 1. The illustrated time period is one year before and after the upgrade. At this point, it should be underlined that financial indicators focus on the "relative" change rather than the "nominal" change in comparison with the reference country group average.<sup>8</sup> For example, Chart 1 shows the extent of divergence between portfolio flows in countries with upgrades to investment grade and the average of the reference group countries. As seen in this chart, the change in the ratio of foreign portfolio investments to GDP in countries with upgrades both before and after the upgrade is remarkably above that of reference country group average.

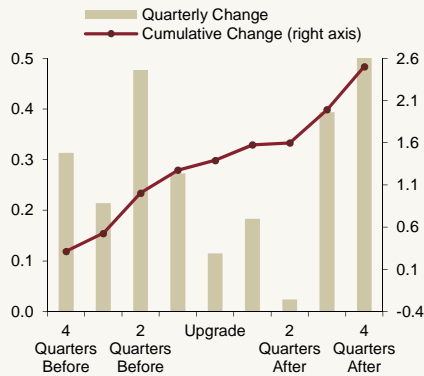
<sup>6</sup> According to leading credit rating agencies S&P and Fitch, BBB- and above; while for Moody's, Baa3 and above is considered as the "investment grade".

<sup>7</sup> Analyzed number of cases is 20. Data constraints led to exclusion of some cases of upgrades from the analysis.

<sup>8</sup> Reference country group is selected according to the geographical location of these countries. Accordingly, reference country groups are emerging economies in the continent of America, East Europe, Asia and the Middle East. South Africa and Russia are included in the Eastern Europe group. Reference group selection also considers the size of the GDP, free movement of capital and the foreign exchange rate policy.

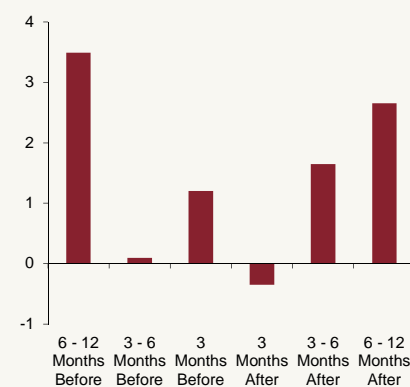
A similar trend is observed in the exchange rate where the “relative” appreciation prior to upgrades continues in the aftermath of the upgrade (Chart 2).

**Chart 1. Relative Portfolio Flows**  
(Percent of GDP)



Source: IMF, CBRT staff calculations.

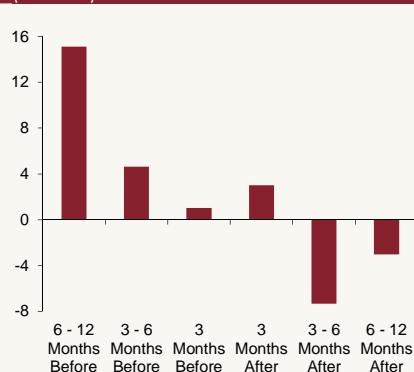
**Chart 2. Relative Performance of the Exchange Rate**  
(Percent, Against USD)



Source: Bloomberg, CBRT staff calculations.

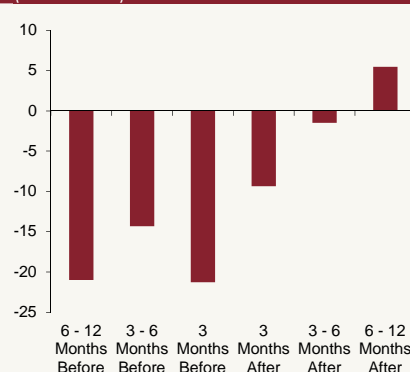
In line with the course of portfolio investments and the exchange rate, prior to the upgrade, stock indices of the countries with upgrades perform well above the reference group (Chart 3). Similarly, risk premium indicators of these countries, which are priced in financial markets, follow a relatively downward course (Chart 4). It is noteworthy that the favorable outlook observed in the stock index and the risk premium prior to the upgrade disappears following the upgrade, and these variables follow a path consistent with the general outlook. In other words, the effect of the upgrades on stock indices and risk premium indicators are mainly apparent in the period before the upgrade.

