



Financial Stability Report

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FOREWORD

Although it has been almost four years since its onset, effects of the global crisis and efforts to exit it still linger all over the world, especially in advanced economies. Countries are trying to remedy the vulnerabilities generated by the US-driven crisis and prevent its recurrence by reviewing their regulatory and supervisory frameworks. However, some policy measures taken to this end have led to the emergence of several other risk factors.

Measures taken have caused high budget deficits and thereby led to concessions from fiscal discipline, which has caused further deepening of the crisis especially in the EU and protracted the exit process. Worries over the sovereign debt sustainability of certain EU countries fuel uncertainties in the market and adversely affect all economies through various channels.

In Turkey, continued commitment to sustaining fiscal discipline coupled with flexible monetary policy implementation has curbed the unfavorable impact of external developments on domestic economic activity. Moreover, the strong capital structure of the banking sector as well as the macroprudential measures that have been introduced taking into account rapid changes in global markets, enable the sector to be less affected through these channels. In this context, we believe that Turkey will be among the countries that will be affected to a lesser extent by any prospective adversities that could emerge in the Euro area.

I hope that the fourteenth issue of our Report, which assesses recent developments and risks with respect to domestic and global financial stability, will be of benefit to all readers.



Erdem BAŞÇI

Governor

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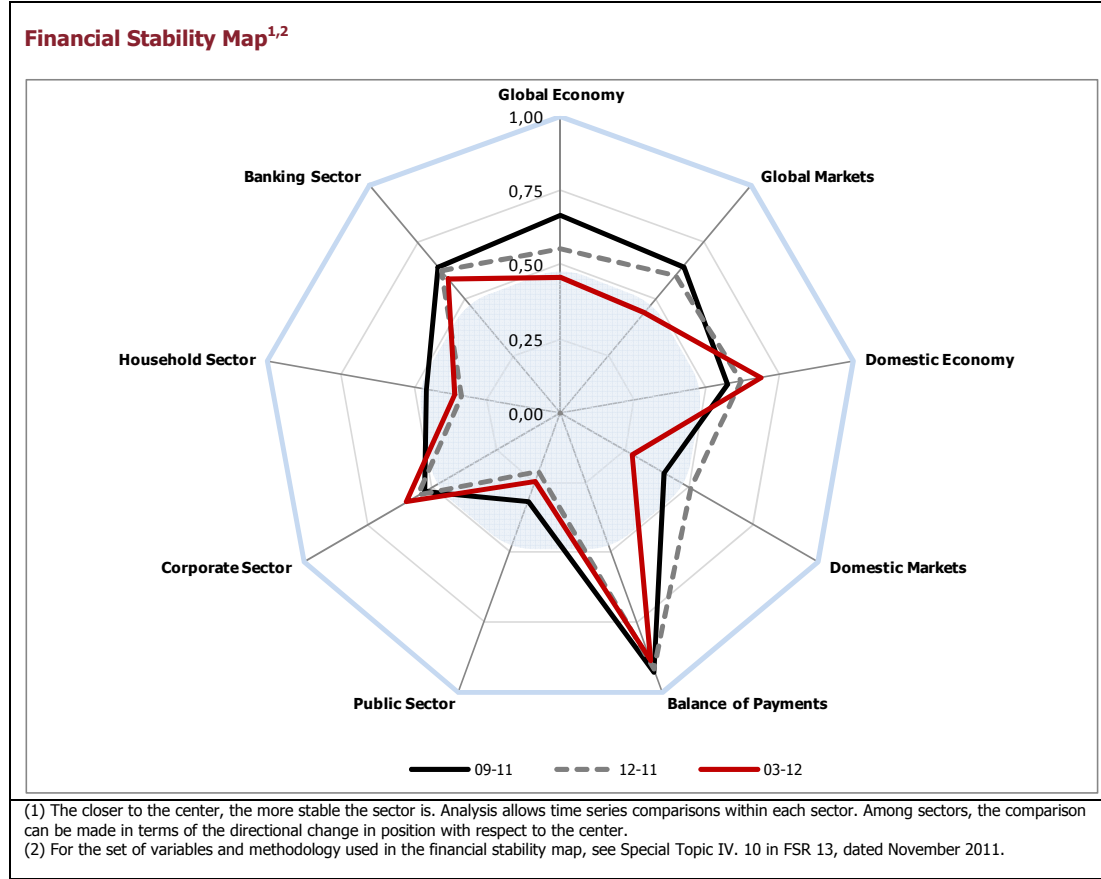
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OVERVIEW

The impact of the global crisis persists and policies implemented in advanced economies continue to steer the global economy. While developments in the US economy have a positive impact on this process, ongoing problems in the financial structure of some EU-member states and escalating political uncertainties make the global recovery difficult. Moreover, most of the distressed assets are still on the balance sheets of banks in these countries. Additional capital requirements that are necessary for strengthening capital structures exert pressure on banks to downsize their balance sheets.

Meanwhile, in the first quarter of 2012, a relative improvement in the risk appetite was observed thanks to the economic policies adopted to solve problems in the Euro area and significant steps taken in structural areas. This, in turn, led to a decline in Turkey's risk premium in tandem with the decline in those of developing countries. As a result of capital inflows and implementation of the flexible monetary policy framework, value of the Turkish currency remained more stable compared to those of other developing countries. In this context, the decline in Turkey's risk premium coupled with residents' positive expectations fuelled the improvement in the general economic outlook. Nevertheless, relapsing Euro area issues due to the political unrest in Greece in May caused the risk appetite to deteriorate again.

In 2011, growth in economic activity in Turkey remained strong, albeit with some slowdown, and domestic demand was contained as a result of measures taken by the CBRT and other authorities. Accordingly, growth is expected to follow a moderate track in 2012. Improvement in public finance indicators continued on the back of the rise in tax revenues due to strong economic activity and leashed public expenditures. Moreover, in the last quarter, contribution of net exports to growth increased significantly and the rebalancing between domestic and external demand continued. Accordingly, the favorable trend that started in the foreign trade balance and current account balance in the last few months of 2011, continued in the first quarter of 2012. Meanwhile, since the last few months of 2011, inflation has been rising mainly due to the depreciation of the Turkish lira and the rise in administered/directed prices. In response, in October 2011, the Central Bank of Turkey introduced a monetary tightening to prevent any further deterioration in inflation expectations and succeeded in keeping pricing behavior under control. In this context, inflation, which reached a peak in April 2012, is expected to display a substantial fall in May and this decline is expected to further accelerate in the last few months of the year. The CBRT will maintain its price stability-oriented determined stance as well as its flexibility in monetary policy in the upcoming period.



Banking indicators suggest that the overall structure of the sector is strong. Credit growth, although it includes some seasonal factors, is at a moderate level with respect to financial stability. As anticipated, credit growth stemmed mainly from corporate loans while the growth in consumer loans remained limited. The fact that loans are predominantly medium to long term and Turkish lira-denominated is regarded as favorable with respect to credit risk management. It is observed that the non-performing loan ratio of the banking sector continues to be at historically low levels.

Open foreign exchange position of the real sector still applies as an important risk factor. In fact, ratio of corporate liabilities to equity capital has increased and the rise in profits has been limited due to expenses stemming from exchange rate differences. Meanwhile, the rapid rise in corporate liabilities observed in 2010-2011 stopped and the ratio of foreign liabilities remained flat throughout 2012. Moreover, it is observed that the sectors which are borrowing in foreign currencies are predominantly sectors with stable foreign exchange income and provide high amounts of cash as collateral for their FX-denominated borrowings, curbing their susceptibility to debt-rollover as well as exchange rates risks. Firms' FX-loans are predominantly long-term and this is also regarded as favorable. A provision of the "Law on Collection Procedure of Public Claims" that is being discussed at the Turkish Grand National Assembly, stipulates that non-financial firms cannot classify up to 10 percent of their interest expenditures as expenses. It is expected that this provision would encourage firms to opt for equity capital rather than borrowing and thus contribute to financial stability.

Growth in household liabilities has been decelerating since mid-2011 and non-performing loans and unemployment rates have been on the decline. Moreover, the fact that household liabilities do not bear interest rate and exchange rate risk is perceived as another favorable factor. The rise in income

driven by recovery in the labor market coupled with the continued increase in consumer spending of households fuelled by consumer confidence lead to a decline in savings ratios despite the rise in income. In this framework, applying policies that encourage household savings such as the much-debated personal pension system, raising awareness about savings and carrying out activities on financial awareness are considered very important for financial stability.

Banking sector retains its high-quality and strong capital structure. Even if a moderate decline is expected in the sector's capital adequacy ratio once Basel II takes effect in July 2012, the ratio in question is expected to stay well above the legal limit of 8 percent and target ratio of 12 percent. Currently, Turkish banking system is already in the process of harmonization with Basel III and no major difficulties are expected in this process. In fact, in the framework of Basel III regulations, the share of core capital, which incorporates elements with high loss absorbency capacity, in Common Equity (Tier 1) Capital was 90 percent in March 2012.

The profitability of the banking sector started to increase again in the first quarter of 2012. Higher profitability compared to banks in other countries and building reserve items instead of paying dividends are factors that strengthen sector's equity capital.

Long-term maturity structure of external borrowing of banks extends the maturity of liabilities. Despite mounting uncertainties in the global financial markets, Turkish banking sector has no difficulty accessing external funding facilities. As the level of the Turkish banking sector's financial relations with distressed EU-countries is low, the impact of balance sheet downsizing operations of banks in the area is expected to be minimal. Moreover, it is worth noting that banks' ability to borrow from CBRT foreign exchange deposit markets, and foreign exchange and gold assets they keep to meet TL reserve requirements are adequate for the repayments of syndication and securitization loans coming due this year.

Even if the robust structure of the banking sector is favorable for financial stability, in the face of rapid changes in global markets, it becomes inevitable to implement macroprudential measures to minimize the impact of these changes on the sector. Decisions made regarding required reserves were policies implemented to meet this need. Moreover, upper limits for export rediscount credits extended through Eximbank, which is another important policy instrument that strengthens foreign exchange reserves and contribute to foreign trade rebalancing by supporting exports, have been raised and the utilization of these credits has been facilitated.

Required reserves have been actively used especially since 2010 to mitigate macroeconomic and financial risks and to maintain financial stability. Reserve requirement ratios have been differentiated across maturities and this has contributed to decreasing maturity mismatch between assets and liabilities. Taking into account the rapid rise in credits, required reserve ratios have occasionally been raised especially for short term liabilities. As of the second half of 2011, reserve requirement ratios have been eased taking into account the problems in advanced economies of Europe, the global economic slowdown triggered by these problems and domestic demand developments.

With a view to meeting the TL liquidity requirement of the Turkish banking system permanently and at a lower cost, facilitating banks' liquidity management, bolstering the build-up of the Central Bank's FX reserves and enabling timely, controlled and effective use of these reserves; a facility was introduced to allow banks to keep part of their reserve requirement for TL liabilities in foreign exchange and gold and to maintain a certain portion of reserve requirements for FX liabilities in gold.

With the latest change in reserve requirement implementation in May 2012, the upper limit for FX reserves that might be held to meet Turkish lira reserve requirements was raised from 40 percent to 45 percent. With the aim of narrowing the cost differential of maintaining the Turkish lira reserve requirements in Turkish lira or in FX and enabling banks to fully benefit from the facility, banks were allowed to hold Turkish lira reserve requirements in US dollar and/or Euro over the total amount calculated by multiplying the additional tranche, which corresponds to 5 percent of Turkish lira reserve requirements, by a coefficient of "1.4".

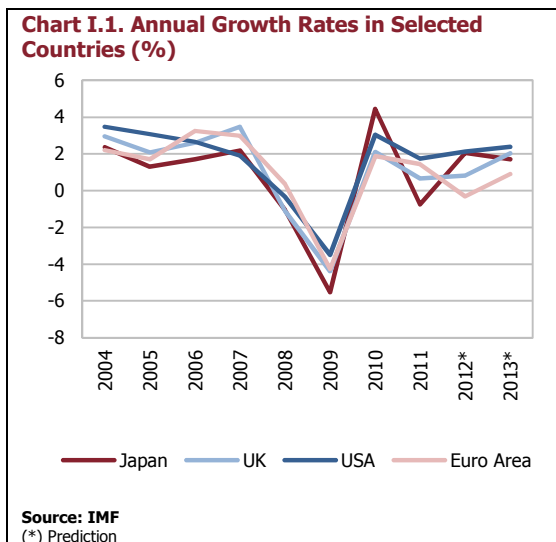
The upper limit of the mentioned facility might gradually be raised from 45 percent to 60 percent if necessary conditions are fulfilled. Likewise, the upper limit for standard gold reserves that may be held to maintain Turkish lira reserve requirements can be gradually raised from 20 percent to 30 percent with increasing coefficients. By using these facilities that are based on voluntary participation, banks will be able to adjust their FX assets at the CBRT according to their needs. Thus, the need for the CBRT to intervene in the market by either selling or buying foreign exchange will diminish and required reserves will contribute to decreasing exchange rate volatility by assuming the role of an automatic stabilizer.

Developments in technology and financial markets have once again demonstrated the importance of flawless functioning of payment and settlement systems with respect to the stability of the financial system. International principles on financial infrastructure are reviewed in light of new experiences gained during the crisis. As a member of the CPSS (Committee on Payment and Settlement Systems), the Central Bank of the Republic of Turkey actively contributes to the review of existing principles and to setting forth new approaches. Meanwhile, the Bank continues its activities regarding the revision of legislation on financial market infrastructure and closely monitors payments and settlement systems to ensure the flawless functioning of these facilities.

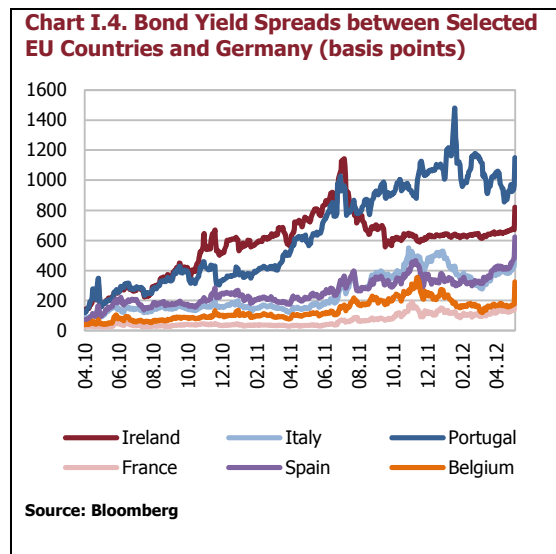
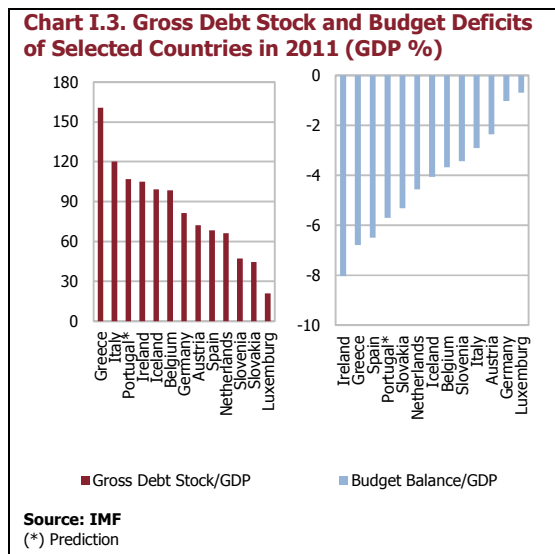
I. INTERNATIONAL DEVELOPMENTS

The impact of the global financial crisis still persists. Growth and unemployment ratios in advanced economies are more unfavorable compared to the pre-crisis period and due to the interconnected nature of markets, developing countries, which especially have close economic relations with EU countries, are faced with elevated risk of deteriorating economic performance. Fiscal problems in some EU countries', increased political uncertainties and failure to introduce lasting structural measures continue to have an adverse impact on the risk appetite of the markets and hamper the pace of exit from the crisis. The banking sectors of certain EU countries that have fiscal problems continue to carry most of the distressed assets on their balance sheets. Funding distress due to the decrease in the global risk appetite as well as the new capital requirements introduced by the EU put pressure on banks for deleveraging. Even if measures introduced by the authorities to overcome the liquidity squeeze in post crisis period eased the markets temporarily in the short run, in the long run, it is still crucial to take lasting structural measures towards minimizing the impact of the deleveraging of the EU banking sector on the corporate sector funding, credit flow between sectors, and consequently, on the global economic activity. Moreover, recent uncertainties about elections in some EU countries and concerns over Greece's future in the Euro area come to the fore as issues that spark hot debates. Should problems in the region fail to be settled and become more pronounced, they would have an adverse impact on global financial stability with a spillover effect.

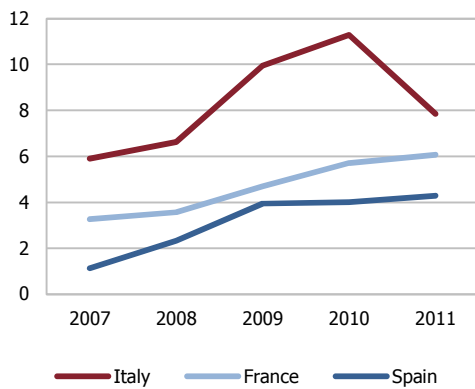
Recovery in global economic activity since the crisis has remained subdued. The lower-than-desired level of credit supply in developed countries coupled with deficient domestic demand hampers recovery in economic growth. Rising budget deficits during the crisis, especially in EU countries, have evolved into sovereign debt problems making it difficult for the authorities to implement fiscal stimulus policies. In fact, the decline in GDP growth rates of developed countries continued and international institutions have recently been downgrading growth prospects for 2012 and 2013 (Chart I.1, Chart I.2).



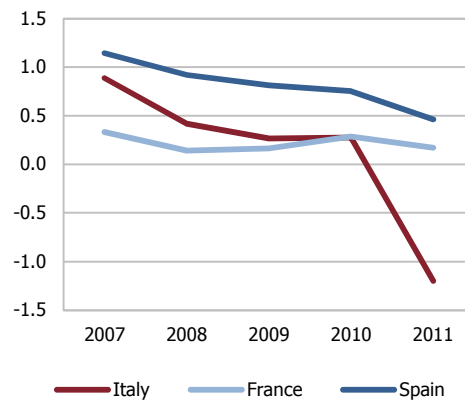
EU countries failed to introduce lasting measures to solve public finance problems and risks arising from some countries could not be contained due to political uncertainties in those countries. Many EU countries with sovereign debt problems have not yet introduced structural reforms due to political reasons. Even if there was a consensus on strictly monitoring budget deficit in EU countries and limiting the ratio of structural budget deficit to GDP by 0.5 percent, it is still unclear whether these measures will be put into practice or not in the upcoming period. Public reactions to the austerity measures introduced raise questions regarding the willingness of governments to continue with these measures. Meanwhile, concerns over debt sustainability of some EU countries, especially of Greece and Spain, fuels unrest in the market and bond auctions of these countries are closely monitored (Chart I.3, Chart I.4).



Banking sectors of EU countries that faced with rise in country risks experience a rise in credit risk and deterioration in profitability indicators. Banks are faced with the risk of deterioration in their asset quality due to decelerating economic activity and the persistent high level of unemployment. Moreover, the write-off part of the troubled assets on banks' balance sheets leads to a decline in these banks' profitability performances. In the upcoming period, banks are expected to write off additional losses especially in the framework of the Greek debt swap agreement (Chart I.5, Chart 1.6).

Chart I.5. Average NPL Ratios of Some Big Banks in Selected European Countries¹ (%)**Source: Bloomberg**

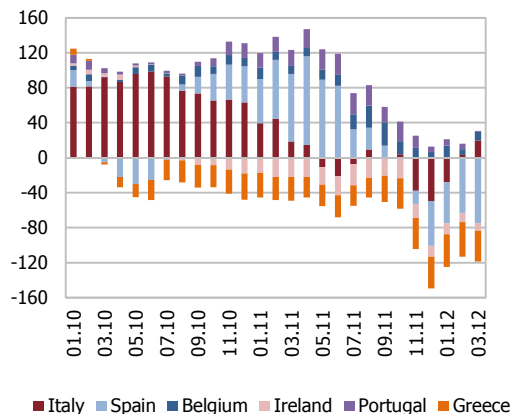
(1) BNP, Credit Agricole, Societe Generale, Santander, BBVA, Unicredito, Intesa, Banco Monte dei Paschi di Siena, which have undergone the ECB stress test, have been included in the analysis.

Chart I.6. Average Return on Assets of Some Big Banks in Selected European Countries¹ (%)**Source: Bloomberg**

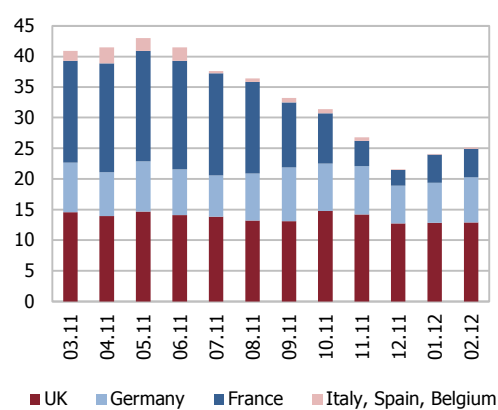
(1) BNP, Credit Agricole, Societe Generale, Santander, BBVA, Unicredito, Intesa, Banco Monte dei Paschi di Siena, which have undergone the ECB stress test, have been included in the analysis.

Funding problems of the banking sectors still continue in distressed EU countries.

Squeeze in the funds acquired via bond issues, deposits and US Money Market Funds (MMF) continued and thus, funding costs increased (Chart I.7, Chart I.8). As of the last quarter of 2011, deposits in banking sectors of distressed EU countries decreased significantly and accordingly, banks were in need of funding support from authorities (Chart I.11).

Chart I.7. Deposit Flows to Distressed EU Countries¹ (Billion Euro)**Source: ECB**

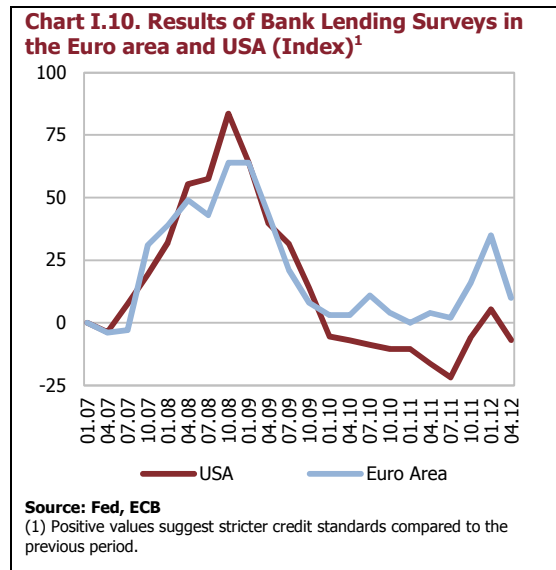
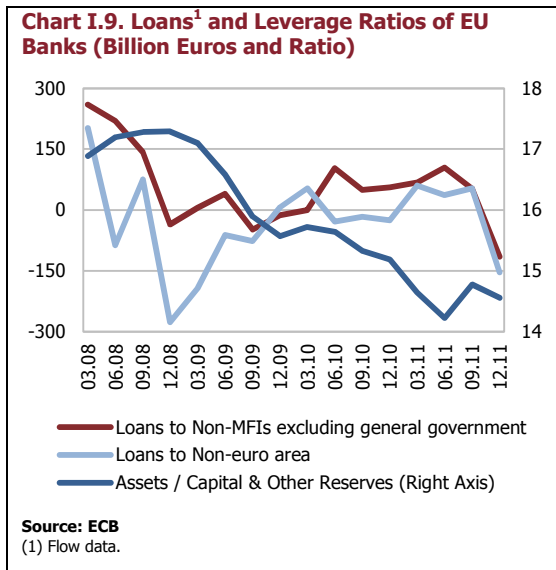
(1) Flow data of 12 months.

Chart I.8. US Money Market Funds to Selected EU Countries¹ (%)²**Source: Fitch**

(1) EU countries, which receive the highest funding from MMFs, have been selected.

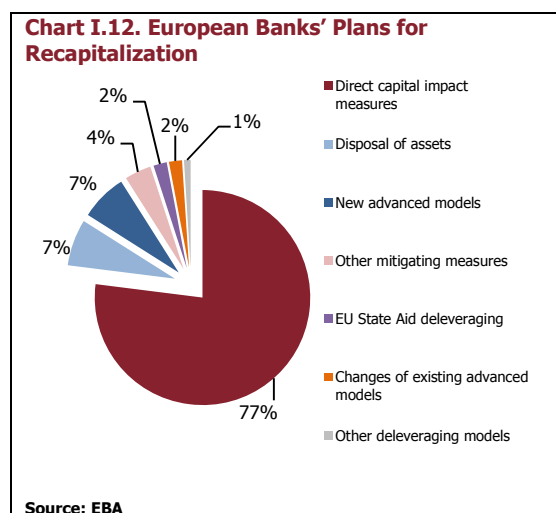
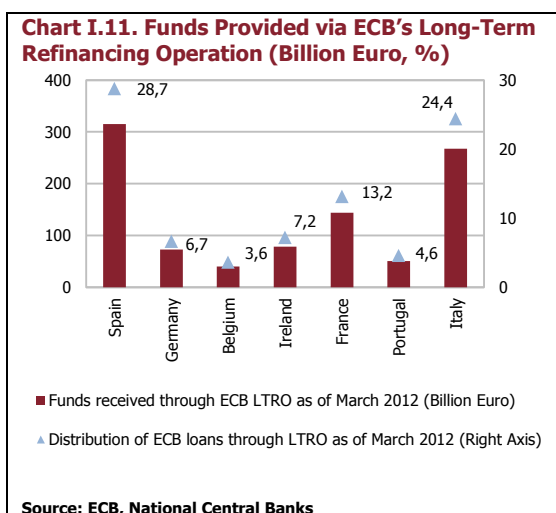
(2) Shows the share of MMFs in total assets.

Deterioration in credit quality, funding problems and additional capital requirements of EU banks urged these banks to deleverage or restructure their balance sheets. As a matter of fact, the result of the ECB's Bank Lending Survey suggests that banks in the Euro area are more reluctant to extend loans and further tightened credit conditions. This not only adversely affects credit growth in EU countries, but also hampers the recovery of economies. The conditions that EU banks are in might indirectly affect all sectors worldwide that have credit relations with these banks (Chart I.9, Chart I.10).

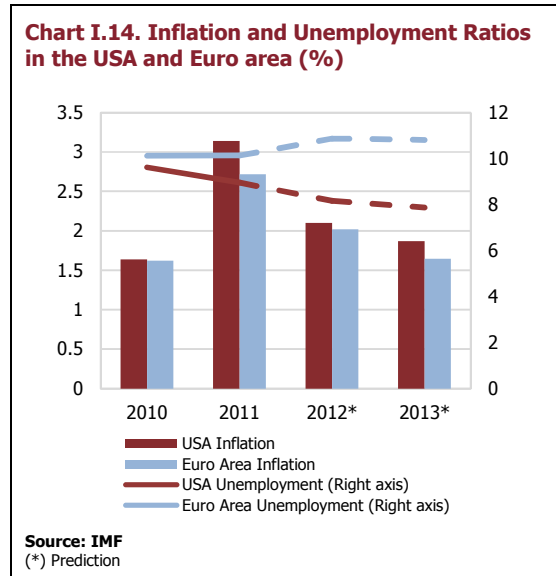
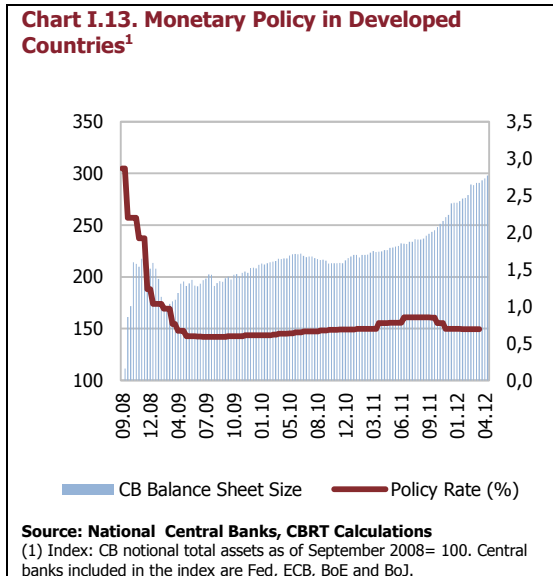


Rapid deleveraging in EU banks may have adverse consequences on a global scale. A rapid deleveraging trend of EU banks might have a negative effect on asset prices and in turn asset quality, and moreover, this could lead to deterioration in overall economic activity by causing contraction in the credit channel for the corporate sector. Nevertheless, such a trend could contribute to financial sector soundness by lowering the high leverage ratio of the non-bank sector in the medium term and encouraging banks to have a sounder balance sheet structure.

The ECB has introduced several measures to address European banks' funding problems while banks have revealed plans to strengthen their capital structures. The ECB provided Long-Term Refinancing Operation with a 3-year maturity to banks in December 2011 and February 2012 and extended the asset pool that can be accepted as collateral. Furthermore, it lowered the reserve requirement ratio from 2 percent to 1 percent. The said operations partly eased the funding problems of the banks. Meanwhile, according to the European Banking Authority's (EBA) assessments on banks' capital plans, most of the banks, which are in need of recapitalization to comply with the new EU capital standards, are expected to meet recapitalization needs by capital increase (Chart I.11, Chart I.12, Box I.1).



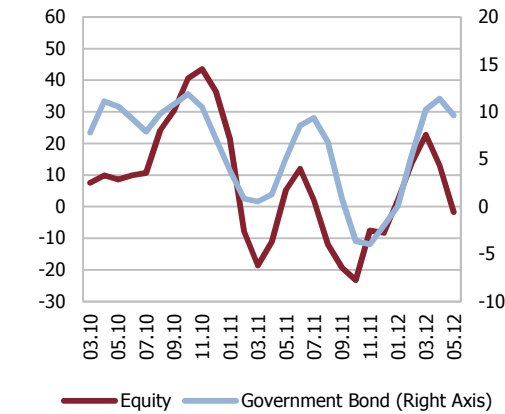
Due to the adverse macroeconomic outlook persisting in the post-crisis period central banks of developed countries continue to implement growth and financial stability-oriented monetary policies. While the ECB introduces measures to help the banking sector, the Federal Reserve maintains accommodating monetary policy on the grounds that unemployment rates are still high and the growth rate has not yet reached the desired level. Recent evaluations suggesting a slowdown in recovery in the US increase the probability of kick starting the third wave of quantitative easing. The Bank of England (BoE) and Bank of Japan (BoJ) continue to stick to expansionary policies amid growth concerns (Chart I.13, Chart I.14).



Problems in Europe expose banking sectors of developing countries to funding risk.

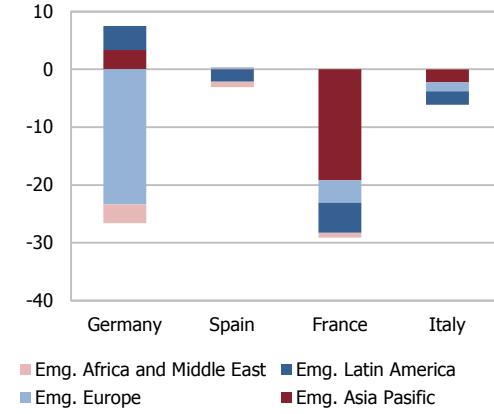
Developing countries with high foreign participation in their banking sector have problems receiving funds from the parent country. Additionally, the funding channels of developing countries whose banking sectors rely mostly on wholesale funding from international markets are contracting due to deterioration in the global risk appetite. Moreover, the European bank's tendency to tighten credit conditions affects developing countries as well. In fact, cross-border positions are affected primarily from deleveraging operations of the banking sectors of distressed EU countries. The rising risk appetite owing to accelerating political uncertainties has caused a decline in capital flows to developing countries mainly through equity investments. Nevertheless, bond issues, other domestic funding sources and funds from non-European investors partly offset the decline in financing from European banks (Chart I.15, Chart I.16). The high capital adequacy and profitability ratios of banking sectors of developing countries act as a buffer for those countries.

Chart I.15. Capital Flows to Developing Countries¹ (Billion USD)



Source: IMF
(1) Data derived from the sum of previous quarters.

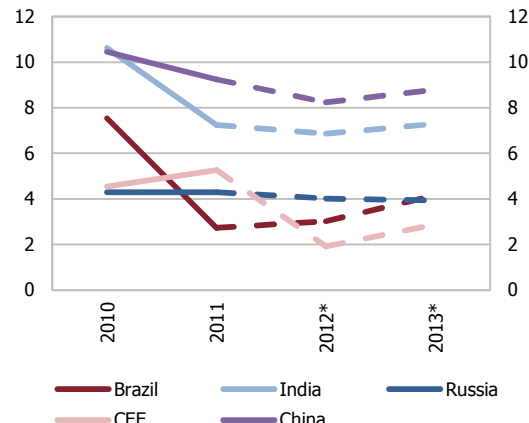
Chart I.16. Change in Receivables of Selected European Banking Sectors from Developing Countries by the end of 2011¹ (Billion USD)



Source: BIS Consolidated Banking Statistics
(1) Denotes change in cross-border receivables by end-2011 compared to end-2010.

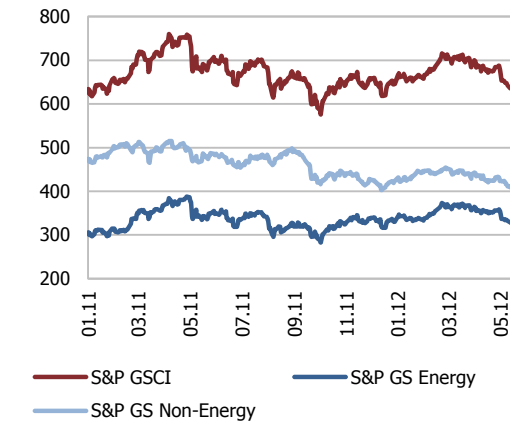
While countries with a savings gap are affected by the slowdown in Europe through the funding channel; those that have close commercial ties with the region are affected through the trade channel. Central and Eastern European (CEE) countries, which have close commercial ties with the EU due to geographical proximity and have substantial shares of EU-based banks in their banking sectors, feel the impacts of the crisis directly. Moreover, a slowdown is expected for countries that have intense commercial relations with EU and trade surplus like China, due to the contraction in demand in the EU. Meanwhile, the worldwide weakness in demand causes a decline in commodity prices (Chart I.17, Chart I.18).

Chart I.17. Annual Growth in Developing Countries (%)



Source: IMF
(*) Prediction

Chart I.18. Commodity Prices (Index)



Source: Bloomberg

In conclusion, the global economic outlook displays a negative prospect due to the EU-based problems. Even if measures taken by the authorities in developed countries to solve the post-crisis problems have rendered some degree of ease, political uncertainties and the absence of structural measures still hamper economic recovery. The rapid deleveraging of the European banks might lead to deterioration in economic activity by slowing down the flow of funds to the corporate sector. Still, financial stability can be enhanced in the medium term if banks get rid of the distressed assets from their balance sheets and prefer safer assets. In this framework, finding alternative sources of funding becomes more important for countries that are affected by distressed EU banks via

the funding channel. Moreover, concerns over Greece's future in the Euro area have been escalating and the potential impacts of developments of this issue on the global financial system should be evaluated carefully.

Box I.1. Deleveraging of International Banks and Their Impacts on Developing Countries: An Overview

The banking sectors of developed countries, the leverage ratios of which had reached rather high levels in the pre-crisis period, were caught by the crisis with a vulnerable balance sheet structure suffering relatively low capital quality and ratios. In the post-crisis period, banking systems were urged to decrease the risks and high leverage ratios by international regulations such as systemically important financial institutions (G-SIFI), Basel III, resolution regimes, over-the-counter derivatives markets as well as some national and regional regulations. Currently, US banks have succeeded in decreasing leverage ratios while banking sectors in EU countries are behind the schedule. This is mainly driven by the fact that not only the banking sector, but also the governments in Europe have high indebtedness and that European banks are in need of more non-deposit funding. As a matter of fact, the policies that will probably affect developing countries in the upcoming period are expected to emanate from the European Union.

In the light of the experience gained from financial crisis, it can be asserted that lowering the levels of indebtedness of banks would contribute to global financial stability. On the other hand, the impact of policies to be implemented for deleveraging of the European banking sector on developing countries will vary depending on the type of policies. If the leverage ratio is defined as the ratio of assets to capital, then there are two methods to reduce this level: The first of these is increasing the denominator –the capital-; the second is decreasing the numerator –the assets-. Even if the first method – increasing the capital- is perceived as more preferable, sounder and a choice less harmful to developing countries; the views to support the chances of banks being able to realize this in the market under current circumstances is rather low. In the second method, European banks are expected to tighten the lending and funding facilities they provide to developing countries; in other words, to downsize their balance sheets. This would probably affect resources to be transferred to the corporate sector and thus growth rates.

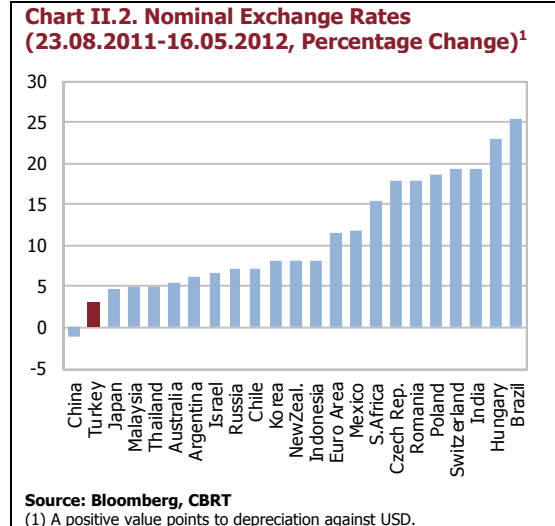
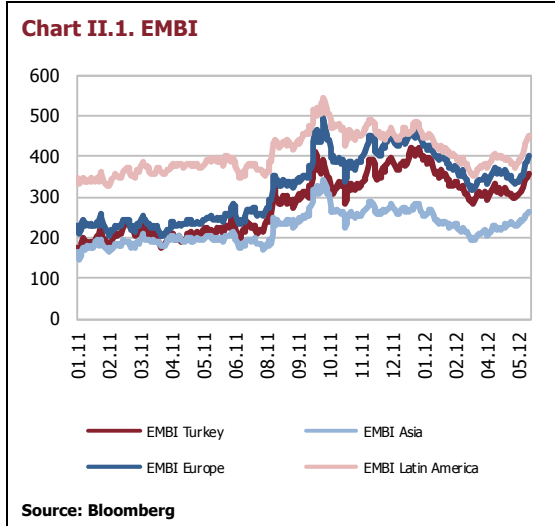
The IMF's Global Financial Stability Report (April 2012), having mentioned the prevailing uncertainties, predicts a downsizing amounting to Euro 2.0 trillion, or almost 7 percent of total assets, in the consolidated balance sheet of the European banks. These figures are based on the assumption that the political authorities in Europe will implement the policies that they have decided on. It is also predicted that the level of impact of deleveraging on developing countries will vary and that emerging EU-member countries will be those most severely affected. This is a natural outcome of the close relations of those countries with banks based in developed countries in Europe. Accordingly, emerging EU member countries may face a 4 percent decline in private credits. The IMF predicts that this ratio would be 3 percent in emerging non-EU countries like Russia and Turkey and become even lower in other emerging economies in Latin America and Asia. Clearly, the impact of this deleveraging would change depending on countries' individual vulnerabilities, fluctuating capital movements and policies implemented in each country.

In this framework, it is crucial for developing countries to implement flexible economic policies that can adapt to changes swiftly. Moreover, these countries would have to find alternative sources of financing and start initiatives to this end to ensure deepening in their domestic markets. This is necessary for them to minimize the impact of particularly deleveraging policies and generally external shocks. Consequently, the timely introduction of structural reforms in the developing countries, to curb the impact of global imbalances emanating from the latest financial crisis, is of vital importance.

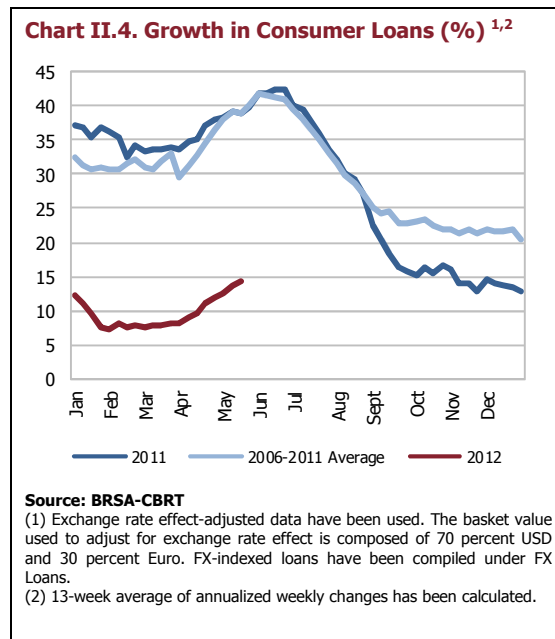
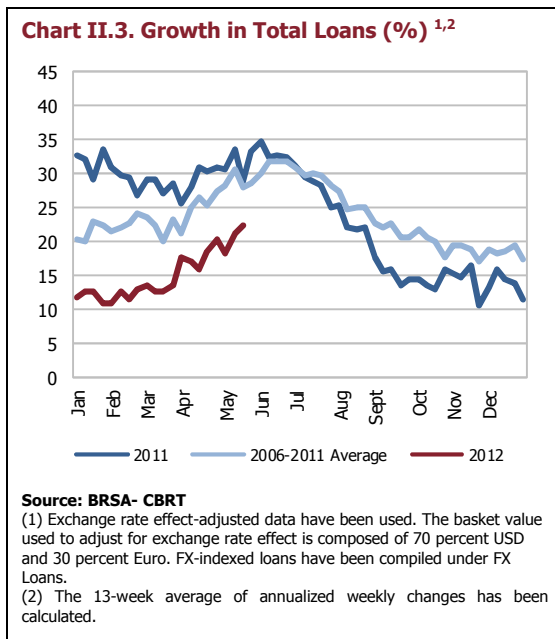
II. DOMESTIC ECONOMIC OUTLOOK

Vulnerabilities in global financial markets and developments in the global economy continue to affect the Turkish economy. In 2011, economic activity remained strong, albeit with a slowdown, and growth in domestic demand was contained with the measures taken by the Central Bank of the Republic of Turkey and other authorities. Meanwhile, the contribution of net exports to growth significantly increased and the rebalancing in demand components continued. Since August 2011, the depreciation of TL against USD has remained limited compared to other currencies owing to the tight monetary policy stance of the CBRT coupled with the favorable global risk appetite in the first quarter of 2012. The positive trend of the foreign trade balance continued in the first quarter of 2012 and consequently, the improvement in the current account balance was markedly reflected in the 12 month cumulative data. Moreover, the share of long-term borrowings in financing the current account deficit remains high. Total loans and consumer loans continue to rise at a moderate pace, the growth rate of household liabilities slow down beginning from the second half of 2011 and corporate liabilities decreased compared to 2011 year-end. Public finance indicators continued to be encouraging on the back of the rise in tax revenues owing to strong economic activity and curbed public spending. Inflation displayed an upturn in the second half of 2011 due to the depreciation of Turkish lira and arrangements in administered prices. Since economic rebalancing continued as predicted and the growth composition achieved a sounder basis, the CBRT started to tighten monetary policy as of October 2011 with the aim of preventing any deterioration in inflation expectations and to control pricing behavior. In the upcoming period, the CBRT will continue to take all necessary measures to ensure the primary objective of price stability as well as financial stability.

In the first quarter of 2012, Turkey's risk premium decreased due to developments in the global risk appetite and rebounded as of the beginning of the second quarter as the improvement in perceptions regarding the global economy were disrupted. In the last quarter of 2011, the deterioration in risk perceptions towards developing countries continued due to escalating problems in the Euro area. In the first quarter of 2012, concerns over this area were eased stimulating a notable improvement in the global risk appetite and a decline in the risk premia of developing countries; however, the risk premia bounced back as the improvement in perceptions were disrupted at the beginning of the second quarter. In the period subject to analysis, Turkey's risk premium followed a similar path with other developing countries (Chart II.1). Although depreciation of Turkish lira against USD between November 2010 and August 2011 was higher compared to depreciation of other currencies against USD, since August 2011 the depreciation of Turkish lira against USD has been limited compared to the depreciation of other currencies owing to CBRT's provision of foreign exchange liquidity amounting to USD 16 billion, the tight monetary policy stance and the positive global risk appetite in the first quarter of 2012 (Chart II.2).

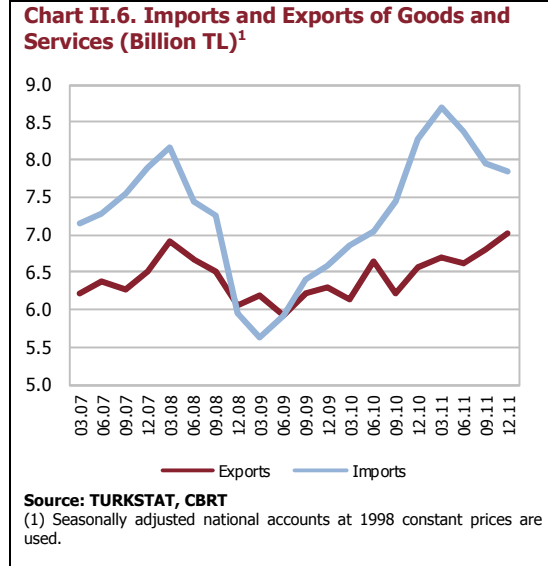
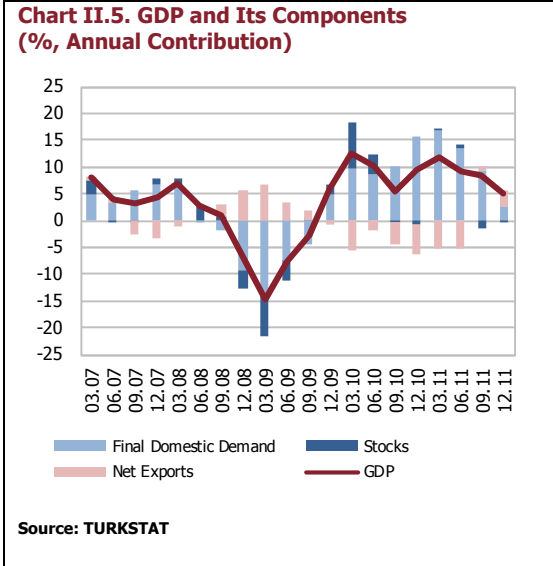


Growth in total loans and consumer loans is reasonable. The annual rate of growth in seasonally adjusted loans, which was higher in the first half 2011 compared to the average value of previous years, has been significantly slowing down since mid-2011. Although credit growth, which was 22.4 percent by mid-May 2012, is below the average values of 2010 and the previous years, it contains some seasonal effects (Chart II.3). Consumer loans grew at a subdued pace and credit growth was mainly driven by corporate loans as intended. By mid-May 2012, growth in consumer loans and corporate loans were 14.4 percent and 25.1 percent, respectively (Chart II.4).