**Chart 3. Relative Performance of the Stock Market**  
(Percent)



Source: Bloomberg, CBRT staff calculations.

**Chart 4. Relative Performance of the Bond Market**  
(Basis Points)

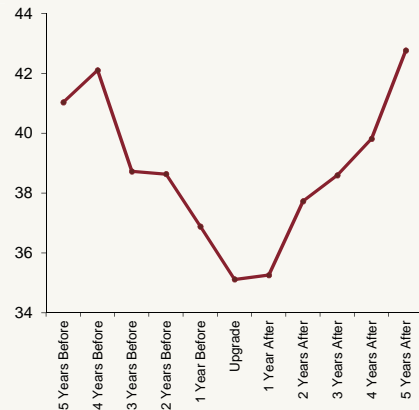


Source: Bloomberg, CBRT staff calculations.

The effects of the credit rating upgrade to investment grade are expected to be observed not only on financial variables, but also on macroeconomic variables. A longer time interval should be included in the analysis in order to observe the effects on macroeconomic variables in a holistic view. In this respect, the trend observed before and after the upgrade in the selected macroeconomic variables of the countries is analyzed in a five-year perspective.

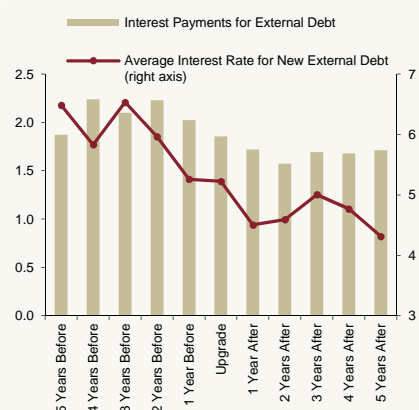
Rating upgrade allows for access to the wider pool of global capital, enhances improvements in perceptions regarding sovereign risk, and enables the public and the private sector to have access to low-cost and long-term foreign financing. As a reflection of this, the total external debt, which declines before the upgrade mostly due to public debt, remarkably trends upwards after the upgrade (Chart 5). The uptrend in external debt in this period is primarily driven by the private sector. Following the upgrade, the external debt goes up while the interest rate paid for the external debt goes down (Chart 6).

**Chart 5. Total External Debt (Percent of GDP)**



Source: World Bank, Datastream, CBRT staff calculations.

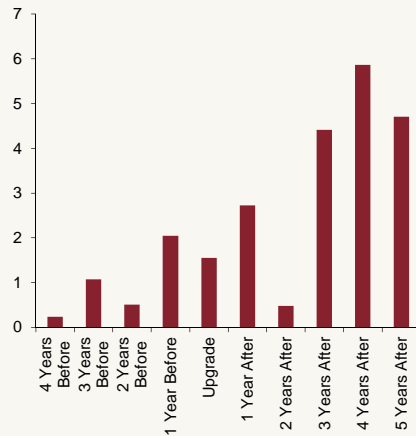
**Chart 6. Interest Payments on External Debt (Percent of GDP)**



Source: World Bank, Datastream, CBRT staff calculations.

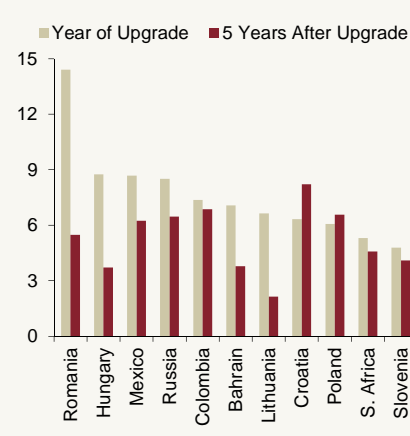
The easier access to low-cost foreign financing also reflects upon the domestic loan market. As a result, with the credit rating upgrade to investment grade, domestic loans extended to private sector accelerate (Chart 7). The decline in loan interest rates accompanies the acceleration in loans, which in turn leads to a drop in the spread between loan and deposit rates (Chart 8).