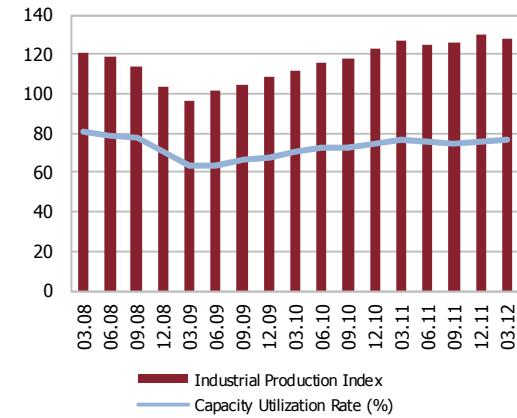
In 2011, economic activity was robust, albeit with decreased pace while growth of domestic demand was contained and the net exports' contribution to growth significantly increased. The GDP grew by 8.4 percent and 5.2 percent annually in third and fourth quarters of 2011, respectively. Thus, GDP, which grew by 9.2 percent in 2010, increased by 8.5 percent in 2011. Economic activity lost pace as of the first quarter of 2011. Even if growth in the GDP was mainly driven by domestic demand, the contribution of domestic demand to growth significantly decreased especially during the last two quarters while that of net exports was positive and net external demand

became the expenditure component making the highest contribution to growth (Chart II.5). Underpinned by the depreciation of the Turkish lira and the rise in Turkey's share in alternative markets such as Africa and the Middle East, exports turned positive by mid-2011 while imports decreased due to the depreciation of the Turkish lira and decrease in domestic demand resulted from the measures taken (Chart II.6). This picture suggests that the rebalancing among demand components increasingly continues.



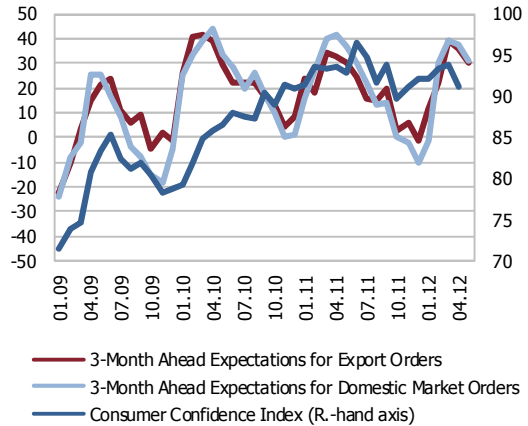
Even if data pertaining to the first quarter of 2012 suggest that the slowdown in economic activity continues, growth is expected to follow a modest trend throughout 2012. Data pertaining to industrial production and capacity utilization for the first quarter of 2012 indicate that the slowdown in economic activity continued in this quarter as well. In seasonally adjusted terms, the quarterly average capacity utilization rates of manufacturing industry in March 2012 are very close to the average values of the previous quarter while the quarterly average of the industrial production index is below the quarterly average of the previous quarter (Chart II.7). Nevertheless, the mentioned developments are believed to reflect mainly some temporary factors such as external uncertainties and adverse weather conditions. As indicators reflecting expectations about the economy such as consumer confidence indices and order expectations exhibit moderate signs of recovery (Chart II.8), it is predicted that production would rebound as of the second quarter and economic growth would continue albeit at a slower pace compared to previous years.

Chart II.7. Industrial Production and Capacity Utilization (2005=100, Quarterly Average)¹



Source: CBRT, TURKSTAT
(1) Seasonally adjusted data.

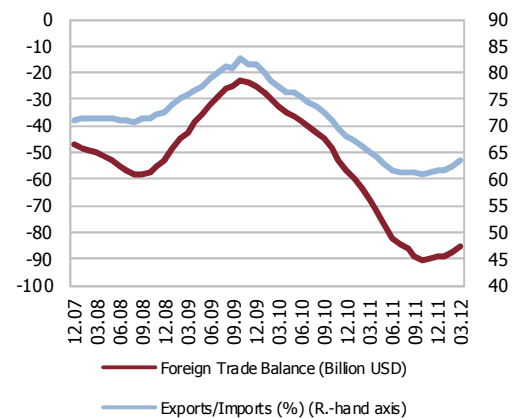
Chart II.8. 3-Month Ahead Expectations for Orders (%) and Consumer Confidence Index



Source: CBRT, TURKSTAT

The positive trend in the foreign trade balance continued in the first quarter of 2012 and thus, the improvement in the current account balance is observed evidently on 12-month cumulative data. The foreign trade balance, which was USD 89.5 billion at the end of 2011, decreased to USD 85.5 billion in March 2012, in annual terms. The ratio of imports covered by exports, which was 61.6 percent at the end of 2011, rose to 63.3 percent as of March 2012 (Chart II.9). In tandem with improvement in the foreign trade balance, the current account deficit, which was USD 77.2 billion annually at the end of 2011, decreased to USD 71.8 billion in March 2012 despite the rise in energy prices (Chart II.10). Owing to continued rebalancing in demand components in the first quarter, the improvement in the current account balance became clearer in the 12-month cumulative data.

Chart II.9. Foreign Trade Balance



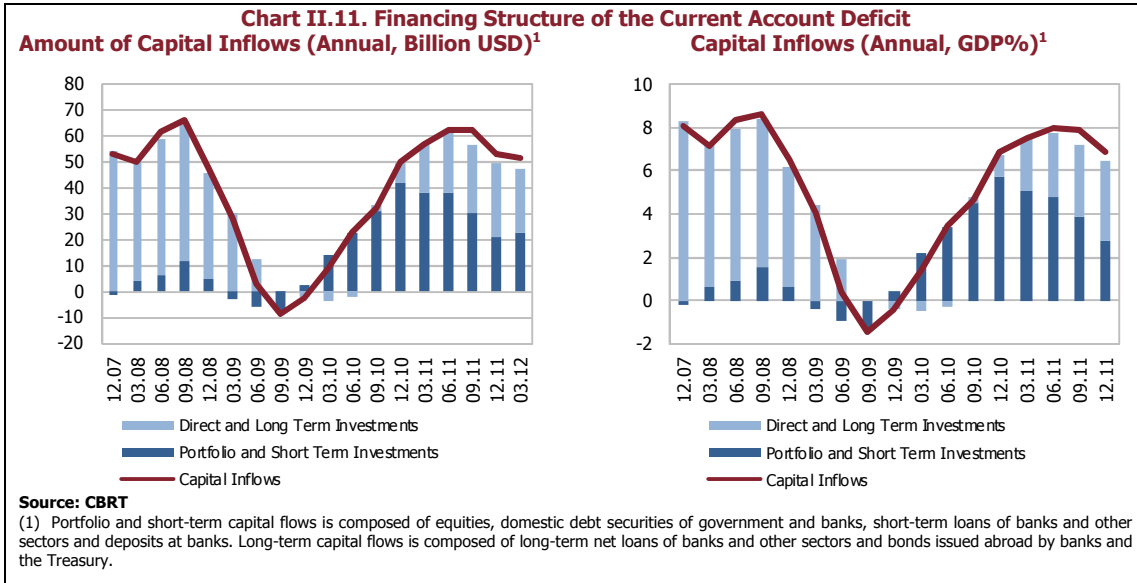
Source: CBRT

Chart II.10. Current Account Deficit (Annual, Billion USD)

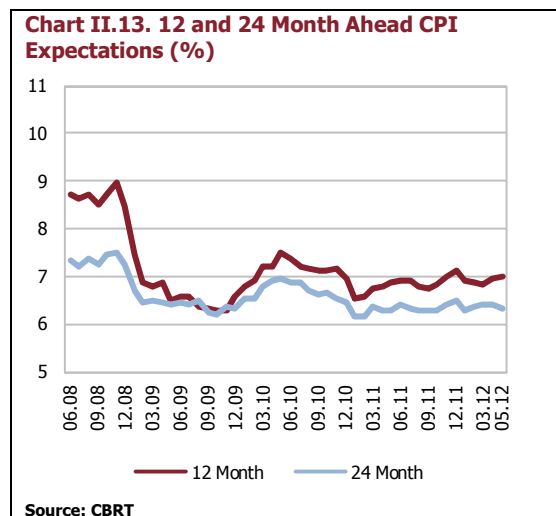
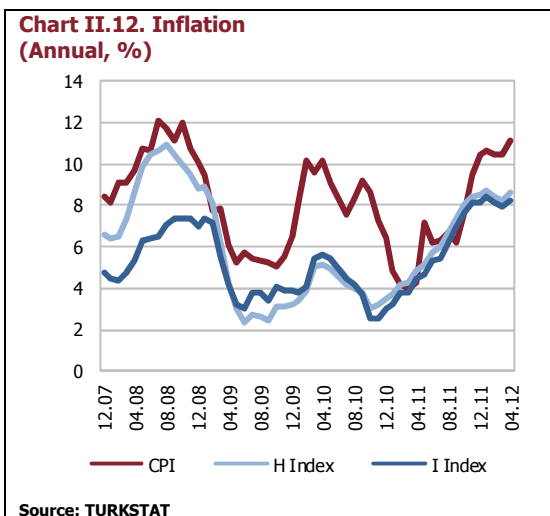


Source: CBRT

The share of long-term borrowing in financing the current account deficit is higher compared to that of the crisis period. The ratio of annual net capital inflows to GDP, which was 6.8 percent at the end of 2010, became 6.9 percent at the end of 2011 (Chart II.11). While the share of direct investments and long-term inflows in capital inflows has increased significantly compared to end-2010, this reveals that the quality of financing of the current account deficit improved and a change has occurred in favor of long-term capital inflows in the said period.

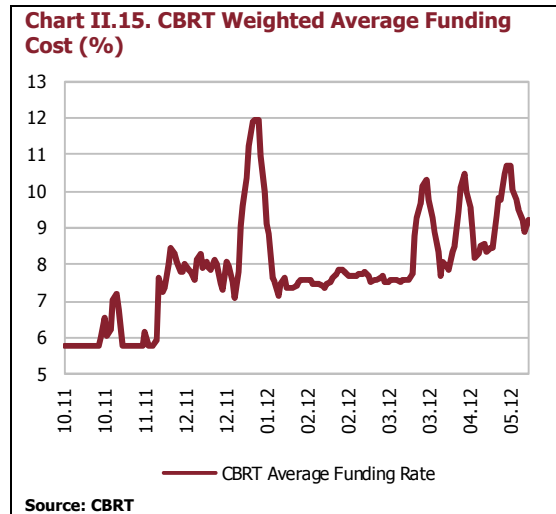
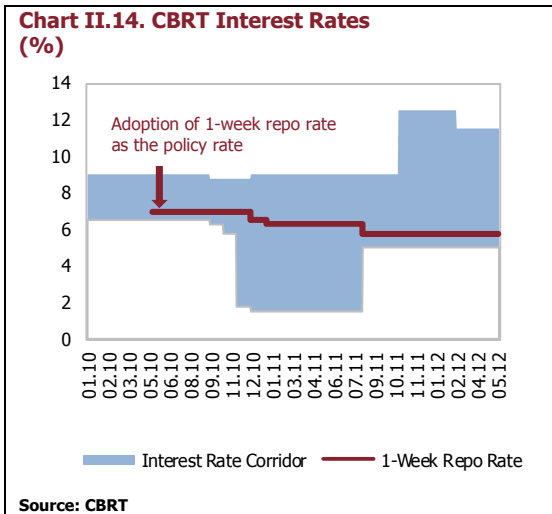


Depreciation of the Turkish lira in the second half of 2011 coupled with price adjustments in administered products and higher energy prices led to a rise in inflation. The annual consumer prices index (CPI), which was 6.4 percent at the end of 2010, rose to 11.1 percent in April 2012 due to increased prices of core goods stemming from the depreciation in the Turkish lira, price adjustments in administered products and the faster-than expected rise in energy prices. In the same period, prices of services, which followed a moderate trend, became a factor curbing a further rise in the CPI. Annual inflation in core inflation indicators H and I, followed a similar to that of annual inflation in core goods and became 8.6 percent and 8.2 percent, respectively (Chart II.12). Inflation expectations, which displayed an upward trend towards the end of the year, remained flat in the first quarter of 2012. Inflation expectations over the next 12 and 24 months became 7 percent and 6.3 percent at the end of May (Chart II.13). Inflation is expected to follow a fluctuating trend in the upcoming period and then assume a downward trend in the last quarter of the year.

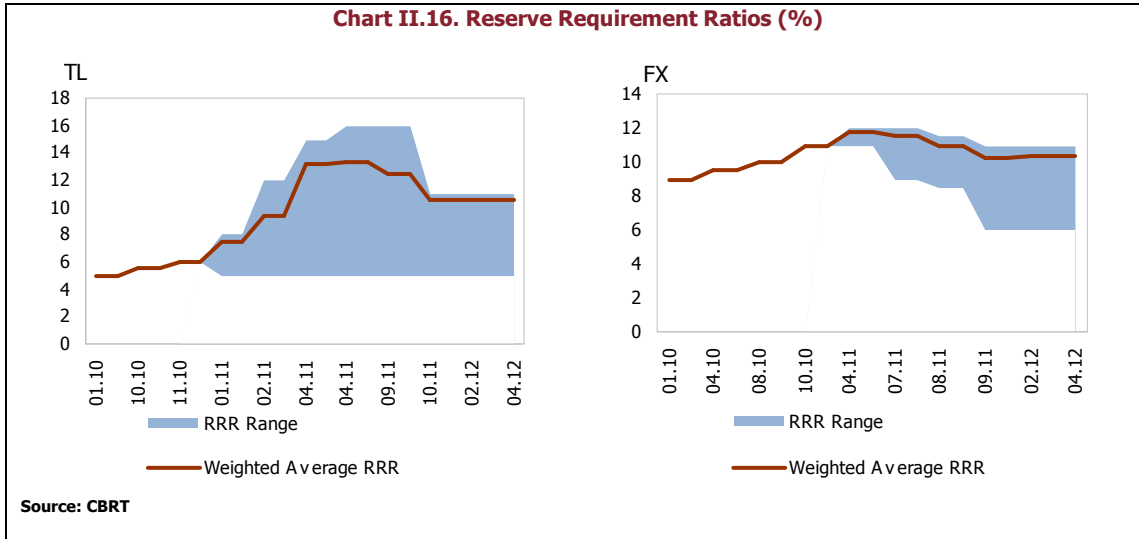


Besides the macroprudential measures that it had been implementing, the CBRT started to focus on price stability from October 2011 to prevent any deterioration in

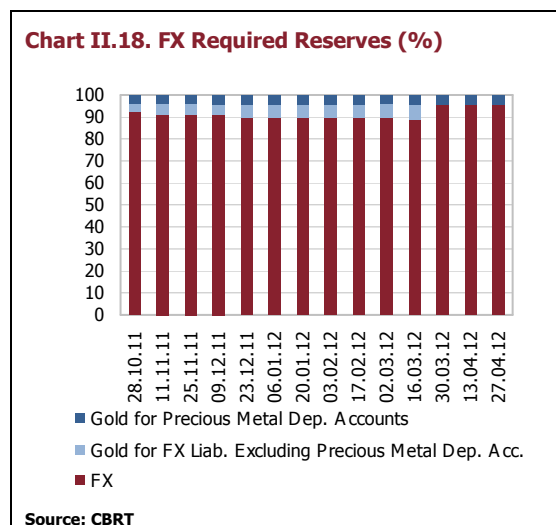
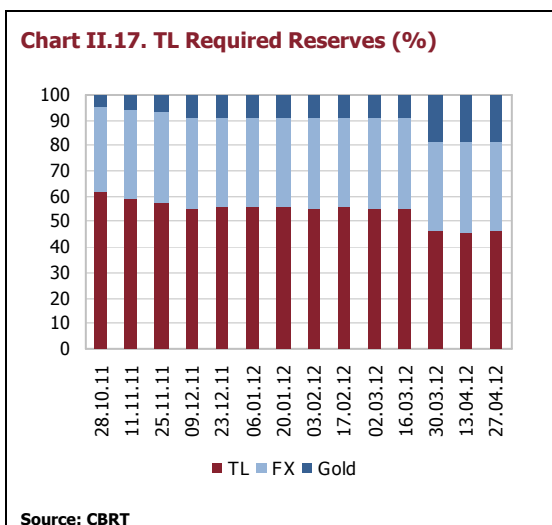
pricing behaviors that can be triggered by the rise in inflation. The economic rebalancing process helped to achieve a sounder structure in the growth composition and the current account deficit started to narrow as predicted. Meanwhile, in order to prevent the recent rise in inflation from causing deterioration in pricing behavior, the CBRT focused on price stability. Accordingly, from October 2011, the interest rate corridor was widened upwards and a strong monetary tightening was implemented with effective liquidity operations. Moreover, taking advantage of the flexibility of the monetary policy implemented, additional monetary tightening operations have been held a total of 4 times: in December, March, April and May. In the mentioned tightening periods, the CBRT decreased the amount of funding in the quantity auctions and thus, raised the average cost of liquidity that it provided to the market. Meanwhile, acting upon the favorable atmosphere related to the agreement reached for the settlement of debt problems in the Euro area and the increased global risk appetite, The Monetary Policy Committee (MPC) slightly decreased the overnight lending rate -the upper limit of the interest rate corridor- to 11.5 percent (Chart II.14, Chart II.15).



The CBRT continues to actively use required reserves and the export rediscount credit facility to maintain effective liquidity management and to strengthen reserves. The reserve requirement ratios have not changed since October 2011 and the weighted average Turkish lira reserve requirement ratio has been 10.5 percent and the foreign exchange reserve requirement ratio has been 10.3 percent (Chart II.16).



In the framework of the macroprudential policies, in March 2012, the reserve requirement implementation was changed so as to strengthen foreign exchange and gold reserves and meet banks' liquidity requirements in a lasting and flexible manner. Accordingly, while the upper limit for gold that may be held to meet Turkish lira reserve requirements was raised from 10 percent to 20 percent; the limit for gold that may be held to meet reserve requirements for foreign currency liabilities excluding precious metal deposit accounts was decreased from 10 percent to 0 percent. Owing to the new regulation, which took effect as of the calculation period starting on 30 March 2012 and from the maintenance period commencing on 13 April 2012, the ratio of gold maintained for Turkish lira required reserves increased from 8.9 percent to 18.2 percent as of the maintenance period starting on 27 April 2012 (Chart II.17, Chart II.18). The changes stimulated a rise of USD 1.3 billion in CBRT's FX reserves and USD 1.5 billion in gold reserves (27 tons) and TL 4.9 billion were injected to the market.



The banks have been intensely and steadily using the facility of maintaining the Turkish lira reserve requirements in foreign currencies. The across-the-sector utilization ratio of this facility was 89.3 percent by 11 May 2012. With a recent change announced on 29 May 2012,

the upper limit of the above-mentioned facility, which was 40 percent, was raised to 45 percent. With the aim of narrowing the cost differential between maintaining the Turkish lira reserve requirements in Turkish lira or in FX, and enabling banks to fully benefit from the new facility, banks are allowed to hold Turkish lira reserve requirements in US dollar and/or euro by multiplying the additional 5 percent with a coefficient of "1.4". Should the new facility, which will be effective as of the calculation period dated 8 June 2012 and the maintenance period will begin on 22 June 2012, be used effectively, CBRT reserves will increase by USD 2.1 billion and the CBRT will inject TL 2.8 billion to the market (Table II.1). The upper limit of the mentioned facility can gradually be raised to 60 percent if the necessary conditions are fulfilled and a different coefficient will be used for each level. Likewise, the upper limit for gold that may be held to meet Turkish lira reserve requirements can gradually be raised to 30 percent with increasing coefficients. This facility is based on voluntary participation and with this, banks will choose to keep their FX assets at the Central Bank when sources are plentiful, and they will be able to draw their assets when they need to. Thus, the CBRT's urge to intervene in the market by either selling or buying foreign exchange will diminish and required reserves will contribute to decreasing exchange rate volatility by assuming the role of an automatic stabilizer.

Table II.1 Reserve Requirements as a Macroprudential Policy Tool¹

A. Tightening Measures		B. Expanding and Reserve Building Measures	
30.04.10	Increase in FX RRR	22.07.11	Decrease in FX RRR
06.08.10	Increase in FX RRR	05.08.11	Decrease in FX RR
01.10.10	Increase in TL and FX RRR	16.09.11	Facility of holding up to 10% of TL RR as FX
12.11.10	Increase in TL RRR	30.09.11	Decrease in FX and TL RRR , Differentiation of other TL RRR according to maturity, Facility of holding up to 20% of TL RR as FX
07.01.11	Differentiation of TL RRR according to maturity, Repo was subjected to RR	14.10.11	Precious Metals was subjected to RR, Facility of maintaining the whole RR held against the precious metal deposit accounts and up to 10% of RR for foreign currency liabilities excluding precious metal deposit accounts as gold
04.02.11	Increase in TL RRR	28.10.11	Decrease in TL RRR, Facility of maintaining up to 10% of TL RR as gold, Facility of holding up to 40% of TL RR as FX
01.04.11	Increase in TL RRR	30.03.12	Facility of maintaining up to 20% of TL RR as gold and abolishing of the facility of maintaining up to 10% of RR for foreign currency liabilities excluding precious metal deposit accounts as gold
29.04.11	Differentiation of FX RRR according to maturity, Increase in TL RRR	08.06.12	Facility of holding up to 45% of TL RR as FX, maintaining of last %5 bracket by multiplying with 1,4 coefficient

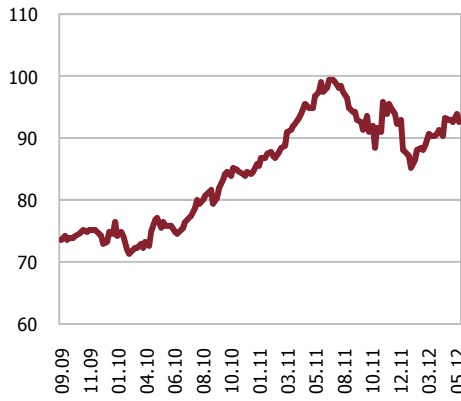
(1) Dates show calculation period.
Source: CBRT

CBRT's reserves including gold have started to increase owing to the recent policy implementations. At the end of 2011, CBRT reserves dropped to USD 88.2 billion due to foreign exchange sales. CBRT reserves, which was USD 86.4 billion in January, started to rise again following the MPC meeting suspending foreign exchange selling auctions and reached USD 92.8 billion by 18 May 2012 owing to the rise in the upper limit for foreign exchange that may be held to fulfill the Turkish lira reserve requirement, to the rise of the upper limit for standard gold reserves that may be held to fulfill the Turkish lira reserve requirement from 10 percent to 20 percent and increased utilization of export rediscount credits (Chart II.19). USD 12.8 billion of these reserves is made up of gold reserves and has increased by 111.6 percent since September 2011 (Chart II.20).

Export rediscount credits, which are extended in Turkish lira and repaid in foreign currencies, make a significant contribution to foreign exchange reserves. The utilization of export rediscount credits started to gain pace from the second half of 2011 onwards owing to the rise

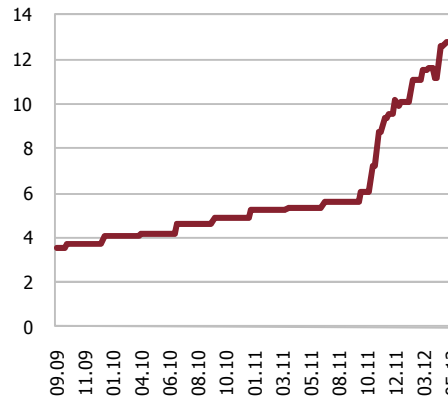
in credit limits and easing of credit conditions. USD 1.6 billion worth of export rediscount credits extended in the September-December 2011 period made a contribution to CBRT reserves of the same amount in the first four months of 2012. The total amount of export rediscount credits, which increased to USD 3.1 billion in 2011, became USD 2.8 billion in the first four months of 2012 and reached USD 3.2 billion by 18 May 2012. Should the rise in demand for export rediscount credits continue at this pace, the total amount of export rediscount credit utilization in 2012 is expected to reach USD 10 billion and make an overall contribution of USD 8 billion to foreign exchange reserves.

**Chart II.19. CBRT Reserves
(Gold included, Billion USD)**



Source: CBRT

**Chart II.20. CBRT Gold Reserves
(Billion USD)**



Source: CBRT

Box II.1. Export Rediscount Credits as a Tool to Raise Reserves and Support Exports

The export rediscount credits that are extended to exporters in Turkish liras with a maturity of 4 months by the Central Bank of Turkey via banks by accepting FX-denominated bills for rediscount pursuant to Article No: 45 of the Bank Law is a tool that raises reserves as they are repaid in foreign exchange on the due date. Moreover, they also contribute to the rebalancing of trade by supporting exports.

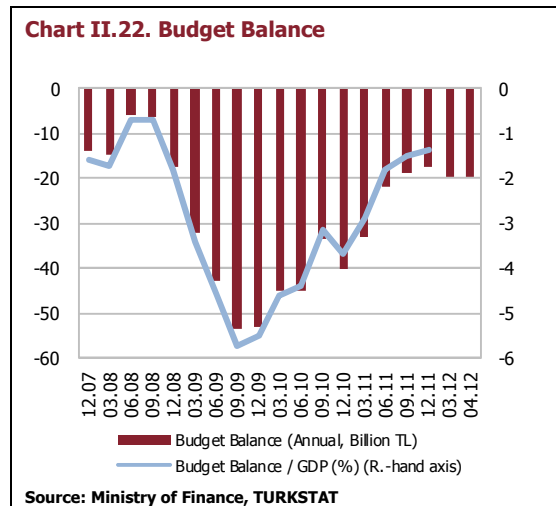
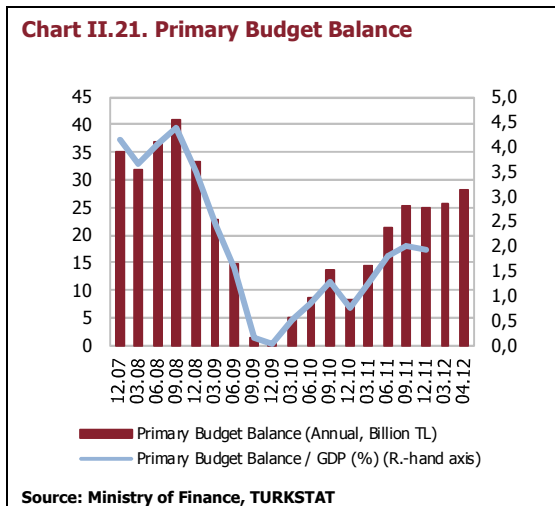
The upper limit for export rediscount credits, which was determined as USD 3 billion in September 2011, was raised to USD 5.5 billion in 2012; while USD 5 billion was allocated to Eximbank for pre-shipment and post-shipment financing of exports; USD 500 million was allocated to banks for post-shipment financing. Credit limits based on the type of company have increased to USD 90 million for foreign trade capital companies and USD 50 million for other companies.

The utilization of export rediscount credits gained pace from the second half 2011 onwards due to the easing of credit conditions and the rise in the upper limit and became USD 3.1 billion in 2011. Should the demand for export rediscount credits, which further accelerated in 2012 and reached USD 3.2 billion by 18 May 2012, continue to rise at this pace, the total amount of export rediscount credit utilization in 2012 is expected to reach USD 10 billion and make an overall contribution of USD 8 billion to foreign exchange reserves.

Interest rates for export rediscount credits are based on LIBOR/EURIBOR interest rates which make them quite convenient and lower exporters' financing costs; the rise in the number of firms utilizing these credits, as well as the sectoral and regional distribution of these firms, contributes to the diversification of export markets and export products.

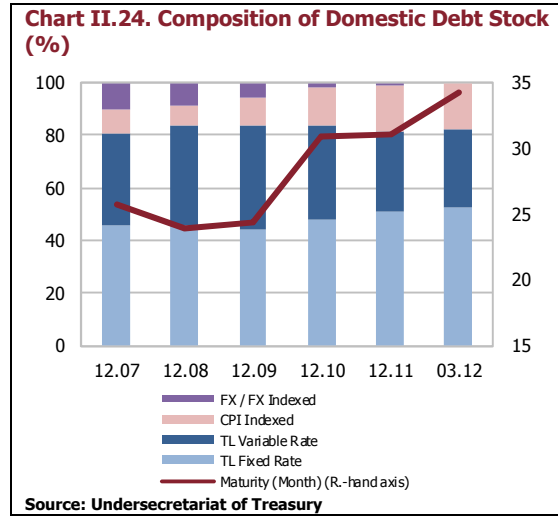
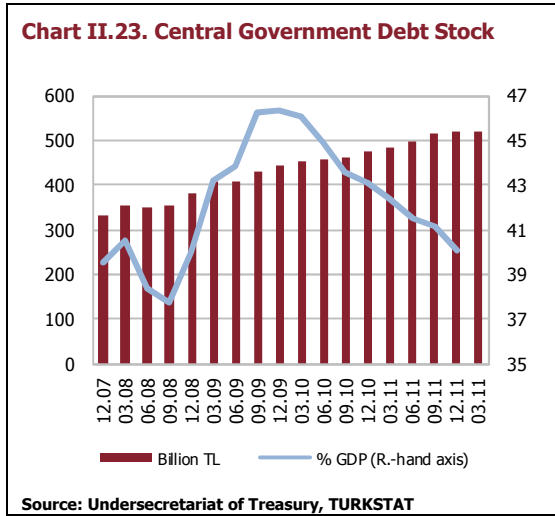
Strong economic activity and curbed public spending continue to support the favorable outlook in public finance. The improvement in budget performance in 2011 compared

to 2010 was mainly driven by the rise in tax revenues owing to faster-than-predicted growth and decline in interest expenditures. Moreover, the relative slowdown in the growth pace of non-interest expenditures and extra budget revenues amounting to USD 13.3 billion incurred in the framework of the "Law on Restructuring of Public Receivables" made a significant contribution to public finances. Consequently, budget performance followed a favorable trend and central government primary budget surplus, which was TL 8.2 billion at the end of 2010, reached TL 24,8 billion by the end of 2011 (Chart II.21). Meanwhile, the central government budget deficit, which was TL 40.1 billion at the end of 2010, decreased to TL 17.4 billion by the end of 2011. The budget deficit, which accounted for 3.6 percent of GDP at end-2010, was down to 1.3 percent of GDP by the end of 2011. By April 2012, the central government budget deficit slightly increased compared to end-2011 and became TL 19.4 billion (Chart II.22). This rise was mainly driven by the 32 percent year-on-year increase in interest expenditures in the January-April period of 2012. Actually, the central government primary budget surplus became TL 28 billion indicating a rise compared to end-2011 (Chart II.21). The rise in interest expenditures emanated from the maturity structure of debt stock and it is expected to decelerate in the upcoming months. Moreover, the relative decline in tax revenues point to a slowdown in economic activity.



The positive outlook for public debt stock indicators continues. Central government debt stock, which was up by 7.3 percent in 2010 to become TL 474 billion, increased by 9.5 percent and became TL 518 billion in 2011 and reached to TL 520 billion at the end of the first quarter of 2012. The ratio of debt stock to GDP, which was 43.1 percent at the end of 2010, dropped to 40 percent (Chart II.23). As of March 2012, 72.2 percent of central government debt stock was composed of domestic debts. An analysis of the composition of domestic debts reveals that in 2011 and as of March 2012, the share of TL denominated fixed-rate debt and CPI-indexed debt increased compared to 2010 (Chart II.24). Meanwhile, the maturity of domestic debt stock has been extending; the maturity, which was 31 months at the end of 2010, became 34.2 months by March 2012. The share of FX denominated and FX-indexed stock in central government debt stock became zero in February 2012 and this is regarded as a favorable development as sensitivity to exchange rate risk is

eliminated. Meanwhile, the rise in the share of fixed rate securities and extension of maturity reduces sensitivity to interest rate movements.

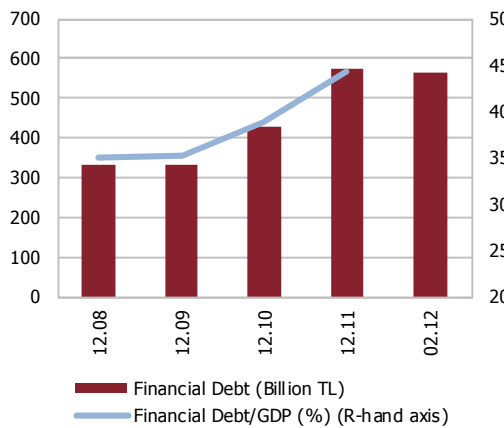


The new incentive package has been introduced to bolster economic growth, accelerate investments and employment, mitigate regional discrepancies and reduce the current account deficit to reasonable levels while the package is expected to decrease public savings in the short term and to make a favorable impact on public revenues and the public finances outlook in the medium to long term. In the package, which was shared with the public on April 5, 2012, Turkey has been divided into 6 regions according to level of socioeconomic development. The main objectives of the new incentive scheme have been defined as providing higher investment incentives to the least-developed regions, removing differences across regions with respect to their level of development, narrowing the current account deficit by expanding the investment and production of intermediate goods and products with high import dependency, and supporting high and medium-high technology investments. Incentive tools to achieve the objectives are VAT exemption, customs duty exemption, tax reduction, social security employer premium support, interest support, land allocation and VAT refund. The use of each incentive depends on the region as well as the size of the investment. The new incentive system is expected to bolster economic growth, enhance investment and employment, mitigate regional socioeconomic discrepancies and reduce the structural current account deficit to reasonable levels by enhancing competition and decreasing import dependency. Meanwhile, measures such as tax reductions and other government investments may lead to a decrease in public savings in the short run. Moreover, with the aim of supporting entrepreneurship, the principles of the individual participation capital system – also known as the angel investor system- will be regulated. Accordingly, the introduction of a new financial instrument for early-stage companies with limited access to financial resources, establishing a code of ethics and behavioral culture and ensuring a professional stance in this market, making individual participation capital an institutionalized and accountable finance market and making these investments more attractive by providing government incentives are envisioned.

The upward trend observed during 2010-2011 in corporate debts halted and the share of foreign borrowing remained flat in 2012. Total financial debts of the corporate sector has gradually been increasing since the turn of 2010 and reached TL 574.6 billion by the end of 2011

to come down to TL 566.4 billion in February 2012 due to the appreciation of Turkish lira. The ratio of financial debts of the corporate sector to GDP was 44.4 percent at the end of 2011 (Chart II.25). As of February 2012, 57.7 percent of financial debts of the corporate sector were composed of FX loans; however, the majority of FX loans has long maturities. In the same period, the share of foreign borrowing (excluding those from branches and affiliates) in total loans was 21.9 percent, whereas the share of loans extended to the corporate sector by domestic and foreign branches and affiliates of Turkish banks in total loans decreased by 0.8 percentage points compared to end-2011 and reached 35.9 percent. In the period subject to analysis, TL loans extended to the corporate sector increased and became 42.3 percent in February 2012 (Chart II.26).

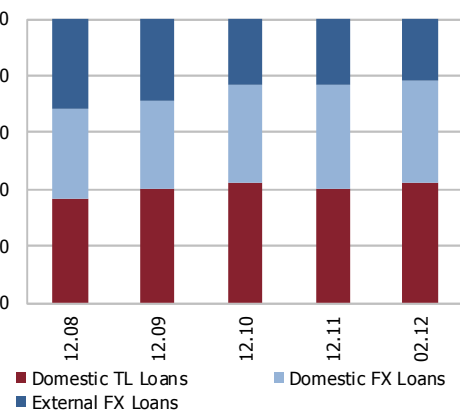
Chart II.25. Financial Debt of Corporate Sector (Billion TL, %)¹



Source: CBRT

(1) Since "Sectoral breakdown of Private Sector's Outstanding Loans Received From Abroad" data have been disseminated according to the Statistical Classification of Economic Activities in the European Union NACE Rev. 2 instead of NACE Rev.1.1 as of Mart 2012, the data may differ from previous Reports.

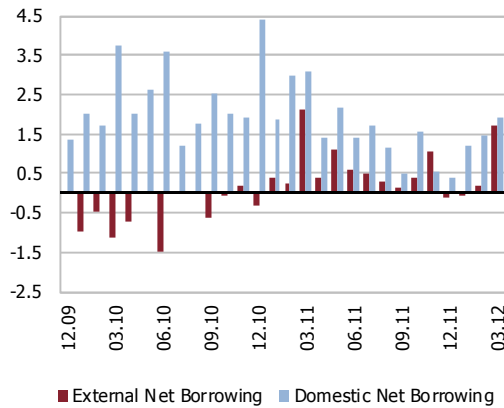
Chart II.26. Composition of Financial Debt of Corporate Sector (%)¹



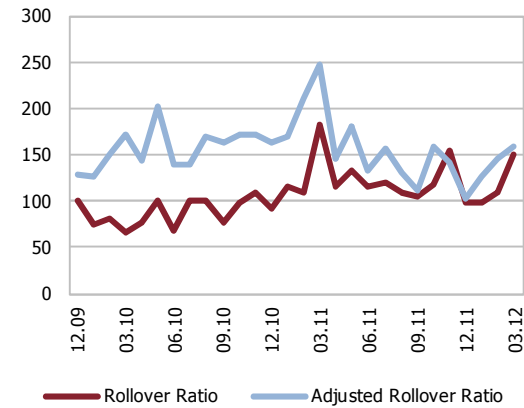
Source: CBRT

(1) Since "Sectoral breakdown of Private Sector's Outstanding Loans Received From Abroad" data have been disseminated according to the Statistical Classification of Economic Activities in the European Union NACE Rev. 2 instead of NACE Rev.1.1 as of Mart 2012, the data may differ from previous Reports.

Firms had opted for loans from domestic markets since the amendment to Decree No. 32 in June 2009, however, the rollover ratio of external loans displayed an upward trend in the first quarter of 2012. The amount of loans extended to the corporate sector by foreign banks and foreign branches and affiliates of Turkish banks, which decreased by USD 1.5 billion in 2011 year-on-year, remained flat in the first quarter of 2012 whereas FX loans extended by banks' domestic branches increased by USD 11.2 billion in the first quarter (Chart II.27). The external debt rollover ratio of the corporate sector maintained the upward trend it assumed in 2011 and became 159 percent by March 2012. The rise in the external debt rollover ratio in March 2012 compared to end- 2011 was mainly driven by the increase in long-term external borrowing (Chart II.28). 27.6 percent of external loans used by the corporate sector will mature in 1 year and the highest repayment will be made in December 2012.

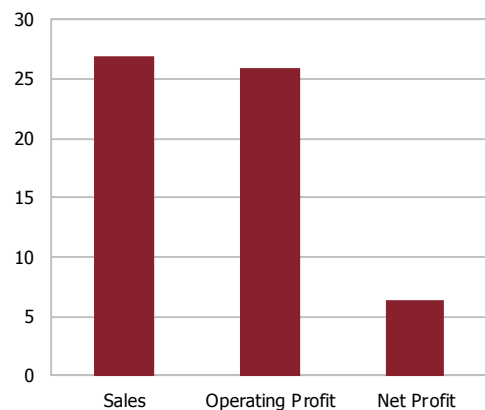
Chart II.27. Non-Bank Sector Net FX Borrowings (Billion USD)¹**Source: CBRT**

(1) Net FX borrowings of sectors excluding CBRT, Undersecretariat of Treasury and banks are calculated by subtracting repayments from borrowings in the respective month.

Chart II.28. Non-Bank Sector External Debt Rollover Ratio (%)¹**Source: CBRT**

(1) The external debt rollover ratio is computed from the balance of payments statistics, by dividing non-banks' borrowing with repayments. The external debt rollover ratio of non-banks, which decreased due to the amendment to Decree No: 32, has been re-calculated by taking into account the rise in FX loans extended by domestic branches of Turkish banks and the rise in repayments to domestic branches of Turkish banks.

While the ratio of corporate debts to equity capital is increasing, despite the run up in sales, the rise in firms' profits remains subdued because of increased provisions for exchange rate movements. While the total amount of sales revenues of firms quoted on the Istanbul Stock Exchange (ISE) increased by 27 percent in 2011 in annual terms and operating profits increased by 26; net profits just slightly increased by 6.3 percent (Chart II.29). The subdued rise in net profits was mainly driven by increased financial expenditures that rose on the back of increased provisions for exchange rate movements. As a result of these developments, the return on equity, which was 13.5 percent in 2010, declined to 12.9 percent in 2011. The ratio of debts to equity capital was up 119.7 percent in 2011 from 109.9 percent in 2010 (Table II.2). A provision of the "Law on Collection Procedure of Public Claims" discussed at the Turkish Grand National Assembly, which stipulates that firms cannot write off up to 10 percent of their interest expenditures as losses/expenses, is believed to encourage firms to use equity capital rather than borrowing and thus contribute to financial stability.

Chart II.29. Sales and Profitability of Firms in 2011 (Annual % Change)¹**Source: PDP**

(1) Consolidated data of 239 manufacturing industry firms quoted on the ISE.

Table II.2. Return on Equity and Its Components¹

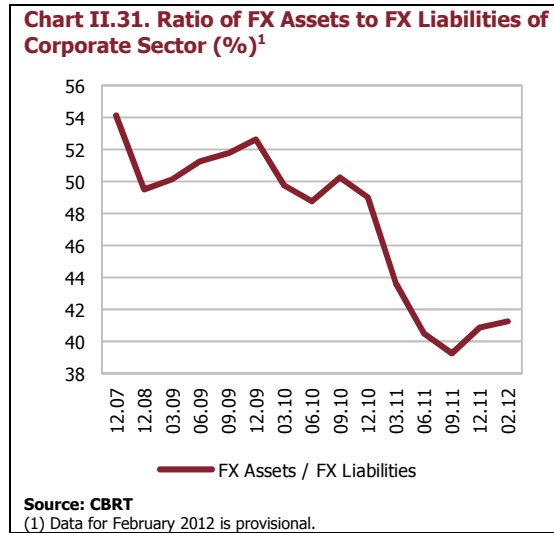
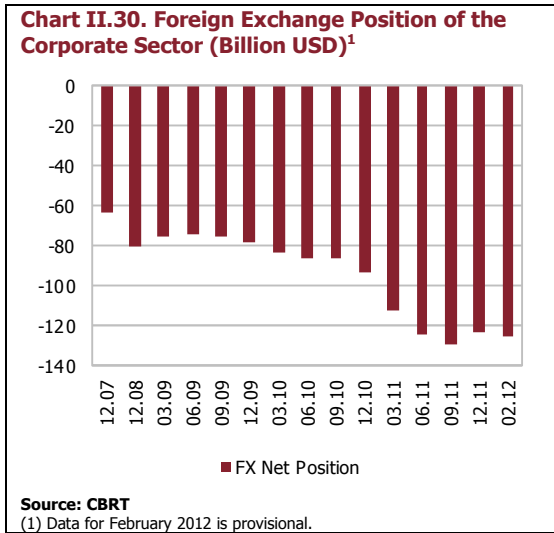
	2009	2010	2011
Net Profit / Equity (%)	12.1	13.5	12.9
Assets / Equity (%)	107.0	109.9	119.7
Net Profit / Assets (%)	5.9	6.4	5.9
Sales / Assets	1.0	1.0	1.1
Net Profit / Sales (%)	6.1	6.6	5.5
Operating Profit / Sales (%)	8.7	8.6	8.5
Financial Income (Expenditures) / Sales (%)	-1.2	-0.5	-1.9

Source: PDP

(1) Consolidated data of 239 manufacturing industry firms quoted on the ISE.

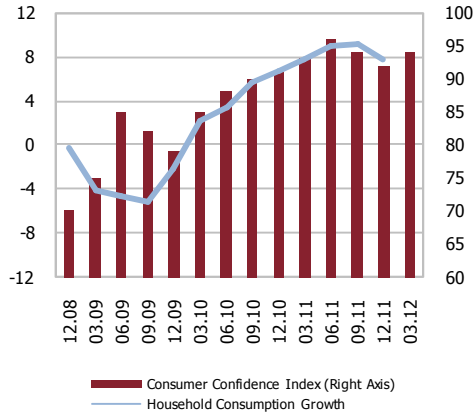
An analysis of FX assets and liabilities of firms suggests that the net FX short position is relatively flat, however foreign exchange risk still remains significant for them.

The net short position of the corporate sector, which had assumed a downward trend after the global crisis, started to increase again with the economic recovery. The net short position of the corporate sector was recorded at USD 93.5 billion, 122.7 billion and 124.8 billion in 2010, 2011 and in February 2012, respectively (Chart II.30). Meanwhile, the ratio of FX assets to FX liabilities, which had been increasing as of the final quarter of 2011, became 41.3 percent in February 2012 (Chart II.31).



In the period following the global financial crisis, household consumption increased in tandem with restored consumer confidence on the back of GDP growth and recovery in the economic outlook. Household consumption increased throughout 2010 and in the first half of 2011 owing to restored political and economic stability, increased availability of loans underpinned by the decline in interest rates and the realization of deferred consumption demand. In the rest of 2011, growth in demand remained moderate as a result of the measures taken by the authorities intended to decelerate domestic demand and the decline in consumer confidence (Chart II.32). An analysis of the consumption composition of households in the last 10 years reveals that compulsory expenditures such as food, beverages, tobacco, clothes, housing, water, electricity, gas and other fuels in the total share of household consumption decreased whereas the share of expenditures on transportation, communication and other services sector increased (Chart II.33).