**Chart 7. Change in Private Sector Domestic Credit Volume**  
Credit Volume  
(Percent of GDP)



Source: World Bank, Datastream, CBRT staff calculations.

**Chart 8. Spread Between Loan and Deposit Rates**  
Rates  
(Percent)



Source: World Bank, Datastream, CBRT staff calculations.

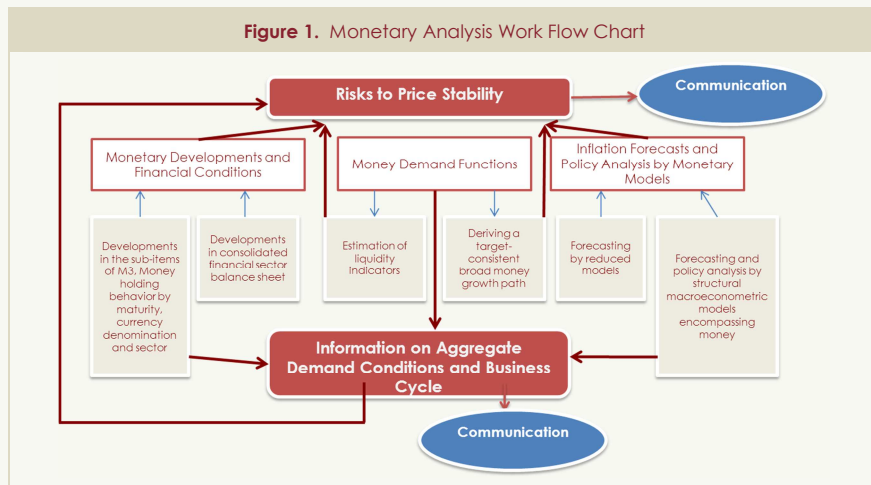
In sum, countries with credit rating upgrade to investment grade are observed to have easier access to foreign financing. Consequently, these countries attract capital in the form of portfolio investment and external borrowing, enabling private and public sector to borrow at lower costs from the external markets. This also reflects on the domestic loan markets, and domestic private sector loans grow while loan rates drop.

With regards to Turkey, the improvement in Turkey's risk premium in recent years is largely reflected on the foreign financing alternatives of the private sector. Nonetheless, an upgrade of Turkey to investment grade can further facilitate access to low-cost and long-term foreign financing in the upcoming period. This may contribute to the strengthening of the Turkish economy and improve the resilience of the Turkish economy against shocks. Nevertheless, given the current economic climate, easier and cheaper access to foreign financing has the potential to pose risks on the balance sheet structures of the financial sector, firms and households in the long term. In order to contain these risks, the significance of macroprudential measures will grow further in the upcoming period.

Box  
5.3

## Monetary Analysis at the CBRT

The CBRT has been implementing its monetary policy within the explicit inflation-targeting regime since 2006. Although monetary aggregates do not have a direct role in making policy decisions, they should still be monitored as they provide an outlook for possible inflation and economic activity developments besides the risks to financial sector stability.



Accordingly, studies on monetary analysis at the CBRT are conducted under 3 main categories (Figure 1): The first category analyzes monetary dynamics based on the sub-items of broad money supply M3 as defined by the European Central Bank and the aggregated balance sheet of the monetary sector. To detail further, the currency in circulation and sight deposits, the sub-items of M3 which are kept for transactions motive, provide information on aggregate demand conditions and the liquidity of the banking system. The time-deposit sub-item, on the other hand, can be related to portfolio movements and financial conditions besides economic activity, and hence, it contributes to the understanding of risk perception of economic agents as well as the developments in financial markets. Meanwhile, the course of FX deposits is an indicator of the confidence in TL investment tools. Moreover, the permanent movements in foreign exchange rates can leave FX deposits as an important resource for monetization in the economy. Repo and investment funds, which are included in broad money definitions, are considered to be significant sources of information for monitoring dynamics of the money and capital markets as they provide substitution between these markets.