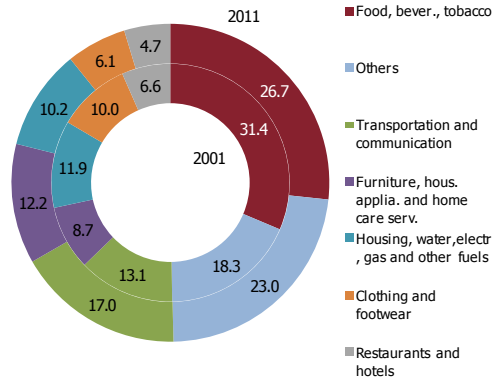
Chart II.32. Rise in Household Consumption in Real Terms and Consumer Confidence Index (% , Index)¹



Source: CBRT, TURKSTAT

(1) Household consumption rise denotes annual change in resident household expenditures calculated by GDP-expenditures method and in constant prices (1998).

Chart II.33. Breakdown of Household Consumption Expenditures (%)¹

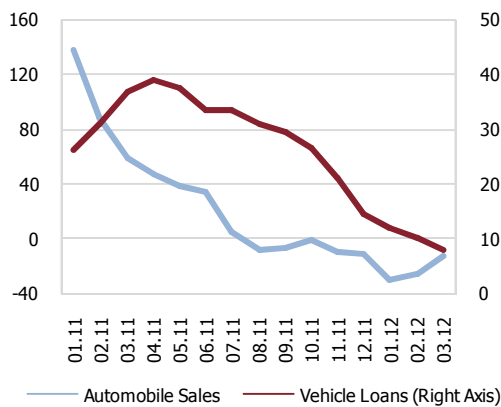


Source: TURKSTAT

(1) Resident and non-resident household consumption expenditures in 1998 constant prices. Other item comprises health, entertainment and culture, education and various expenditures on goods and services.

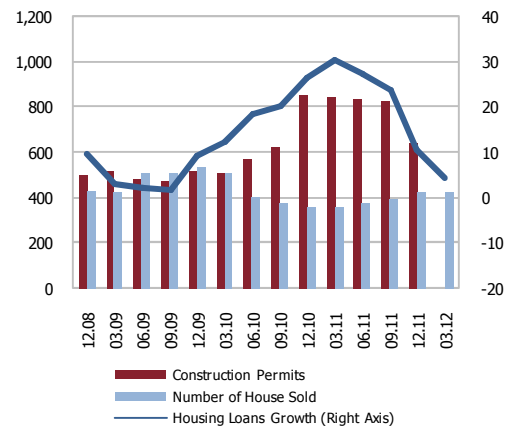
In 2011, household demand for automobiles declined while that for housing displayed slight increase. In 2011, automobile sales significantly dropped due to decreased demand for loans stemming from the rise in credit costs driven by the increase in interest rates as well as the rise in Special Consumption Tax and soaring automobile prices triggered by depreciation of the Turkish lira (Chart II.34). House sales, which reached 519 thousand at the end of 2009 underpinned by the waning effects of the crisis and low interest rates, indicated a rise in the supply of housing in 2010. Although house sales decreased at the end of 2011 compared to 2009 due to rising interest rates as well as measures introduced regarding housing loans, they displayed a rise compared to 2010. The decline in the number of construction permits in the last quarter of 2011 after a flat course throughout the year rendered some decline in surplus (Chart II.35).

Chart II.34. Annual Real Rise in Vehicle Loans and Annual Change in Automobile Sales (%)



Source: BRSA-CBRT, ODD

Chart II.35. Annual Real Rise in Housing Loans, Number of House Sold and Construction Permits (Thousand, %)¹



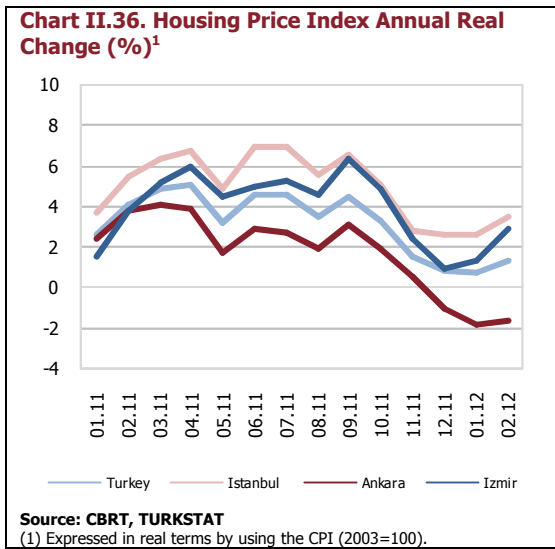
Source: TURKSTAT

(1) 12-month sum of the number of apartments used as dwelling.

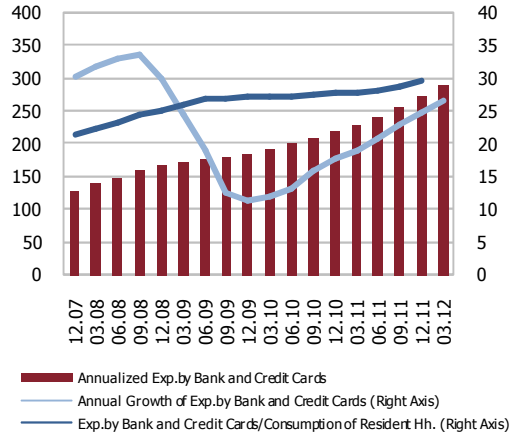
The rise in house sales started to decelerate as of the final quarter of 2011. In December 2011, housing prices across Turkey was up 0.8 percent in real terms. Among the largest three cities, Istanbul became the one with the highest rise in house prices while Ankara became the one with the lowest. In fact, recently, housing prices have been decreasing in Ankara in real terms (Chart II.36). Problems in banking sectors in crisis-hit EU, especially in Ireland, Spain and Greece have

an adverse impact on the housing sector and in turn housing prices. Turkey displays a better economic performance compared to EU countries and housing prices were nominally up 11.3 percent at the end of 2011. Among all countries subject to analysis, Turkey was among the top countries, but the impact of inflation on this rise shall be taken into account (Chart II.37).

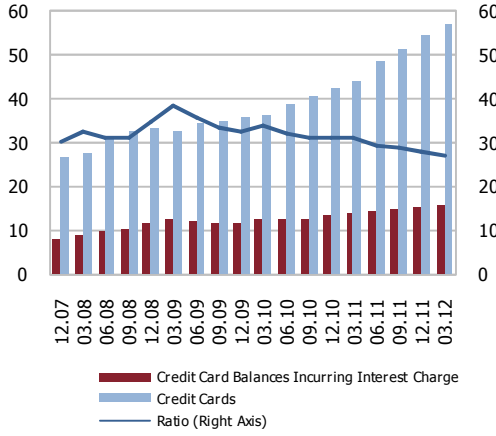
As for housing prices, excessive fluctuations in either direction might pose a risk to financial stability. In fact, in countries most severely affected by the global crisis, the decline in property prices, which ballooned in the pre-crisis period, put not only households, but also the banks in a difficult situation; the former through over borrowing as a result of using housing loans, and the latter due to having the said property in their portfolio as collaterals and issuing housing loan-backed securities. In this context, close monitoring of housing price developments is crucial for financial stability.



With the ever increasing use of debit and credit cards, which plays an important role for the registered economy, consumption expenditures of households via credit cards continue to increase, while the ratio of credit card balances incurring interest charges to total credit card balances continues to decline favorably. The decline in consumption expenditures in the period when the effects of the global crisis were felt reflected on credit card use and its annual growth rate decelerated. Yet, with the recovery in the economy, credit card – and relatively low – debit card expenditures skyrocketed (Chart II.38). In line with the year-by-year increase in household demand for consumer loans, the share of credit cards in overall household liabilities is in decline. The ongoing upward trend in credit card balances and the downward trend in credit cards being used as an instrument of credit has facilitated a modest rise in the level of credit card balances incurring interest charges and a fall in the ratio of credit card balances incurring interest charges to total credit card balances, demonstrating the favorable course of the economy (Chart II.39).

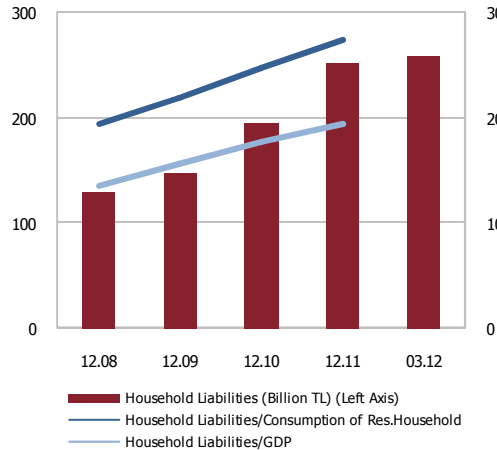
Chart II.38. Expenditures by Bank and Credit Cards and Resident Household Consumption (Billion TL, %)¹

Source: TURKSTAT, Interbank Card Center (ICC)
 (1) Spending by bank and credit cards are obtained by annualizing the transactions of these credit cards in domestic and international purchases.

Chart II.39. Credit Card Balances of Deposit Banks and Ratio of Balances that Incur Interest (Billion TL, %)¹

Source: CBRT
 (1) Of credit card balances, the part incurring interest charges.

While household opted to finance the larger part of their consumption expenditures with consumer loans, the ratio of household liabilities to national income rose as well. The increase in household liabilities can be attributed to the steady course of the economy, global capital inflows, quite low levels of interest rates, as well as the credit supply of banks. The increase in the 'liabilities/GDP' ratio somewhat moderated in 2011. Instrumental in this were the slowing growth rate of household liabilities as of the second half of 2011 onwards as a result of the precautionary measures taken within the scope of the CBRT's policy mix accompanied by steps taken by the Banking Regulation and Supervision Agency (BRSA) (Chart II.40). Interest payments of household rose in line with the increase in borrowing costs as a result of the measures taken by the authorities whereas the increase in disposable income enabled interest payments to maintain their share in household disposable income (Table II.3).

Chart II.40. Household Liabilities (Billion TL, %)¹

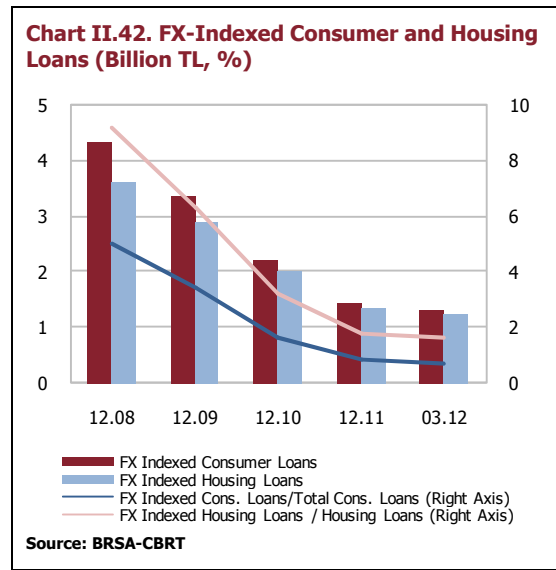
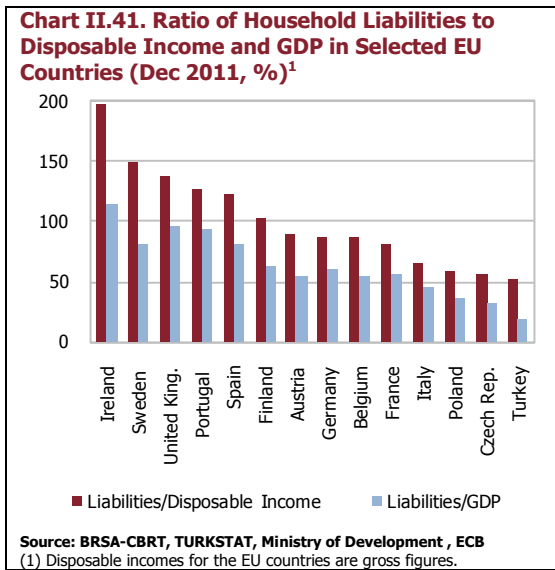
Source: BRSA-CBRT, TURKSTAT
 (1) Household liabilities consist of consumer credits (including NPLs) extended by banks and consumer finance companies, credit card balances (including NPLs), non-performing consumer loans taken over by asset management companies, and liabilities to TOKI due to TOKI's housing sales with long-term maturity.

Table II.3. Selected Financial Indicators Pertaining to Households^{1,2,3} (Billion TL, %)

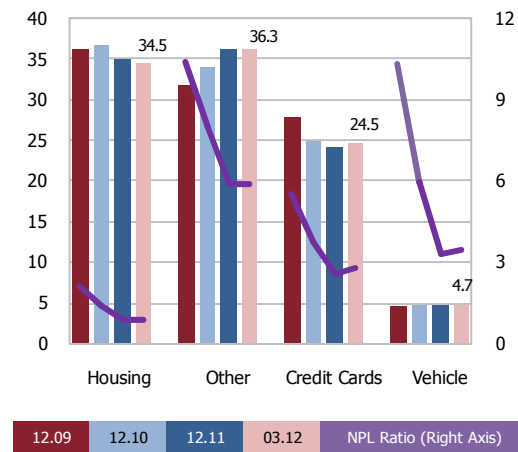
	12.09	12.10	12.11
Household Disp. Income	408.9	426.3	487.2
Household Liabilities	148.8	195.1	251.9
Household Interest Payments	21.1	20.4	23.1
Interest Paym. / Hh. Disp. Income (%)	5.2	4.8	4.8
Liabilities / Hh. Disp. Income (%)	36.4	45.8	51.7

Source: BRSA-CBRT, TURKSTAT, Ministry of Development
 (1) Household liabilities consist of gross consumer credits (including NPLs) extended by banks and consumer finance companies, credit card balances (including NPLs), non-performing consumer loans taken over by asset management companies, and liabilities to TOKI due to TOKI's housing sales with long-term maturity.
 (2) As the repayments related to liabilities from TOKI's housing sales with long-term maturity are indexed to civil servant salaries, they are not included in interest payments.
 (3) Household disposable income for 2011 has been calculated by using the private sector disposable income estimation for 2011 as foreseen in the 2012 Program, under the assumption that the ratio of household disposable income for 2010, which was generated from "the Income and Living Conditions Survey", to private sector disposable income has not changed.

Despite following an upward course, household liabilities maintain their low level in comparison to the selected countries and carry no exchange rate or interest rate risk. End-2011 ratios of household liabilities to GDP and to disposable income are 19 percent and 51.7 percent respectively, and stand at lower levels compared to EU countries (Chart II.41). Meanwhile, the exchange rate and interest rate risks for household loans which are high especially in eastern and central European countries are at negligible levels in the case of Turkey. The household exchange rate risk was eliminated by impeding household from borrowing in FX, and later with the amendment to Decree No. 32 in June 2009, also from FX-indexed borrowing (Chart II.42). The fact that variable interest rates are only allowed for housing loans and the remarkably low level of loans with variable interest rates contain the household interest rate risk exposure.



While housing and consumer loans maintained their shares in household liabilities, the decline in the NPL ratios of consumer loans is observed to have come to an end. Measures taken with regard to housing loans contributed to the ongoing decline in the share of the said loans in overall household liabilities. Meanwhile, NPL ratios, which have been on a downward trend for years, remained flat, due also to the slowdown in consumer credits (Chart II.43). In line with the course of NPL ratios, the number of consumer loan and credit card defaulters has inched up in the first quarter of 2012 as compared to end-2011 (Table II.4).

Chart II.43. The Composition of Household Liabilities and NPL Ratios by Type (%)^{1,2,3,4}**Source: CBRT-BRSA**

- (1) Household liabilities consist of gross consumer credits and credit card balances extended by banks and consumer finance companies and liabilities to TOKI due to TOKI's housing sales with long term maturities.
 (2) Liabilities to TOKI due to TOKI's housing sales with long-term maturity are also included in housing loans.
 (3) Other loans consist of all consumer loans excluding housing and vehicle loans.
 (4) TOKI loans and loans extended by consumer financing companies are not included in the calculation of NPL ratios.

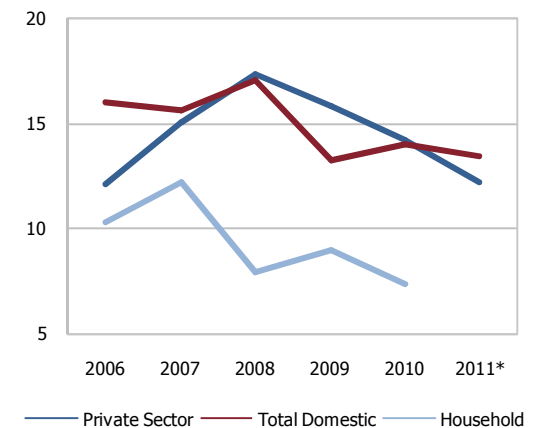
Table II.4. Number of Credit Card and Consumer Loan Defaulters^{1,2,3}

	12.09	12.10	12.11	03.12
Banks	1,489,131	1,319,111	1,224,668	1,272,065
Asset Management Companies ²	330,156	574,541	687,946	694,303
Finance Companies	23,463	18,003	11,052	11,298
Total ³	1,721,004	1,689,788	1,657,500	1,693,057

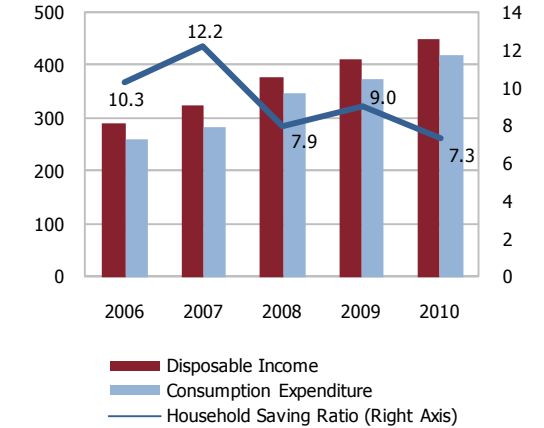
Source: CBRT

- (1) Customers with more than one registry to a particular financial institution group are counted only once.
 (2) Represents frozen loans taken over by asset management companies from the SDIF and banks.
 (3) As customers may be registered in more than one financial institution group, the sum of the three rows in the table and grand total are not equal.

Household saving rates have been declining, despite having exhibited a fluctuating course by years. The improvement in public savings thanks to tight fiscal policy was not enough to offset the decrease in private sector savings, the result of which was the decline in domestic savings (Chart II.44). In the case of household, increased consumption expenditures limited the favorable effect of income increase generated by economic growth on savings and led to a downward trend in saving rates (Chart II.45). In Turkey, the top two quintile-income group households (fourth and fifth quintiles) are keen to save, while the bottom three income groups have a negative saving rate (Chart II.46). In this context, raising social awareness for income-based-consumption is significant for increasing household and hence overall savings.

Chart II.44. Saving Rates (%)^{1,2}**Source: TURKSTAT-Household Budget Surveys, Ministry of Development**

- (1) Saving rates have been calculated by the division of household, private sector and total domestic savings by their respective disposable income.
 (2) Household saving rates have been calculated by using the consumption expenditures and disposable income data generated from the household budget survey.
 (*) Estimate.

Chart II.45. Household Expenditures, Disposable Income and Saving Rates (Billion TL, %) ^{1,2}**Source: TURKSTAT-Household Budget Surveys**

- (1) Renewed population projections are being used since 2007.
 (2) Household saving rates have been calculated by using the consumption expenditures and disposable income data generated from the household budget survey.

Difficulties experienced by countries, where domestic consumption boomed, highlight the importance of increasing household savings. Although the household saving rate in Turkey is above the average of the countries analyzed, the fact that it has been heading downwards should be kept in mind (Chart II.47). Introducing policies that encourage households to save and implementing regular studies for raising social awareness to edge towards income-based-consumption are prerequisites of achieving sustainable growth. As a matter of fact, recently new regulations are being made by the authorities to serve this purpose (Box II.1).

Chart II.46. Household Saving Rates as per Income Quintiles (%)^{1,2}

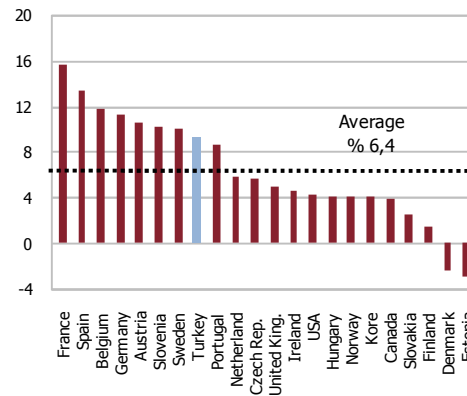


Source: TURKSTAT-Household Budget Surveys

(1) Renewed population projections are being used since 2007.

(2) Household saving rates have been calculated by using the consumption expenditures and disposable income data generated from the household budget survey.

Chart II.47. Household Saving Rates in Selected Countries (2006-2010, %)¹



Source: OECD Economic Outlook: Issue 90

(1) Saving rates denote the ratio of savings to household disposable income. Five-year averages are calculated for the 2006-2010 period.

Box II.2. Arrangements Introduced to Encourage Household Savings

Household savings, which have been decreasing recently, are actually very important for a country's economic performance. An inadequate level of saving in a national economy increases the dependence on foreign savings, which in turn fuels concern over the sustainability of growth performance that Turkey has achieved. In this framework, the relevant institutions were commissioned to carry out studies to encourage household savings. Studies and regulations that have already been carried out or are planned to be carried out can be summarized as follows:

I. The private pension system, which was introduced in Turkey in 2003, is an important tool encouraging household savings. The current system needs to be further developed to make it more attractive, ensure sectoral growth and increase household savings. The most important incentive offered to private pension participants is that they can deduct the amount of contributions that they pay into the system from their income tax. However, the current system does not function at maximum performance due to several problems: some participants are not tax payers, there are operational problems regarding the tax deduction process and other problems. Accordingly, "The Draft Law Amending Individual Pension Savings and the Investment System Law and some Laws and Decrees in Power of Law" have been prepared to replace the current system with a new one that encourages participants in a more effective way by direct government participation. The Draft Law stipulates that:

a. Instead of deducting the contribution amount from the tax base, the government will pay a "government contribution" to the "government contribution" sub-account of the participant that is equivalent to 25 percent of the contribution paid by the participant provided that this amount shall not exceed 25 percent of the gross annual minimum wage,

b. Taxation on pension investment funds and government contribution will continue following the

current implementation,

c. During the payment of deposits, tax will only be levied on the interest and in order to encourage participants to remain within the system longer, individuals shall gradually qualify for the government contribution and interest; such as; 15 percent in the 3rd year, 35 percent in the 6th year, 60 percent in the 10th year and 100 percent upon retirement.

II. The amendments incorporated in the same Draft Law are aimed at effectively encouraging two other important systems to stimulate savings, namely life insurance and health insurance.

III. With an aim to strengthen the build-up of the Central Bank's gold reserves and to provide the banking system with more flexibility in liquidity management, the Central Bank introduced a facility allowing banks to hold up to the entire amount of reserve requirements for precious metal deposit accounts, and up to 20 percent of reserve requirements for TL liabilities in "standard gold". The facility is expected to encourage banks to proliferate gold deposit accounts and offer new products so that the "gold under the mattress" will be brought out and registered (Special Topic V.9).

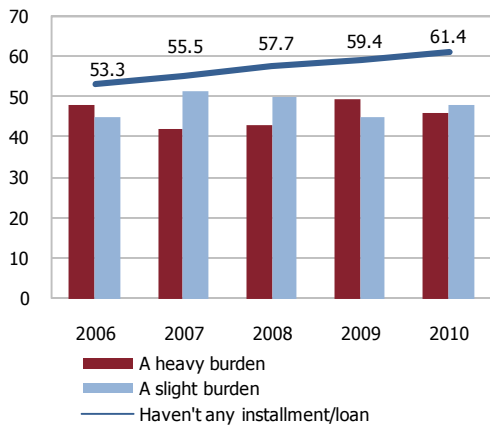
IV. Another facility that is expected to boost savings is the "Severance Pay Fund". Studies for the establishment of the fund are still underway and in the framework of the facility, an account will be opened for each worker, severance pay for each worker will be deposited in this account and interest will be probably be accrued on these accounts. Workers will be able to draw this severance pay gradually and follow their accounts on the Internet.

V. The relevant authorities are carrying out studies on a system in which gradual withholding ratios will be applied to deposits based on their maturities. The withholding ratio, which is currently 15 percent for interest income across all maturities, is planned to be decreased for longer maturities that aims to increase longer term savings.

VI. Commissioned by the Financial Stability Board, the relevant institutions have been working on projects to enhance financial awareness and financial education (Special Topic V.4). Increasing financial literacy will contribute to the more efficient functioning of financial markets and consequently, social welfare, and boost saving awareness.

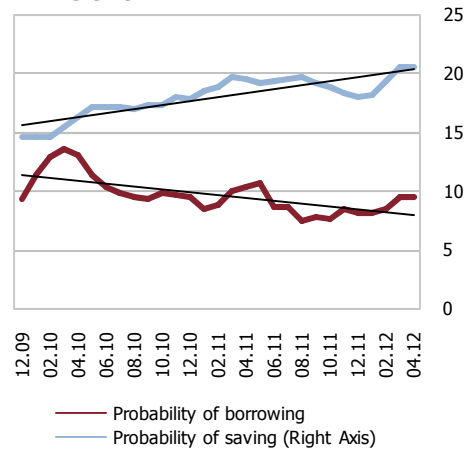
Increasing household savings is an important factor for ensuring sustained economic growth. Therefore, introducing macropolicies to increase household income in tandem with micropolicies to encourage household savings would play an instrumental role in achieving this goal.

With the decline in the saving rate, the ratio of indebted household rose, but the probability of borrowing in the future started to decrease and the probability of saving in the future started to increase. The results of the *Income and Living Conditions Survey, 2010* conducted by TURKSTAT suggest that 61.4 percent of the non-institutional population had installments and loans to pay (other than mortgage and housing costs) and these payments are a heavy burden for 46.2 percent of households (Chart II.48). Meanwhile, according to the results of the *Consumer Confidence Index*, in spite of displaying fluctuations, the probability of household borrowing is on a downward course, whereas the probability of household saving is on an upward course (Chart II.49). The slowdown in the growth of consumer loans also verifies this trend.

Chart II.48. Financial Condition of Indebted Households (%)¹

Source: TURKSTAT-Household Income and Living Conditions Survey

(1) Calculated by the percentages of the responses (of "a heavy burden" or "a slight burden") of those with installments and loans, assessing their debt (other than mortgage -for the main dwelling- and housing cost).

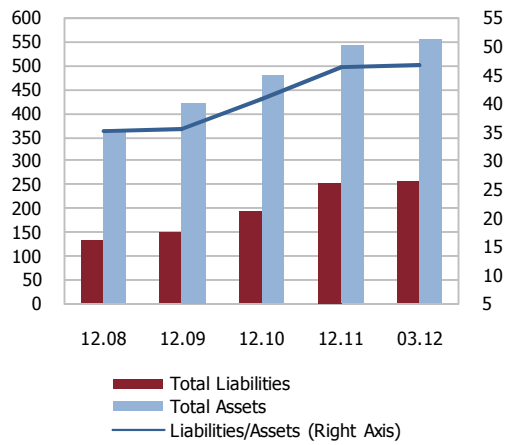
Chart II.49. Probability of Household Borrowing and Saving (%)^{1,2}

Source: TURKSTAT-Consumer Confidence Index

(1) 'Probability of borrowing' denotes the index constituted by the responses to the question 'What is the likelihood for you to finance your or your households' expenditures by borrowing (via consumer loan or else) in the next 3 months?'. (quarterly moving averages)

(2) 'Probability of saving' denotes the index constituted by the responses to the question 'What is the likelihood for you to save (in Turkish lira, foreign currency, gold, deposits, other instruments of financial investment, etc.) in the next 6 months?'. (quarterly moving averages)

In line with the slowdown in the growth of consumer loans, the increase in household financial liabilities to assets ratio halted. The slowdown in the growth of consumer loans as a result of the measures taken reflected on the course of the households' financial liabilities to assets ratio (Chart II.50). By March 2012, despite its declining share in the financial assets held by households, savings deposits continue to be the predominant item of household assets. Foreign exchange (FX) deposit accounts, which stood at USD 59.7 billion by end-2010, rose to USD 62.3 billion in March 2012. Precious metals deposit accounts, majority of which is composed of gold deposit accounts, rose in line with the increasing in return on gold since 2010 and the beginning of banks' offering new investment instruments based on gold (Special Topic V.9). In the said period, the shares -within household assets- of not only FX or precious metal deposit accounts, but also of retirement funds and repurchase agreements rose, while those of other investment instruments fell (Table II.5).

Chart II.50. Household Financial Assets and Liabilities (Billion TL, %)¹

Source BRSA-CBRT, CMB, CRA

(1) Household Assets = Savings Deposits + FX Deposits + Currency in Circulation + GDDS + Eurobonds + Stocks + Repos + Pension Funds + Mutual Funds + Bonds and Bills (since 2010).

Household liabilities consist of gross consumer credits (including NPLs) extended by banks and consumer finance companies, credit card balances (including NPLs), non-performing consumer loans taken over by asset management companies, and liabilities to TOKI due to TOKI's housing sales with long-term maturity.

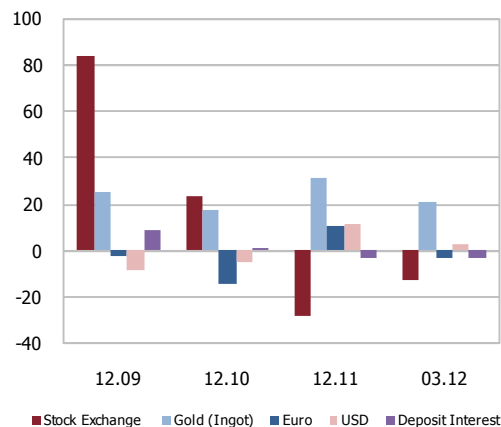
Table II.5. Household Financial Assets¹

	12.10		12.11		03.12	
	Billion TL	% Share	Billion TL	% Share	Billion TL	% Share
TL Deposits	253.8	52.9	281.9	51.9	284.5	51.4
FX Deposits	94.6	19.7	111.6	20.5	110.4	19.9
- FX Deposits (Billion USD)	59.7		58.5		62.3	
Currency in Circulation	44.6	9.3	49.7	9.1	48.0	8.7
GDDS+Eurobond	9.4	2.0	10.5	1.9	10.1	1.8
Mutual Funds	28.5	5.9	25.8	4.7	25.3	4.6
Stocks	32.6	6.8	30.0	5.5	35.4	6.4
Private Pension Funds	12.1	2.5	14.3	2.6	15.8	2.9
Repos	1.5	0.3	1.4	0.3	2.5	0.4
Precious Metal Deposits	2.3	0.5	13.4	2.5	14.6	2.6
Bonds and Bills	0.403	0.1	4.9	0.9	6.9	1.3
Total Assets	479.8	100	543.5	100	553.4	100

Source BRSA-CBRT, CMB, CRA

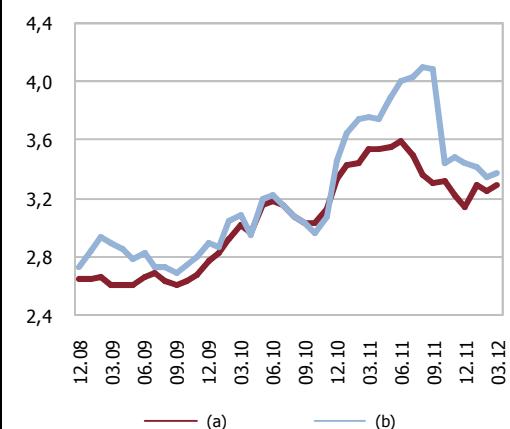
(1) TL and FX deposits include participation funds.

Market developments influence not only the returns on financial assets, but also the risk perception – and hence, portfolio preferences – of households. The return on US dollar was the highest in real terms, in the first quarter of 2012, while the Istanbul Stock Exchange performed badly. This development reflected on the composition of financial assets held by households (Chart II.51, Table II.5). This is because the adverse developments in the exchange rate (those affecting the Turkish lira unfavorably) affect portfolio preferences for financial assets in domestic currency and those in foreign currency. The ratio of investment instruments denominated in Turkish lira to those denominated in FX, adjusted for exchange rate effect, has been on a downward course as of the last quarter of 2011 (Chart II.52).

Chart II. 51. Real Return of Financial Investment Instruments by Types (%)¹

Source: TURKSTAT

(1) Expressed in real terms by using the CPI.

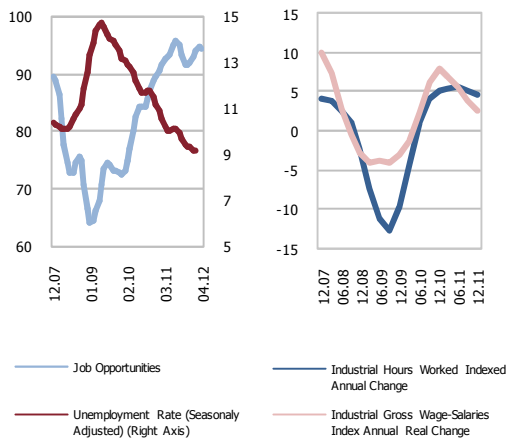
Chart II. 52. Ratio of Household TL Investment Instruments to FX Investment Instruments¹

Source BRSA-CBRT, CMB, CRA

(1) TL Instruments = Deposits + Repos + GDDS. + Participation Funds (TL) + Stocks + Private Pension Funds + Mutual Funds + Bills and Bonds (starting from September 2010); FX Instruments = FX Deposits + GDDS. + Eurobond, (a) Current TL value of FX deposits and Participation Funds (FX). (b) For FX deposits and Participation Funds (FX), exchange rate prevailing on 26.12.2008 is used and the parity effect is eliminated.

Robust economic growth performance reflected favorably on the labor market and the unemployment rate continued to decrease while working hours and wages/salaries in the industrial sector increased. In the post-global crisis period, in line with the slowdown in Turkey's economic activity, the unemployment rate went up. However, this trend reversed by 2009 and the labor market displayed a fast recovery. In parallel to the decline in the unemployment rate, total gross wage payments and the working hours index went up - in a rapid fashion in 2010 and rather modestly in 2011. Households' expectations pertaining to job prospects also demonstrate the improvement in the labor market (Chart II.53). The increase in employment has been affecting household disposable income favorably as well (Table II.3). Yet, unemployment, which is the main risk for household, continues to be a major problem, especially in advanced economies (Chart II.54).

Chart II.53. Selected Indicators for the Labor Market (%)^{1,2}

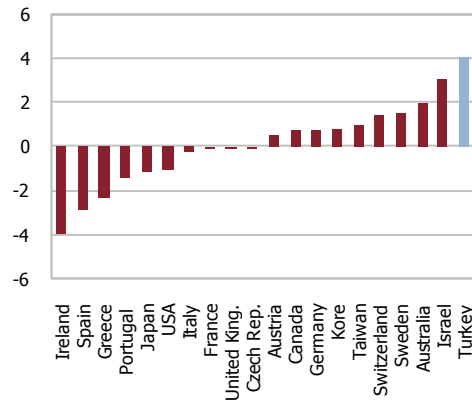


Source: TURKSTAT

(1) The data pertaining to job opportunities and the unemployment rate are quarterly moving averages. Job opportunities are quantified by using "the expectations of finding a job in Turkey in the next 6 months", as expressed by the surveyed in the Consumer Confidence Survey.

(2) The indices for total working hours and gross industrial wages/salaries are of quarterly periods. The data is calculated by taking the moving averages of three quarters. The gross wage and salary index (2005=100) is expressed in real terms by using the PPI (2003=100).

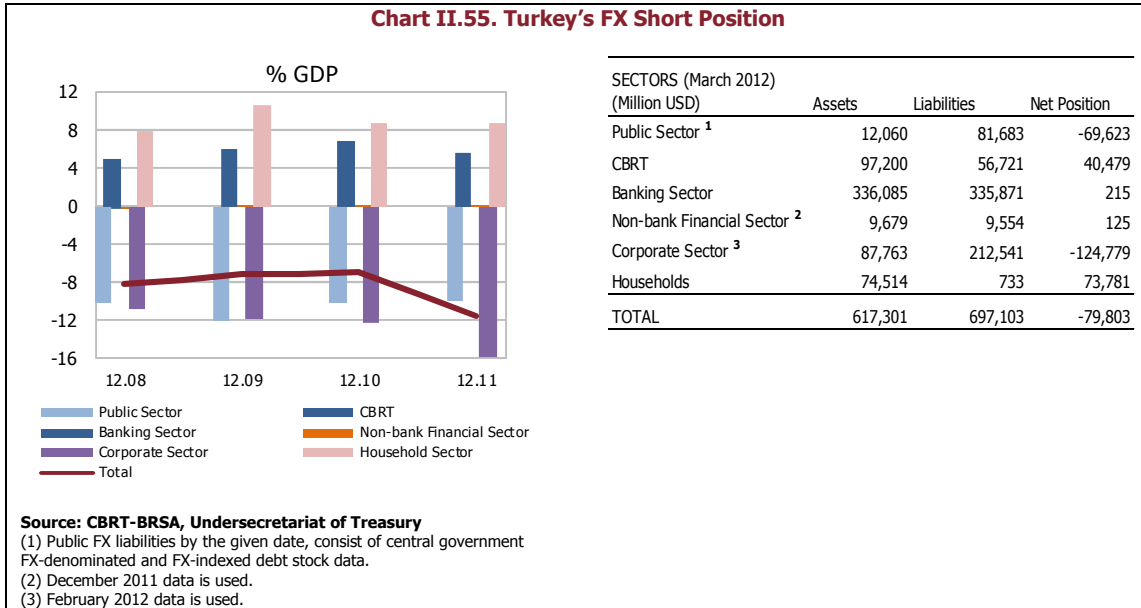
Chart II.54. Annual Average Growth Rate of Employment in Selected Countries (2007-2011, % Growth)¹



Source: IMF WEO, TURKSTAT

(1) Annual average increases in employment are calculated by taking natural logarithm differences. The data for Spain, Greece, Czech Republic, Taiwan, Korea, Israel and Italy are projections.

Monitoring Turkey's macro foreign exchange position is crucial for assessment of the exchange rate risk incurred by economic units. Turkey's foreign currency (FX) open position is USD 79.8 billion as of March 2012. In Turkey, public and corporate sectors carry short, the CBRT and households carry long, and banking and non-banking financial sectors carry an almost zero position in foreign currency. Within this framework, the sectors susceptible to depreciation of the Turkish lira are the public sector and the corporate sector. As of March 2011, the corporate sector and the public sector carry FX open positions amounting to 124.8 billion and USD 69.6 billion, respectively; while the households, the CBRT, the banking sector and the non-banking financial sector are long in FX positions by USD 73.8 billion, USD 40.5 billion, USD 0.2 billion and USD 0.1 billion, respectively. The ratio of Turkey's foreign currency open position to GDP is 11.5 percent as of end-2011 (Chart II.55).



In the upcoming period, uncertainties with regard to the global economy continue to be important for financial stability, while the launch of reforms currently underway, which are aimed to encourage investments and savings, is of crucial value to underpin financial stability. Domestic demand growth has been contained with the help of the measures taken, as the rate of increase in household liabilities declines, the indebtedness of the corporate sector decreased from its end-2011 level and the improvement in the current account balance persists. The rise in inflation has been controlled by monetary tightening and the measures taken, and a moderate growth performance is foreseen for the upcoming period. Nevertheless, uncertainties pertaining to the global economy still remain, as does the volatility in capital flows to emerging market economies. Within this framework, as foreseen in both the Medium Term Program (MTP) and the new incentive system, structural reforms to increase domestic saving rates and to reduce the heavy reliance on external sources of energy and intermediary goods, which will eventually serve as a lasting solution to the current account deficit, are of utmost importance. Furthermore, reinforcing structural reforms aimed at achieving lasting fiscal discipline in the medium term will bolster financial stability and ensure that long-term public borrowing rates maintain their low levels. The CBRT has the flexibility needed to minimize the unfavorable effects of global adversities on the Turkish economy and will continue to monitor economic developments closely and take the necessary measures to safeguard stability in domestic markets.

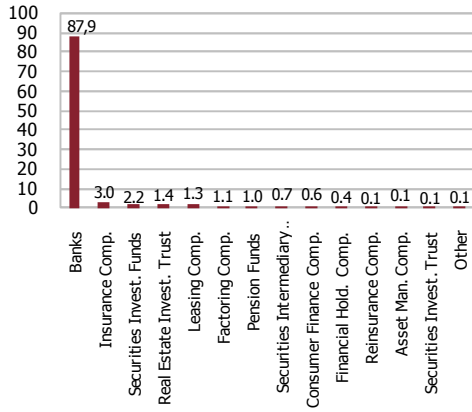
III. RISKS AND DEVELOPMENTS IN THE BANKING SECTOR

While the effects of the global financial crisis are lingering in international financial markets, the Turkish banking sector continues to stand strong. The annual rate of increase in credits remains at reasonable levels for financial stability, owing to the rebalancing between the domestic and foreign demand on the back of a flexible monetary policy, tight fiscal policy and other measures taken in Turkey. Loans, which are mostly extended in medium and long term maturities and denominated in Turkish lira, are mainly financed by deposits; and the surge in legal reserves due to undistributed profits of banks, in addition to the increase in FX deposits and securities issued by banks in the first quarter of 2012 are noteworthy. Moreover, banks do not have difficulty providing sources from international financial markets. Although the profitability performance of the banking sector declined slightly in line with developments in national and global financial markets in 2011, it resumed its upward trend in the first quarter of 2012. The Turkish banking sector, which remains strong in terms of asset quality, is expected to display a limited decline in its capital adequacy ratio on the back of the implementation of the Basel-II/2.5 from the second half of 2012. The banking sector remains robust in terms of capital adequacy ratio, compared to many developed and developing economies.

The Turkish financial sector, which is predominantly composed of the banking sector, continued to grow in 2011 as well. The balance sheet of the Turkish financial sector grew by 20.3 percent compared to end-2010 and reached TL 1,385 billion by the end of 2011 while its ratio to GDP became 106.9 percent (Chart III.1).

The largest share in the financial sector belongs to the banking sector at 87.9 percent, accompanied by a 0.5 percentage point increase in the mentioned period. In December 2011, total assets of the banking sector increased by 21 percent in nominal terms and by 9.5 percent in real terms compared to end-2010 and reached to TL 1,218 billion. Thus, the ratio of the sector's balance sheet size to GDP, which was 91.6 percent at end-2010, rose to 94 percent at end-2011. In March 2012, the asset size of the sector became TL 1,229 billion (Chart III.2). The ratio of the Turkish banking sector's assets to GDP, which was below the EU27 average of 350 percent as of 2010, indicates the sector's growth potential (Table III.1).

Chart III.1. Balance Sheet Size of the Financial Sector (%)^{1,2}

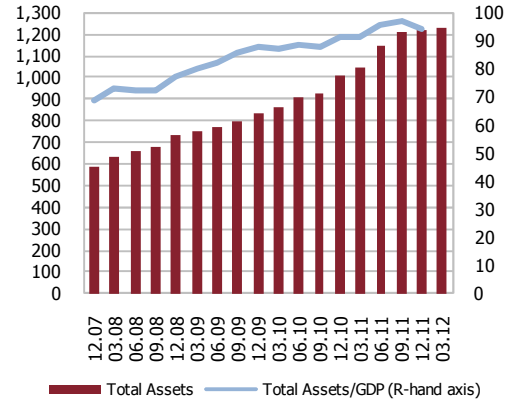


Source: BRSA –CBRT, ACMIIT, CMB, AIRCT

(1) Data for Real Estate Invest. Trust and Venture-Capital Trust belong to September 2011 period; data for Portfolio Man. Comp. and Securities Invest. trust belong to October 2011 period.

(2) "Other" item includes the data of Credit Guarantee Fund, Venture-Capital Trust and Portfolio Management Comp.

Chart III.2. Development of the Banking Sector (Billion TL, %)

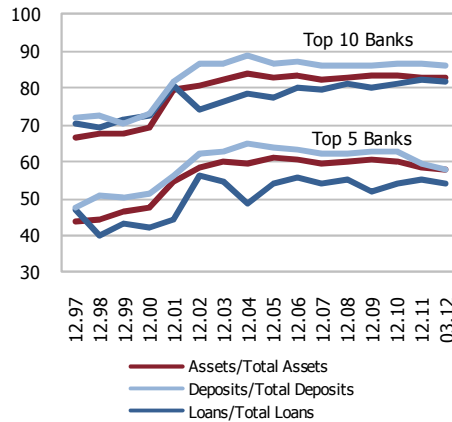


Source: BRSA –CBRT, TURKSTAT

As of March 2012, among the 48 banks operating in the Turkish banking sector, the share of the first 5 banks with respect to asset size was 57.7 percent while that of the first 10 banks was 83.1 percent. Meanwhile, an item-by-item analysis suggests that while concentration is more on deposits, it is lower on credits (Chart III.3). Compared to EU countries, Turkey ranks in the middle based on the share of the first 5 banks in total assets as of end-2010 (Table III.1)

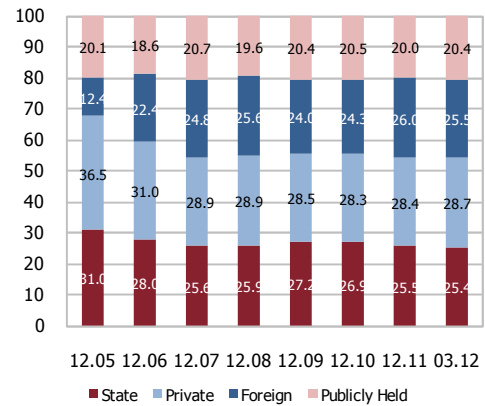
Based on their share in paid-up capital, the share of foreign shareholders in asset size was realized as 25.5 percent in March 2012. Meanwhile, according to data of the Central Registry Agency, when the share of foreign participation in publicly held shares, which accounts for 17.1 percent, are included as well, the share of foreign participation in the banking sector reaches to 42.6 percent (Chart III.4). The 2010 average figure for foreign share in the EU banking sector is 25.4 percent. The same figure for the Turkish banking sector is below that of many Eastern and Central European countries (Table III.1).

Chart III.3. Concentration of the Turkish Banking Sector (%)



Source: BRSA –CBRT

Chart III.4. Composition of Banking Sector Assets by Structure of Ownership (%)¹



Source: BRSA –CBRT

(1) For publicly held shares no distinction has been made between domestic and foreign investors.

By the end of 2011, the ratio of deposits to GDP, which signifies the developments in depth and intermediary functions of the banking sector, was 54 percent, while the ratio of loans to GDP and deposits increased to 54 and 101 percent, respectively. The said ratios stand at 132 percent, 190 percent and 143 percent, respectively, in EU27. Turkey ranks quite below the EU averages in terms of the number of banks in the banking sector (Table III.1).

Table III.1. Comparison of the Selected Financial Indicators with EU Countries ¹

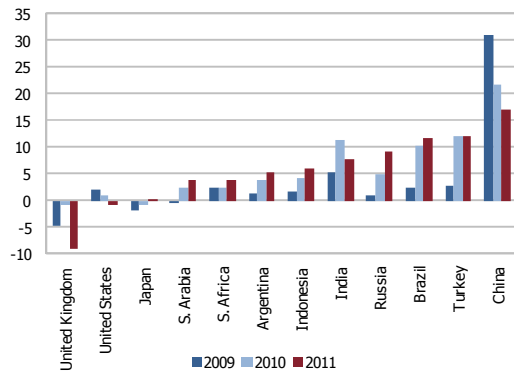
Countries	Total Assets / GDP (%)	Deposits / GDP (%)	Loans / GDP (%)	Loans / Deposits (%)	Total Assets / No. of Credit Institutions (Million Euro)	Share of Top 5 Credit Institutions (%)	No. of Credit Institutions	Foreign Shares in the Banking Sector (%)
Luxembourg	2038	741	1369	185	5,620	31	146	88.1
Germany	319	118	164	138	4,094	33	1,929	11.5
Austria	395	174	278	160	1,450	36	780	16.9
Italy	178	73	124	170	3,554	39	778	17.3
United Kingdom	597	197	237	120	27,166	43	375	42.8
Poland	85	51	59	115	425	43	706	68.0
Spain	362	191	257	134	11,299	44	337	8.7
France	330	126	186	147	9,308	47	686	11.9
Romania	66	36	42	117	1,948	53	42	81.9
Hungary	123	65	88	135	634	55	189	58.1
Bulgaria	105	67	83	124	1,256	55	30	85.6
Ireland	756	165	382	232	2,412	57	489	43.8
Slovenia	156	75	121	162	2,207	59	25	27.1
Latvia	162	86	130	151	746	60	39	71.5
Czech Republic	108	77	68	87	2,944	62	55	94.5
Denmark	387	97	265	272	5,667	64	161	23.7
Greece	217	113	159	141	7,953	71	62	20.8
Portugal	308	134	226	169	3,323	71	160	23.6
Malta	827	316	551	174	1,947	71	26	34.6
Slovak Republic	82	58	56	98	1,863	72	29	100.0
Belgium	324	150	199	133	10,856	75	106	58.6
Lithuania	93	51	74	147	294	79	87	79.8
Finland	258	77	107	140	1,372	84	338	71.6
Netherlands	460	216	328	152	9,336	84	290	12.7
Estonia	215	114	161	141	1,707	92	18	61.2
EU-27 Av.	350	132	190	143	5,228	-	304	25.4
Turkey - 2010	92	56	50	88	10,026	60	49	24.3
Turkey - 2011	94	54	54	101	10,381	58	48	26.0

Source: BRSA-CBRT, Eurostat, ECB

(1) The figures of EU countries are as of 2010

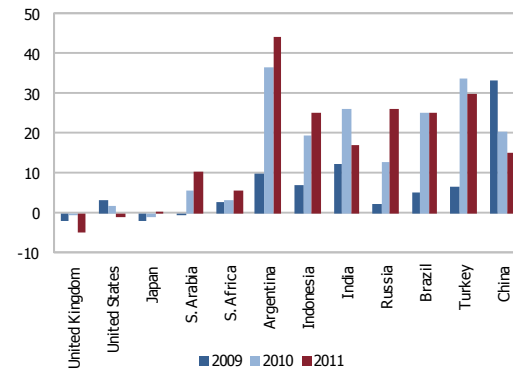
Due to lingering vulnerabilities in global financial markets, credit growth lost pace in many countries. In line with developments in local and global financial markets, while the ratio of credit growth to GDP continued to narrow in the USA, the UK and Japan as well in 2011, the said ratio hovered at high levels, albeit with less pace in emerging economies (Chart III.5, Chart III.6).

Chart III.5. Credit Growth / GDP (%)¹



Source: IMF, IFS
 (1) Latest data from the IMF-FSI database have been used, most of which are end-2011 figures.

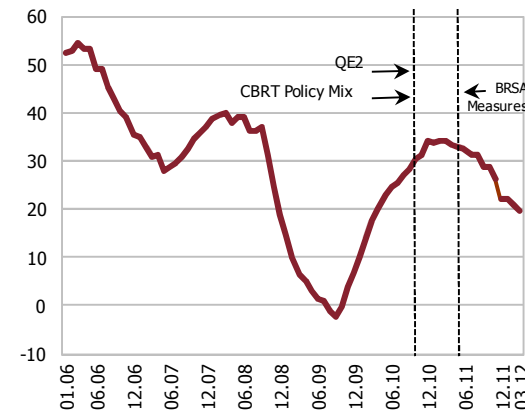
Chart III.6. Annual Change in Credits (%)¹



Source: IMF, IFS
 (1) Latest data from the IMF-FSI database have been used, most of which are end-2011 figures.

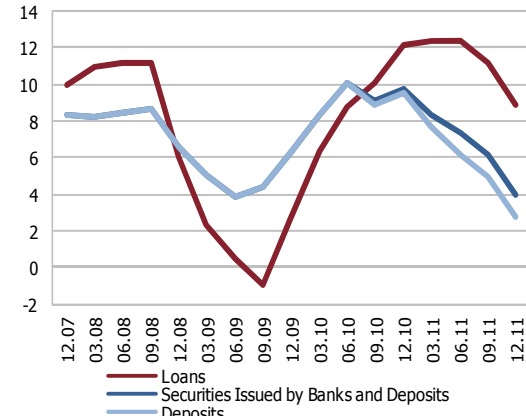
On the back of the flexible monetary policy, tight fiscal policy and other measures taken by the authorities, credit growth has reached reasonable levels for financial stability in Turkey. Due to lingering vulnerabilities related to the global economy and precautionary measures taken by the Turkish authorities, the annual rate of increase in credits, adjusted for exchange rate effect became 22 percent at end-2011. Parallel to the rebalancing process between domestic and foreign demand, credit growth is expected to maintain its moderate course in 2012 as well (Chart III.7). In tandem with the deceleration in the rate of increase in credits in the second half of 2011, the ongoing decline in the ratio of credit growth to GDP continued, too (Chart III.8).

Chart III.7. Annual Growth in Credits (% , Excluding NPLs)^{1,2}



Source: BRSA –CBRT
 (1) The basket value used to adjust for exchange rate effect is composed of 70 percent USD and 30 percent Euro. The average basket rate of December 2007 – March 2012 has been used to adjust for exchange rate effect and FX-indexed credits are included in FX credits.
 (2) QE2 refers to the second round of quantitative easing introduced by the FED in November 2010.

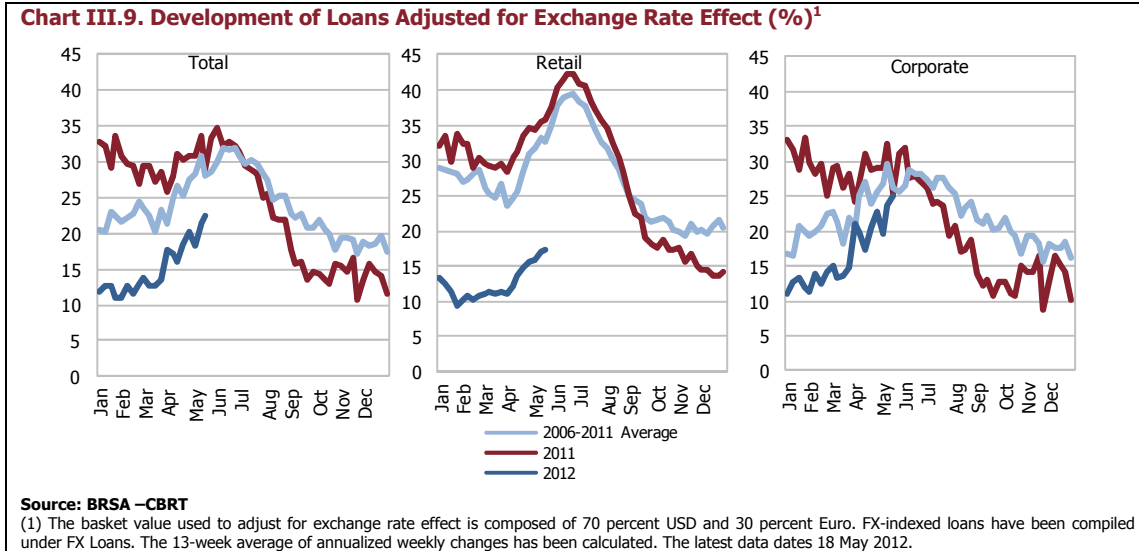
Chart III.8. Credit and Deposit Growth/GDP (% , Excluding NPLs)¹



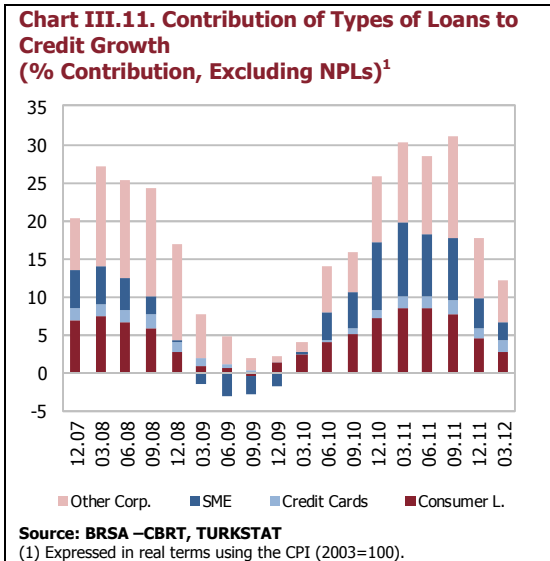
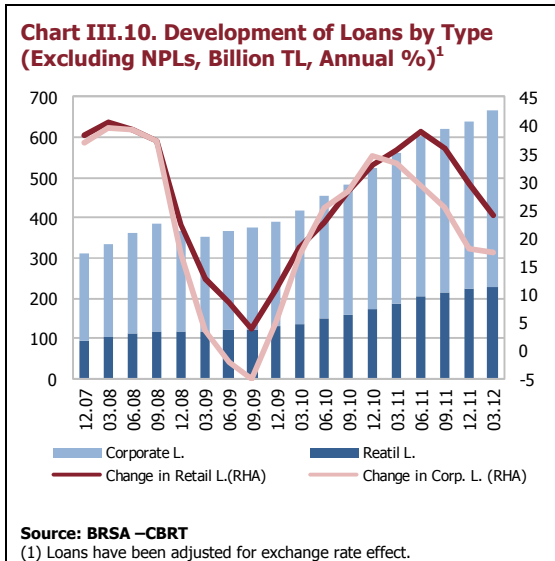
Source: BRSA –CBRT, TURKSTAT
 (1) The basket value used to adjust for exchange rate effect is composed of foreign exchange buying rate of 70 percent USD and 30 percent Euro for credits; 60 percent USD and 40 percent Euro for deposits. The average basket rate of December 2007 – March 2012 has been used to adjust for exchange rate effect and FX-indexed credits are included in FX credits.

While consumer loans displayed a limited increase, as desired, credit growth was mainly driven by corporate loans. Although the rate of increase in credits hovered below the previous five years averages and previous year's rate on the back of measures taken to control the credit growth rate and the tight monetary policy, the said rate has increased slightly in the recent period due to seasonal changes. The annualized growth rate of total loans adjusted for exchange rate effect stood as 22.4 percent by mid-May 2012. The increase in corporate loans accelerated on the

back of the implementation of export rediscount credits that has gained pace recently, in addition to the financing need such as stock enhancement, working capital and the restructuring of debts. Thus, the annualized rate of increase in corporate loans adjusted for exchange rate effect became 25.1 percent by mid-May 2012. The annualized growth rate of retail loans became 17.4 percent in the same period (Chart III.9).



The contribution of consumer loans to loan growth has declined significantly. In the first quarter of 2012, total loans, corporate loans and retail loans, all adjusted for exchange rate effect, increased by 4.5 percent, 5.4 percent and 2.7 percent, respectively, compared to end-2011 (Chart III.10). In March 2012, the annual growth rate of credits became 12.2 percent in real terms, of which 2.4 points came from SME loans; 5.7 points from other corporate loans and 2.7 points from consumer loans (Chart III.11). The contribution of primarily consumer loans to growth decreased faster than that of other loan types on the back of the measures taken by the BRSA in June 2011.



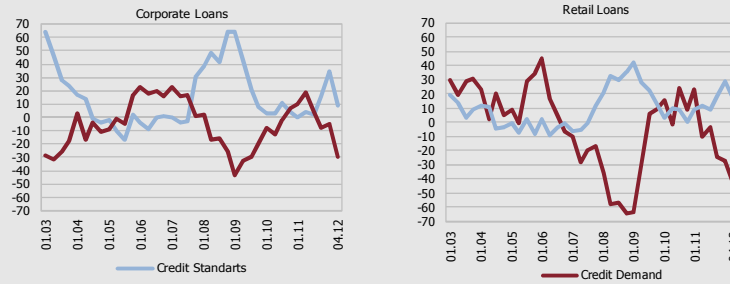
Box III.1. Surveys on Banks' Loans

Lending surveys are widely used by several central banks in order to evaluate supply and demand conditions in the credit market. In this context, lending surveys published by the Fed, the ECB and the CBRT mark the directions of and reasons for changes in credit standards and credit demand in USA, Europe and Turkey, and provide information regarding the nature of perceptions related to the credit market.

According to "The Euro Area Bank Lending Survey", published by the ECB, the tightening of standards on credits extended to the private sector, which started to rise again from the second half of 2011, eased significantly in the first quarter of 2012. This development was mainly attributed to the improvement in expectations on the overall economic activity, banks' liquidity positions and financing costs. The improvement in expectations on the overall economic activity in addition to the financing costs was instrumental in the loosening of tight standards on retail loans.

Although the standards were eased to some extent in the first quarter of 2012, the decline in the private sector's credit demand gained pace. While the decline in the demand for corporate loans was driven mainly by the decrease in the financing need with respect to fixed investments, the decline in the demand for retail loans was driven by the diminishing trend in consumer confidence and negative expectations regarding real estate sector.

Chart 1. Credit Standards and Credit Demand in the Euro Area (Percent)^{1,2}

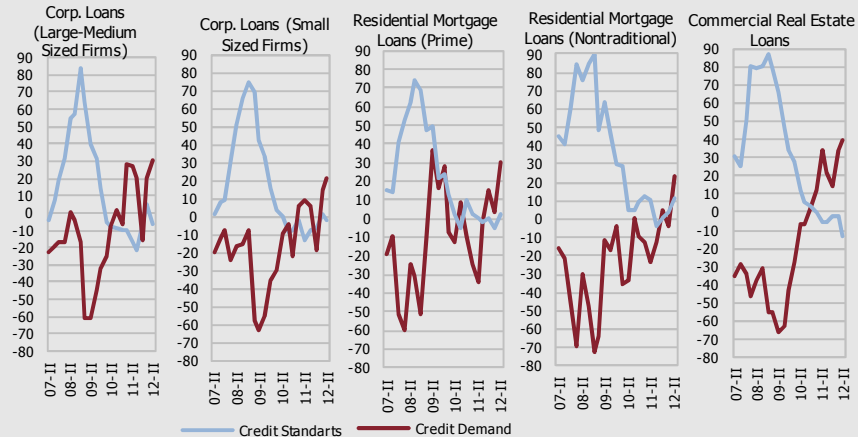


Source: ECB Bank Lending Survey, April 2012

- 1) A negative value in credit standards indicates an easing in standards, whereas a positive value in credit demand indicates an increase in credit demand.
- 2) The demand for retail loans is related to housing loans.

According to the results of the lending survey prepared by the Fed in relation to the credit market indicate that while banks have recently eased their credit standards, credit demand has increased. While increased competitive pressure in the sector and positive expectations related to the economic outlook were influential in the easing of standards on corporate loans, the financing need arising from stock enhancement, fixed investments and mergers/acquisitions along with the decrease in non-bank resources was instrumental in the surge of credit demand. While the recent period has witnessed an easing in standards on housing loans for purchase of premises by firms, it has seen a tightening in standards on real estate loans for households. Meanwhile, the increase in demand for housing loans prevails.

Chart 2. Credit Standards and Credit Demand in the USA (Percent)¹



Source: Fed, Senior Bank Loan Officer Survey on Bank Lending Practices

- 1) A negative value in credit standards indicates an easing in standards, whereas a positive value in credit demand indicates an increase in credit demand.

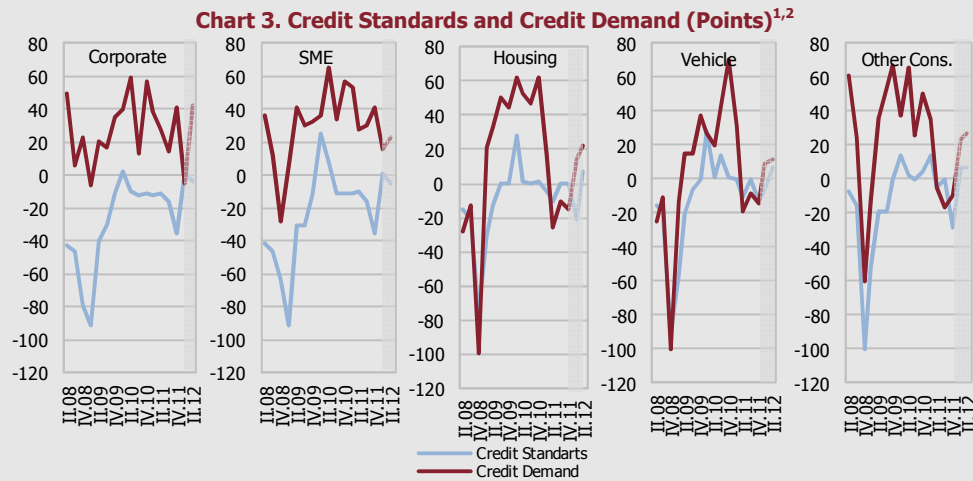
Turkey also experience developments similar to those in US credit markets. According to the CBRT Banks' Loans Tendency Survey, while the tightening trend in standards on corporate loans had continued since the second quarter of 2010, this was replaced by a slight easing in the first quarter of 2012. While financing costs, competitive pressure and risks on collaterals continued to put pressure on standards, the improvement in risk perceptions on economic activity became influential in easing this pressure. Nevertheless, the tightening trend in short-term credits continued in this period as well.

The demand for corporate loans, primarily those extended to large enterprises on long-term maturities, contracted in the first quarter of 2012. In the meantime, the demand for SME loans showed a slight increase. While financing need arising from stock enhancement, working capital along with the financing need related to restructuring of debts boosted the demand for credit, enterprises tended to meet their financing needs through internal finance and this development became the main driver in the decrease in credit demand.

Considering retail loans, tightening in housing and vehicle loans continued due to the deterioration of expectations regarding the real estate sector and deterioration of expectations related to the economic activity, respectively. The standards on other consumer loans were eased due to the competitive pressure of other banks.

The demand for retail loans that started to decline in the second quarter of 2011 began to rise in response to higher consumer confidence and financing need in the first quarter of 2012.

As of the second quarter of 2012, banks expect a tightening in standards on corporate loans and an easing in standards on consumer loans whereas expectations regarding credit demand are on an upward trend in terms of both corporate loans and retail loans.

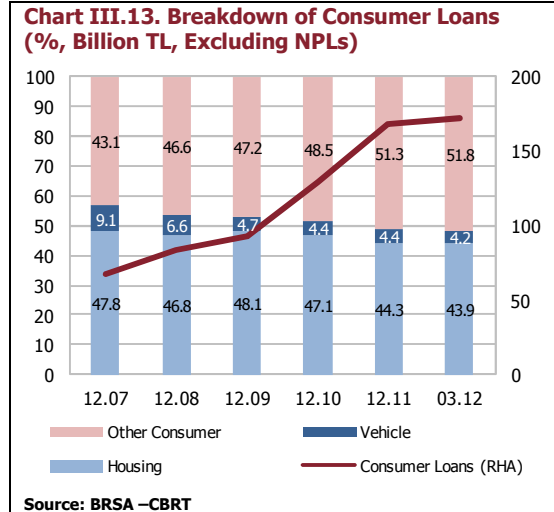
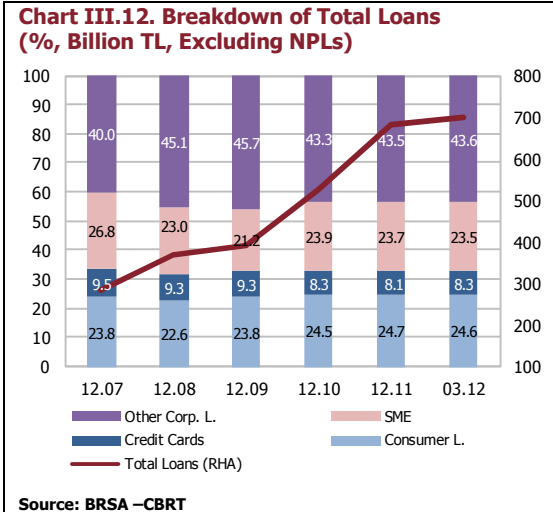


Source: CBRT Banks' Loans Tendency Survey

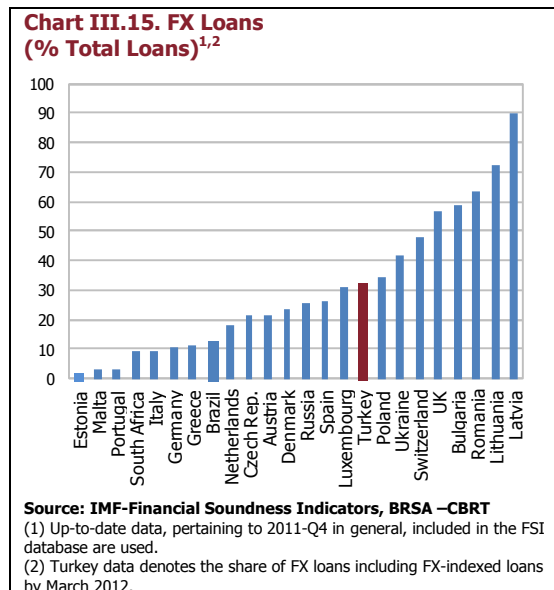
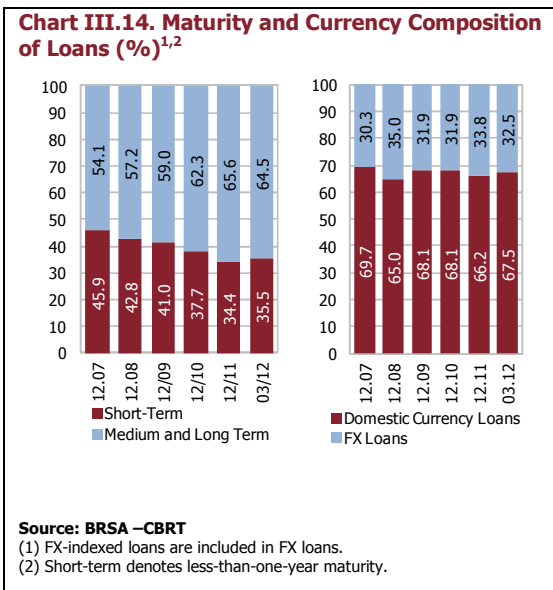
1) Data pertaining to the second quarter of 2012 is composed of expectations for the next three months.

2) Negative value in credit standards indicates a tightening in standards, whereas positive value in credit demand indicates an increase.

No significant change was observed in the distribution of credits by type in the first quarter of 2012. Although the rate of increase in other consumer loans lost ground on the back of measures taken related to these loans, it materialized above that of housing and vehicle loans; therefore, the share of other consumer loans in total consumer loans exhibited an increase by 0.5 points (Chart III.12, Chart III.13).

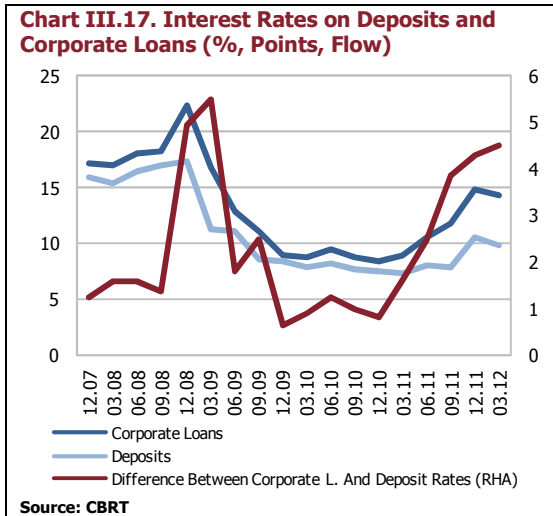
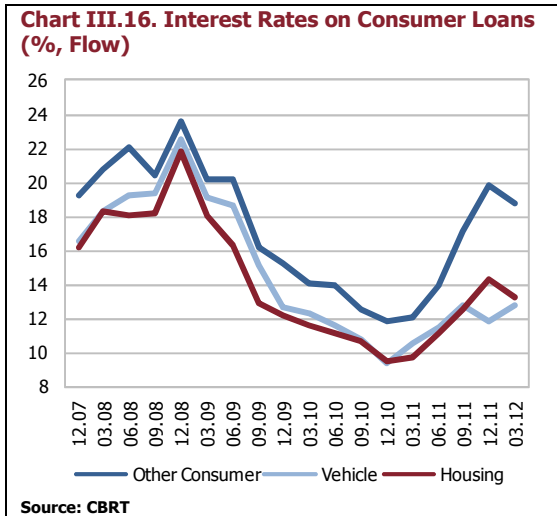


Credits are predominantly in medium and long-term maturities and denominated in Turkish lira, which is considered to be a favorable development in terms of the management of credit risk. It is noteworthy that the change observed in the share of FX-loans since the last quarter of 2011 has been driven by the volatility in exchange rates. In fact, adjusted for exchange rate effect, no significant change is observed in the currency composition of credits. A limited decline was observed in the share of medium and long-term credits in the same period (Chart III.14). The share of FX-denominated loans in the loan portfolio of the Turkish banking system was realized at mean values when compared to other countries (Chart III.15).

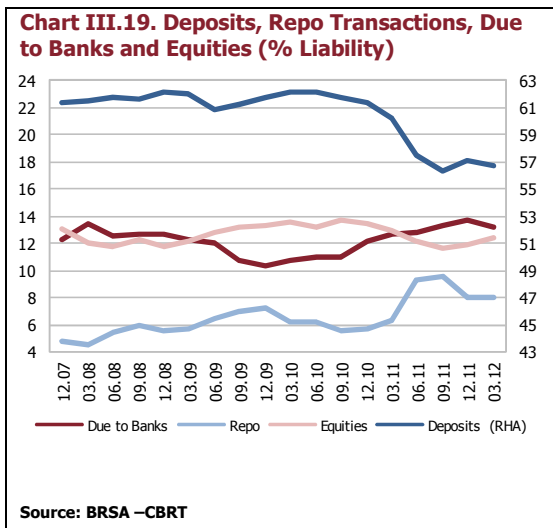
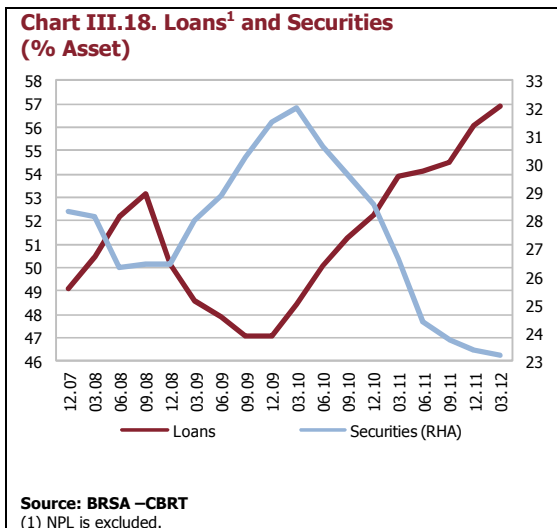


Interest rates on loans are relatively high on the back of the tight monetary policy framework. Throughout 2011, interest rates on loans generally followed an upward trend in line with increasing costs owing to measures taken to bring the credit growth rate to reasonable levels and increased uncertainty in global financial markets. On the other hand, in the first quarter of 2012, interest rates on loans other than vehicle loans declined albeit moderately. By March 2012, interest rates on housing loans materialized as 13.2 percent; while those on other consumer loans and vehicle loans became 18.7 percent and 12.8 percent, respectively (Chart III.16). In the same period, interest rates on corporate loans and deposits became 14.4 percent and 9.9 percent, respectively. As interest

rates on deposits declined more than those on corporate loans, the interest rate margin lost pace, yet still continued to hover around high levels (Chart III.17).

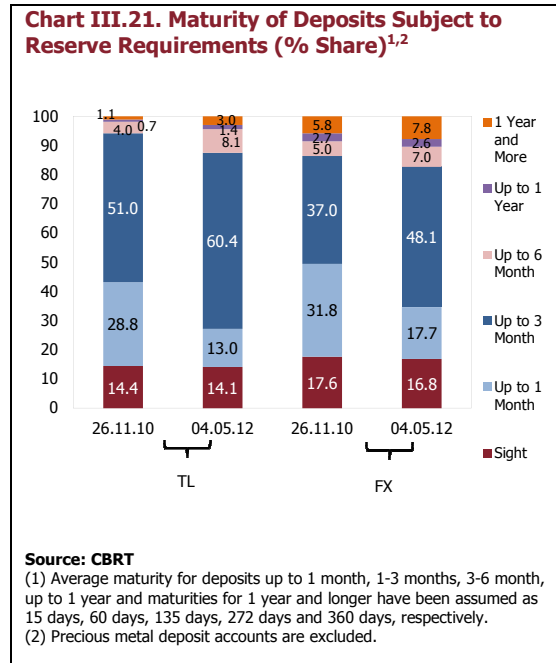
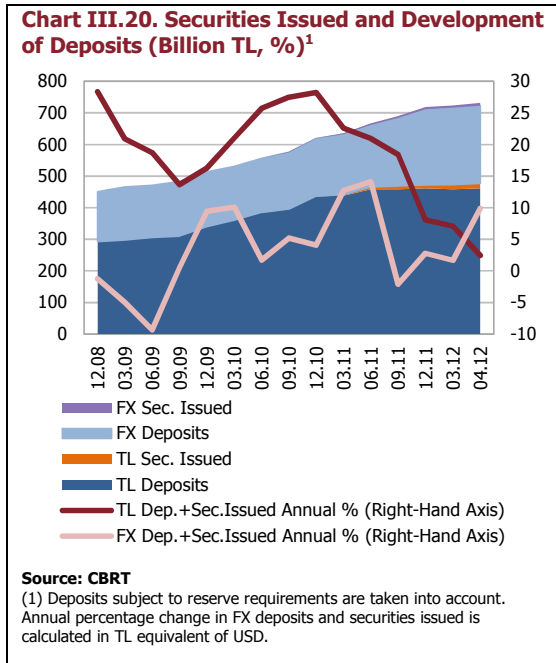


Although banks have used deposits as the main source of finance, they have continued to employ alternative sources in the recent period. Although the share of loans in total assets increased by 0.8 points as of March 2012 compared to end-2011, the share of total deposits in resources declined by 0.5 points despite the increase in FX deposits. In this period, banks increased their funding from securities issued and continued to cover other financing needs mostly with funds from repo transactions and through due to banks abroad. In the first quarter of 2012, due to increased financing costs, banks tended to provide finance from their internal sources (Chart III.18 and Chart III.19). While the fixed asset revaluation fund and securities increment value fund contributed positively to the increase in the share of equities compared to year-end on records, the main contribution came from the portion of profit of the period transferred to legal reserves.

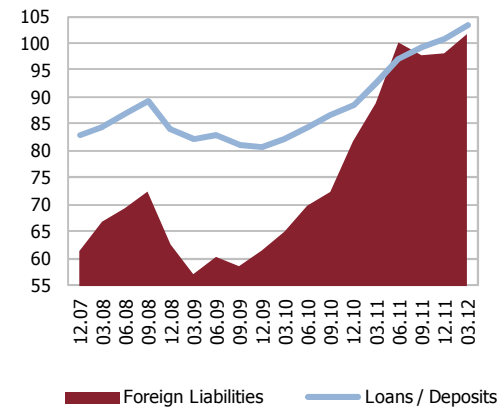


The rate of increase in the Turkish lira deposits/participation funds subject to reserve requirements started to decelerate from the second half of 2011. The deceleration in the growth rate of Turkish lira deposits is attributed to banks' increased use of alternative financing sources, such as bonds and bills, and the increase in precious metal deposit accounts on the back of the CBRT's facility that allowed banks to hold reserve requirements as standard gold. The increase in

FX deposits and FX participation funds, subject to reserve requirements, has continued with decreasing pace since the end of 2011 (Chart III.20). Meanwhile, during the period following the differentiation of required reserve ratios according to maturity structure at the end of 2010, the maturity of deposits extended significantly. Thus, by April 2012, while the share of deposits/participation funds of up to one-month maturity decreased, the share of deposits mostly consisting of maturities up to three months increased (Chart III.21). In this period, the average maturity of Turkish lira deposits became 62.7 days and the weighted average maturity of FX deposits and participation funds became 76.3 days.



Banks have no difficulty obtaining funds from abroad. As of March 2012, 14.7 percent of total assets pertaining to the banking sector were funded by foreign liabilities and total foreign liabilities of banks surged by 3.6 percent compared to year-end to become USD 101.8 billion (Chart III.22). However, by early 2012-Q2, unfavorable developments in some European economies disrupted the improvement in perceptions related to global economy, as a result of which, capital flows towards emerging economies became more volatile. Therefore, it is considered that in 2012, the increase in the cost of syndication and securitization credits might continue and international money and capital markets might be affected adversely if European banks downsize their balance sheets due to the Euro area sovereign debt crisis. On the other hand, considering its strong structure and indebtedness to countries that have been relatively less affected by the downsizing of balance sheets, the Turkish banking system is likely to maintain its current indebtedness levels if real sector demand remains strong.

Chart III.22. Foreign Liabilities and Ratio of Loans/Deposits (Billion USD, %)

Source: BRSA –CBRT

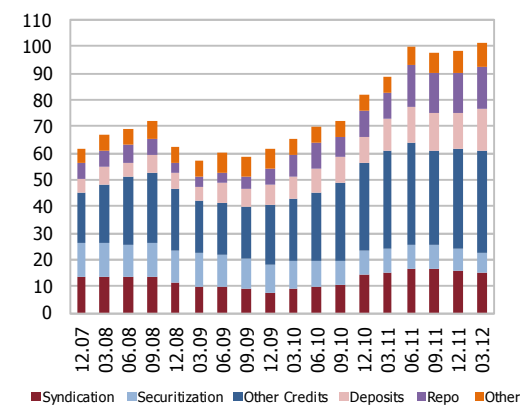
Chart III.23. External Debt Rollover Ratio of Banks (%)¹

Source: CBRT

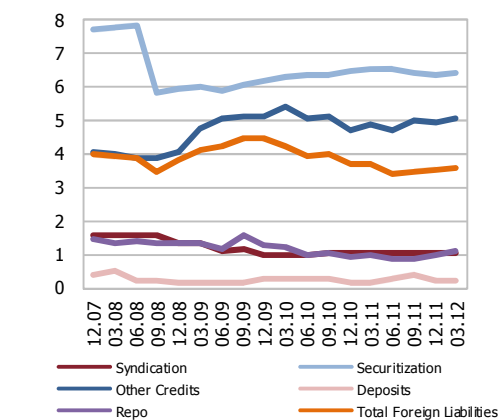
(1) 6-month moving average

In 2012, banks are not expected to have problems paying syndication and securitization credits. The banks' external debt rollover ratio has been hovering above 100 percent since end-2009 (Chart III.23). By March 2012, the sum of syndication and securitization credits was USD 22.8 billion, occupying a share of 22.4 percent in foreign liabilities and 3.7 percent in total funding sources (Chart III.24). The amount of syndication and securitization credits to mature till the end of 2012 is USD 10.5 billion. It is considered that the facility provided to banks for borrowing from the CBRT Foreign Exchange Deposit Market and their FX and gold assets held for Turkish lira reserve requirements are sufficient enough to cover their syndication and securitization credits should the need arise.

The long-term maturity structure of funds obtained by the banking sector from abroad contributes to the extension of the maturity of liabilities. The weighted average maturity of foreign liabilities followed a stable trend over the past one year and became 3.6 as of March 2012. In the same period, the average maturity of syndication credits, which makes up 14.6 percent of foreign liabilities, was 1 year and the average maturity of securitization credits, which makes up 7.7 percent of foreign liabilities, was 6.4 years (Chart III.25).

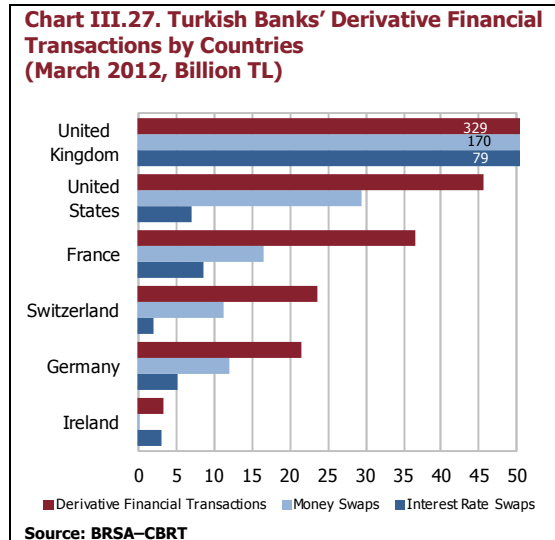
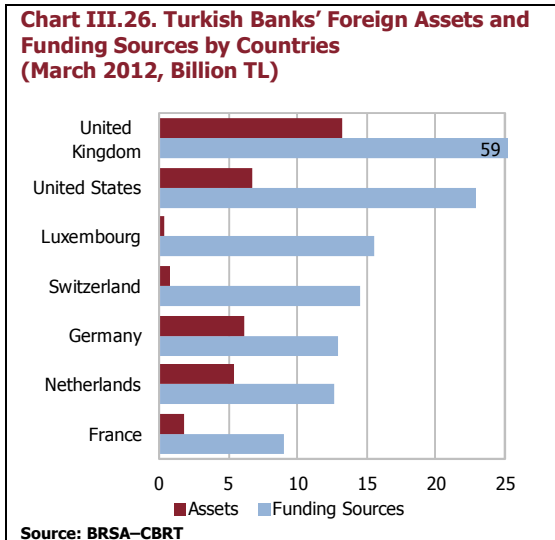
Chart III.24. Composition of Foreign Liabilities (Billion USD)

Source: BRSA –CBRT

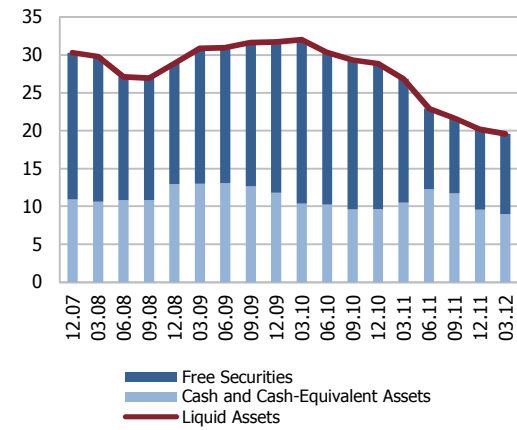
Chart III.25. Average Maturity of Foreign Liabilities (Years)

Source: BRSA –CBRT

An analysis of the share of foreign countries in total assets and funding sources reveals that the Turkish banking system is a net payer. As of March 2012, 4.2 percent of the total assets of banks in Turkey were composed of investments abroad and 19.4 percent of total funding sources were composed of foreign funding. On-balance sheet transactions carried out with foreign countries are mostly composed of interbank operations. The share of investments in EU countries in total assets is 2.8 percent, while the share of funds provided from these countries in total funding sources is 12.1 percent. The United Kingdom, which has the largest share among these countries, has a share of 1.1 percent in total assets and 5.5 percent in foreign funding sources (Chart III.26). Among derivative financial transactions carried out with foreign countries, money swaps and interest rate swaps have the largest share. When the breakdown of derivative financial transactions of the banking sector is evaluated on a country basis, it is observed that the total share of foreign countries is 77.7 percent and the United Kingdom has the largest share with 51.8 percent (Chart III.27). The share of PIIGS countries consisting of Portugal, Ireland, Italy, Greece and Spain is negligibly low with respect to breakdown of assets, funding sources and off-balance sheet transactions.



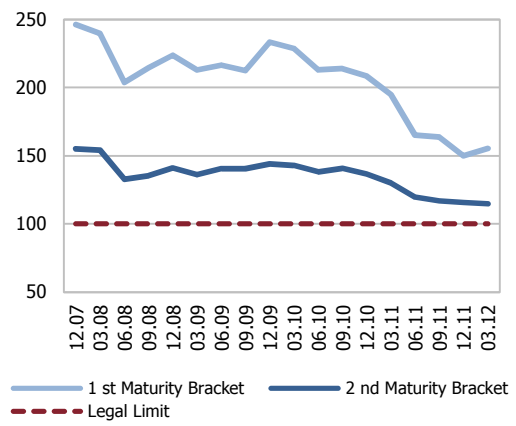
With the provision of the facility of maintaining Turkish lira reserve requirements as gold and foreign exchange, the banking system was affected positively through cost and liquidity channels and the banks' liquidity needs and borrowings from the CBRT decreased. By March 2012, the ratio of liquid assets to total assets declined by 0.6 points compared to end-2011 and became 19.6 percent. This development is mainly attributable to the decrease in cash and cash-equivalent assets due to the maintenance of a portion of Turkish lira required reserves as gold and foreign exchange at blocked accounts since 28 October 2011 and to reductions in required reserve ratios (Chart III.28). Despite the decline in the share of liquid assets to total assets, the total liquidity adequacy ratios of the banking sector, computed in accordance with the Regulation on the Measurement and Assessment of Liquidity Adequacy of Banks, still remains well above the legal ratio of 100 percent (Chart III.29).

Chart III.28. Liquid Assets (% Asset)^{1,2}

Source: BRSA-CBRT

(1) Cash and cash equivalent assets=Cash+ CBRT + Money Markets + Banks + Reverse Repo
 (2) Free Securities = Government securities that are not used as collateral or for repo

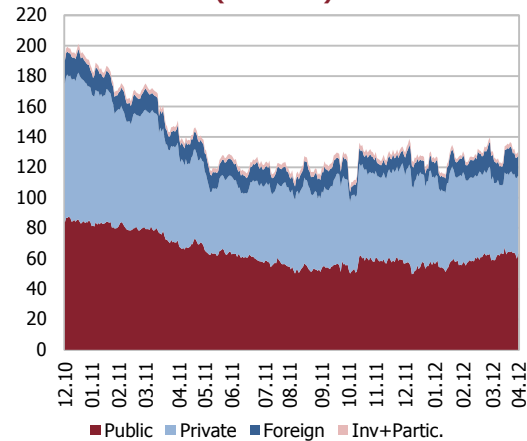
Chart III.29. Total Liquidity Adequacy Ratio



Source: BRSA-CBRT

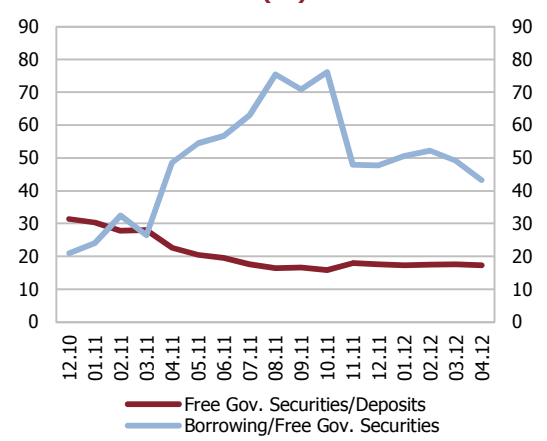
Free securities, which are considered by the CBRT eligible collateral to meet the liquidity needs of banks in case of a temporary liquidity shortage, and the ratio of these securities to deposits have recently followed a relatively flat trend, while the ratio of borrowing from the ISE and Interbank money markets to government securities has started to decline. Free securities, which had reached TL 190.2 billion by the end of 2010, started to decline after this period, followed by a flat course from mid-2011 and became TL 128.5 billion. Meanwhile, the ratio of borrowing from the ISE and Interbank money markets to government securities, which displayed an upward trend by October 2011, assumed a downward trend from early 2012 and materialized at 43.3 percent in April. The ratio of free government securities that can be used by banks in case of a liquidity shortage to deposits followed a horizontal course and became 17 percent in April 2012 (Chart III.30, Chart III.31).