Besides this information in sub-items, analyzing deposits by their maturities and currency denomination is also important for monitoring balance sheet risks of the banking sector. Meanwhile, analyzing the money-holding behavior by sectors can aid in finding out the propensities to save and spend of the monetary agents that drive monetary developments in addition to understanding the possible effects of these propensities on price stability.

Meanwhile, entries of the broad money M3, which shows total liabilities of the consolidated balance sheet of the banking sector, including the CBRT, constitutes the other significant pillar of the first category as it may provide significant information on medium and long-term dynamics underlying current monetary developments. The analytic decomposition of the banking sector balance sheet yields broad money, loans extended to the private sector, net claims on the public sector, net external assets and other items mostly involving capital as entries. In normal times with price stability, the expansion in the money supply is expected to be fed mostly by the loans extended to the private sector, whereas under extraordinary economic circumstances, monetary expansion is through increases in claims on the public due to changes in fiscal policy and net external assets due to sudden capital movements, which are beyond the direct control of the monetary policy. Therefore, given the information it provides on the source of monetary expansion, analyzing the consolidated balance sheet can be useful in producing policy implications.

The second category of the monetary analysis conducted at the CBRT is the estimation of a stable money demand function. Studies made at the CBRT, considering the effect of macroeconomic uncertainties on money-holding behavior, indicates that with broad money measures like M2Y and M3 as defined by the European Central Bank, a stable relationship can be obtained between national income and interest rates (Özdemir and Saygılı, 2010). The stable structure of the money demand function indicates that a stable relationship between monetary growth and inflation exists as well. Moreover, knowing the determinants of the money demand also contributes to the understanding of the shocks on income velocity of money calculated by the relevant monetary measure. In addition, money demand function is used in calculating the equilibrium quantity of money to be reached when the goods and money markets are in equilibrium. Therefore, the equilibrium quantity of money can be used to calculate liquidity indicators that may provide preliminary information on risks against price stability like price gap, real money gap and



monetary overhang by being compared to current money stock. Furthermore, the coefficients of a stable money demand function are also important for estimating the monetary growth rate consistent with the inflation target. However, relying on assumptions like the economy grows at the potential and price stability is ensured, these forecasts mostly provide an outlook regarding medium and long-term outlook.

The third and last category of the monetary analysis involves the inflation forecasts and policy analyses made by using various models encompassing money. For example, the macroeconomic models pioneered by Khan and Knight (1981) are beneficial in policy analyses for countries such as Turkey, where persistent fiscal policy driven monetary shocks are prevalent, as they allow for interactions between monetary and fiscal policies (Özdemir and Turner, 2008). Moreover, these models rely on fund flows, which make them crucial tools to understand the effect of capital flows on the economy. Lastly, in the analysis of the relationship between monetary aggregates and other macroeconomic variables, general equilibrium models and econometric models are also among the tools frequently used by the CBRT.

In sum, the CBRT closely monitors monetary indicators in terms of the information they provide on inflation and financial stability, and evaluates the information derived from monetary aggregates as a supporting fact to economic analysis.

## REFERENCES

- Khan, M.S. and M.D. Knight, 1981, *Stabilization Programs in Developing Countries: a Formal Framework*, IMF Staff Papers, 28: 1-53.
- Özdemir, K.A. and P. Turner, 2008, *A Monetary Disequilibrium Model for Turkey: Investigation of a Disinflationary Fiscal Rule and its Implications for Monetary Policy*, *Journal of Policy Modeling*, 30(2): 349-361.
- Özdemir, K.A. and M. Saygılı, 2010, *Economic Uncertainty and Money Demand Stability in Turkey*, CBRT Working Paper No.10/15.