Chart III.30. Total Securities Eligible By the CBRT As Collateral (Billion TL)



Source: BRSA-CBRT

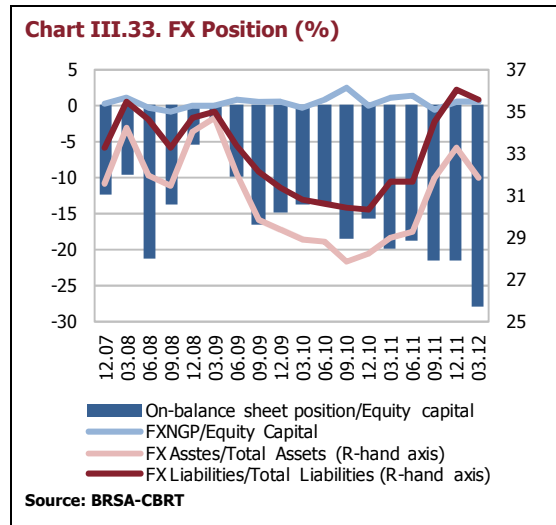
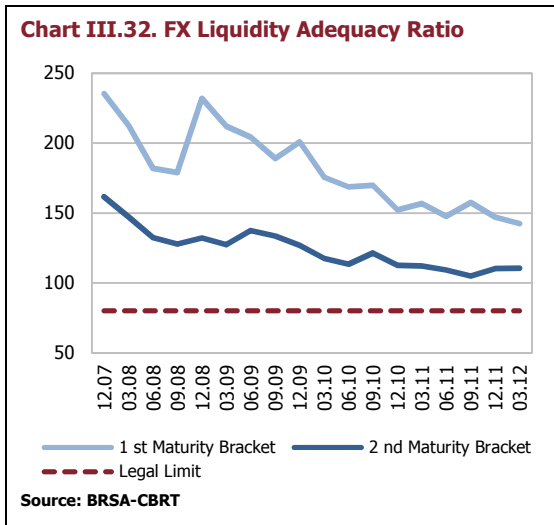
Chart III.31. The Ratio of Total Free Government Securities to Liabilities (%)



Source: BRSA-CBRT

Although banks' on-balance sheet short positions are on the rise due to their propensity to create Turkish lira sources through swaps, their foreign exchange net general positions and liquidity ratios remain within legal limits as they counter-balance the short positions with off-balance sheet transactions. Concerning FX liquidity adequacy

ratios, while the downward trend in the 1st maturity bracket observed since 2009 continues, the 2nd maturity bracket has followed a steady course since 2011 (Chart III.32). By March 2012, the ratio of FX assets, including those indexed to foreign exchange, to total assets was 31.8 percent and the ratio of FX liabilities to total liabilities was 35.5 percent. The on-balance sheet short position, which is closed by off-balance sheet transactions mostly composed of swap transactions, has continued to increase since early 2012. As a matter of fact, Turkish lira borrowing swaps continued to rise in 2012 reaching USD 38.8 billion and foreign exchange borrowing swaps remained flat materializing as USD 12.9 billion in March. As of March 2012, the ratio of foreign exchange net general position to total equity capital was 0.5 percent (Chart III.33).



Box III.2. Short-Term Liquidity Measures of The Central Bank of the Republic of Turkey

In order to prevent any deterioration in medium-term inflation expectations and inflation outlook that might arise from the excessive depreciation of the Turkish lira, base effects from unprocessed food prices and adjustments in administered prices in the last quarter of 2011, the Monetary Policy Committee (the Committee) took the necessary action in October and widened the interest rate corridor by increasing the lending rate significantly; hence adopted a strong tightening in the monetary policy. At its meeting of 23 November 2011, the Committee decided to closely monitor the impact of measures taken on credit, domestic demand and inflation expectations and to adjust the amount of Turkish lira funding via one-week repo auctions on both sides, if needed. Additionally, the Central Bank decided to inform the public on a regular basis regarding the planned amount of funding provided via one-week repo auctions in order to facilitate banks' liquidity management and to assist them with the estimation of their total funding cost. In this framework, the lower limit of the outstanding amount of funding (one-week repo funding amount) for any day throughout the following maintenance period started to be announced on Reuters "CBTF" page bi-weekly every Friday morning at 9:30, from 25 November 2011.

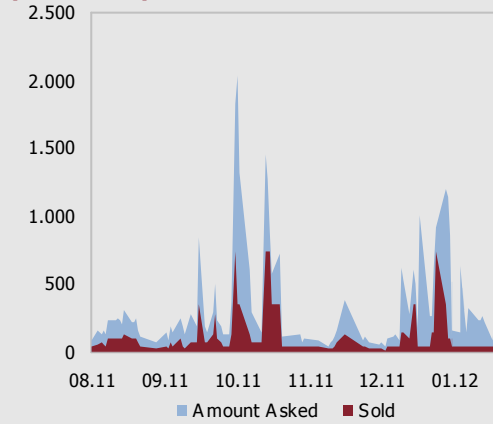
In addition to these measures, the Central Bank started to hold one-month (4 weeks) repo auctions every Friday from 30 December 2011, in traditional auction method in order to balance the effects of global economic developments on the Turkish economy and to contribute to a more effective distribution of liquidity.

Furthermore, at its meeting of 24 January 2012, the Committee decided to announce the lower and upper limits of one-week repo auctions to be held in quantity auction method during the period between two Committee meetings and the upper limit of one-month repo auctions to be held in traditional auction method as a complementary action to assist banks in predicting their funding costs.

Meanwhile, regarding the foreign exchange selling auctions run in line with the strategy formulated at the Committee meeting of 4 August 2011, and upon CBRT's regulation dated 29 November 2011, the total maximum amount of foreign exchange that could be sold for the next two working days via selling auctions started to be announced on Reuters page "CBTQ" at 15:00 on each working day. Within this scope, the total maximum selling amount was determined as USD 100 million for 29 November and 30 November 2011. From 27 December 2011, it was decided that the maximum amount that could be sold at the daily selling auctions would continue to be announced as USD 1,350 million and that the total maximum amount that could be sold for the following two working days would continue to be announced as USD 1,700 million for the term until the next Monetary Policy Committee meeting. However, except in extraordinary circumstances deemed necessary for price stability and financial stability the CBRT also decided to meet only up to USD 50 million of received offers. It was decided that effective from 30 December 2011, the CBRT would continue to hold auctions on the days of a direct intervention in the foreign exchange market by the Bank before the auction time. Due to speculative price formation in exchange rates, the CBRT directly intervened in the market through selling auctions on 18 October, 30 December 2011 and on 2-3-4 January 2012.

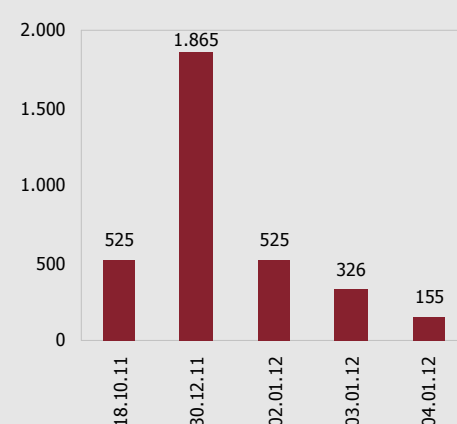
Furthermore, the CBRT initiated implementation of intraday foreign exchange selling auctions as necessary from 6 January 2012, set the daily auction selling amount as USD 50 million for each auction and decided to meet the full amount of offers received up to the auction amount. At the Committee meeting of 24 January 2012, it was indicated that considering the ongoing improvement in current account dynamics and the sudden swings in global conditions, intraday foreign exchange selling auctions would be more effective and more consistent with monetary policy objectives, compared to the regular foreign exchange selling auctions. It was therefore decided to suspend regular foreign exchange selling auctions as of 25 January 2012; yet to hold intraday foreign exchange selling auctions within the framework stipulated in the "Press Release on Intraday Foreign Exchange Selling Auctions" dated 6 January 2012 and to set the maximum daily amount to be sold via intraday auctions as USD 500 million until the next Committee meeting.

Chart 3. FX Selling Auctions Against TL (Million USD)



Source: CBRT

Chart 4. Direct FX Selling Interventions Against TL (Million USD)



Source: CBRT

Meanwhile, with the press release of 27 December 2011, the maturity of foreign exchange deposits that the banks could borrow from the CBRT within their borrowing limits in the Foreign Exchange Deposit Market was raised from 1 week to 1 month, effective as of 2 January 2012.

The press release of 2 January 2012 provided explanations regarding the monetary policy to be implemented by the CBRT on exceptional days. Accordingly, it was stated that under the assumption that end-2011 inflation would materialize above 10 percent, the CBRT introduced an additional monetary tightening from 29 December 2011 to contain the second round effects, and that the liquidity funded to the market at the policy rate might be reduced temporarily below the lower bound announced for normal trading days. It was also indicated that unsterilized (effective) foreign exchange sales and direct interventions might also be used as a complementary instrument when necessary.

At the Committee meeting of 21 February, considering recent expansionary monetary policy decisions around

the globe, it was decided to cut the upper limit of the interest rate corridor. Accordingly, the overnight lending rate was cut from 12.5 percent to 11.5 percent, and the interest rate on borrowing facilities provided for primary dealers via repo transactions within the scope of open market operations was reduced from 12 percent to 11 percent. In the context of the late liquidity window, the overnight lending rate applicable between 16:00 and 17:00 hours at the Interbank Money Market was cut from 15.5 percent to 14.5 percent.

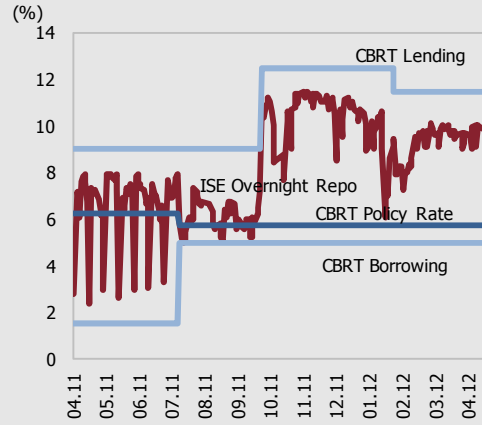
Chart 5. CBRT Weighted Average Funding Cost¹ (%)



Source: CBRT

(1) CBRT weighted average funding cost is the weighted average cost of outstanding funds provided by the CBRT through Interbank Money Market (providing deposits) and Open Market Operations (ISE repo, primary dealer repo, weekly repo via quantity auction, weekly repo via traditional auction, monthly repo). Simple interests have been used in calculation.

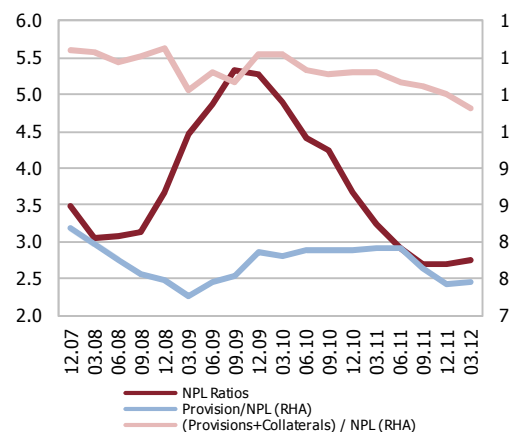
Chart 6. CBRT and Secondary Market Interest Rates (%)



Source: CBRT

The non-performing loan (NPL) ratio maintains its historical low levels. NPL ratio remained steady in the first quarter of 2012 and became 2.7 percent in March. The continuance of the improvement in NPL ratio for loans extended to micro-sized enterprises and housing loans is noteworthy. Considering the provisions set aside for NPLs along with collaterals received for loans, it is observed that the sector is strong enough to cover the credit risk it is exposed to (Chart III.34 and Table III.2).

Chart III.34 Non-Performing Loans (NPL) (%)



Source: BRSA –CBRT

Table III.2. NPL Ratios (%)

	2010	2011	03.12
Total Loans	3.7	2.7	2.7
Corporate	3.4	2.6	2.6
-SME Loans	4.5	3.1	3.2
--Micro	6.7	4.3	4.0
--Small	4.1	2.9	3.1
--Medium	2.8	2.2	2.5
-Other Corp. L.	2.8	2.3	2.3
Retail Loans	4.1	2.9	3.0
-Consumer	2.7	1.9	1.9
Loans			
--Housing	1.4	0.9	0.8
--Vehicle	6.0	3.3	3.4
--Other	3.7	2.6	2.7
-Credit Cards	8.0	5.9	5.9

Source: BRSA –CBRT

Although there is no database regarding the total number of cheques used in Turkey, cheques submitted to the Interbank Cheque Clearing Houses Center (ICH) are considered to be a significant indicator. The ratio of bad cheques presented to the ICH to the total amount of cheques started to

increase in the second half of 2011 (Chart III.35). When default rates are analyzed by sectors, it is observed that the on-going improvement since 2011 continued in March 2012 as well (Table III.3).

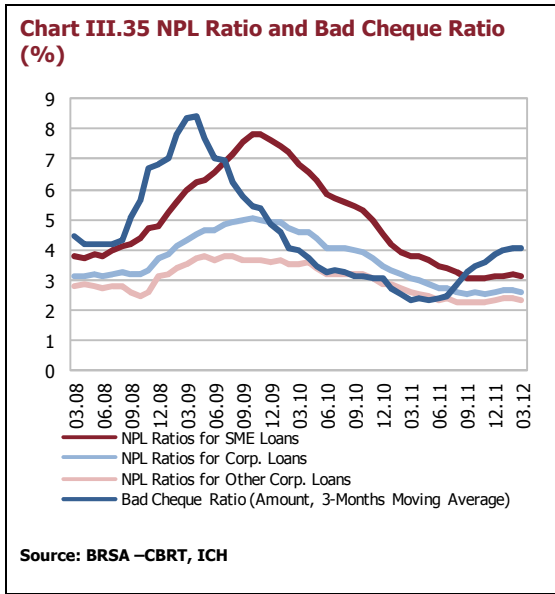


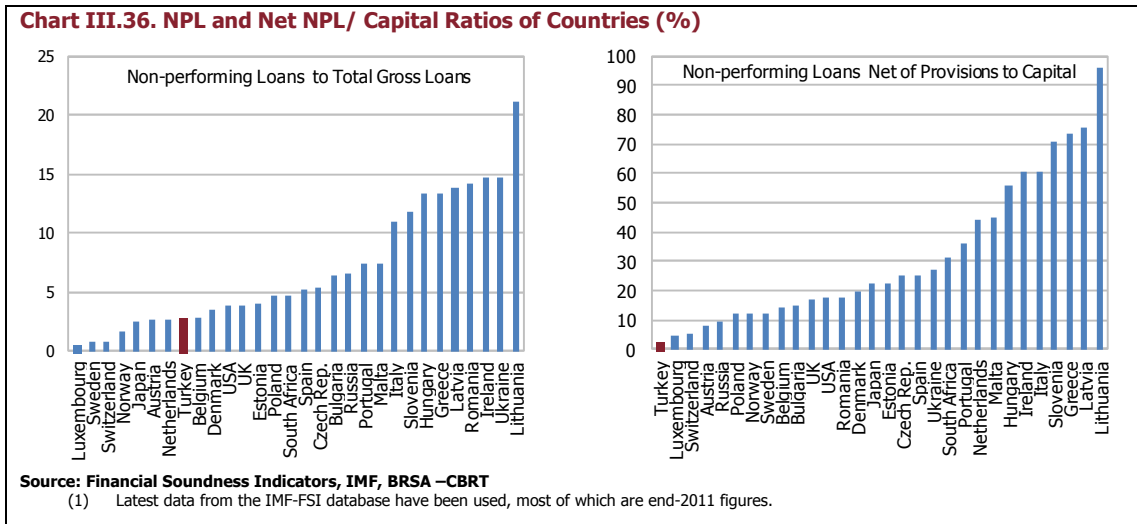
Table III.3. Default Rates by Sectors¹

	2009	2010	2011	03.12
Agriculture,Hunting,Wood Product Industry	19.7	17	10.8	10.9
Food, Beverage and Tobacco Industry	13.4	12.2	9.8	9.7
Textile and Textile Product Industry	15.5	14.5	12	11.7
Main Metal Industry	9.9	8.6	6.8	6.5
Machine and Equipment Industry	8.6	7.5	6.4	6.2
Electric, Gas and Water Resources	7.5	7.5	5.5	5.3
Construction	10.2	9.5	7.6	7.3
Wholesale Trade and Brokerage	11.8	21.3	11.3	10.9
Hotels and Restaurants	11.1	10.3	8	7.8
Transportation, Storage and Communication	9	8.2	5.3	5.1
First 10 Sectors	13.2	16.8	10.5	10.2

Source: BRSA –CBRT

(1) The default rate has been calculated as the ratio of the number of firms that have non-performing loans to the total number of firms that have performing and non-performing loans.

Due to the problems in the banking systems of some European countries and persisting global uncertainties, NPL ratios of these countries remain quite high compared to the Turkish banking system. Because of a general tendency of deceleration in the extension of loans due to the deleveraging process and contraction of financing facilities of these countries as well as economic underperformance, the NPL ratios of many countries hover around high levels. Compared to other developed and developing economies, the Turkish banking system shines with its strong asset quality (Chart III.36).

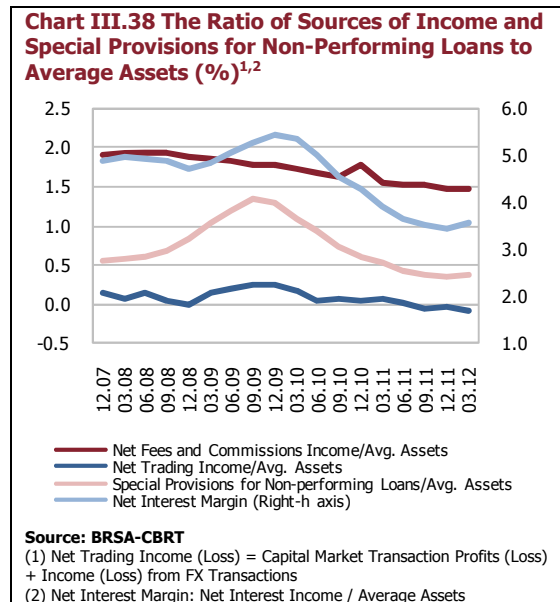
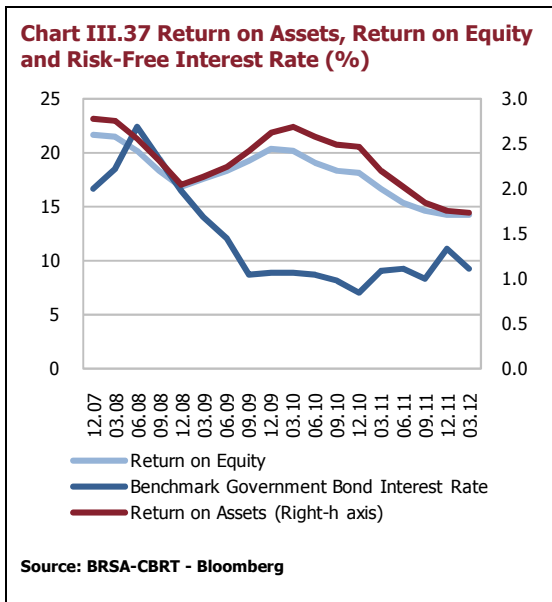


The net profit of the banking sector that declined in 2011 increased year-on-year in the first quarter of 2012. The net profit of the banking sector decreased by 10.3 percent year-on-year at end 2011 and became TL 19.8 billion. In the same period, despite the favorable effect of the decline in special provisions for non-performing loans as well as the increase in net fees and commissions income and net interest income, the surge in net non-interest expenses affected profitability adversely. The increase in non-interest expenses was due to the fact that operational

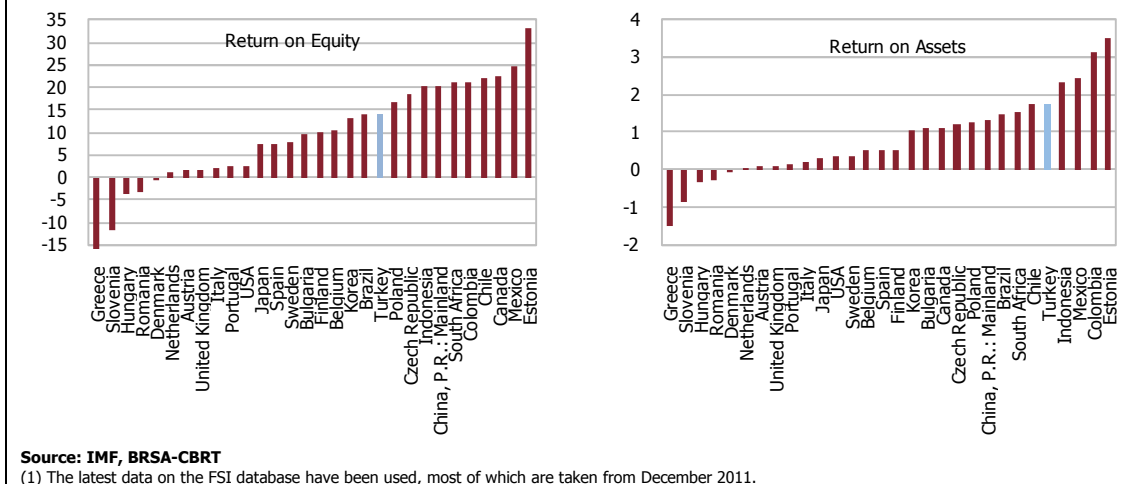
costs and general provisions increased and net trading income turned into losses arising from losses from FX transactions.

Meanwhile, by March 2012, the net profit increased to TL 6 billion on the back of a year-on-year increase by 9.7 percent. This increase was mainly attributable to the surge in net interest income. The non-interest expenses that rose due to the surge in operational costs and profit from capital market transactions turned into losses stemming from derivative financial instruments and the increase in special provisions for non-performing loans became factors that reduced the net profit.

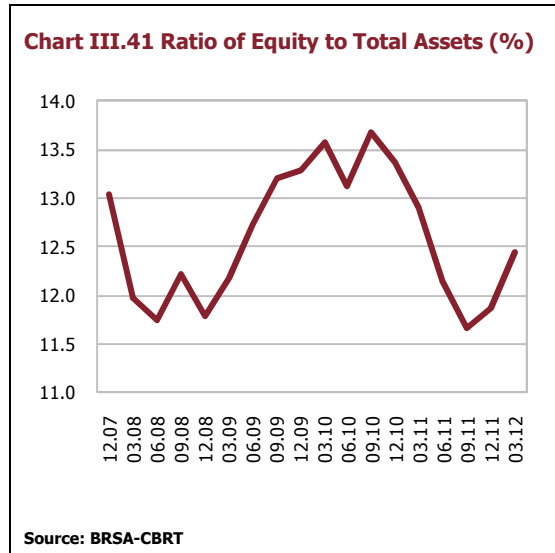
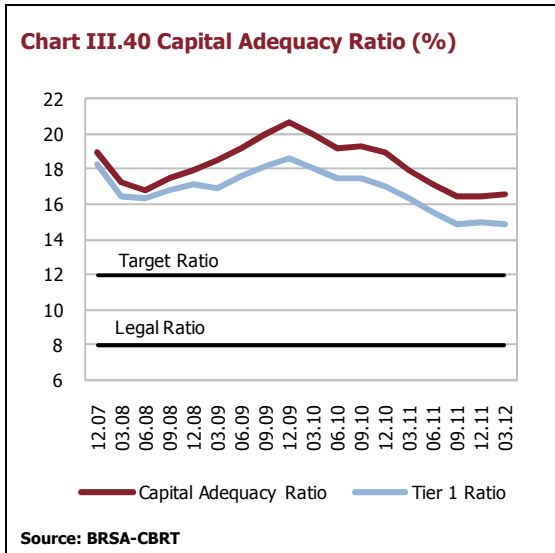
The sector's return on assets and return on equity became 1.7 percent and 14.3 percent, respectively, by the end of 2011 and remained almost unchanged in March 2012. However, it is noteworthy that despite the decline in return on equity, the return received is above the alternative risk-free rate of return (Chart III.37). The net interest margin, which was 3.5 percent by the end of 2011, increased by 0.1 points and reached 3.6 percent on the back of the increase in net interest income in March 2012 (Chart III.38).



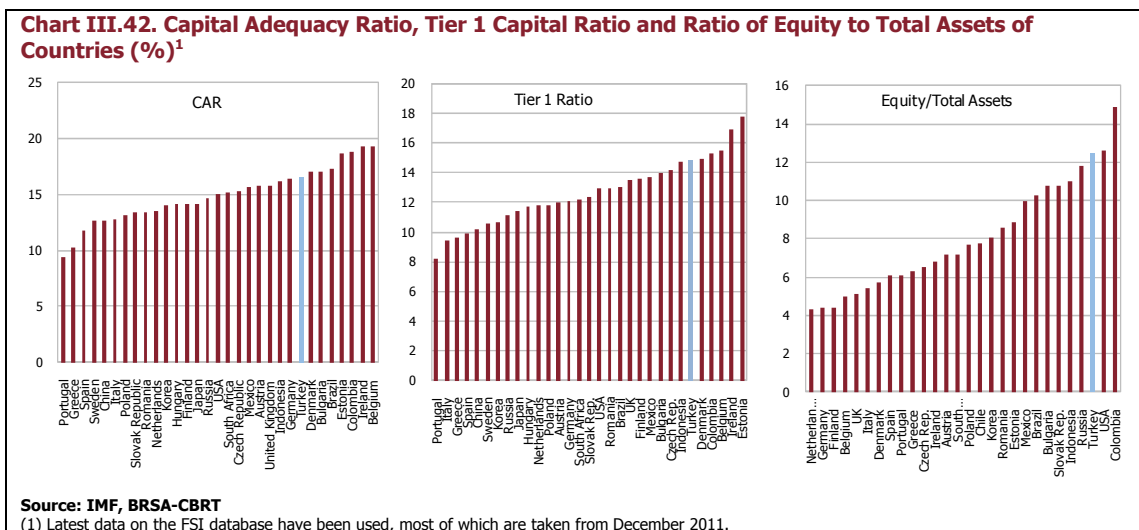
Although profitability performance indicators of the banking sector indicate a downward trend by year-end, they are still high compared to other countries. The return on equity and return on assets of the Turkish banking sector are well above the ratios of other countries (Chart III.39).

Chart III.39. Return on Equity and Return on Assets of Countries (Annual, %)¹

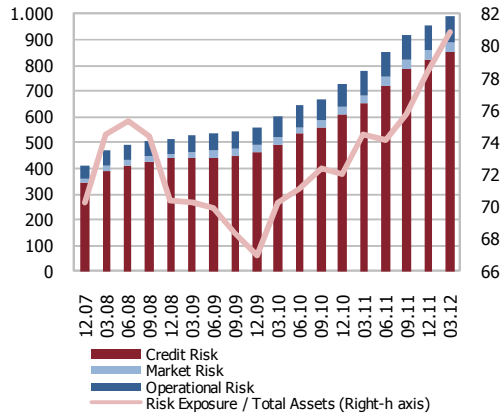
The capital adequacy ratio of the banking sector that had been in decline since early 2011, displayed a moderate increase by the end of the year. The capital adequacy ratio is well above the legal limit of 8 percent and target ratio of 12 percent. As of March 2012, the capital adequacy ratio of the sector increased by 0.1 percent compared to the year-end ratio of 16.5 percent and became 16.6 percent. The limited increase in the capital adequacy ratio of the sector was mainly driven by the improvement in profitability performance and the deceleration in credit growth rate (Chart III.40). In the meantime, the ratio of Tier 1 capital within own funds was approximately 90 percent as of March 2012, which denotes the quality of the own funds components of the sector. In fact, by end-2011 and March 2012, the Tier 1 capital ratio materialized quite high, at 14.9 percent. Moreover, the ratio of equity to assets was on the rise, becoming 11.9 percent at end-2011 and 12.5 percent in March 2012 (Chart III.41). The improvement in profitability performance of the sector and the increase in the securities increment value fund have a positive impact on the equity capital structure of the banking sector. In addition, the ongoing implementation imposing restrictions on banks in the distribution of profits, introduced by the BRSA, contributed to the formation of a significant amount of legal reserves, which also adds to the positive impact. Meanwhile, if the increase in the profitability performance of the sector and the deceleration in the growth rate of credits continue, the rise in the sector's CAR is expected to continue as well. However, with the transition to Basel II by July 2012, the capital adequacy ratio of the sector is expected to decrease slightly (Box III.3).



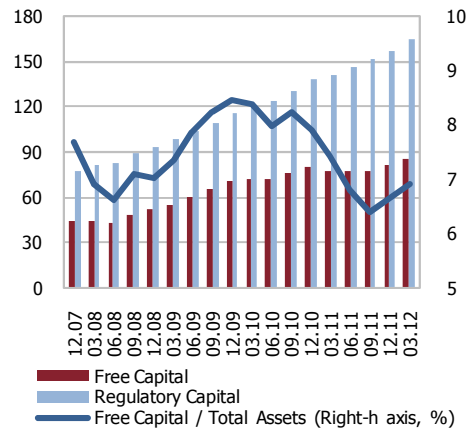
The Turkish banking sector has a high capital adequacy ratio. Compared to other countries, Turkey is one of the countries that enjoy high ratios with regard to the capital adequacy ratio, Tier 1 capital ratio, and the ratio of equity to total assets (Chart III.42).



The rise in the share of total risk exposure of the banking sector in total assets continues. By the end of 2011, mainly due to the credit risk, the said ratio increased by 2.6 points to 78.4 percent compared to September and stood at 80.8 percent in March 2012 (Chart III.43). In the same periods, the ratio of free capital to total assets surged to become 6.6 percent and 6.9 percent, consecutively (Chart III.44). This surge was mainly driven by the soar in equities and the decline in the rise of risk-weighted assets due to credits.

Chart III.43. Composition of Total Risk Exposure (Billion TL, %)

Source: BRSA-CBRT

Chart III.44. Developments in Free Capital (Billion TL, %)

Source: BRSA-CBRT

Box III.3. Basel II, Basel 2.5 and Basel III Regulations**Basel II**

The one-year period, which is called parallel run period in Turkey, implying the simultaneous implementation of Basel-I and II will end in July 2012 and by this time Turkey will become fully qualified to implement Basel II. Of the regulations known as Basel II draft regulations, the Draft Regulation on Measurement and Evaluation of Capital Adequacy of Banks (the Draft Regulation) along with its annexes and draft communiqués were published by the BRSA.

An announcement made by the BRSA indicates that according to the parallel reporting to the BRSA by banks, the CAR of the sector is expected to decrease by 1.2 points in view of March 2012 data. Despite this decrease, the capital adequacy ratio of the sector does not fall below the legal and target limits.

As it is known, while assets are risk-weighted based on the criteria of OECD-membership pursuant to Basel I regulations, their risk weights are determined according to credit ratings pursuant to the standardized approach in Basel II. In this framework, for instance, according to Basel I, exposures to central governments, central banks and public institutions fulfilling certain criteria are subject to a risk-weighting of 0 percent or 100 percent based on a breakdown of OECD members/non-members; according to the Basel II standardized approach, exposures to central governments and central banks are subject to a risk-weighting as per sovereign ratings. However, at national discretion, a lower risk weight within the 0-100 risk weight interval may be applied to banks' exposures to their sovereign and central bank of incorporation denominated in domestic currency and funded in that currency. Therefore, while 100 percent risk weight will be applied to claims on sovereigns denominated in foreign currency due to Turkey's current rating, according to national practices, TL-denominated exposures to Turkish Treasury and Central Bank can be subject to 0 percent risk weight on condition of being funded in terms of TL.

Under the current approach;

- Housing loans classified within the 50 percent risk weight will be classified within 35 percent risk weight according to the Basel II standard approach.
- For exposures to corporates, loans with cash collaterals and mortgage-backed guarantees are subject to 0 percent and 50 percent risk weight, respectively; while for other loans, a 100 percent risk weight is applied. Whereas in Basel II, certain risk weights are specified according to the rating of the firm for these exposures.
- Retail exposures and exposures to SMEs are subject to a risk weight of 100 percent; however the risk weights of these receivables might decrease further if they are credit-protected receivables. Whereas in Basel II, the said exposures are classified within the 75 percent risk weight.

Basel 2.5

Studies related to the incorporation of the regulatory recommendations known as Basel 2.5 (Enhancements to the Basel Framework and Revisions to the Basel II Market Risk Framework, 2009) to the Basel II Regulation Drafts, currently implemented as a part of the parallel run period in Turkey, are carried out by the BRSA.

Basel 2.5 regulations, which were put into implementation in July 2009, cover amendments made to securitization and the trading book. The majority of the losses incurred by banks upon the breakout of the global financial crisis by mid 2007 stemmed from the trading book. One of the most important reasons for this was that the amendments made to Basel I in 1996, related to the inclusion of market risk in calculation of capital adequacy, did not capture some key risks. Therefore, the Basel Committee decided to supplement the current value-at-risk-based trading book framework with an incremental risk capital charge (IRC), which included default risk as well as migration risk, for unsecured credit products.

In addition, calculation of a stressed value-at-risk requirement was introduced. Losses in banks' trading books during the financial crisis were significantly higher than the minimum capital requirements envisaged by Basel II for market risk. Currently, the most recent 12-month observation period is taken into account while calculating the value-at-risk. Additionally, with the amendment made, calculation of a stressed value-at-risk is intended, where inputs of the value-at-risk model is measured by calibrating historical data pertaining to a significant financial stress period of 12 months. Furthermore, it was decided to increase the specific risk weight of 4 percent for liquid and well-diversified security portfolios to 8 percent.

In addition to the changes in the trading book, it was aimed to strengthen the securitization approach set out in Basel II. In this respect, within the internal ratings-based approach, risk weights related to re-securitization were raised so as to reflect the risks borne by the said items. Furthermore, specific risk measurement related to securitization was introduced.

Basel III

The global crisis has revealed that the capital of the majority of banks in developing countries is not of a desired quantity and quality. As a first step to finding a solution to this problem, items included in Tier 1 capital, which have a high level of loss coverage capacity, were named common equity to boost the quality and transparency of the capital. With Basel III, the minimum common equity ratio (Common Equity /Risk-Weighted Assets) will be gradually increased from 2 percent to 4.5 percent during the period from 2013 to 2015.

In addition to legal capital adequacy ratios, there are initiatives to develop approaches that will help alleviate the adverse effects of procyclicality through capital buffers, envisaged to be created by banks. It is aimed that banks should guard themselves against the adverse effects of financial distress and economic contractions by using these capital buffers and thus continue to function effectively. The "capital conservation buffer" introduced by Basel III, will gradually be added to the common equity, Tier 1 Capital and total capital. The said ratio is planned to be increased progressively from 2016 to 2019, ultimately reaching 2.5 percent in 2019. Moreover, introducing an additional capital requirement of 1 – 2.5 points is envisaged for banks with international systemic importance, based on the risk they bear. Currently, the FSB and Basel Committee are conducting similar studies for banks with local systemic importance.

High levels of indebtedness in financial system are also considered to be one of the main reasons for the global crisis. In this context, formulating a leverage ratio that will support the Basel II framework and that will be compulsory is envisaged. The said ratio will be computed by dividing Tier 1 Capital (Principal Capital) by total sum of off-balance sheet items (taken into account with certain conversion ratios) and assets (Tier 1 Capital /Assets + Off-Balance-Sheet Items). A minimum leverage ratio of 3 percent is planned to be tested during the parallel run period until the first half of 2017. The said leverage ratio will be finalized in view of the results of the Quantitative Impact Studies (QIS) as well as the parallel run, and will be effective as of 1 January 2018.

Within the framework of enhancing banks' resilience against systemic liquidity shocks and strengthening their liquidity risk management processes, Basel III regulations have set out the calculation of a Liquidity Coverage Ratio and a Net Stable Funding Ratio. The Liquidity Coverage Ratio, which will be calculated by dividing a bank's liquid

assets by its net cash outflows occurring over a 30-day horizon, is required to be a minimum of 100 percent. The net cash outflow is the difference between cash outflows occurring in 30 days and cash inflows occurring in 30 days.

The Net Stable Funding Ratio is calculated by dividing the amount of "available stable funding" by the amount of "required stable funding" and should be a minimum of 100 percent. The "available stable funding" will be determined according to the maturity and quality of items in banks' liabilities, including their Tier 1 and Tier 2 Capital; while the "required stable funding" will be calculated by taking account of items included in banks' assets at differing ratios based on their maturities and qualities.

For the Liquidity Coverage Ratio, the period from 2011 to early 2015 and for the Net Stable Funding Ratio, the period from 2012 to early 2018 have been set as observation periods. It has been indicated that minimum standards for the said ratios will be announced following the observation periods.

In addition to the high level of the capital adequacy ratio in Turkey, own funds that are composed mainly of paid-up capital and retained earnings, both of which have high loss coverage capacity, suggest that the Turkish Banking sector will not have difficulty in adapting to Basel III regulations. Studies initiated in relation to Basel III in Turkey are planned to be incorporated into the national legislation and implemented by the BRSA in line with the timetable determined by the Basel Committee.

Scenario analyses, which test the resilience of the banking sector to shocks coming from credit and market movements, show that the sector has the capacity to absorb shocks. According to the scenario analysis applied, even when exchange rates, Eurobond returns, interest rates and NPLs are exposed to maximum shocks simultaneously, the capital adequacy ratio materializes at the legal ratio (Table III.4, Chart III.45).

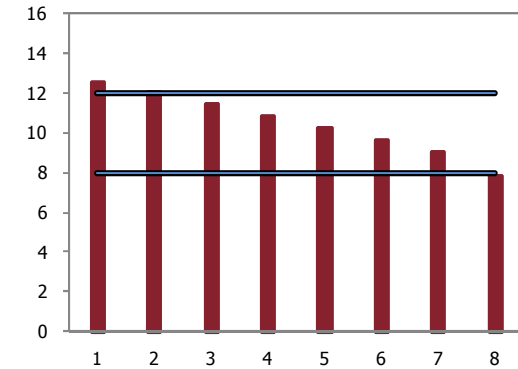
Table III.4 Scenarios Applied¹

Scenario	FX Rate (% increase)	Eurobond (% decrease)	Interest Rate (point increase) ²	NPL (point increase)
1	30.0	5.0	10.0	3.0
2	31.5	5.3	10.5	4.0
3	33.0	5.5	11.0	5.0
4	34.5	5.8	11.5	6.0
5	36.0	6.0	12.0	7.0
6	37.5	6.3	12.5	8.0
7	39.0	6.5	13.0	9.0
8	40.5	6.8	13.5	11.0

Source: CBRT

(1) In scenario analysis, taking into account also past crises, shocks are applied to risk factors simultaneously.
(2) It refers to the Turkish Lira interest rate shock. The FX interest rate shock is about 1/3 of that applied to Turkish lira interest rate. In the shocks applied to commercial portfolios, impairment is about 17 percent on sectoral basis. Effective Eurobond shocks are three times the table figures.

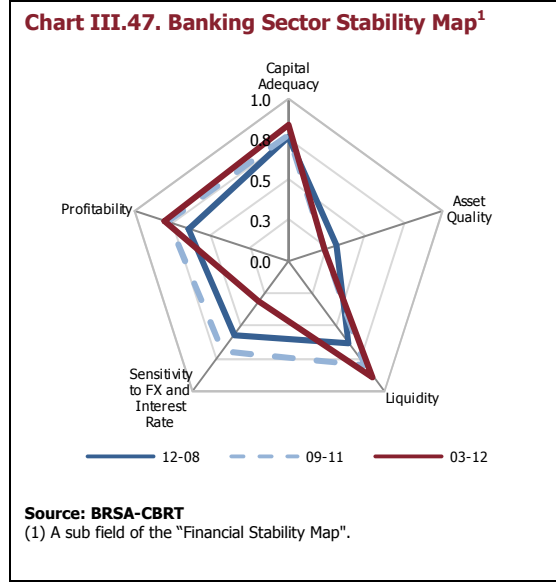
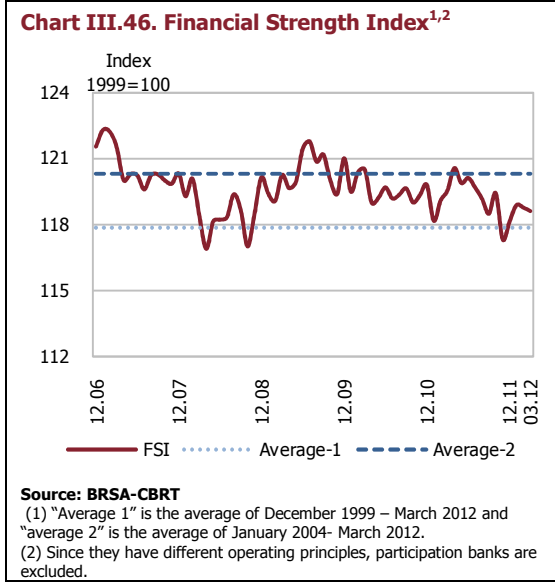
Chart III.45 Results of Scenario Analysis



Source: CBRT

Banking sector indicators suggest that the sector broadly presents a favorable outlook. The asset quality of the sector improved compared to that of the crisis period and followed a relatively flat trend during the past 6 months compared to the previous reporting period. Non-performing loans increased in this period; however, the NPL ratio pursued a horizontal course compared to September 2011 on the back of the increase in performing loans. Nevertheless, profitability ratios assumed an upward trend owing to the improvement in the sector's net interest

income. Additionally capital adequacy ratio is on the rise owing to the improvement in the sector's profitability performance and the slowdown in the credit growth rate. Although the on-balance sheet FX short position has been on an upward trend since end-2011, it is counter-balanced by the off-balance sheet long position; hence the FX net general position maintains its low level. The banking sector's liquidity adequacy ratios for the 1st and 2nd maturity brackets are above the legal limit both in terms of total amount and in foreign exchange; yet, an increase is observed particularly in non-core funding. Due to all these changes, the financial strength index(FSI) became 118.6 in March 2012 and the sector remains strong (Chart III.46, Chart III.47).



Owing to global economic slowdown, tight monetary and fiscal policy and other measures taken by the authorities, credit growth is expected to continue at reasonable levels for financial stability. Despite increased uncertainty in global financial markets, the Turkish banking system does not experience difficulty in obtaining funds from abroad. The profitability performance of banks has followed a horizontal path and capital adequacy ratios remain high. In fact, despite the expected decrease in the sector's CAR during the period of transition to Basel II/2.5, it is expected that profitability performance will maintain its current levels and the sector will maintain its strong capital structure.

IV. FINANCIAL INFRASTRUCTURE

Recent developments in financial markets, which started to accelerate gradually in the 1990's, have affected the fundamental functions of central banks. The role of central banks in payment systems has further increased in response to the deepening of financial markets; the leading role they have assumed in the globalization and intensification of practices focusing more on market systems owing to communication technology. Moreover, as a result of financial crises undergone in line with globalization, financial liberalization and technological developments, central banks have gained a new mission as contributing to financial stability in addition to the price stability target. Increased in financial activities gave rise to national and cross-border payments; hence, payment systems, which provide the necessary infrastructure for such payments, became more of an issue.

Smooth functioning of payment systems has critical importance for the stability of financial system. Payment systems embody the tools facilitating exchange of goods and services among economic units, institutional and organizational framework, operational processes and communication network. The importance of payment systems arises from the role they assume, particularly in financial sector. Ensuring effectiveness of interbank fund transfers, minimizing payment risks, facilitating fund management and empowering the banking system in provision of new services are among major objectives of payment systems.

Market developments that emerged in parallel with technological advancements lead to major changes notably in payment systems. "Money" reaching huge volumes in the economic life transformed its functionality and started to be processed through electronic environment in the form of dematerialized money transfer. Increased competitiveness in a growing financial sector, the need for more human resources parallel to transaction volume, the ongoing rise in costs, making information and documentation available for use at all times, endeavors to enhance the effectiveness and diversification of financial services provided to clients have brought about the need for wide-spread and efficient use of contemporary technological facilities in the financial sector.

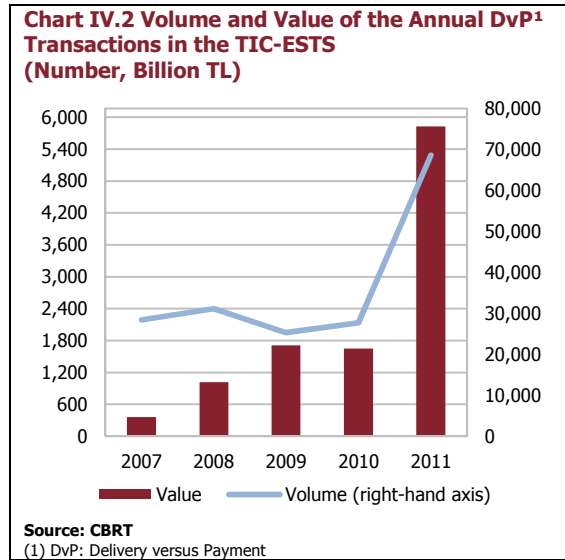
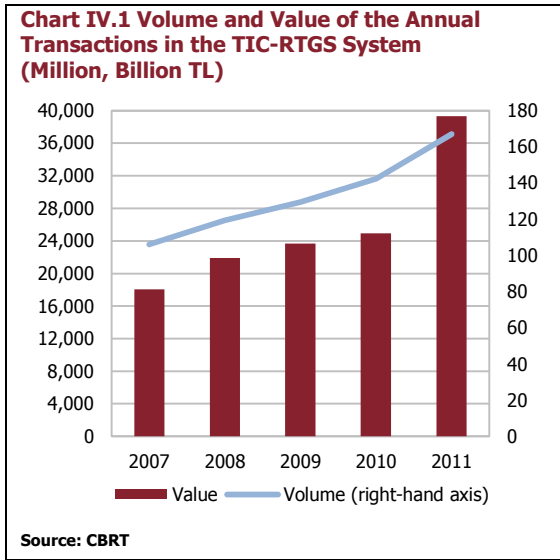
The main payment and securities settlement systems in Turkey are composed of the Turkish Interbank Clearing-Real Time Gross Settlement System (TIC-RTGS), through which real-time settlement of transactions in Turkish lira are realized; the Turkish Interbank Clearing-Electronic Securities Transfer and Settlement System (TIC-ESTS), which facilitates the dematerialized and real-time transfer and settlement of securities in electronic form; the Interbank Cheque Clearing Houses Center (ICH), which ensures the interbank clearing of cheques; the Interbank Card Center (ICC), where clearing of card-based payments are realized; and the Istanbul Stock Exchange (ISE) Clearing and Custody Bank Inc., where clearing and settlement of products traded at the ICC and the Turkish Derivatives Exchange (TURKDEX) are carried out.

The CBRT is the owner and operator of the TIC-RTGS and TIC-ESTS that has been established to realize transfer of Turkish lira and settlement of securities in a reliable, fast and economic way, and to carry out the transfer of securities simultaneously with the transfer of relevant funds in security trading transactions. TIC-RTGS, operating under the principle of Real Time Gross Settlement, is a systemically important electronic payment system

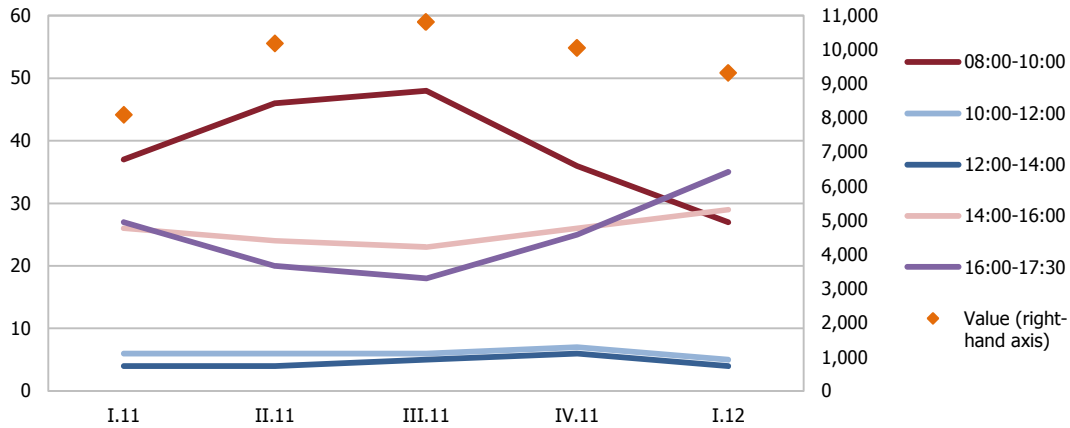
realizing payments among banks in Turkish Lira. Whereas, TIC-ESTS system works in an integrated manner with the TIC-RTGS and provides the opportunity for participants to realize their transfer and settlement of securities with regard to the Delivery versus Payment (DvP) principle. The number of participants in the TIC-RTGS and TIC-ESTS systems became 47 by April 2012.

The annual transaction value realized within the TIC-RTGS system increased by 57.6 percent to TL 39,311 billion in 2011 compared to the previous year. The number of transactions performed in 2011 in the TIC-RTGS system climbed by 17.2 percent to 166.7 million (Chart IV.1).

The value of DvP transactions through TIC-ESTS in 2011 increased by 254 percent to TL 5,828 billion, while the number of transactions increased by 147.4 percent to 68.6 thousand (Chart IV.2). The rise in the open market operations carried out by the CBRT based on the liquidity conditions in markets is considered to have a significant impact on the increase of the volume and value of TIC-ESTS transactions.



Predictability of the distribution of payments within the day contributes to the efficiency of liquidity management and decreases liquidity risk. In the fourth quarter of 2011, 36 percent, 7 percent, 6 percent, 26 percent and 25 percent of intra-day payments realized within the TIC-RTGS system were completed between 08:00-10:00, 10:00-12:00, 12:00-14:00, 14:00-16:00 and 16:00-17:30, respectively. While the total value of transactions in the system became TL 10,052 billion in the last quarter of 2011, the said amount reached TL 9,317 billion in the first quarter of 2012 (Chart IV.3). In the first quarter of 2012, 27 percent, 5 percent, 4 percent, 29 percent and 35 percent of the payments within the TIC-RTGS system were executed between 08:00-10:00, 10:00-12:00, 12:00-14:00, 14:00-16:00 and 16:00-17:30, respectively.

Chart IV.3 Concentration of Payments by Hours and Value of Transactions in the TIC-RTGS System (% , Billion TL)

Source: CBRT

As the TIC-RTGS is the sole system through which interbank payments are processed and there are no upper and lower limits for the value of transactions in the system, the number of annual transactions is higher than that of many European countries. In 2011, the ratio of transactions in small amounts (below TL 3,000) to the total number of transactions via TIC-RTGS was approximately 75 percent.

The ratio to GDP of the value of transactions carried out through some selected payment systems is lower in Turkey, compared to that of other countries. The value of TIC-RTGS transactions on an annual basis, which was 24.7 times the GDP in 2009, reached 22.5 times the GDP in 2010 and realized as 30.3 times the GDP in 2011 (Table IV.1).

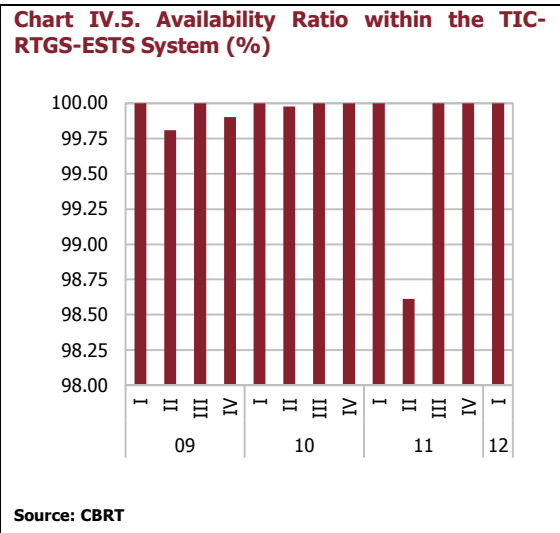
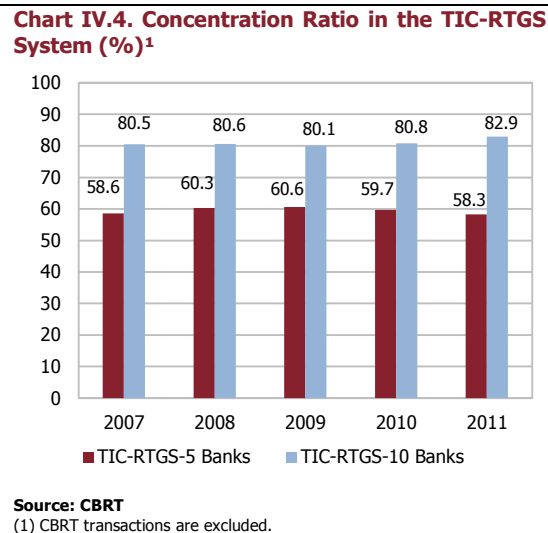
Table IV.1. Real Time Gross Settlement (RTGS) System Country Comparison

	2006	2007	2008	2009	2010
Belgium (TARGET2-BE)					
Transaction Volume (Million)	1.7	2.0	2.8	2.0	2.4
Transaction Value (Billion USD)	24,373	36,453	39,683	28,980	26,724
Transaction Value/GDP	61.1	79.5	78.6	61.4	57.0
France (TARGET 2-BDF)					
Transaction Volume (Million)	4.6	4.9	6.7	7.6	8.2
Transaction Value (Billion USD)	169,587	198,527	149,131	130,406	124,456
Transaction Value/GDP	74.8	76.6	52.3	49.1	48.7
Holland (TARGET2-NL)					
Transaction Volume (Million)	4.8	7.3	9.3	9.4	8.6
Transaction Value (Billion USD)	40,146	53,434	86,153	88,834	102,476
Transaction Value/GDP	59.2	68.3	98.8	111.7	131.7
Germany (TARGET2-BBk)					
Transaction Volume (Million)	37.9	47.5	41.6	44.7	43.8
Transaction Value (Billion USD)	189,140	317,934	323,884	238,260	342,119
Transaction Value/GDP	64.8	95.5	89.2	71.5	104.4
Switzerland (SIC)					
Transaction Volume (Million)	317.1	356.8	371.6	381.7	394.7
Transaction Value (Billion USD)	35,867	43,570	53,595	52,355	49,702
Transaction Value/GDP	91.4	100.3	107.1	106.0	94.1
TARGET					
Transaction Volume (Million)	83.4	99.1	89.0	87.6	87.4
Transaction Value (Billion USD)	676,806	923,700	894,126	738,488	838,540
CLS					

Transaction Volume (Million)	61.5	90.3	134.4	150.1	198.1
Transaction Value (Billion USD)	714,320	940,621	1,039,230	890,470	1,082,800
Turkey (TIC-RTGS)					
Transaction Volume (Million)	93.1	106.1	119.3	129.5	142.2
Transaction Value (Billion USD)	10,528	13,886	16,827	15,251	16,542
Transaction Value/GDP	20.0	21.4	22.7	24.7	22.5

Source: BIS, CBRT

In 2011, the share of the top five banks in terms of the number of transactions through TIC-RTGS, decreased year-on-year from 59.7 percent to 58.3 percent, whereas that of the top ten banks increased year-on-year from 80.8 percent to 82.9 percent (Chart IV.4). The TIC-RTGS system continues to demonstrate high availability. The availability ratio, which indicates the continuity of the payment system and is the ratio of the time span that participants can access the system to total working hours, was 99.7 percent on average in 2011 (Chart IV.5). The annual decline in the said average was driven by a technical problem that occurred on 3 June 2011.



The analysis of the number and value of transactions within the TIC-RTGS system in daily averages indicates that in 2011, the average number and value of transactions on a daily basis was 659 thousand and TL 155.4 billion, respectively (Table IV.2).

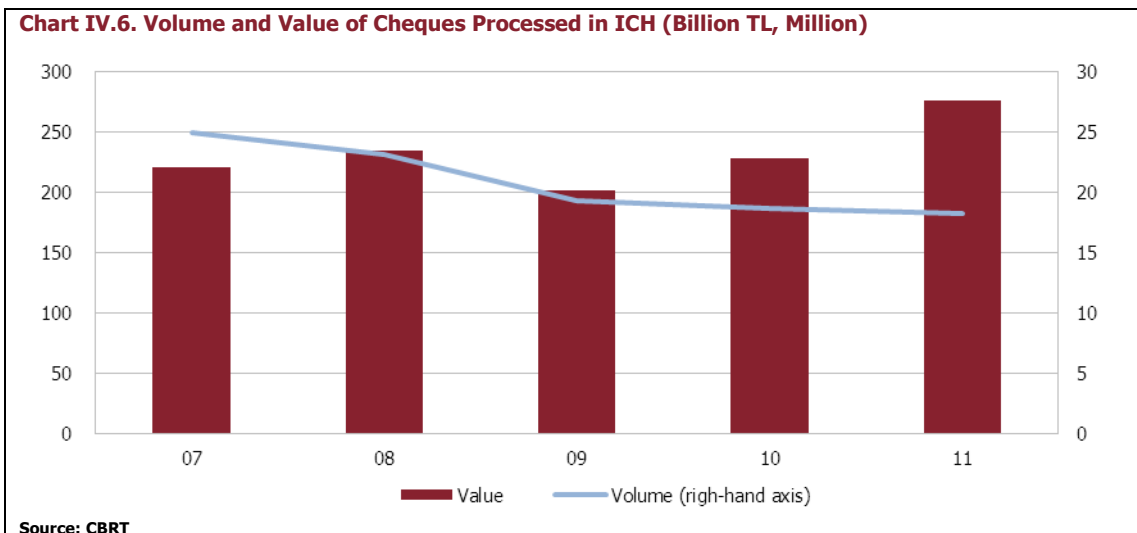
Table IV.2. Volume and Value of Transactions and Daily Averages within the TIC-RTGS System

	Number of Operational Day	Number	Value (million TL)	Daily Average Number	Daily Average Value (million TL)
01.11	21	12,244,317	2,397,633	583,063	114,173
02.11	20	12,309,290	2,543,951	615,465	127,198
03.11	23	13,921,331	3,146,501	605,275	136,804
04.11	21	13,486,103	3,141,285	642,195	149,585
05.11	21	14,083,215	3,461,247	670,629	164,821
06.11	22	14,099,795	3,763,267	640,900	171,058
07.11	21	13,800,044	3,550,786	657,145	169,085
08.11	21	14,407,922	3,582,964	686,092	170,617
09.11	21	13,631,884	3,671,123	649,137	174,815
10.11	21	14,433,704	3,776,025	687,319	179,811
11.11	19	14,132,081	2,987,319	743,794	157,227
12.11	22	16,141,365	3,289,074	733,698	149,503
Total	253	166,691,051	39,311,175	-	-
Average	-	-	-	658,858	155,380

Source: CBRT

Cheque clearing operations, which play an important role in payment systems, are carried out by the Interbank Clearing Houses Center (ICH) under the oversight of the CBRT. As of end of 2011 out of 40 banks that participated in interbank cheque clearing operations, 5 were engaged only in cheque clearing with physical presentation, whereas the remaining 35 were also engaged in cheque clearing without physical presentation.

The number and the value of cheques subject to the cheque clearing process in ICH suggest that the decline in the number of cheques continues, albeit with less pace while the value has been on the rise since 2009. In 2011, the number of cheques became 18.2 million on the back of a decrease by 2.5 percent compared to 2010. In the given period, the value of cheques processed in ICH increased by 20.8 percent and became TL 275 billion (Chart IV.6).



The average value of cheques subject to the cheque clearing process in ICH indicates that the average value per cheque, which was TL 12,213 in 2010, increased by 23.8 percent and became TL 15,124 in 2011.

A breakdown of cheques according to the value suggests that cheques below TL 5,000 are presented frequently. Whereas the ratios of cheques presented to ICH below TL 5,000

and TL 10,000 were 57.3 and 78 percent respectively in 2010, these ratios became 48.4 and 71.3 percent in 2011. An analysis of trends of the last four years indicates that the decline in the number of cheques below TL 5,000.- presented to the ICH became higher than that in the total number of cheques. While the number of cheques below TL 5,000 decreased by 42.8 percent in the 2008-2011 period, the total number of cheques went down by 25.6 percent in the same period. The said decline in the number of low amount cheques is attributed chiefly to the increase in the use of credit cards, and Internet banking besides TIC-RTGS (Table IV. 3).

Table IV.3. Distribution of the Number of Cheques Subject to Clearing According to Tranches¹

		TL 2,000 and below	TL 2,001-5,000	TL 5,001-10,000	TL 10,001-50,000	TL 50,001 and above
2008	TOTAL	7,768,109	8,354,979	4,672,376	4,205,297	610,256
	Cumulative Sum	7,768,109	16,123,088	20,795,464	25,000,761	25,611,017
	%	30.33	32.62	18.24	16.42	2.38
	Cumulative %	30.33	62.95	81.2	97.62	100.00
2009	TOTAL	5,976,435	7,349,054	4,119,649	3,609,740	516,811
	Cumulative Sum	5,976,435	13,325,489	17,445,138	21,054,878	21,571,689
	%	27.7	34.07	19.1	16.73	2.4
	Cumulative %	27.7	61.77	80.87	97.6	100.00
2010	TOTAL	4,514,432	6,820,043	4,096,030	3,747,536	609,976
	Cumulative Sum	4,514,432	11,334,475	15,430,505	19,178,041	19,788,017
	%	22.81	34.47	20.7	18.94	3.08
	Cumulative %	22.81	57.28	77.98	96.92	100.00
2011	TOTAL	3,015,125	6,213,519	4,360,484	4,617,123	844,014
	Cumulative Sum	3,015,125	9,228,644	13,589,128	18,206,251	19,050,265
	%	15.83	32.62	22.89	24.24	4.43
	Cumulative %	15.83	48.44	71.33	95.57	100.00

Source: ICH

(1) Fractional cheque amounts, matching to the upper limit of the value tranches, are not included. The total number of cheques indicates the number of cheques presented to ICH including returned cheques.

Since the cheque clearing system operates according to the multilateral netting method, the liquidity requirement of participants arising from their cheque transactions is decreasing. In the cheque clearing system, the debit and credit positions of participants are determined by multilateral netting following the finalization of the provision operations. In 2011, the netting ratio of transactions realized through the cheque clearing system became 81.3 percent and the liquidity requirement due to netting decreased by TL 223.9 billion (Table IV.4).

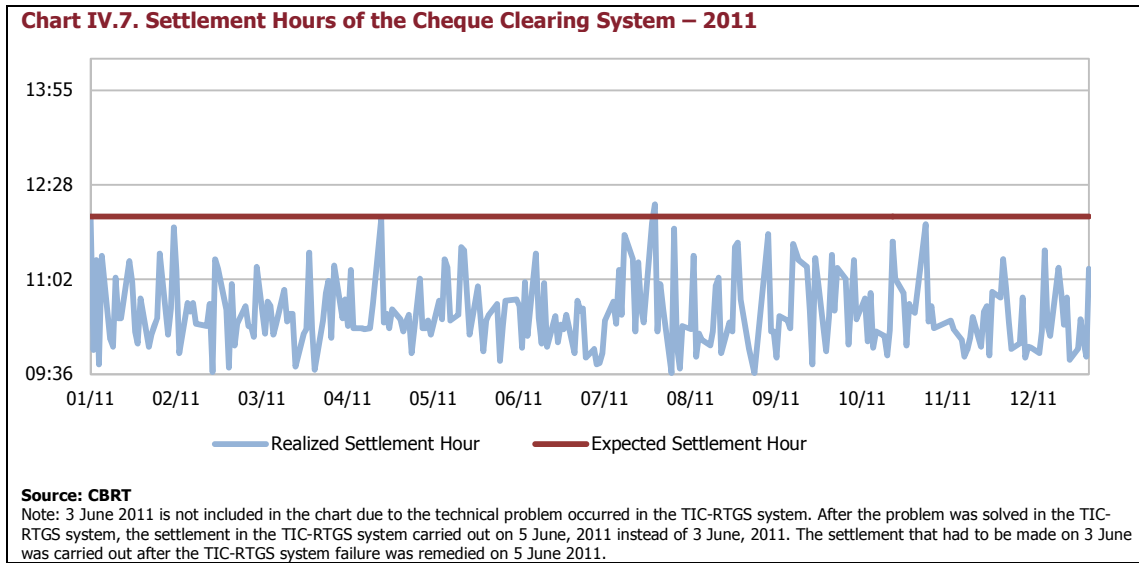
Table IV.4. Cheque Clearing System-Netting Ratio

	2007	2008	2009	2010	2011
Netting Ratio(%)	77.8	79.3	80.4	83.1	81.3
Transaction Volume (Billion TL)	220,5	234,3	200,8	228	275,4
Liquidty Saving (Billion TL)	171,6	185,8	161,4	189,4	223,9

Source: CBRT

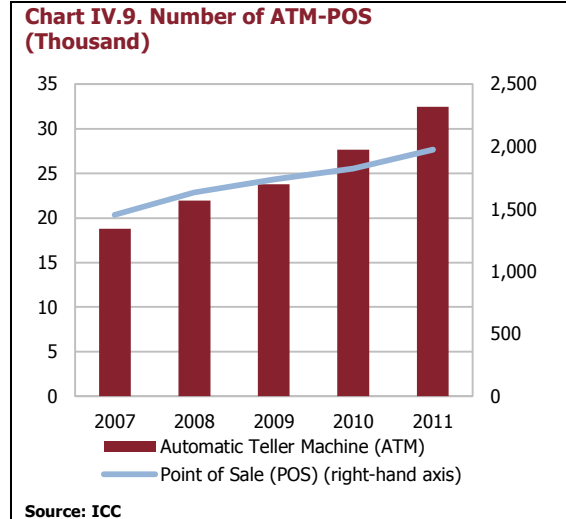
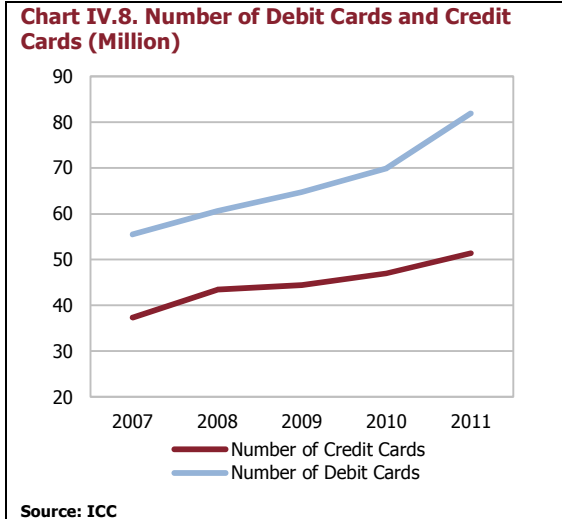
In the cheque clearing system, in order to finalize settlement, all banks that become debtors as a result of netting have to fulfill their obligations no later than 12:00 on the following business day. In 2011, in the cheque clearing system, delays occurred only twice in settlement. The first delay stemmed from the suspension of services due to a technical problem that occurred in the TIC-RTGS system on 3 June 2011. The second delay took place due to an 11-minute-

lag in the settlement on 26 July 2011, arising from a late fulfillment of obligations by debtors (Chart IV.7). The average settlement time in the cheque clearing system was 10:32 a.m. in 2011.

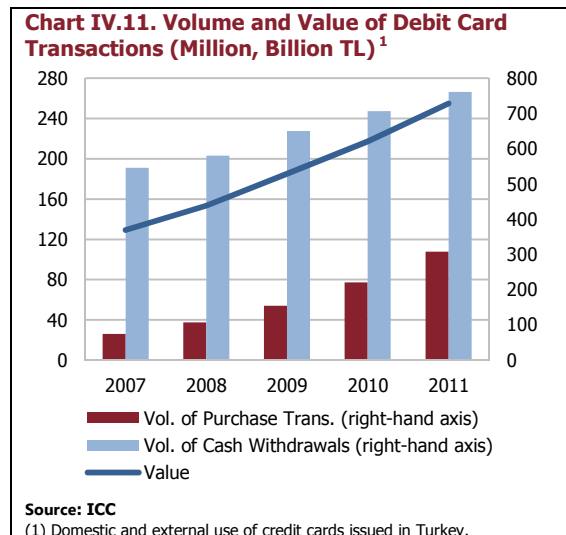
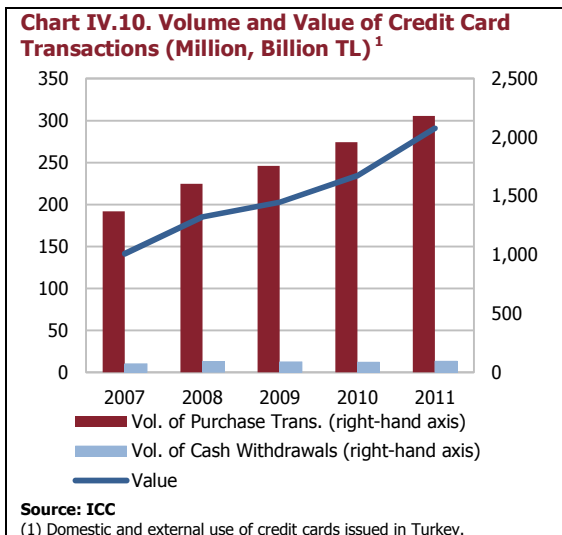


The use of debit and credit cards, which are two leading non-cash means of payment, continue to become more widespread on the back of encouragement by banks and the effect of technological developments on payment systems. The Interbank Card Center (ICC), which functions as a legal entity in order to bring solutions to common problems within the card payment system and to develop standards for debit cards and credit cards in Turkey, was established in 1990. Currently, the ICC has 10 partners and 27 members. To carry out interbank authorization, clearing and settlement, to develop procedures applicable to the banks in the credit card and debit card sector, to take decisions for ensuring standardization, and to execute the ongoing bank operations from a single central operation site in a more secure, faster and cost-effective manner are among the fundamental duties of the ICC. ICC-member banks' clearing and settlement transactions of debit and credit cards are carried out by the ICC and debts arising from netting in the ICC are settled at the CBRT.

The upward trend in the use of debit and credits cards prevailed in 2011 as well. The rate of increase in the number of credit cards, which became 5.9 percent on the back of a deceleration in 2010 compared to preceding years, rose to 9.3 percent in 2011 and the number of credit cards reached 51.4 million (Chart IV.8). In same period, the number of debit cards reached 81.9 million with a rise of 17.1 percent. The increase in the number of debit cards can be attributed to efforts made to spread the use of debit cards. Due to the increasing trend of the number of debit and credit cards in Turkey, the number of point of sale (POS) terminals and automated teller machines (ATM) has increased. In 2011, the number of POS terminals rose by 8.4 percent to 2 million and the number of ATMs increased by 17.4 percent to 32.4 thousand (Chart IV.9).

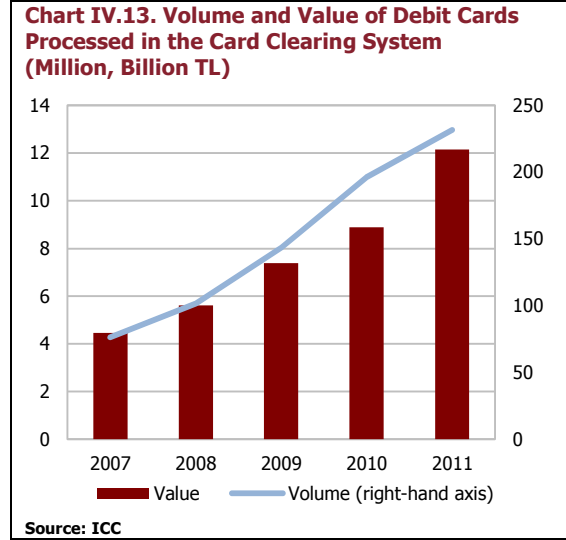
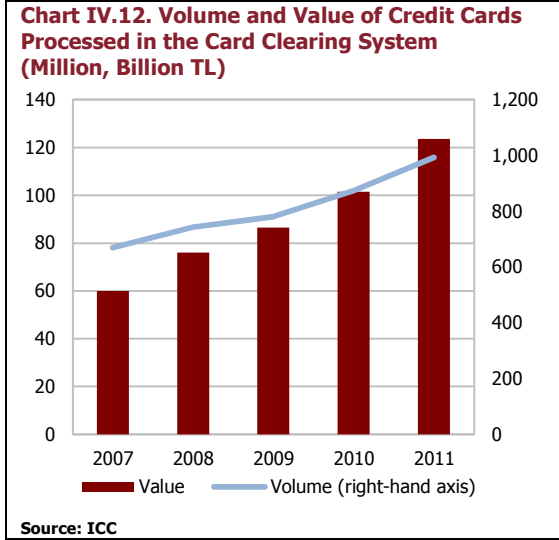


In 2011, the volume of credit card transactions rose by 11.4 percent while the value of credit card transactions increased by 24.1 percent compared to 2010 reaching 2.3 billion and TL 290.6 billion, respectively. The share of purchasing transactions within total credit card transactions in 2011 was 95.8 percent in volume and 91.4 percent in value (Chart IV.10). It is considered that it could be more favorable using credit cards as a payment instrument as implied by their intended function and avoiding to withdraw cash. An analysis of debit card transactions reveals that in 2011, the volume of debit card transactions rose by 15.5 percent reaching 1.1 billion; while the value of debit card transactions went up by 17.5 percent reaching TL 255.1 billion. The utilization rate of debit cards, which are used for cash withdrawals through ATMs and for purchases through POS terminals, became 28.8 percent in volume and 4.7 percent in value for purchases (Chart IV.11). Expansion in the use of debit cards for purchases is perceived as a significant development as it implies that consumers spend in line with their earnings and do not come under pressure in terms of payment.



The volume of transactions subject to the credit card clearing process that rose by 11.8 percent year-on-year in 2010 reached 992.6 million with an increase by 13.7 percent

in 2011. Meanwhile, the rate of increase in the value of transactions regained pace and rose from an annual 17.2 percent in 2010 to 21.8 percent in 2011. The total value of transactions became TL 123.6 billion in 2011 (Chart IV.12). The rate of increase in the volume of transactions subject to clearing process of debit cards, which had been 36.9 percent in 2010, went down to 18 percent, becoming 231.7 million; while the value of transactions increased by 36.7 percent to TL 12.1 billion in 2011 (Chart IV.13).



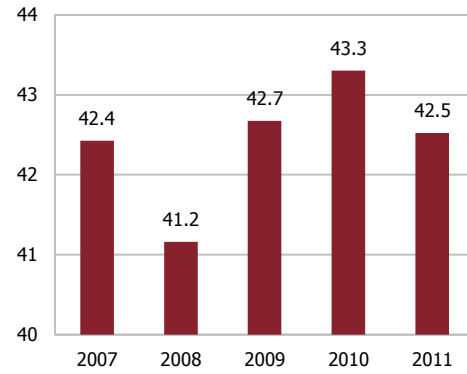
As is the case with the cheque clearing system, the card clearing system also operates according to the multilateral netting method and therefore reduces the liquidity requirements of participants arising from card transactions. The netting ratio of credit card transactions realized through the system was 75.3 percent and the liquidity requirement relating to credit card transactions decreased by TL 93.1 billion in 2011. The same ratio was 78 percent for debit card transactions and TL 9.5 billion of liquidity savings was obtained (Table IV.5).

An analysis of the decline in the ratio of the value of credit card transactions subject to clearing to total transactions for credit cards indicates that was 43.3 percent in 2010 declined to 42.5 percent in 2011 (Chart IV.14). It is considered that this decline was mainly driven by the tendency to use credit cards via the POS and ATM terminals of issuer banks as a result of the increase in the number of POS and ATM terminals over the years and the promotion applied.

Table IV.5. Card Clearing and Settlement System/ Netting Ratio (%)

	07	08	09	10	11
Credit Card Clearance and Settlement					
Netting Ratio (%)	78.3	76.5	78.1	77.4	75.3
Transaction Volume (Billion TL)	60.0	76.1	86.6	101.4	123.6
Liquidity Saving (Billion TL)	47.0	58.3	67.6	78.5	93.1
Debit Card Clearance and Settlement					
Netting Ratio (%)	64.0	61.9	65.1	76.6	78.0
Transaction Volume (Billion TL)	4.5	5.6	7.4	8.9	12.1
Liquidity Saving (Billion TL)	2.9	3.5	4.8	6.8	9.5

Source: ICC

Chart IV.14. Ratio of Value of Credit Card Transactions Subject to Clearing Process to Total Value of Credit Card Transactions (%)

Source: ICC

The clearing and settlement of transactions carried out at the ISE is undertaken by Takasbank. As well as at the ISE, the clearing and settlement of transactions carried out at the TURKDEX is also undertaken within Takasbank. Great majority of transactions in financial markets are executed by brokerage houses. As of 31 December 2011, 65 of 84 shareholders of Takasbank were brokerage houses. In the same period, the shares of brokerage houses at Takasbank accounted for 32.9 percent.

Since brokerage houses cannot participate in the TIC-RTGS and TIC-ESTS systems which are owned and operated by the CBRT and they can only participate in these systems indirectly via Takasbank, Takasbank has an important role as a bridge between banks and brokerage houses.

For the smooth finalization of transactions carried out at the ISE and TURKDEX, it is essential that Takasbank operates in an effective, efficient and uninterrupted way. The uninterrupted processing of clearing and settlement of transactions related to financial assets and smooth functioning of financial institutions are important for financial stability.

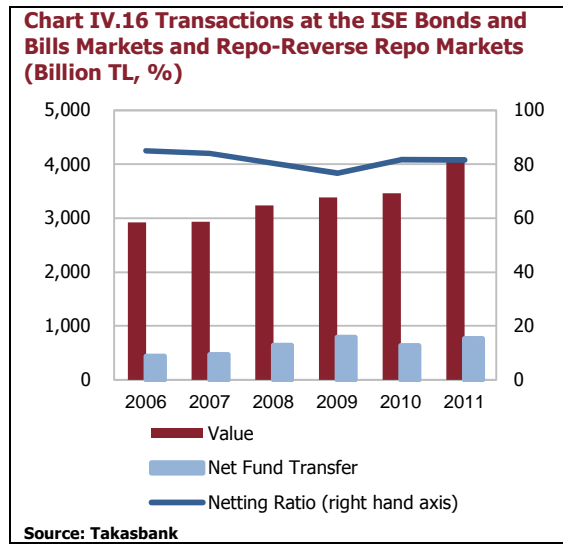
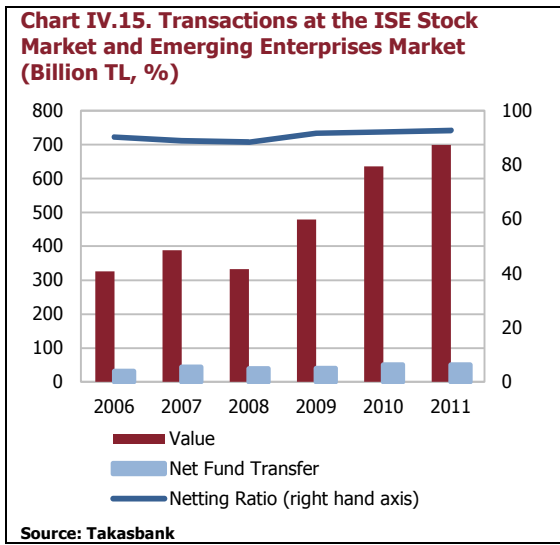
While Takasbank does not guarantee parties vis-à-vis fulfillment of obligations arising from multilateral netting related to transactions carried out at the ISE; it functions as a central counterparty by acting as a buyer to every seller and as a seller to every buyer, for the transactions undertaken at TURKDEX and provides guarantee for these transactions limited to the transaction collateral and guarantee fund. Moreover, operations for collecting collateral regarding the contracts that are bought and sold within the markets at TURKDEX are also performed by Takasbank.

The ISE markets, clearance and settlement transactions of which are carried out within Takasbank, are the ISE Stock Market and the ISE Bonds and Bills Markets Outright Purchase and Sales Market and Repo-Reverse Repo Market.

Accordingly, in 2011 regarding the ISE and Emerging Companies Market; transactions of TL 698.4 billion were carried out, related to these transactions a net cash transfer of TL 50.6 billion

occurred and a liquidity saving of TL 647.8 billion were obtained through multilateral netting at Takasbank. Although decelerated, the increase regarding transactions conducted at the ISE Stock Market, performed in 2009 and 2010 continued in 2011, and the total value of transactions performed at the ISE Stock Market rose by 10 percent year-on-year in 2011 (Chart IV.15).

During the mentioned period, the total value of transactions realized at Takasbank in relation to ISE Bonds and Bills Markets Outright Purchase and Sales Market and Repo-Reverse Repo Market became TL 4,122.3 billion. As a result of the multilateral netting executed for the given transactions, fund transfer is realized only for TL 761.5 billion of this amount, the netting ratio became 81.5 percent and liquidity savings of TL 3,360.8 billion was made. Meanwhile, in the ISE Bonds and Bills Markets Outright Purchase and Sales Market and the Repo-Reverse Repo Market, the total value of transactions in 2011 surged by 19.2 percent on an annual basis (Chart IV.16).



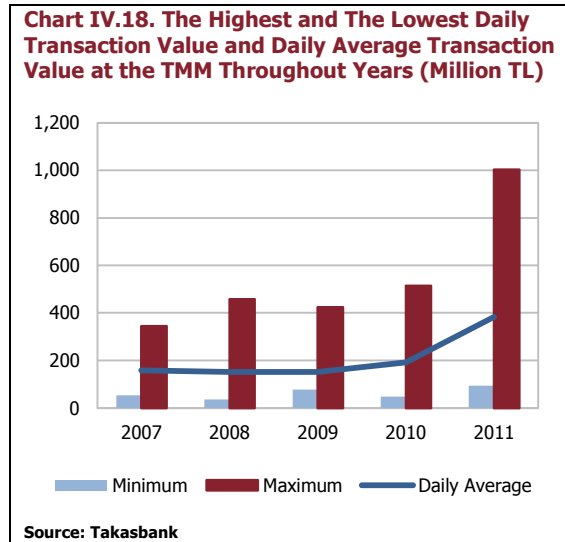
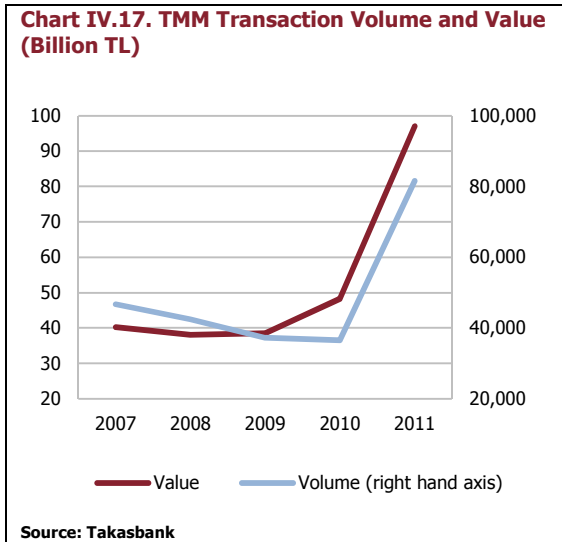
When participants of payment and securities settlement systems experience temporary liquidity shortages, it is an internationally acknowledged practice and principle that system operators provide short-term liquidity facilities to those participants. Brokerage houses that operate within Takasbank and do not function as banks cannot enjoy the liquidity facilities provided by the CBRT, such as "intraday liquidity", "late liquidity" and "overnight borrowing". In case such entities face temporary liquidity shortages, Takasbank provides the participants with several services such as "Cash Credit Facility" and "Takasbank Money Market (TMM)" in order to ensure smooth functioning of the system and prevent the spread of the problem to other participants.

Within the context of "Cash Credit Facilities", Takasbank lends cash credits to its participants that experience difficulty in fulfilling their obligations in the system, against collateral and within pre-determined limits. In this context, throughout 2011, 22 brokerage houses actively benefited from Takasbank's "Cash Credit Facility" and the daily average usage ratio increased by 85 percent compared to the previous year and became TL 20.7 million.

Within the scope of Takasbank's TMM service, where brokerage houses and banks can carry out transactions, Takasbank does not directly provide funds to the system, but brings the brokerage houses and banks which have short term fund surpluses and needs together. Before the TMM service, the brokerage houses cannot benefit the CBRT's liquidity facilities those transactions were being made

by bilateral agreements. By the establishment of the TMM, These transactions started to be made in an organized structure As is the case with TURKDEX, Takasbank functions as the central counterparty vis-à-vis the transactions undertaken at the TMM. As the transactions executed at the TMM are under Takasbank' guarantee, it receives a certain amount of collateral from borrowers.

The TMM plays a crucial role for brokerage houses that cannot participate in the CBRT's Interbank Money Market, in solving fund management problems. 79 percent of the transactions at the TMM are carried out by brokerage houses, while 21 percent are carried out by banks. Regarding the transactions carried out at the TMM, significant increases have been experienced in the annual transaction volume and value, the highest and lowest daily transaction volume and daily average transaction value displayed in 2011 compared to previous years (Chart IV.17, Chart IV.18). This development is attributable to transactions conducted by TMM participants due to liquidity conditions in the markets as well as to the increase in the number and volume of investment funds and trusts on behalf of which transactions are carried out at the TMM. While the number of investment funds and trusts, on behalf of which transactions are processed at the TMM, was 282 in 2010, this figure rose to 454 in 2011. Likewise, the transaction volume of those investment funds and trusts, on behalf of which transactions are carried out at the TMM, rose from TL 30 billion in 2010 to TL 65 billion in 2011.



Derivatives play critical roles for the management of risks by companies and for the sound perception of market prices by economic agents, and their importance is progressively increasing. One of the most important conditions for the effective functioning and widening of derivative markets is the smooth processing of clearance and settlement of transactions in these markets.

Brokerage houses, banks and institutions authorized to transact with derivatives can carry out transactions trade at TURKDEX and institutions transacting at TURKDEX become also a member of Takasbank.

As of the end of 2011, the number of members carrying out transactions at TURKDEX was 93 and the number of accounts opened was 72,226. Accordingly, parallel to the increase in the

transactions carried out at TURKDEX, the number of accounts opened between 2006 and 2011 continues to increase albeit with less pace (Table IV.6).

Table IV.6. Number of TURKDEX Members and Accounts

	Number of TURKDEX Members	Number of Accounts Opened within the Takasbank System	Increase in the Number of Accounts (%)
2006	60	11,150	
2007	79	25,160	125.7
2008	86	41,241	63.9
2009	84	56,702	37.5
2010	92	64,151	13.1
2011	93	72,226	12.6

Source: Takasbank

In conclusion, efforts regarding the financial market infrastructures have increased globally in accordance with experiences gained from the recent global financial crisis. In this context, with respect to the new experiences gained, approaches related to financial infrastructures and particularly the existing principles regarding financial market infrastructures are currently being reviewed by the Committee for Payment and Settlement Systems (CPSS) operating under the aegis of the Bank for International Settlements (BIS), in the activities of which the CBRT is actively involved as a member. In this way, it is expected that risks arising from financial market infrastructures will be minimized and financial markets will function more smoothly, and this will, in turn, contribute to financial stability.

V. SPECIAL TOPICS

V.1. Stock Return Co-movement and Systemic Risk in the Turkish Banking System

The financial crisis of 2007–2009 has resulted in widespread failures of financial institutions and freezing up of capital markets, with significant effects on the real economy in both developed and emerging economies. It appears that a full recovery is still underway. The crisis has also demonstrated how closely-knit and interconnected financial institutions and markets are, both within and across countries, with a shock to one financial institution or market spreading rapidly to others, thereby threatening the stability of the whole system. The crisis therefore underscored the relevance of systemic risk, renewed the interest in its measurement, and urged a need for putting in place macroprudential policies to mitigate such risk in financial markets.

Recent research on systemic risk has addressed the issue from various angles which includes defining fine approaches to measure systemic contributions, building sound indicators for systemic risk potential, and identifying systemically important institutions. From policy making perspective, the design of macroprudential policies and regulation to mitigate systemic risk has also been at the center of the discussions by international organizations and financial authorities. For instance, Basel Committee on Bank Supervision (BCBS) and the Financial Stability Board (FSB) have identified global systemically important banks and are currently considering policy options to deal with such institutions. Similarly, the Dodd-Frank Act has also created an institutional structure to identify and oversee systemically important banks that could pose a threat to the U.S. financial system.

There is a vast literature on measuring and explaining stock return co-movement of both domestic and international financial institutions. The earlier studies on co-movement could be classified under the literature on contagion and spillover. For instance, Karolyi and Stulz (2002), and Dungey et al. (2005) provide an extensive review of the earlier studies on contagion and stock return co-movement. From a theoretical perspective, as discussed in Acharya (2009) and Billio et al. (2010), there is a consensus that the likelihood of a major financial disruption depends on the degree of correlation among the assets of financial institutions. Additionally, the sensitivity of such assets to the changes in market prices, and domestic and external macroeconomic conditions, and their concentration on particular sectors or industries are possibly the other sources to which financial shocks could be related to.¹

Among various measures of inter-dependency, asset and stock return correlations have been used as an indicator of systemic risk by Lo (2008), Acharya (2009), Goodhart and Wagner (2012), Patro et al. (2012), among others. Lo (2008) argues that given the complexity of the global financial system, it is necessary to consider a collection of measures, which should be designed to capture different aspects of risk exposure. Thus, among several measures including leverage, liquidity and

¹ For further discussion and references, see Billio et al. (2010).

concentration, he also proposes correlation as a quantitative measure of systemic risk to be followed so that the overall level of risk to the financial system is monitored and managed.

In this study, we measure total inter-dependencies by stock return correlations, and use these correlations as indicators of systemic risk since an increase in stock return correlations possibly signal an increase in the potential for a shock to become systemic. In this context, stock return correlations are relevant because stock prices measure banks' overall performance by reflecting market participants' collective evaluation of future prospects of the firm and its interactions with other institutions. In other words, stock prices reflect investors' perception about a firm's future profitability, thus its potential income, debt and leverage structure, and interaction with the overall system. The forward looking information embedded in banks' stock prices and their movements gives policy makers some direction on determining how systemic risk evolves, and guides them to undertake proactive measures to contain such risk.

Following De Nicolo and Kwast (2002) and Patro et al. (2012), we calculate bi-variate correlations of bank equity returns on a rolling basis to evaluate how systemic risk has evolved in the Turkish banking system over 1990-2011. Our analysis sheds light on the evolution of systemic risk in the Turkish banking industry using a long span of data that covers various systemic events driven completely by domestic policies, such as the crisis of 1994, 2000-2001, and by external shocks such as East Asian crisis, and the crisis following the U.S. sub-prime market collapse.

We use daily stock price data of the 17 banks listed on the Istanbul Stock Exchange (ISE). Thus, our analysis includes all ISE-listed banks which vary across business models, size, and ownership types. The sample size is different for each bank since the date since when a particular share is traded on the ISE changes for each institution. However, the broad sample covers the period 01:1990-07:2011. The total assets of banks listed on the ISE and included in our sample account for approximately 76 percent of the Turkish banking system as of September 2011.

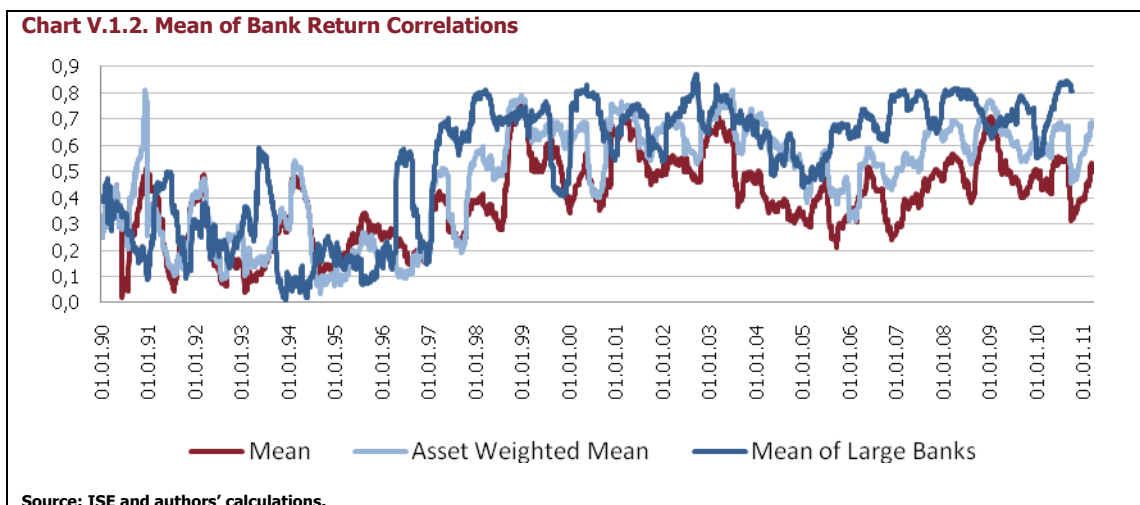
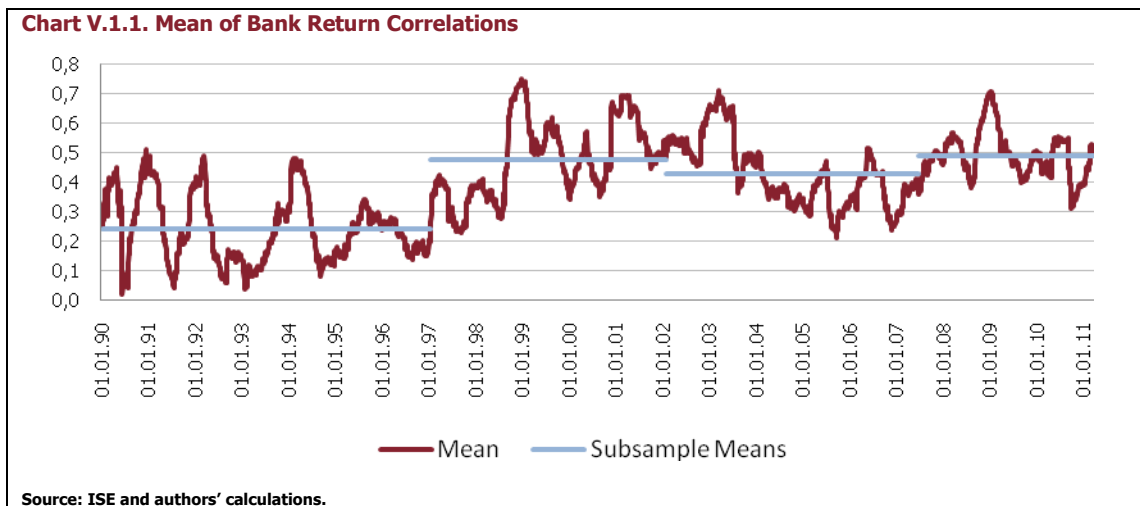
We calculate banks' stock returns by using daily closing prices as $100 * [\log(p_t) - \log(p_{t-1})]$ which are adjusted for dividend payments and changes in capitalization. Summary statistics and pair-wise correlations of banks' daily equity returns for the whole sample period indicates that there is a large heterogeneity in terms of sample size, volatility of stock returns, and correlation of stock returns both within and between bank-groups. For instance, stock return correlations among large banks² are notably larger, overall, than the correlation of their stock returns with those of smaller ones. Similarly, the correlations of returns between small banks are also smaller. This correlation pattern by itself suggests that the size of financial institutions is an important factor that explains the sources of inter-dependencies among them, which is in line with the view that financial consolidation is a driving factor of systemic risk as in De Nicolo and Kwast (2002).

To document the inter-dependency/co-movement among the banks included in our analysis, we first compute daily (Pearson) correlations for all stock pairs using a three-month rolling window throughout the sample period. We then calculate the mean of bi-variate correlations for each day by using at most 136 (=17:2 combination) observations. The number of observations for a specific date

² These are the banks whose share of assets among ISE listed banks are approximately 10 percent or higher.

varies depending on the number of banks whose shares are traded on the ISE on that date. The unconditional correlation measures and their evolution over time would provide some indication regarding whether the banking industry has become more inter-connected, and thus whether the shocks during some of the major events such as the crisis of 1994, 2000-2001 and later during global financial crisis of 2007–2009 had the potential to become a systemic crisis.

Figures 1 and 2 display the time series of inter-dependency among the banks measured by mean of daily stock return correlations as described above. Figure 1 shows that the banking industry has become more inter-connected, indicating that the potential of any major shock to the financial system to become a systemic crisis has increased overtime. In other words, the increase in correlation particularly after late 1990s is indicative of increase in exposure to common factors, which had introduced larger fragility in the banking system. Besides an upward trend in unconditional correlations, Figure 1 also displays large spikes during significant economic event including the crisis of 1994, 2000-2001 and later during international financial crisis of 2007–2009, particularly in the aftermath of the Lehman collapse.



The means of subsamples display significant variation, which likely has been the result of either major external shocks or domestic political events. The sub-sample means are found to be statistically

significantly different from each other, demonstrating a marked change and increase in correlations over these particular periods.

The considerable variation in stock return correlations over time and the increasing trend is more evident for the sub-sample of large banks, and particularly when the bivariate correlations are adjusted with asset size. Figure 2 shows that asset weighted mean of stock return correlation and the correlation of returns among large banks display further increase in recent years compared to the overall correlation index suggesting a size effect.

In conclusion, this paper investigates the evolution of systemic risk in the Turkish banking sector over the past two decades using co-movement of banks' stock returns as a systemic risk indicator. Results show that the correlations between bank stock returns almost doubled in 2000s in comparison to 1990s. The correlations decreased somewhat after 2002 and increased again as a result of the 2007–2009 financial crisis.

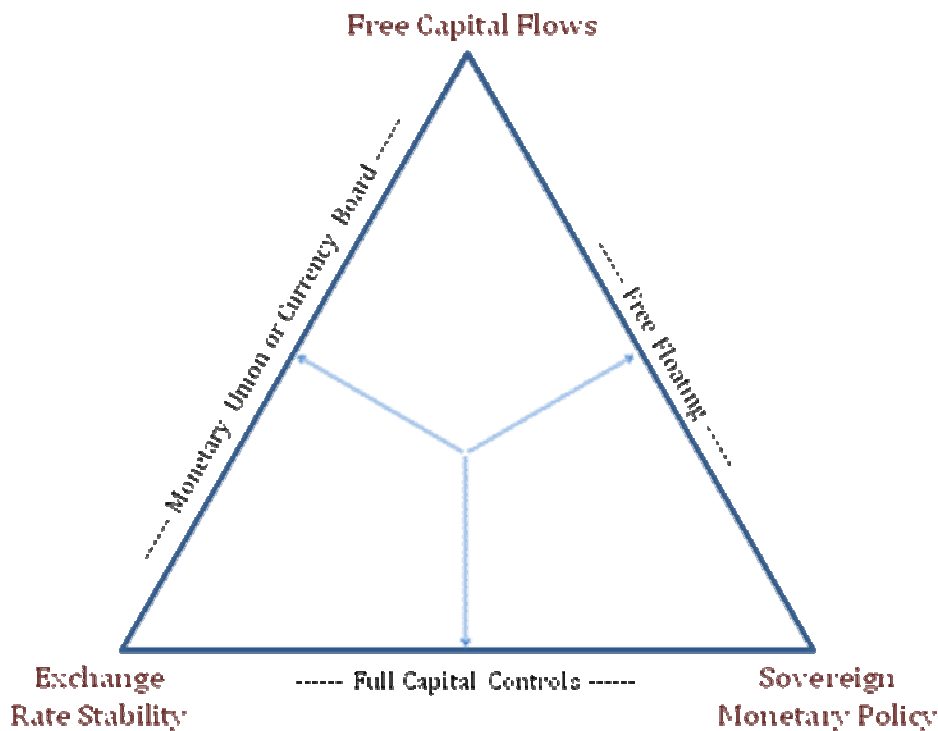
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V.2. The Impact of Required Reserve Ratios and International Reserves on Trilemma Trade-offs: Turkish Case

The macroeconomic policy “trilemma” (i.e. the impossible trinity) which is based on the studies of Mundell (1961) and Mundell-Fleming model, implies that a country simultaneously can choose at most two of the following three goals: monetary independence (MI), exchange rate stability (ERS) and capital account openness (KO). The trilemma policy trade-offs are conveniently represented via a triangle, where each corner of the triangle in Figure V.2.1 represents full attainment of one of the three goals. Therefore, as shown, being at any vertex of the triangle represents attainment of the two goals at the adjacent corners, at the expense of abandonment of the third. In practice, the partial attainment of all three policy goals seems to characterize the general framework of policymaking, especially for emerging market economies. This is a natural consequence as all three goals are potentially desirable and policy makers might attempt to meet all three partially. This is captured in Figure V.2.1 as being at a point somewhere in the interior of the triangle.

Figure V.2.1



Within this context; Aizenman, Chinn and Ito (ACI, 2008 and 2010), developed a new methodology to empirically characterize the mixed approach to the trilemma in practical policymaking. In their approach, ACI initially measure each policy dimension via an empirical index. The theoretical constraint of trade-offs between the three policy goals is then captured by the coefficients in a regression where a constant is regressed on the trilemma indices as shown below:

$$1 = C_1 * \mathbf{MI} + C_2 * \mathbf{ERS} + C_3 * \mathbf{KO} + \text{residual}$$

where MI, ERS and KO represent monetary independence, exchange rate stability and capital openness respectively (The formulas used in order to calculate the indices are shown below)³. Similarly; C_1 , C_2 and C_3 are the coefficients of the corresponding indices.

$$ERS = \frac{0.01}{0.01 + stdev(\Delta(\log(exch_rate)))}$$

$$MI = 1 - \frac{corr(i_{US}, i_{TR}) - (-1)}{1 - (-1)}$$

$$KO^4 = (\text{Absolute sum of foreign direct investment and portfolio flows})/GDP.$$

In the trilemma regression shown above, the dependent variable is a numerical constant, "1", representing the total distance from any point of the triangle to the triangle's sides. Yet, this value is trivial and can take other values such as "2", "3" without changing the relative importance of each policy or the implications of the final outcome. According to this methodology, in order to observe "how much of" the each policy choice has been implemented; relative contributions are calculated by multiplying the estimated coefficients with the actual values of the indices. ACI applied this methodology to a cross-country sample of several countries with time-averages of annual data.

ACI applied this methodology to a cross-country sample of several countries with time-averages of annual data. Cortuk and Singh (2011), however, applied the ACI methodology to a single country, Turkey, with the objective of specifically understanding the detailed evolution of the policy stance toward the trilemma trade-offs. Authors conclude that there is a misspecification inherent with this methodology that needs to be handled when applied to a single country⁵.

Further, they investigate the potential reasons for this misspecification and attempt to overcome them through other possible means. As one possible explanation for such misspecification is the linearity inherent in the OLS analysis, authors recommend taking the classical linear regression into a Kalman filter framework⁶ which allows the regression parameters (C_1 , C_2 , C_3) to change over time.

Finally; Turhan, Cortuk and Akcelik (2012) assess the role of foreign reserves and required reserves in mitigating the trilemma trade-offs by examining their relation with the residuals obtained from the trilemma regression with the Kalman filter approach. Accordingly, authors initially perform a VAR analysis between foreign reserves to GDP ratio and the residuals for the period of 2002-2011, in

³ The scaling ensures that the MI and ERS indices lie between 0 and 1 while the KO index is not theoretically constrained to lie in this range. Yet, this range is not violated during the period analyzed.

⁴ Following Hutchison et al. (2010)

⁵ According to Ramsey RESET test results

⁶ Developed by Kalman (1960)

which they obtain a positive relation between the two variables at the fourth lag. Similar relation is valid between the required reserve ratio and the residuals only after the second half of 2009 at 90 percent confidence level. Augmentation of residuals indicates that sum of the contributions of the trilemma indices become smaller than the numeric constant, one, in the trilemma regression, mitigating the trade-offs among the policy choices of exchange rate stability, monetary independence and capital controls. Furthermore, authors perform Granger causality analyses for robustness issues. These analyses also support that foreign reserves and required reserves have significant impact on the trilemma residuals by rejecting the null hypothesis of no Granger causality.

Vector Autoregression Analysis: Required Reserves Ratios (RRR) (2009:06-2011:12)

	Residual Term	RRR
Residual term (-1)	0.0424 (0.186)	-0.007* (0.004)
Residual term (-2)	-0.404** (0.197)	0.0085* (0.004)
RRR (-1)	-7.995 (6.280)	1.735*** (0.147)
RRR (-2)	12.534* (6.760)	-0.777*** (0.158)
Constant	-0.201** (0.085)	0.0027 (0.0019)

*, **, *** denote statistical significance at 90%, 95% and 99% confidence levels respectively. Standard errors are in parenthesis.

Granger Causality Analysis: Required Reserves Ratios (RRR) (2009:06-2011:12)

	F-Statistic	Prob.
RRR does not Granger cause Residuals.	8.274***	0.007
Residuals do not Granger cause RRR.	5.392**	0.027

*, **, *** denote statistical significance at 90%, 95% and 99% confidence levels respectively.

Vector Autoregression Analysis: Reserve/GDP (2002:01-2011:12)

	Residual Term	Reserve/GDP
Residual term (-1)	0.2464*** (0.089)	0.027 (0.038)
Residual term (-2)	-0.2758*** (0.092)	-0.080** (0.039)
Residual term (-3)	0.1435 (0.094)	0.0670 (0.040)
Residual term (-4)	-0.1481 (0.0928)	0.0005 (0.039)
Reserve/GDP (-1)	0.3475 (0.219)	0.763*** (0.093)
Reserve/GDP (-2)	-0.2015 (0.278)	0.335*** (0.119)
Reserve/GDP (-3)	-0.3252 (0.271)	-0.183 (0.116)
Reserve/GDP (-4)	0.5075** (0.220)	-0.1503 (0.094)
Constant	-0.3639** (0.175)	0.298*** (0.075)

*, **, *** denote statistical significance at 90%, 95% and 99% confidence levels respectively. Standard errors are in parenthesis.

Granger Causality Analysis: Reserve/GDP (2002:01-2011:12)

	F-Statistic	Prob.
Reserve/GDP does not Granger cause Residuals.	2.155**	0.044
Residuals do not Granger cause Reserve/GDP	1.437	0.198

*, **, *** denote statistical significance at 90%, 95% and 99% confidence levels respectively.

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V.3. The Impact of Liquidity Risk on Market Risk

Both the recent global financial crisis and the announcement of JP Morgan Chase's multibillion dollar loss during May 2012 have shown once more that the securities in banks' portfolios which have exposure to market risk can result in huge losses. Moreover, banks' intention to sell financial assets to close their risky positions and/or to acquire liquidity can cause the market liquidity conditions to deteriorate with sudden and severe fashion. This may further create a feedback loop between market and funding liquidity thereby causing liquidity problems and decrease in capital due to losses. Especially, under costly and restricted market conditions, the impacts of the risk may become considerably high. Although liquidity facilities provided by central banks can contribute to the systems' well functioning, presence of a banking system that is capable of funding itself through market sources is essential for maintaining financial stability.

In this context, considering typical characteristics of the crises along with their damages, to some extent the interaction between market liquidity and funding liquidity risk should be integrated to the market risk for the sake of better risk management. Indeed, building technical infrastructure with more prudent risk measurement methods is of great importance for a well-functioning financial system. Expected Loss" (expected shortfall-ES) method, which is a more prudent version of widely used "Value at Risk" (VaR) method, is among the agenda topics of regulatory authorities and market players. Regarding this issue, approach put forward by the regulatory authorities is presented briefly below⁷.

The consultation report (Report) prepared by Basel Committee on Banking Supervision (the Committee) points out that the required capital against the market risk is not sufficient. Works on reducing cyclical of market risk and increasing the required capital mostly focus on products carrying credit risk. In this context, regulations are being introduced to eliminate the weaknesses of risk measurement methods based on internal model-based and standardized approaches,. The report highlights inadequacy of the VaR as the main method for calculating regulatory capital. VaR is the maximum loss of a financial asset or a portfolio at a specified time period with a certain probability. Due to both its convenience in calculating the portfolio risk and its advantage to produce a single figure as a proxy for market risk, VaR is commonly used. On the other hand, since VaR method is insufficient to capture the extreme event" (tail risk), the Committee evaluates the ES an alternative method to calculate capital against low probable but highly damaging situations. Different from VaR that is based on events within a certain confidence level, ES considers the tail events by averaging the losses above a certain threshold corresponding to a confidence level. In this regard, ES can be considered as a step forward in capturing tail risk. Although using ES could bring some operational difficulties, considering the cost-benefit analysis, pros outweigh the cons. Furthermore, another

⁷ BCBS, Fundamental Review of the Trading Book, Consultative Document, May 2012

alternative of the Committee is liquidity enhanced VaR method. So called L-VaR is the VaR in which liquidity is incorporated. L-VaR gauges market risk with additional amount of liquidity risk.

The Committee's another important step towards market risk is the supplementary obligations related to liquidity risk. These additional obligations are considered to be crucial to eliminate the assumption that the trading portfolio products are liquid. Market risk measurement techniques are based on the assumption that banks would close the position or take opposite positions in order to hedge themselves within 10 days. However, one of the important lessons from the crisis is whether this assumption is valid or not. As liquidity conditions deteriorated during the crisis, banks were forced to hold risk positions for much longer than originally expected and were incurred large losses due to fluctuations in liquidity premia and associated changes in market prices. Considering these, the Committee's recommendation regarding the risk of market liquidity is comprised of three elements:

(i) The concept of "liquidity horizons", defined as the time required to exit or hedge a risk position in a stressed market environment without materially affecting market prices. Banks' exposures would be assigned into five liquidity horizon categories, ranging from 10 days to one year.

(ii) Varying liquidity horizons in the regulatory market risk metric to capitalize the risk that banks might be unable to exit or hedge risk positions over a short time period (the assumption embedded in the 10-day VaR treatment for market risk).

(iii) Capital add-ons for jumps in liquidity premia, which would apply only if certain criteria were met.

These criteria would seek to identify the set of instruments that could become particularly illiquid, but where the market risk metric, even with extended liquidity horizons, would not sufficiently capture the risk to solvency from large fluctuations in liquidity premia. Additionally, the Committee is consulting on two possible options for incorporating the "endogenous" aspect of market liquidity. Endogenous liquidity is the component that relates to bank-specific portfolio characteristics, such as particularly large or concentrated exposures relative to the market. The main approach under consideration by the Committee to incorporate this risk would be further extension of liquidity horizons; an alternative could be application of prudent valuation adjustments specifically targeted to account for endogenous liquidity.

Finally, the Committee evaluates the relationship between model-based and standard methods as well as their pros and cons. Accordingly, to strengthen the relationship between the models-based and standardized approaches the Committee is consulting on three proposals: first, establishing a closer link between the calibration of the two approaches; second, requiring mandatory calculation of the standardized approach by all banks; and third, considering the merits of introducing the standardized approach as a floor or surcharge to the models-based approach. The Committee is proposing to break the model approval process into smaller, more discrete steps, including at the trading desk level. This will allow model approval to be "turned-off" more easily than at present for specific trading desks that do not meet the requirements. Taking ES measurement method as the

internal models approach brings significant prudence to the analysis of market risk. On the other hand, the revised standard method is based on partial risk factor. The Committee proposes a “partial risk factor” approach as a revised standardized approach. According to this approach, Instruments that exhibit similar risk characteristics would be grouped in buckets and Committee-specified risk weights would be applied to their market value. The number of buckets would be approximately 20 across five broad classes of instruments, though the exact number would be determined empirically. The Committee also invites feedback on a “fuller risk factor” approach as an alternative. Accordingly, the products will be associated directly with risk factors are determined by regulatory authorities. This capital requirement will be determined by applying shocks to risk factors. In this case, the bank, using an appropriate pricing model within the framework of the risk factors will determine the position of the portfolio of risk for each of the products.

V.4. Financial Trilogy: Financial Inclusion, Financial Education and Financial Consumer Protection

In the international literature, there exist three main concepts which are highly relevant with and contribute to financial stability, and also handle the relationship between individuals and financial system from different perspectives. These are; financial inclusion, financial education and financial consumer protection. The global financial crisis has revealed the importance of these concepts and their relationship with the financial stability.

Many central banks consider financial stability as a supplementary objective along with the primary objective of price stability. This objective is set down in the laws of some of the central banks including the Central Bank of the Republic of Turkey. Thus, central banks stand in the forefront regarding studies on financial inclusion, financial education and financial consumer protection in various ways and dimensions due to legal liabilities on the one hand; and the close relationship of these concepts with financial stability on the other.

Financial Inclusion

Financial inclusion refers to the process of promoting affordable, timely and adequate access to a range of regulated financial products and services and broadening their use by all segments of society through the implementation of tailored existing and innovative approaches including financial awareness and education with a view to promote financial wellbeing as well as economic and social inclusion⁸.

A global financial inclusion database and index (Global Findex) has been generated in a study by Demirgüç-Kunt and Klapper (April 2012). Via a survey, 18 questions have been asked to over 150 thousands adult respondents in 148 economies. Generally in measuring financial inclusion, criterion such as having an account in a financial institution, access to account and its frequency of use, making a payment, having a savings account in a financial institution, credit usage and access to insurance services are taken into account. According to Honohan (2007) and the World Bank, Turkey is a bit above the world average regarding financial inclusion level.

Various studies on this issue are being done in the international arena. After the G20 Pittsburgh Summit on November 2009, Financial Inclusion Experts Group (FIEG) was established in order to work on financial inclusion. With the Action Plan prepared by the Group, nine "G20 innovative financial inclusion principles" have been determined. These are; leadership, diversity, innovation, protection, empowerment, cooperation, knowledge, proportionality and framework. After the G20 Seoul Summit on November 2010, FIEG was transformed into the Global Partnership for Financial Inclusion (GPII) and gained an official statute. GPII, in cooperation with G20 countries and non-G20 countries, private

⁸ OECD, INFE, "Developing a Roadmap on Financial Inclusion and the Role of Financial Education", 8. INFE Meeting Reference Document, October 2011.

sector, non-governmental organizations and various national, regional and international institutions, works for implementing the Action Plan, enhancing systematic coordination and increasing awareness on financial inclusion. Key implementing partners of the GPMI are the Alliance for Financial Inclusion (AFI), Consultative Group to Assist the Poor (CGAP) and International Finance Corporation (IFC). Besides, World Bank has joined to the GPMI on January 2012 as the fourth implementing partner. G20 Troika countries are the co-chairs of the GPMI. There are three sub-groups under the GPMI. They are, "Sub-group on the G20 Principles and Standard Setting Bodies (SSBs)", "Sub-group on SME Finance" and "Sub-group on Financial Inclusion Data and Target Setting". In the sub-group on SME Finance, Turkey is one of the co-chairs, together with the USA, Germany and the UK. Many reports on the issues regarding financial inclusion are prepared and shared with the public as part of the GPMI efforts.

On the other hand, G20 Mexico Presidency gives special attention to financial inclusion and includes the issue into its five⁹ priorities. One of the studies by the G20 Mexico Presidency under the "Financial Inclusion Agenda" is "Financial Inclusion Peer Learning Program". The program covers three phases:

1. Engendering a national commitment to financial inclusion, and creating national coordination mechanisms or councils,
2. Designing a national strategic action plan on financial inclusion,
3. Implementing the action plan, and using the Peer Learning Program to share with other participant nations their experiences in the move towards financial inclusion.

In this context, a seminar was held on April 22, 2012 by the World Bank and Ministry of Finance of Mexico. Other than this, the program is planned to be made official at the G20 Summit in Los Cabos, Mexico on June 17, 2012 by a signing ceremony with the participation of the countries which have commitments on Financial Inclusion Peer Learning Program.

Alongside all, under the leadership of "United Nations Secretary-General's Special Advocate (UNSGSA) for Inclusive Finance for Development" Princess of the Netherlands Maxima, various works are done in many parts of the world by reaching people from every part of the society. In this context, effective policies, strong government leadership, cross-sector partnerships and development of good products are encouraged. As a result of these efforts, it was stated that tangible outcomes are achieved to advance financial inclusion, and an annual report was published on September 2011.

"The Role of Financial Education in Financial Inclusion" sub-group under the Organization for Economic Cooperation and Development (OECD) - International Network on Financial Education (INFE) which was established on October, 2010 and of which the CBRT has a membership, carry on

⁹ The priorities Mexico established: (1) Growth and employment, (2) Strengthening the financial system and fostering financial inclusion, (3) Improving the international financial architecture, (4) Enhancing food security and addressing commodity price volatility, (5) Promoting sustainable development, green growth and the fight against climate change.

its work on financial inclusion with a demand-side perspective. Additionally, World Bank and CGAP execute significant studies on financial inclusion.

Turkey contributes to the international efforts on financial inclusion, especially by gathering data and filling out surveys. The Undersecretariat of Treasury, Capital Markets Board (CMB), CBRT and many other institutions work on financial inclusion issues in Turkey.

Financial Education

Financial education can be defined as “the process by which financial consumers/investors improve their understanding of financial products, concepts and risks and, through information, instruction and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being” (OECD, 2005).

Increased financial awareness and financial education for individuals and society contribute to the working of financial markets more effectively and efficiently, maintaining financial stability, therefore improvement in the whole economy and increasing the social welfare. Financial education supports increasing the awareness and knowledge of individuals on financial product and services, financial risks and investments, therefore the use of financial products and services efficiently and suitably.

In the international arena, INFE under the OECD executes significant studies to advance financial education¹⁰. OECD / INFE “Financial Education National Strategy High Level Principles” draft report is presented to the approval of INFE members. The report, which was examined by the Committee on Financial Markets, and Insurance and Private Pensions Committee will be presented for approval of the G20 Leaders at the Summit in Los Cabos in June. The CBRT is a member of the INFE, supports and is actively involved in the works of the group on financial education¹¹.

Recently, increasing number of countries established or have efforts for establishing “financial education national strategy”. Herein, it should be emphasized that there is no “one size fits all” strategy for all countries, and while establishing strategies, cultural, economic and social diversities between countries should be taken into account. However, best country examples and studies done by international institutions are important guides for establishing each country’s own financial education strategy.

In the study by Grifoni and Messy (2012), steps taken regarding the national strategy on financial education and progress level of the countries’ are examined. According to this study, 14 countries started to implement national strategies, while 19 countries including Turkey consider establishing and designing national strategies, but not yet implemented (Table V.4.1).

¹⁰ <http://www.financial-education.org>

¹¹ CBRT has memberships to the sub-groups “Financial Education National Strategy” and “The Role of Financial Education in Financial Inclusion” established under the INFE.

Table V.4.1. Stages of Development in Establishing National Strategies for Financial Education*

National Strategy	Countries
<i>Countries that have designed and implemented (implementation date)</i>	Australia (2011), Brazil (2010), Czech Republic (2010), Ghana (2009), India (2006/2010), Ireland** (2009), Japan (2005), Malaysia (2003), Netherlands (2008), New Zealand (2008, 2010), Portugal (2011), Slovenia (2011), Spain (2008), United Kingdom (2003), United States (2006, 2011)
<i>Countries that have started considering and/or designing a NS (but not yet implemented it)</i>	Canada, Colombia, Estonia, Indonesia, Kenya, Latvia, Lebanon, Malawi, Mexico, Peru, Poland, Romania, Serbia, South Africa, Sweden, Tanzania, Turkey , Uganda, Russian Federation, Thailand, Zambia

* The information is updated as of February 2012. Denmark does not have a NS as such and it is not considering designing one due to budgetary constraints, however it established a national board with responsibilities for financial education.

** Ireland on the other hand has an approach based on the recommendations of a steering group, but this does not include a NS. Nevertheless it has much in common with national strategies elsewhere and so is included in the following analysis.

Source: Grifoni, A. and Messy, F-A (2012), "Current Status of National Strategies for Financial Education: A Comparative Analysis and Relevant Practices", OECD WP on Finance, Insurance and Private Pensions No. 16.

Although growth rate of the financial sector in Turkey has been high recently, indebtedness ratios are still lower compared to developed countries. On the other hand, CBRT gives special attention to financial education with its "financial education within financial stability" perspective¹². Considering the importance of the issue, individual and social benefits, financial education needs a national policy framework. In this regard, with the task given by the Financial Stability Committee (FSC), a draft "Financial Education National Strategy and Action Plan" has been prepared under the coordination of the CMB, and it is expected to be completed soon and presented for approval of the FSC.

Financial Consumer Protection

Financial consumer protection refers to the regulations for maintaining a fair and equal exchange between financial product and service providers, and consumers¹³.

Rapid growth and diversity in financial products and services and their increasing complexity present many alternatives for individuals on their investment, consumption and saving decisions on the one hand, while increasing burden of risks on consumers on the other. Improving the policies for protecting rights and benefits of financial product and service consumers affect the risk management of individuals positively, and increase competition in financial markets. Financial consumer protection contributes to effective and efficient functioning of financial system by increasing confidence of consumers, especially savers and investors to financial system, and supports financial stability.

After the global crisis, with the pressure of risks on financial system which households face, studies on improving policies for strengthening consumer protection increased in national and international platforms. In line with the request of G20 leaders, a report titled as "Consumer Finance

¹² "International Conference on Financial Education and Financial Awareness: Challenges, Opportunities and Strategies", 9-11 March 2011, İstanbul http://www.tcmb.gov.tr/yeni/konferans/financial_education/conference.html,

"Access to Financial Services and Financial Education in the World and Turkey" (Dünyada ve Türkiye'de Finansal Hizmetlere Erişim ve Finansal Eğitim) Booklet (only in Turkish), March 2011

http://www.tcmb.gov.tr/yeni/evds/yayin/kitaplar/finansal_egitim.pdf

¹³ BRSA, Financial Consumer Protection Policy Paper Draft, March 2012.

Protection with particular focus on credit” was prepared in coordination of the Financial Stability Board (FSB) together with OECD and other international institutions, and the report was presented to the leaders at the November 2011 Summit.

The OECD does significant studies on financial consumer protection, as well. Under the OECD Committee on Financial Markets, Task Force on Financial Consumer Protection was established and the Task Force defined 10 high level principles, and carries on its work to generate a report (see CBRT Financial Stability Report Volume 13, Special Topic 9). CBRT, together with the Undersecretariat of Treasury and Banking Regulation and Supervision Agency (BRSA) represent Turkey in the Task Force. On the other hand, there are some efforts to establish a network for enhancing cooperation and information exchange on financial consumer protection internationally.

In Turkey, with the task given by the FSC, in coordination of the BRSA “Financial Consumer Protection Policy Paper and Strategic Plan” drafts have been prepared, and they are expected to be completed soon and presented for approval of the FSC.

Conclusion

Budget, income-expenditure, investment, saving and consumption decisions have always been important for individuals and firms, however global financial crisis has created an opportunity for realizing the importance of these concepts better. Recent changes like increasing diversity and complexity of financial product and services, increasing responsibilities of individuals and importance of their awareness about risks, extending lifetime, importance of private pension systems, and high indebtedness ratios among youth population increase the significance of concepts in financial trilogy, which require particular financial knowledge, experience, risk analyzing capacity and awareness.

Considering individual and social benefits, it is thought that financial education, financial inclusion and financial consumer protection concepts need a strong policy framework, policy will and decisiveness. Since all these concepts are closely related with financial stability, studies done on these issues will contribute to financial stability significantly, too. The CBRT, in cooperation with related institutions and with its financial stability perspective, will continue to participate actively and support the works done both in national and international platforms on financial inclusion, financial education and financial consumer protection issues.

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V.5. Bonds/Bills Issues

In Turkey, the degree of development in the securities markets other than government sector has been limited until recent years. Lately, private sector issues began to increase due to the decrease in government borrowing requirement, better macroeconomic indicators and financial stability despite the global crisis. Although most of these security issues are realized by banking sector, non-bank institutions' security issues are also increasing.

In this study, developments in the private sector securities markets will first be analyzed globally and then nationally.

• Global Securities Markets

According to the Bank for International Settlements (BIS) statistics, US financial institutions, due to their developed capital markets, has the highest share in terms of quantity and ratio to assets in the domestic debt securities by sector and residence of issuer. Domestic debt securities issued by financial institutions of EU countries and US to their total assets ratio decreased in the third quarter of 2011. The reasons of the decrease in the ratio are firstly the crisis experienced in US and secondly the banks' preference to apply for central bank resources due to the decrease in the roll-over ratio of securities resulting from the fluctuation in the capital markets caused by EU debt crisis.

In general, contrary to developed countries, an increase has been observed in domestic debt securities issued by financial institutions of developing countries. Capital flows to developing countries in 2010 have an impact on this increase.

Table V.5.1. Domestic Debt Securities Issued by Financial Institutions (Billion US dollar)

	2009	2010	09/11
USA	12,394.0	10,845.0	10381.0
France	1,174.7	1,182.5	1290.1
Spain	934.4	798.8	756.6
Italy	782.6	701.1	744.0
Australia	606.1	659.5	586.0
Brazil	423.8	497.1	510.5
Germany	909.5	530.2	446.8
South Korea	331.0	255.3	237.3
Mexico	123.7	146.5	139.0
Malaysia	34.5	59.2	72.7
Poland	7.1	8.4	11.7
Hungary	9.6	8.6	9.9

Source: BIS Quarterly Review

Table V.5.2. The Ratio of Domestic Debt Securities Issued by Financial Institutions to Banking Assets (%)

	2009	2010	09/11
USA	93.9	74.9	69.4
Italy	42.3	33.6	-
Spain	38.6	29.6	-
Mexico	33.4	33.9	28.9
France	26.4	24.3	-
Brazil	24.6	21.4	21.6
South Korea	22.7	16.7	14.9
Australia	20.6	24.3	19.1
Germany	17.6	8.4	7.0
Malaysia	7.4	11.9	13.6
Hungary	5.9	6.0	7.7
Poland	1.9	2.2	3.0

Source: BIS Quarterly Review and IMF FSI Statistics

Table V.5.3. International Debt Securities Issued by Financial Institutions (Billion US dollar)

	2009	2010	09/11
USA	5,444.5	5,539.3	5445.9
Germany	2,502.2	2,318.3	2393.4
Spain	1,674.6	1,595.4	1680.6
France	1,545.4	1,518.1	1630.0
Italy	1,072.9	1,000.7	1038.8
Australia	525.9	562.6	567.8
Brazil	72.0	95.9	116.5
South Korea	86.9	95.3	105.0
Malaysia	26.5	32.1	31.5
Mexico	28.7	22.6	22.6
Hungary	13.4	10.3	9.9
Poland	3.5	5.2	6.2

Source: BIS Quarterly Review

Table V.5.4. The Ratio of International Debt Securities Issued by Financial Institutions to Banking Assets (%)¹

	2009	2010	09/11
Spain	69,2	59,1	-
Italy	58,0	48,0	-
Germany	48,4	36,7	37,6
USA	41,2	38,3	36,4
France	34,7	31,2	-
Australia	17,9	20,7	18,5
Hungary	8,2	7,2	7,7
Mexico (1)	7,8	5,2	4,7
South Korea	6,0	6,2	6,6
Malaysia	5,7	6,4	5,9
Brazil	4,2	4,1	4,9
Poland	0,9	1,3	1,6

Source: BIS Quarterly Review and IMF FSI Statistics

(1) August 2011 data is used for total assets.

After the analysis of international debt securities issued by financial institutions, it is seen that US financial institutions are well ahead in quantitative terms, while Spain, Italy and Germany are in the first places in terms of international debt securities issued to banking assets ratio. The main factor behind this development is that these countries are more active in European markets due to their inclusion in Euro Area. International debt securities issues of developed countries' financial sectors are more stagnant than their domestic issues and the decrease mentioned above has not been experienced.

When the developing countries are analyzed, Brazil is the major country, whose financial institutions issued domestic and international debt securities, in quantitative terms. In the debt to banking assets ratio, Brazil and Hungary are the countries, which are ahead. While Brazil and South Korea raised the international debt security issues, in other countries security issues have experienced a decline, though limited, compared to the end of 2010 due to adverse market conditions and less risk appetite in the last quarter of 2011 (Table V.5.1 and Table V.5.3).

In the analysis of debt securities issued by the corporates, it is observed that the securities issued by the corporates of developed countries, specifically in U.S., are relatively higher due to deeper capital markets of these countries. From 2009 to mid 2011, both domestic and international debt securities issued by corporates had in an increasing trend. The low interest rates and increased liquidity gave a chance to corporates to get into debt directly from markets by issuing securities instead of getting into debt from banks. In the case of the corporates of developing countries, corporates of South Korea, Mexico, Brazil and Malaysia increased their debt security issues both domestically and internationally in the period of 2009 and July 2011 parallel to increasing capital movements. On the other hand, total stock of issues decreased in corporates of all countries since the second half of 2011 (Table V.5.5 and Table V.5.6).

Table V.5.5. Domestic Debt Securities Issued by Corporates (Billion US dollar)

	2009	2010	09.11
USA	3,025.8	3,143.8	3,244.7
South Korea	309.5	380.6	398.8
Germany	344.7	352.1	388.1
Italy	435.6	363.8	358.5
France	278.1	287.3	294.3
Malaysia	60.5	85.1	86.3
Australia	38.3	44.1	43.3
Mexico	29.2	35.5	35.9
Spain	22.9	22.7	24.2
Brazil	9.8	10.6	9.8
Hungary	0.3	0.4	0.4

Source: BIS Quarterly Review

Among developing countries, Brazil is the biggest issuer in amount terms, while Mexico¹⁴ is the first one according to the ratio of domestic debt securities issued by financial institutions to banking assets. Financial sectors of these two countries are using capital market instruments effectively in addition to deposits, so that their financial sector's funding structure is similar to financial sectors of developed countries. (Table V.5.2 and Table V.5.4).

Table V.5.6. International Debt Securities Issued by Corporates (Billion US dollar)

	2009	2010	09.11	2011
USA	1,245.4	1,631.7	1,882.9	1,959.8
France	403.7	416.7	443.5	448.6
Germany	131.0	127.8	136.8	126.8
Italy	98.6	105.0	100.6	97.4
Mexico	25.7	38.3	50.3	54.7
South Korea	35.2	40.6	46.5	46.9
Australia	23.5	30.3	35.7	38.2
Brazil	16.8	27.4	33.1	34.7
Spain	22.8	21.7	23.9	23.4
Malaysia	5.6	5.7	6.3	7.8
Hungary	1.4	2.3	2.4	2.3
Poland	0.4	0.4	0.4	0.6

Source: BIS Quarterly Review

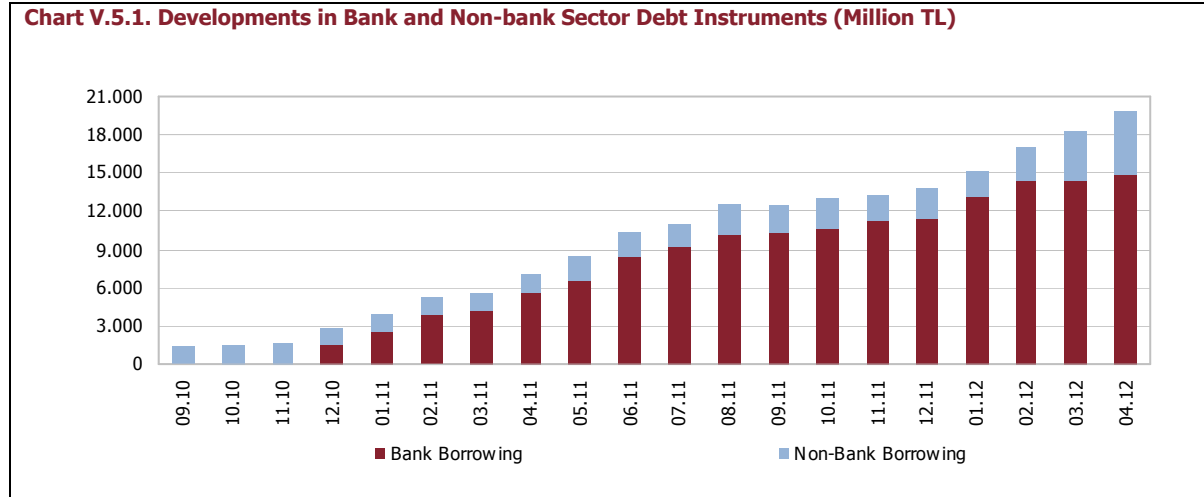
In the case of developed countries, private sector securities markets are more developed than developing countries. On the other hand, it is observed that these markets are getting deeper in developing countries.

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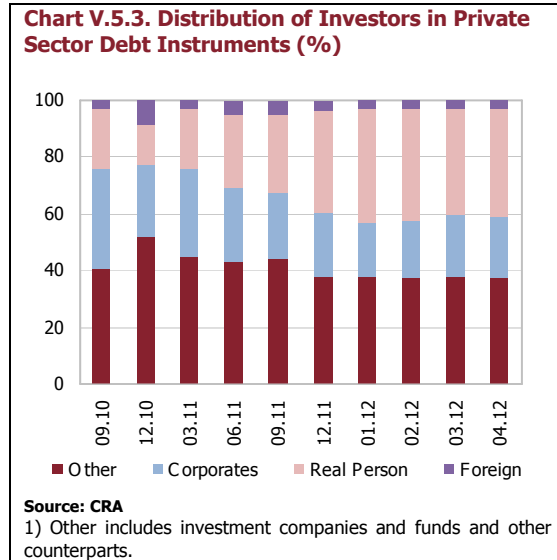
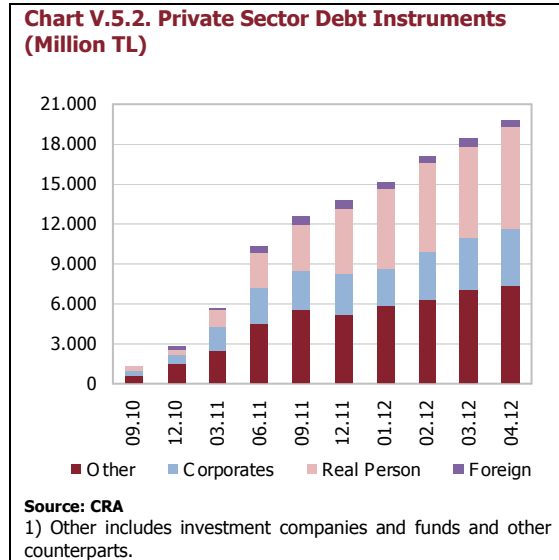
In Mexico, since banking assets increased 9 percent and security issues decreased 5 percent in the December 2010 - September 2011 period, the ratio of domestic debt securities issued by financial institutions to total assets decreased by 5 points.

• Turkish Private Sector Securities Markets

According to Central Registry Agency (CRA) statistics, as of April 2012, all private sector security issues including the issues of banking sector amount to almost 20 billion TL. According to the calculations based on the data of CRA and CBRT, while the securities issued by banks reached to 15.1 billion TL, non-bank sector issues are 4.9 billion TL¹⁵ (Chart V.5.1).



When the distribution of investors of 20 billion TL security issues, including the ones by banking sector is analyzed, it is recognized that 38.3 percent belongs to domestic real person. The 21.7 percent of the remaining amount is owned by domestic corporates, 37.4 percent is owned by domestic investment companies and funds. The share of securities owned by foreign residents is 2.7 percent (Chart V.5.2, Chart V.5.3).



As of 22 May 2012, TL denominated bond and bill issues by banks reached to 19 billion TL, TL denominated bond and bill issues reached to 5.3 billion US dollar. On the other hand, there is more non-realized issues approved by CMB than realized ones (Table V.5.7).

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In the 4.9 Billion TL amount, other than bond and bills, asset covered bonds, asset-backed securities and rent certificates are also included.

Table V.5.7. Bank Bills/Bonds Issues (Stock)

Nominal Amount	TL Denominated (Million TL)	FX Denominated (Million US dollar)
The realized issues approved by CMB	18,977	5,337
The non-realized issues approved by CMB	24,413	8,856
The applications to CMB	4,740	1,500
GENERAL SUM	48,130	15,693

Source: CMB, Public Disclosure Platform (PDP)

While the average maturity of security issues realized by banks in domestic markets is 294 days, the average maturity of issues done by banks in foreign markets is 5.8 years.

As of 22 May 2012, the securities issued by non-bank institutions in TL currency reached to 2.3 billion TL (Table V.5.8).

Table V.5.8. Non-bank private sector bill and bond issues (Stock)

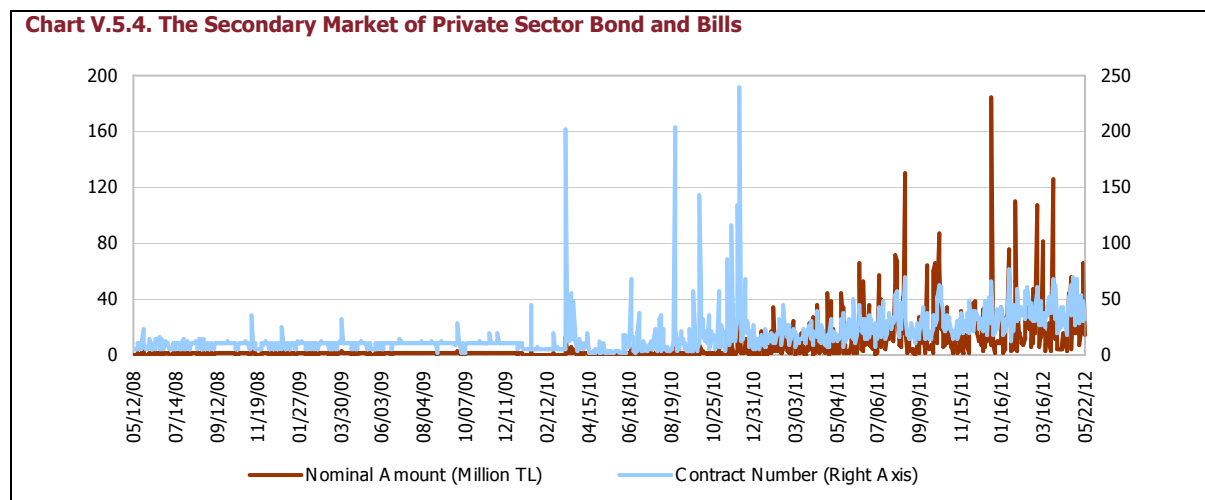
Nominal Amount	TL Denominated (Million TL)	FX Denominated (Million US dollar)
The realized issues approved by CMB	2,263	0.4
The non-realized issues approved by CMB	3,049	857
The applications to CMB	580	0
GENERAL SUM	5,891	857

Source: The calculations relied on CMB, BIS and ISE statistics and PDP and journal news.

The average maturity of security issues done by non-bank institutions is 713 days.

• Secondary Market of Private Sector Securities

The owners of the securities issued by banks may apply to the banks or intermediary institutions, which do not give a formal guarantee to buy. These institutions are able to buy their securities of these owners before the maturity. Despite of the low volume, a secondary market in the ISE Bond and Bill Markets for these bonds and bills is established. (Chart V.5.4).



Source: ISE

Banks act as intermediary in the exchange of the private sector securities. However, these transactions are done rarely. Generally, banks act as intermediary in the trade of their bonds and bills. It is recognized that the transactions are made to establish a price in the secondary market of private sector securities, and the depth of the market is still not sufficient. (Table V.5.9).

Table V.5.9. Benchmark Securities in the Secondary Market As of 22 May 2012

	Code	Interest Rate (%)	Nominal Volume (Thousands TL)	Number of Contracts
Government Securities	TRT120122T17	9.33	120,325	229
Private Sector Bonds	TRSCKKBE1316	12.11	35	3
Bank Bills	TRQAKBK71216	10.43	985	1

Source: ISE

To increase the credit facilities and achieve the investments needed by developing countries, which have low savings due to structural reasons as Turkey has, the attraction of foreign savings is required. Private sector's financing ability from domestic and international markets is important, because these sources have longer maturities and are more stable. From this perspective, it is understood that the security market of Turkish private sector is still small and does not have enough depth. Therefore, to develop these markets healthily, private sector's security markets are monitored carefully and the operations are going on in accordance with other authorities.

V.6. Development in Gold Investments

Gold demand in Turkey has continued its growth gradually in recent years both as an old traditional investment instrument as jewelry and as a sound instrument for the financial investors who are in search for a safe heaven to protect their savings from the deteriorative effects of the ongoing last global financial crisis. In the last three year period between 2009 and 2012, the gold prices tripled in US dollars, due to increased geopolitical risks and the persistence of the security concerns in Middle East.

By rearrangement of related regulations and essentials for opening gold, silver and platinum deposit accounts, extending gold, silver and platinum credits by banks and obtaining precious metal credits from abroad by precious metals exchange intermediary institutions with the Communiqué Numbered 2008-32/35 related to the Decree No. 32 on the Protection of the Value of Turkish Currency published at Official Gazette dated May 29 2008, banks are allowed to open gold, silver and platinum demand or time deposit accounts in favor of real or official bodies. With the positive impact of the said amendment on the precious metals deposit accounts legislation as well as the growing interest for gold as an investment instrument, new projects have been put into practice by a great number of banks. Moreover, CBRT's amendment regarding the facility of holding reserve requirements in gold up to 10 percent of the required reserves on foreign exchange deposits, even though up to total amount for the precious metal deposits which is validated from October 2011, the adoption of the similar application to Turkish lira deposit accounts since November 2011, and the increase of the gold ratio for the required reserves from 10 percent to 20 percent as of April 2012, respectively also are evaluated as having impact on leading the banking sector into the gold banking.

Gold deposits are kept track under precious metal deposits. Gold deposit accounts make up almost total of precious metal deposits.

Table V.6.1. Development of Bank Precious Metals Deposits¹

	Deposit Money Banks			Participation Banks			Gold Price		Development of Precious Metals Accounts (Thousand ounces) (B+D)/E
	FX Accounts in Current Value (Million USD) (A)	Precious Metals Accounts (Million USD) (B)	B/(A+B) (%)	Participation Funds FX	Precious Metals Accounts (Million USD) (D)	D/(C+D) (%)	TL/KG	USD/ounce (E)	
31.12.2008	99.905	313	0,31	5.182	18	0,35	41.300,1	839,4	395
31.12.2009	107.531	780	0,72	6.321	151	2,33	55.778,3	1.143,6	814
31.12.2010	110.355	1.395	1,25	6.781	423	5,87	68.423,5	1.393,0	1.305
30.12.2011	111.373	5.807	4,96	6.221	2.003	24,36	97.814,8	1.628,5	4.796
31.01.2012	116.368	6.112	4,99	6.286	2.058	24,67	97.848,9	1.655,0	4.937
29.02.2012	120.920	6.018	4,74	6.891	2.006	22,55	99.241,9	1.751,6	4.581
30.03.2012	120.206	6.624	5,22	7.190	2.222	23,61	96.440,2	1.676,3	5.277
30.04.2012	122.653	7.006	5,40	7.523	2.250	23,02	94.890,9	1.651,8	5.603
04.05.2012	123.445	6.922	5,31	7.649	2.227	22,55	92.254,1	1.632,2	5.605
11.05.2012	123.608	6.769	5,19	7.653	2.175	22,13	90.909,4	1.580,1	5.660
18.05.2012	122.213	6.859	5,31	7.732	2.185	22,03	93.561,3	1.583,7	5.711
Difference in Years	7.616	4.759		1.046	1.498		17.596	90	3.845
Yearly change (%)	6,6	226,7		15,6	218,2		23,2	6,0	206,1

Source: CBRT, IGE

(1) All precious metals accounts assumed as gold.

While the share of precious metal deposits at the deposit banks was 5.3 percent, the same accounts at the participation banks were 22 percent as of April 18th of 2012. Regarding the development of the gold accounts in ounce value; although there was a considerable increase in gold deposits in the year of 2011, it is getting slower pursuant to the decreasing value of gold. (Table V.6.1).

Table V.6.2. Deposit Money Bank Deposits Maturity Breakdown (Million USD)

Date	Demand Deposits	Up to 1 Month	Up to 3 Month	Up to 6 Month	Up to 1 Year	1 Year and Longer	Total Gold Deposits
30.12.2011	5.357	272	137	24	13	4	5.807
31.01.2012	5.588	301	179	25	15	4	6.112
29.02.2012	5.501	288	180	30	15	4	6.018
30.03.2012	6.102	302	172	29	15	4	6.624
30.04.2012	6.498	280	175	34	15	4	7.006
04.05.2012	6.424	276	170	34	15	3	6.922
11.05.2012	6.260	275	187	29	15	3	6.769
18.05.2012	6.337	285	189	30	15	3	6.859

Source: CBRT

Table V.6.3. Participation Banks Precious Metals Accounts Maturity Breakdown as of May 18 (Million USD)

Private Current Accounts	1 Month	Up to 3 Months	Up to 6 Months	Up to 1 Year	1 Year and Longer	Total Gold Deposits
1.408	0	717	21	29	10	2.185

Source: CBRT

Regarding the maturity breakdown of the gold deposits held both at deposit and participation banks, it is seen that there is an accumulation at demand and special current accounts. As of 18.05.2012, the percentages realized by deposit money banks and the participation banks are 92 percent and 64 percent respectively. (Table V.6.2 and Table V.6.3).

At the same date, 58 percent of the total gold deposits of the banking sector, accumulated in four banks, one of which is a participation bank.

According to a research executed by The Banks Association Of Turkey (TBB) based on the year 2010, it is seen that the outstanding cities holding precious metals gold deposit accounts respectively are: İstanbul (44.4 percent), Ankara (16.5 percent), İzmir (5.0 percent), Bursa (3.2 percent), Antalya (1.8 percent), Konya (1.7 percent).

Required by Uniform Chart of Account (THP), precious metals accounts are kept track in grams. However, by observing the banks which are holding precious metals accounts, it is seen that these accounts are opened in TL and FX. While 7 of total 16 banks, 4 of which are participation banks and are holding gold deposits, never accept physical gold; only 4 banks of remaining 9 banks, 3 of which are participation banks, both accept and deliver physical gold. The remaining 5 banks deliver physical gold, only at the time of closing the account. Since most of the accounts are opened as demand deposits, interest payments are nearly zero, whilst interest payments for the time deposits made in grams and percentages.

Table V.6.4. Development of Type B Gold Funds

Date	Type B Gold Funds (A)			Total Investment Funds (B)			
	Custody Bank Transactions	Investors	Portfolio Value (Million TL)	Custody Bank Transactions	Investors	Portfolio Value (Million TL)	Portfolio Value Ratio (%)
31.12.2008	5	8.521	75	369	3.260.753	29.606	0,3
31.12.2009	8	22.255	313	369	3.260.753	29.606	1,1
31.12.2010	13	36.219	581	485	3.379.426	30.980	1,9
30.12.2011	15	77.519	1.510	590	3.357.719	27.051	5,6
31.01.2012	15	76.679	1.532	598	3.340.643	27.545	5,6
29.02.2012	15	74.179	1.462	608	3.275.340	26.703	5,5
30.03.2012	15	73.500	1.361	617	3.244.253	26.969	5,0
30.04.2012	14	71.683	1.261	623	3.321.143	27.734	4,5
04.05.2012	14	71.631	1.241	625	3.408.671	27.245	4,6
11.05.2012	14	71.161	1.212	626	3.427.372	27.211	4,5
18.05.2012	14	70.334	1.181	630	3.439.275	27.400	4,3

Source: CMB

In addition to the gold deposits, concerning the growth of the secondary market transaction volume of the Type B Gold Investment Funds issued by banks, it is observed that the percentage of the investors increased by 7.3 times, while the number of Custody Bank accounts increased by 1.8 times although their average weight within total investment funds stays at a level of 4 percent (Table V.6.4).

Conclusion

Although the gold deposits increased nearly 2.3 times during last year, it has been estimated that an average of 5 thousands of tons and 260 billion US Dollars value of gold is hoarded in Turkey¹⁶. The gold hoarding in Turkey mainly consists of jewelry, which is defined as scrap at the international gold markets. During the flourishing of gold banking, there are some banks yet accept scrap gold for gold deposits by means of the golden days and similar applications. Although the gold deposits at banks are mainly "immaterialized" demand deposits, they are evaluated as important instruments for dishoarding of gold which would have a positive impact on overall economy.

¹⁶ March 2012 İstanbul Gold and Jewellery Summit

V.7. Data Gaps

Following the global crisis, important steps have been taken towards reforming the financial sector and the regulatory framework has started to be reviewed towards restoring global financial stability. Within this framework, macroprudential tools are being developed for monitoring and removing systemic risk, sectors that are outside the regulatory perimeter are being monitored in order to follow the risks that may arise.

Additionally, the interconnected structure of financial markets, as an important outcome of globalization, made it impossible to deal with financial sectors independently; it became easier for risks to increase and spill over across countries and jurisdictions. Besides, parallel to the technological developments, financial markets became more complex, the diversity of products increased. These required development of new methods for the analysis of emerging risks.

The experiences during the financial crisis underscored that one of the main steps towards improvements in those areas, importance of which increased after the crisis, is increasing the quality and scope of financial sector data. The low quality and insufficient granularity of current data together with the limitations in timely access by related authorities led to incompetence in early identification of problems. Thus, the scope and timing of necessary measures could not be adequately assessed. Moreover, taking into consideration the pace of risk spill over across countries, lack of information which is internationally comparable and shared among related authorities became obvious.

Within this framework, as part of the financial sector reform, G-20 Finance Ministers and Central Bank Governors endorsed in November 2009 the 20 recommendations that are provided to fill the information gaps after the financial crisis (Box V.7.1). In May 2010, a concrete action plan towards addressing those 20 recommendations and a timetable for implementation by the related national/regional authorities were prepared. In June 2011, a progress report was presented to the G-20 Finance Ministers and Central Bank Governors.

Box V.7.1. Recommendations Endorsed by the G-20 to Fill Information Gaps

Recommendation 1: Staff of the FSB and the IMF report back to G-20 Finance Ministers and Central Bank Governors by June 2010 on progress, with a concrete plan of action, including a timetable, to address each of the outstanding recommendations. Thereafter, staff of the FSB and IMF to provide updates on progress once a year.

Recommendation 2: The IMF to work on increasing the number of countries disseminating Financial Soundness Indicators (FSIs), including expanding country coverage to encompass all G-20 members, and on other improvements to the FSI website, including preferably quarterly reporting. FSI list to be reviewed.

Recommendation 3: In consultation with national authorities, and drawing on the Financial Soundness Indicators Compilation Guide, the IMF to investigate, develop, and encourage implementation of standard measures that can provide information on tail risks, concentrations, variations in distributions, and the volatility of indicators over time.

Recommendation 4: Further investigation of the measures of system-wide macroprudential risk to be undertaken by the international community. As a first step, the BIS and the IMF should complete their work on developing measures of aggregate leverage and maturity mismatches in the financial system, drawing on inputs

from the Committee on the Global Financial System (CGFS) and the Basel Committee on Banking Supervision (BCBS).

Recommendation 5: The CGFS and the BIS to undertake further work in close cooperation with central banks and regulators on the coverage of statistics on the credit default swaps (CDS) markets for the purpose of improving understanding of risk transfers within this market.

Recommendation 6: Securities market regulators working through IOSCO to further investigate the disclosure requirements for complex structured products, including public disclosure requirements for financial reporting purposes, and make recommendations for additional improvements if necessary, taking account of work by supervisors and other relevant bodies.

Recommendation 7: Central banks and, where relevant, statistical offices, particularly those of the G-20 economies, to participate in the BIS data collection on securities and contribute to the further development of the BIS-ECB-IMF Handbook on Securities Statistics (HSS). The Working Group on Securities Databases to develop and implement a communications strategy for the HSS.

Recommendation 8: The FSB to investigate the possibility of improved collection and sharing of information on linkages between individual financial institutions, including through supervisory college arrangements and the information exchange being considered for crisis management planning. This work must take due account of the important confidentiality and legal issues that are raised, and existing information sharing arrangements among supervisors.

Recommendation 9: The FSB, in close consultation with the IMF, to convene relevant central banks, national supervisors, and other international financial institutions, to develop by end-2010 a common draft template for systemically important global financial institutions for the purpose of better understanding the exposures of these institutions to different financial sectors and national markets. This work should be undertaken in concert with related work on the systemic importance of financial institutions. Widespread consultation would be needed, and due account taken of confidentiality rules, before any reporting framework can be implemented.

Recommendation 10: All G-20 economies are encouraged to participate in the IMF's Coordinated Portfolio Investment Survey (CPIS) and in the BIS's international banking statistics (IBS). The IMF and the BIS are encouraged to continue their work to improve the coverage of significant financial centers in the CPIS and IBS, respectively.

Recommendation 11: The BIS and the CGFS to consider, among other improvements, the separate identification of nonbank financial institutions in the consolidated banking data, as well as information required to track funding patterns in the international financial system. The IMF, in consultation with the IMF's BOPCOM, to strive to enhance the frequency and timeliness of the CPIS data, and consider other possible enhancements, such as the institutional sector of the foreign debtor.

Recommendation 12: The IMF to continue to work with countries to increase the number of International Investment Position (IIP) reporting countries, as well as the quarterly reporting of IIP data. The Balance of Payments and International Investment Position Manual, sixth edition (BPM6) enhancements to the IIP should be adopted by G-20 economies as soon as feasible.

Recommendation 13: The Interagency Group on Economic and Financial Statistics (IAG) to investigate the issue of monitoring and measuring cross-border, including foreign exchange, derivatives, exposures of nonfinancial, and financial, corporations with the intention of promoting reporting guidance and the dissemination of data.

Recommendation 14: The IAG, consulting with the FSB, to revisit the recommendation of the G-20 to examine the feasibility of developing a standardized template covering the international exposures of large nonbank financial institutions, drawing on the experience with the BIS's IBS data, other existing and prospective data sources, and consulting with relevant stakeholders.

Recommendation 15: The IAG, which includes all agencies represented in the Inter-Secretariat Working Group on National Accounts, to develop a strategy to promote the compilation and dissemination of the balance-sheet approach (BSA), flow-of-funds, and sectoral data more generally, starting with the G-20 economies. Data on nonbank financial institutions should be a particular priority. The experience of the ECB and Eurostat within Europe and the OECD should be drawn upon. In the medium term, including more sectoral balance sheet data in the data categories of the Systemic Data Dissemination Standards (SDDS) could be considered.

Recommendation 16: As the recommended improvements to data sources and categories are implemented, statistical experts to seek to compile distributional information alongside aggregate figures, wherever this is relevant. The IAG is encouraged to promote production and dissemination of these data in a frequent and timely manner. The OECD is encouraged to continue in its efforts to link national accounts data with distributional information.

Recommendation 17: The IMF to promote timely and cross-country standardized and comparable government finance data based on the accepted international standard, the Government Finance Statistics Manual 2001.

Recommendation 18: The World Bank, in coordination with the IMF, and consulting with the Inter-Agency Task Force on Finance Statistics, to launch the public sector debt database in 2010.

Recommendation 19: The Inter-Secretariat Working Group on Price Statistics to complete the planned handbook on real estate price indices. The BIS and member central banks to investigate dissemination on the BIS website of publicly available data on real estate prices. The IAG to consider including real estate prices (residential and commercial) in the Principal Global Indicators (PGI) website.

Recommendation 20: The G-20 economies to support enhancement of the Principal Global Indicators (PGI) website, and close the gaps in the availability of their national data. The IAG should consider making longer runs of historical data available.

Work is ongoing on several platforms for implementation of recommendations, which are classified in two groups as "where conceptual/statistical framework needs development" and "where conceptual/statistical frameworks exist and ongoing collection needs enhancement". The progress by countries towards implementation is being internationally monitored.

Table V.7.1. Classification of recommendations on addressing information gaps

	Conceptual/statistical framework needs development	Conceptual/statistical frameworks exist and ongoing collection needs enhancement
Build up of risk in the financial sector	Recommendations 3, 4 and 6	Recommendations 2, 5, 7
Cross-border financial linkages	Recommendations 8-9 and 13-14	Recommendations 10-11 Recommendation 12
Vulnerability of domestic economies to shocks	Recommendation 16	Recommendations 15, 17, 18 and 19
Improving communication of official statistics		Recommendations 20

In Turkey, related authorities are working in cooperation within their area of responsibility towards enhancing the current datasets and improving their quality or developing new databases. For instance, the House Price Index¹⁷, which started to be published by the Central Bank of Turkey as of January 2010, is considered as an important step taken within this framework. Additionally, progress is being made towards improving the reportings to datasets that are compiled by international financial institutions within the framework of those recommendations.

Costs of steps towards closing the data gaps on national authorities and international financial institutions should be taken into consideration and they should be minimized through building on similar datasets and standardization of data definitions. However, it should be borne in mind that the costs of producing data will be very low compared to the costs of lack of such data during the crisis periods. Datasets, without comprehensive and analytical methods of analysis, will certainly not be sufficient to contribute to understanding of systemic risk. However, it is clear that without high quality, timely and consistently produced data it will not be possible to maintain the required toolbox for financial stability analysis.

Another important issue in filling the data gaps is sharing of data nationally and internationally. National supervisory authorities, central banks and other authorities have a role in the analysis of systemic risk. Additionally, international interlinkages of financial institutions make it impossible to assess the stability of the financial system without taking into consideration the cross border linkages. Therefore, efforts for overcoming the legal constraints towards sharing of new or current datasets by related authorities and for disclosure of data by financial institutions themselves are important.

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FSB-Understanding Financial Linkages: A Common Data Template for Global Systemically Important Banks, Consultation Paper, 6 October 2011.

¹⁷ Central Bank of the Republic of Turkey House Price Index, <http://www.tcmb.gov.tr/yeni/evds/yayin/kfe/hpi.html>

V.8. Public Electronic Payment System (PEPS)

Growing attention has been directed to payment systems owing to enabling of smooth and fast transfer of payments that reach huge amounts. As money continues to function as deposit money electronically, together with the advance of information technology, the idea of electronic payments have arisen and a fast transition to the electronic payment systems has been brought.

Achievement of stability and efficiency of payment systems, measures for the minimization of the risks stemming from the payment systems, providing the changes and the arrangements in the payment systems not to threaten the monetary management policy and contribution to the financial stability through providing the smooth functioning of payment systems have become important targets of central banks.

In this regard, The Central Bank of the Republic of Turkey (CBRT), whose one of the basic targets is providing financial stability, in close cooperation with our financial system, has continue its efforts for the enhancement of payment systems by following the trends globally.

Developments in the electronic payment systems together with the efficient cash management of public, understanding of providing high-quality service and efforts of combatting with black economy, the need for making of public payments electronically has come on stage.

Cash management including the balancing of the income and revenue of the State in terms of place and time has been done by the Undersecretariat of Treasury through Treasury Single Account. In the Treasury Single Account system, used between August 1, 1972 and 2007, the accounting of the domestic payments and collections of the some accounting units of general budget were done in a single account of the Treasury in the Ankara Branch of CBRT through the branches of the Turkish Republic Agriculture Bank (TRAB). Since the payments and collections had been done from the same account, the accounting units used the balances remained in the accounts to make their payments and even in the case of negative balance in this account, the payments had continued to be done through the funding of the TRAB. This situation resulted in unforeseen expenditures by the Treasury.

However, in its press release dated July 27, 2006 number 2006/81¹⁸, the Undersecretariat of Treasury made an announcement regarding the restructuring of public banks and gradual termination of liability and privilege relationship of public sector with these banks. According to this release, Public Treasurership would be rearranged taking into consideration the list annexed in the Public Financial Management and Control Law no. 5018 and Public Administrations within the scope of General Budget annexed in the same law would be planned to keep their funds at their accounts at the CBRT starting from July 1, 2007.

With the efforts right after the press release, it has been planned to gather all of the accounts of the Treasury at the CBRT and execute all the payments of the general budget institutions from this single account. The payments of the general budget public institutions has started to be done through the CBRT via PEPS, based on the "Protocol for Single Treasury Current Account" signed between the

¹⁸ <http://www.hazine.gov.tr/irj/portal/anonymous?NavigationTarget=navurl://d3e718df25b76dbbd779b0f5a5359cd2>

Undersecretariat of Treasury, the Ministry of Finance and the CBRT on July 31, 2007. Moreover, since the CBRT doesn't have widespread network of branches, the "Protocol for Correspondent Bank for Application of Single Treasury Current Account" signed between TRAB as Correspondent bank of CBRT, the Undersecretariat of Treasury and the Ministry of Finance on August 31, 2007 for the execution of payments and collections of accounting units belong to Single Treasury Account until they are included within the PEPS.

Accounting units having accounts by the CBRT demand cash for their payments from the Treasury Domestic Payments Accounting Unit through PEPS the day before. The Treasury Domestic Payments Accounting Unit transmits the payment orders for the next day payments to the Ankara Branch of CBRT via fax and the Branch executes the transfers to the accounts of central accounting units. By this way, transfer of payments which are not in the daily cash program of Treasury is prevented and the transfer of collections directly to the Treasury without being used for payments was made possible.

The regulatory infrastructure of the system was reshaped by the "The Procedures and Principles Regarding the Execution of the Payments and the Collections of Public Administrations within the scope of General Budget Electronically" published in the Official Gazette No. 27968, dated June 18, 2011. In this regard, the determination and meeting of cash needs of public administrations within the scope of general budget, execution of payments and transfer of collections to Single Treasury Account electronically were regulated and the gathering of province accounting units other than central accounting units within the PEPS was anticipated.

With PEPS, all of the public payment transactions, including the ones of province accounting units that executed by TRAB will start gradually to be done electronically until June 18, 2012. In this respect, PEPS will continue to operate as an automation system based on "end to end" principle that can be a model for the global applications. In this system, every step of the public payment transactions can be monitored by the Undersecretariat of Treasury and the Ministry of Finance simultaneously through the infrastructure prepared by CBRT using secure IT architecture.

Moreover, within the system that started with 9 central accounting units in 2008, the payments of 19 central accounting units as well as the payments of province accounting units of which has been gradually put into application, have been successfully done through CBRT. In this sense, from January 2011 to April 2012, 503,017 and roughly TL 201 billion payment order and 1,576,137 transactions executed through PEPS.

Within the scope of the protocol that will be signed between CBRT and TRAB, the collections of province accounting units will be executed by TRAB as the CBRT's correspondent bank.

With PEPS, the electronic execution of all of the payment transactions of central and province accounting units through CBRT without original signature ensures the minimization of operational risk as well as being transactions fast and reportable, and also, the minimization of the financing needs of the Treasury due to the efficient cash management and in this way contributes to the financial stability.

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V.9. Principles for Financial Markets Infrastructures (PFMI)

The cooperative efforts of the Committee on Payment and Settlement Systems (CPSS) and the International Organization of Securities Commissions (IOSCO) for updating the standards regarding the Financial Markets Infrastructures (FMIs) have been finalized.

Although no problems, arising directly from FMIs, has been experienced during the last financial crisis, critical lessons regarding effective risk management have been learned during those periods. In this context, the standards in the reports "Core Principles for Systemically Important Payment Systems (CPSS, 2001)"; "The Recommendations for Securities Settlement Systems (CPSS-IOSCO, 2001)"; and "The Recommendations for Central Counterparties (CPSS-IOSCO, 2004)" have been gathered together; updated and strengthened by the new Report on FMIs in accordance with the requirements arised after last financial crisis.

Systemically important payment systems, central securities depositories (CSD), securities settlement systems (SSSs), central counterparties (CCPs) and trade repositories (TR) are being defined as FMIs in the "Principles For Financial Market Infrastructures Report" which has been issued for public consultation first in March 2011, and the final version of which has been published in April 2012.

It is possible to define "payment systems" as the set of instruments, procedures, and rules established for the transfer of funds between participants.

In the PFMI Report SSSs are defined as systems, which enable the transfer and settlement of securities between participants by book entry in accordance with a set of predetermined rules.

CSDs serve their participants in many ways like providing securities accounts and central safekeeping services, and ensuring the integrity of securities issues. A CSD can hold securities either in physical form or in dematerialized form. In practice, it is possible that a CSD knows about who is the direct owner of each security or just traces the securities on the accounts of its participants and does not have any data about the real owners of the securities. Although CSDs also operate securities settlement systems in many jurisdictions, in the PFMI Report the functions of SSSs and CSDs are sorted and regulated separately from each other.

CCPs interpose themselves between counterparties and become the buyer to every seller and the seller to every buyer for contracts traded in one or more financial markets. By this method CCPs eliminate counter party risk, which is the risk that a party of a financial transaction does not / cannot fulfill its obligations, despite the other party of the transaction fulfills its obligations. After the last financial crisis, CCPs' importance has increased especially for the realization of over the counter derivative transactions. Within this context, the PFMI Report includes critical standards regarding the credit and liquidity risks, and collateral and margin practices of CCPs.

The last entity that is classified as FMI is TRs in the Report. TRs are entities that maintain the centralized electronic record of transactions realized in the financial markets.

FMIIs provide the clearing, settlement and recording of money and other financial transactions or just facilitate those transactions. In this context, FMIIs can strengthen the markets they serve and play critical roles in fostering financial stability. On the other hand, when they are not properly managed, it is possible that FMIIs pose significant risks on financial system and function as a source of contagion for problems especially during market stress periods.

In this context, the actions taken intend to achieve consistency all over the world regarding the oversight and supervision of FMIIs, to mitigate the risks arising from both FMIIs and transactions realized via FMIIs, and to support the objectives of G-20 countries and Financial Stability Committee to increase the safety and soundness of financial markets.

The leading innovations brought by the PFMI Report can be summarized as; i) detailed assessment of and setting principles for the CCPs via which over the counter (OTC) derivative transactions will be realized and ii) defining the "Trade Repositories" which will keep the records of transactions made within OTC derivative markets which could not be monitored previously, and setting standards for those TRs.

The PFMI Report, which has been prepared in accordance with those issues mentioned above, includes 24 principles for FMIIs, and 5 key responsibilities for overseers and supervisory authorities. Some of those principles will be implemented only for specific FMIIs, while some of them will be implemented for all of the FMIIs (Table V.9.1).

Key Principles:

1- Legal Basis: The legal basis of all activities performed by FMIIs should be well-founded, clear, transparent, and enforceable.

2- Governance: The governance arrangements of FMIIs should be clear and transparent, and designed in a way that promote the safety and efficiency of the FMI, and support the stability of the financial system, public benefit, and the objectives of other relevant stakeholders.

3- Framework for the Comprehensive Management of Risks: The risk-management framework of FMIIs should be sound and comprehensive in order to manage legal, credit, liquidity, operational, and other risks.

4- Credit Risk: FMIIs should effectively measure, monitor, and manage their credit exposures to participants and those arising from their payment, clearing, and settlement processes. In addition to this, CCPs should have additional resources in order to ensure that the transactions are realized even if the participants cannot fulfill their obligations.

5- Collateral: When FMIIs require collateral to manage their or their participants' credit exposure, they should accept collateral with low credit, liquidity, and market risks. Additionally, these FMIIs should also have appropriately conservative haircuts and concentration limits.

6- Margin: FMIs should apply a margin system, which is risk-based and regularly reviewed, and ensures that FMIs cover their credit exposures to their participants for all of the transactions realized.

7- Liquidity Risk: FMIs should effectively measure, monitor, and manage their liquidity risk. FMIs should maintain sufficient liquid resources in all relevant currencies in order to be able to cover high liquidity needs arose as a result of potential stress scenarios, which assess the default of the participant that would generate the largest aggregate liquidity obligation for the FMI and extreme but plausible market conditions, and to ensure the settlement (same-day or intra-day) even in those conditions.

8- Settlement Finality: FMIs should provide clear and certain final settlement of transactions, at a minimum by the end of the value date. Where necessary or preferable, FMIs should provide final settlement intraday or in real time.

9- Money Settlements: FMIs should conduct their money settlements in central bank money where practical and available. If central bank money is not used for the settlement transactions, FMIs should minimize and strictly control the credit and liquidity risk arising from the use of commercial bank money.

10- Physical Deliveries: FMIs should clearly state their obligations with respect to the delivery of physical instruments or commodities and should identify, monitor, and manage the risks associated with such physical deliveries.

11- Central Securities Depositories: A CSD should have appropriate rules and procedures to help ensure the integrity of securities issues and minimize and manage the risks associated with the safekeeping and transfer of securities.

12- Exchange of Value Settlement Systems: If an FMI settles transactions that involve the settlement of two linked obligations, the risk of the party, who fulfills its obligation, that the other party will not be able to fulfill its obligations (principal risk), must be eliminated by the way of conditioning the final settlement of one obligation upon the final settlement of the other (by the usage of methods like DvP (Delivery versus Payment) or PvP (Payment versus Payment)).

13- Participant-Default Rules and Procedures: FMIs should have effective and clearly defined rules and procedures to manage a participant default. These rules and procedures should be designed to ensure that FMIs can take timely action to contain losses and liquidity pressures and continue to meet their obligations during the stress time periods.

14- Segregation and Portability: CCPs should have rules and procedures that enable the segregation and portability of positions of a participant's customers and the collateral provided to CCPs with respect to those positions.

15- General Business Risk: FMIs should identify, monitor, and manage their general business risk. In this context, FMIs should hold sufficient liquid net assets funded by equity to cover potential general business losses so that they can continue operations and services as a going concern.

16- Custody and Investment Risk: FMIs should safeguard their own and their participants' assets and minimize the risk of loss on and delay in access to these assets. FMIs' investments should be in instruments with minimal credit, market, and liquidity risks.

17- Operational Risk: FMIs should identify all the plausible sources of operational risk both internal and external, and mitigate their impact through the use of appropriate systems, policies, procedures, and controls. Systems should ensure a high degree of security and operational reliability and should have scalable capacity. Business continuity management should aim for timely recovery of operations and FMIs' fulfillment of their obligations, including in the event of a wide-scale or major disruption.

18- Access and Participation Requirements: FMIs' criteria for participation should be objective, risk-based, and publicly disclosed, in a way that they provide fair and open access to the systems.

19- Tiered Participation Arrangements (i.e. Indirect Participants): FMIs should identify, monitor, and manage the material risks to the FMI arising from tiered participation arrangements.

20- FMI Links: An FMI that establishes a link with other FMIs should identify, monitor, and manage risks related to this link.

21- Efficiency and Effectiveness: FMIs should meet the requirements of their participants and the markets they serve in an efficient and effective way.

22- Communication Procedures and Standards: FMIs should use, or at a minimum accommodate, relevant internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, settlement, and recording.

23- Disclosure of Rules, Key Procedures and Market Data: FMIs should have clear and comprehensive procedures and sufficient information should be provided to enable participants to have an accurate understanding of the risks, fees, and other material costs they incur by participating in the FMI.

24- Disclosure of Market Data by Trade Repositories: TRs should provide timely and accurate data to relevant authorities and the public in line with their respective needs.

Responsibilities of Central Banks, Market Regulators, and Other Relevant Authorities for FMIs

Responsibility A- Regulation, Supervision, and Oversight of FMIs: FMIs should be subject to appropriate and effective regulation, supervision, and oversight by a central bank, market regulator, or other relevant authority.

Responsibility B- Regulatory, Supervisory, and Oversight Powers and Resources: Central banks, market regulators, and other relevant authorities should have the powers and resources to carry out effective regulation, supervision, and oversight of FMIs.

Responsibility C- Disclosure of Policies With Respect to FMIs: **Central banks, market regulators, and other relevant authorities should clearly define and disclose their regulatory, supervisory, and oversight policies with respect to FMIs.**

Responsibility D- Application of the Principles for FMIs: Central banks, market regulators, and other relevant authorities should adopt the CPSS-IOSCO Principles for FMIs and apply them consistently.

Responsibility E- Cooperation with Other Authorities: Central banks, market regulators, and other relevant authorities should cooperate with each other, both domestically and internationally, in promoting the safe and efficient operation of FMIs.

Table V.9.1. Application of Principles for FMIs

	Payment System	Central Securities Depository	Securities Settlement System	Central Counterparty	Trade Repository
1- Legal Basis	X	X	X	X	X
2- Governance	X	X	X	X	X
3- Framework for the Comprehensive Management of Risks	X	X	X	X	X
4- Credit Risk	X	O	X	X	O
5- Collateral	X	O	X	X	O
6- Margin	O	O	O	X	O
7- Liquidity Risk	X	O	X	X	O
8- Settlement Finality	X	O	X	X	O
9- Money Settlements	X	O	X	X	O
10- Physical Deliveries	O	X	X	X	O
11- Central Securities Depositories	O	X	O	O	O
12- Exchange of Value Settlement Systems	X	O	X	X	O
13- Participant Default Rules and Procedures	X	X	X	X	O
14- Segregation and Portability	O	O	O	X	O
15- General Business Risk	X	X	X	X	X
16- Custody and Investment Risk	X	X	X	X	O
17- Operational Risk	X	X	X	X	X
18- Access and Participation Requirements	X	X	X	X	X
19- Tiered Participation Arrangements	X	X	X	X	X
20- FMI Links	O	X	X	X	X
21- Efficiency and Effectiveness	X	X	X	X	X
22- Communication Procedures and Standards	X	X	X	X	X
23- Disclosure of Rules, Key Procedures and Market Data	X	X	X	X	X
24- Disclosure of Market Data by Trade Repositories	O	O	O	O	X
	X: Applied				
	O: Not Applied				

Source: CPSS – BIS, IOSCO

Reference

Committee on Payment and Settlement Systems, Bank for International Settlements – Technical Committee of the International Organization of Securities Commissions, 2012 “Principles For Financial Market Infrastructures”, April 2012.

V.10. Innovations in Retail Payments

Many innovations in retail payments have emerged due to technological developments and market-driven and regulatory developments in recent years.

In this framework, the Committee on Payment and Settlement Systems (CPSS) has been monitoring innovative payment instruments, especially electronic money products since 1996.

Many innovative retail payment instruments have been developed since the last CPSS publication in 2004, as a result of technological developments and proliferation of e-commerce. The CPSS formed a Working Group on Innovations in Retail Payments in which CBRT actively participates, to look into retail payment innovations in the CPSS countries during the past decade. A survey has been prepared by the working group and sent to 30 central banks. As a result of the fact finding process conducted by the working group, innovations in retail payments report has been prepared and published recently. The report aims to catalogue innovative developments in retail payments in the CPSS countries, identify common characteristics among those innovations and appropriate ways of classifying them, identify drivers for and barriers to innovation and identify potential issues and challenges for central banks.

The survey on innovations in retail payments which covers 122 innovations reveals that although the market is dynamic, only a few innovations have so far had a significant effect on the market. Cash continues to be the most frequently used payment instrument for both proximity and person to person payments. Most innovations are developed for the domestic market but similar products and categories have emerged worldwide. In line with the development of technology and user demands, about half of the innovations are intended to speed up payment processing, with a view to speeding up interbank settlement. This type of improvement generally facilitates faster retail account to account transfers between customers and businesses. Moreover, more than half of the reported innovations in card payments are related to the use of contactless payment technology.

In Table V.10.1, some examples of innovations from survey are presented.

Table V.10.1. Selected Innovations in Retail Payments

Country	Name of Innovation	Description of the Innovation
S.Arabia	SADAD	Electronic bill presentment and payment system which offers three different services: Post Paid (for bill payments), Prepaid (eg to reload mobile phones) and the selling of the eVouchers that can be used like scratch cards. This system can be accessed via different banking channels.
United Kingdom	Faster Payment Service	Retail payment system allowing payments to be processed on a 24/7 basis, usually within two hours. The systems settles three times a day on a multilateral net basis.
Hong Kong	Octopus Card	A contactless multipurpose prepaid card that can be used for making micropayments eg. transportation.
Kenya	M-PESA	A system that aims at financial inclusion for unbanked/underbanked population who can access to basic banking services without the need to hold an actual bank account. Based on SMS technology, M-PESA lets users make P2P transfer, P2B transfer, cash deposits and withdrawals at designated outlets and loan receipts or repayments.

Netherlands	iDEAL	Online payment scheme for online purchases via credit transfer from a regular online banking application. There is real time settlement guarantee for retailers.
Singapore	Cheque Truncation /Clearing System	Online image-based cheque clearing system. Cheques are truncated by the payee's bank and only the images are transmitted through the entire clearing cycle, eliminating the delivery of physical cheques to the ACH.
Turkey	Mobile Payment	GSM operators' mobile payment service for micropayments via SMS. The expenses are charged as bills for mobile phone subscribers or reduced from the available prepaid balance.
Switzerland	Mobile Buy	Mobile phone payment solution linked to a user's credit card. The user can pay by dialing a toll-free number or by sending an SMS with a defined keyword along with a PIN. The payment is charged to the user's credit card. (eg for parking meters, in unattended roadside shops or for the purchase of lift passes in ski resorts)
Australia	BPAY	Bill payments initiated via telephone or internet banking platforms of financial institutions, using a biller code to identify the payee and a customer reference number to identify the customer.
International (27 countries)	Paysafe	Electronic money scheme for internet payments used for purchases in online shops. Paysafe card vouchers can be purchased at corner stores, kiosks, vending machines and ATM's.

Source: CPSS - BIS

According to the report, financial inclusion has served as an important driving force for innovations in many countries. Some innovations aims at the unbanked/underbanked segments of the population that have no access to banking services. Surveys results show that the role of non-banks has been increasing in recent years, owing in part to the growing use of innovative technology that allows non-banks to compete in areas not yet dominated by banks. About half of the reported innovations are owned by banks or central banks, the remaining half, mostly immobile and internet payments, are either owned by non-banks or bank and non-bank partnership.

The report presents some predictions on the retail payments over the next five years:

- Technical developments will blur product categories.
- Near Field Communication (NFC) has the potential for future growth.
- E-commerce continues to grow rapidly and it has the potential for innovations. Especially growing use of internet and mobile phones leads to use of e-commerce, thus new instruments have emerged in this field. With the advance of technology for security issues, trade without security concerns, has become widespread.
 - The role of globally active players might increase because of their advantage of leveraging their coverage and market power.
 - Since many innovations represent only incremental movements to existing and established payment services, users' payment habits change slowly and since the payments market need long transition periods; innovations in retail payments represent only small steps rather than a large leap. On the other hand, developing countries with an underdeveloped payment infrastructure may have a higher potential for introducing innovative payment solutions from scratch.
 - New payment schemes such as virtual currencies that are currently mostly single-purpose and accepted only in virtual community may become multipurpose and widely accepted thanks to

large base of customers who are familiar with new technologies and predisposed to adopting innovative payment solutions.

- Significant differences between regions will continue to exist. For example in Africa and in some parts of Asia, several mobile money schemes have been successfully used in money transfers in bill payments whereas in Japan mobile phones are used mainly as a contactless access device at the POS for electronic money payments and as an access device for online banking. Therefore, an innovation that is successful in one country will not necessarily perform as well in other countries.

Central Banks have various responsibilities on innovations in retail payments within the framework of their roles in promoting financial stability and maintaining the confidence in national currency. It is evident that a fragility in security of retail payments that constitute majority of payments in number, has the potential of affecting financial system and the economy negatively. Thus, central banks aim to improve the robustness, effectiveness and security of retail payments. In this respect, central banks typically address legal and regulatory impediments to market developments and innovation, provide for competitive market conditions, support effective standards and infrastructure arrangements and make available their own services in the manner that is most efficient for the relevant market. Although significant differences in central banks activities regarding retail payments can be observed depending on the different legal mandates, objectives, policies and instruments, the common elements on how innovation in retail payments influences central bank activities are listed below:

- Central banks generally attach great importance to innovations in retail payments and they promote innovative payment instruments and cashless retail payments.

- In some countries, payment systems' oversight function has been reassessed to take into account of the new developments in retail payments.

- In recent years, increasing attention has been directed towards non-banks. In many countries new regulation has been enacted with regard to innovations and non-banks.

- In their respective roles as catalysts (like sharing payments policy with the market, doing research on the issue, having strong relationships with all parties involved in innovations in retail payments and constituting legal framework); overseers and/or operators of the payment system, central banks can both influence the payments market and can be influenced by innovations in payments.

In the report, the challenges and issues for central banks about the innovations in retail payments are identified:

- **Monitoring and assessing the relevant developments:** Data collection difficulties, adequacy of statistical surveys, difficulty in assessing the potential of new products or processes, need for collaboration of central banks with authorities that monitor or oversee relevant technological components of innovative products.

- **Communication, publication and transparency:** Difficulty in balancing the views of all market participants, reputational problems of central banks if their communication efforts are not successful or if their assessment and guidance are proved wrong.

- **Interoperability and interconnectivity between different payment systems:** Increase of overall risks as a result of interoperability, involvement of central banks for increasing pressures of standardization.

- **Effective payments oversight and cooperation with other authorities:** The need for a balanced regulatory approach and a level playing field for banks and non-banks to avoid competitive distortions, the non-flexibility of legal framework of regulation for innovative developments.

- **Impact on the operational activities of central banks:** The difficulty in identifying the boundaries between large value and retail payment systems because of the trend towards real time and near real time processing, the desire of central banks' to reconsider their operational involvement in the light of new developments.

- **Impact on cash:** The need to investigate how innovative electronic retail payment products will affect the use of cash and in consequence seigniorage, cash operations and banknote counterfeiting.

- **Impact on monetary policy:** The desire of central banks' to monitor recent developments like increasing the popularity of virtual currencies offered by social networks or other web-based networks, which might have a substitution effect on cash or central bank deposits and the requirement of central banks' to study the implications of these developments for monetary policy operations.

As a result, innovations in retail payments are proliferating but the legal framework has difficulty in keeping pace with this progress. At the same time innovations in retail payments has caused central banks' to reconsider their oversight role in retail payment systems and instruments.

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ABBREVIATIONS

ACMIIT	:	The Association of Capital Market Intermediary Institutions of Turkey
AFI	:	Alliance for Financial Inclusion
AIRCT	:	The Association of the Insurance and Reinsurance Companies of Turkey
ATM	:	Automated Teller Machine
BCBS	:	Basel Committee on Banking Supervision
BIS	:	Bank for International Settlements
BoE	:	Bank of England
BoJ	:	Bank of Japan
BRSA	:	Banking Regulation and Supervision Agency
CAR	:	Capital Adequacy Ratio
CBRT	:	Central Bank of the Republic of Turkey
CCPs	:	Central Counterparties
CDS	:	Credit Default Swap
CEE	:	Central and Eastern European
CGAP	:	Consultative Group to Assist the Poor
CGFS	:	Committee on the Global Financial System
CMB	:	Capital Markets Board
CPI	:	Consumer Price Index
CPIS	:	Coordinated Portfolio Investment Survey
CPSS	:	Committee for Payment and Settlement Systems
CRA	:	Central Registry Agency
CSD	:	Central Securities Depository
DvP	:	Delivery versus Payment

EBA	:	European Banking Authority
ECB	:	European Central Bank
EMBI	:	Emerging Markets Bond Index
EU	:	European Union
EURIBOR:		Euro Interbank Offered Rate
Fed	:	Federal Reserve System
FMI	:	Financial Market Infrastructure
FSB	:	Financial Stability Board
FSC	:	Financial Stability Committee
FSI	:	Financial Strength Index
FSI	:	Financial Strength Indicators
FX	:	Foreign Exchange
G-20	:	Group of Twenty
G-SIFI	:	Global Systemically Important Financial Institutions
GDDS	:	Government Domestic Debt Securities
GDP	:	Gross Domestic Product
GPII	:	Global Partnership for Financial Inclusion
IAG	:	Interagency Group on Economic and Financial Statistics
IBS	:	International Banking Statistics
ICC	:	Interbank Card Center
ICH	:	Interbank Cheque Clearing Houses Center
IFC	:	International Finance Corporation
IFS	:	IMF International Financial Statistics
IMF	:	International Monetary Fund

INFE	:	International Network on Financial Education
IOSCO	:	International Organization of Securities Commissions
ISE	:	Istanbul Stock Exchange
LIBOR	:	London Interbank Offered Rate
MMF	:	Money Market Funds
MPC	:	Monetary Policy Committee
MTP	:	Medium Term Program
NACE	:	Statistical Classification of Economic Activities
NFC	:	Near Field Communication
NPL	:	Non-performing Loan
ODD	:	Automotive Distributors Association
OECD	:	Organisation for Economic Co-operation and Development
OTC	:	Over the Counter (Markets)
PDP	:	Public Disclosure Platform
PEPS	:	Public Electronic Payment System
PGI	:	Principal Global Indicators
POS	:	Point of Sale
PPI	:	Producer Price Index
PvP	:	Payment versus Payment
QIS	:	Quantitative Impact Study
RRR	:	Required Reserves Ratios
RTGS	:	Real Time Gross Settlement
SDDS	:	Systemic Data Dissemination Standards
SDIF	:	Savings Deposit Insurance Fund

SIFI	:	Systemically Important Financial Institution
SME	:	Small and Medium Size Enterprise
SSS	:	Securities Settlement System
TBB	:	Banks Association of Turkey
TIC-ESTS:		Turkish Interbank Clearing-Electronic Securities Transfer and Settlement
TIC-RTGS:		Turkish Interbank Clearing-Real Time Gross Settlement
TL	:	Turkish Lira
TMM	:	Takasbank Money Market
TOKI	:	Housing Development Administration of Turkey
TR	:	Trade Repositories
TRAB	:	Turkish Republic Agriculture Bank
TURKDEX:		Turkish Derivatives Exchange
TURKSTAT:		Turkish Statistical Institute
UK	:	United Kingdom
UNSGSA:		United Nations Secretary-General's Special Advocate
USA	:	United States of America
USD	:	United States Dollar
VaR	:	Value at Risk
VAT	:	Value Added Tax
WEO	:	World Economic Outlook