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The Experience with Macro-Prudential  
Policies of the Central Bank  
of the Republic of Turkey in Response  
to the Global Financial Crisis

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## Abstract

This brief country case study on Turkey aims to summarize the fundamental developments in the banking sector, which represents almost 90 percent of the financial sector in the country. The brief has two parts. The first covers the 2001 financial crisis and the developments until end of 2007, the year before the global financial crisis of 2008 started. The second part focuses on the

macro-prudential policies applied by the Central Bank of the Republic of Turkey in response to the global financial crisis in three phases: (i) full liquidity support after Lehman Brothers' collapse (September 2008), (ii) the exit strategy (April 2010), and (iii) the new policy mix (final quarter of 2010).

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**The Experience with Macro-Prudential Policies of the Central Bank of the Republic of  
Turkey in Response to the Global Financial Crisis**

by

Turalay Kenc, M. Ibrahim Turhan and Onur Yildirim

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**Key words:** financial regulation, macro-prudential policies

# **The Experience with Macro-Prudential Policies of the Central Bank of the Republic of Turkey in Response to the Global Financial Crisis<sup>1</sup>**

## ***The 2001 Financial Crisis and the Period until the End of 2007***

The developments in the Turkish economy and banking sector after 2001 are so striking that the year 2001 is widely accepted as a structural break point for the country. The pre-2002 period in Turkey had a poor macroeconomic environment, an ineffective financial supervision framework divided between different institutions,<sup>2</sup> and sector-specific problems in banking, such as the moral hazard issue due to savings deposit insurance schemes, which, taken together, led to a significant economic crisis in a negative global sentiment.

During the 1990s, the banking sector in Turkey had been dominated by inefficient public banks, and the sector had serious deficiencies, such as high risks in foreign currency, interest rates, and liquidity. The sector was deficient in good governance principles, and the economic environment surrounding the banks was unhealthy. The inflation rate was at very high two-digit levels; even triple digit figures were observed, complicating the decision-making mechanisms of economic agents. The ratio of the central government budget deficit to gross domestic product (GDP) was in a rising trend during the decade before the financial crisis, reaching 11.9 percent as of the end of 2001. In such an environment, economic growth rates, already low, were unsustainable. The average annual real GDP growth rate between 1990 and 2001 was only 2.5 percent.

The high deficits of the public sector and the high real interest rates on public debt became a pull factor for the banking sector to finance these deficits. The banks thus left their main role of intermediation aside before the crisis. The credits-to-total assets ratio declined from 47 percent to 32.8 percent between 1990 and 2000. Similarly, the credits-to-deposits ratio declined from 84 percent to 51 percent in the same period. The very high interest rate differential between Turkey and advanced economies also encouraged banks to take excessive exchange-rate risks by obtaining foreign currency funds from abroad and investing in high-yielding Turkish lira assets while also accumulating interest rate and liquidity risks.

In addition to the problems in the macroeconomic environment, there were problems stemming from the banks' governance practices and the political environment surrounding them. High operational losses of public banks were one of the distorting factors in the 1990s. The inefficient and unprofitable ways these banks were used led to significant "duty losses" and these banks had to rely excessively on overnight borrowing, putting an upward pressure on overnight

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<sup>1</sup> This is a background paper to a forthcoming World Bank report titled "Golden Growth: Restoring the Lustre of the European Economic Model." The views expressed in this article are exclusively those of the authors and do not necessarily represent the views of the (i) Central Bank of the Republic of Turkey or its management, (ii) World Bank and its affiliated organizations, or (iii) the Executive Directors of the World Bank and the governments they represent. All errors and omissions remain entirely the responsibility of the authors. Both Mr. Kenc and Mr. Turhan are deputy governors at the central bank, and Mr. Yildirim is a senior specialist at the same institution. The authors may be contacted at turalay.kenc@tcmb.gov.tr, ibrahim.turhan@tcmb.gov.tr and onur.yildirim@tcmb.gov.tr.

<sup>2</sup> The regulation and supervision of the banking sector was divided between the treasury and the central bank.

interest rates. The savings deposit insurance scheme that was introduced in 1994 to avoid a country-wide banking crisis was another distorting factor. While the government insurance was successful in preventing a bank run in the short term, it led to some moral hazard issues as some banks offered very high deposit interest rates to increase their market shares, leading to unsustainably high overall deposit interest rates in the sector. Another problematic banking sector practice was the extension of credits by banks to companies that shared holding companies with them. This resulted from a lack of regulation and led to lower profitability and higher credit risk. In short, the banking sector in Turkey in 1990s was a sector that had a weak capital structure; was dominated by inefficient public banks; had significant foreign exchange, interest rate, and liquidity risks; and lacked good corporate governance practices.

The Banking Act No. 4389 of June 1999 was an important milestone in the regulation and supervision of the sector. Following this act, regulation and supervision were transferred to an independent authority, the Banking Regulation and Supervision Agency (BRSA). The BRSA became completely operational in August 2000. Subsequently, tighter regulations were enforced on credits extended to group companies, on bank ownership and management criteria, and, last but not least, on exchange-rate risks.

At the beginning of 2000, a new economic program based on a crawling pegged exchange-rate regime was initiated. Its main purpose was to bring down the very high inflation rates by controlling the exchange rates in a country with a high indexation behavior to exchange rates. A tight fiscal policy was initiated in support of the program.

However, the exchange rates anticipated in the crawling pegged exchange rate regime, along with expectations for lower inflation and interest rates if the program succeeded, led some banks to take excessive foreign currency risks by increasing their liabilities from abroad while increasing the share of public debt instruments in their assets for capital gain purposes. In November 2000, one private bank could not meet its overnight obligations and tried to sell its holdings of government debt, putting a very high upward pressure on overnight rates and creating a negative environment for the public banks that also relied heavily on overnight borrowing, as mentioned earlier. That private bank could not meet its obligations, and its management was transferred to the Savings Deposit Insurance Fund (SDIF).

Following the market turbulence in November, an agreement with the International Monetary Fund (IMF) for an augmented program helped calm the markets, and the pressure on overnight rates diminished. The government announced a full coverage for all deposits and other obligations of banks. To encourage banks to be more prudent against credit risk, the provisions for credits were made eligible for tax deduction.

As a result of the strong response, the November 2000 turbulence calmed, but a political crisis in February 2001, which led to concern that the government could not sustain the economic program, created the biggest financial crisis in Turkish history. Overnight rates increased up to almost 5,000 percent. The liquidity provided to the markets by the CBRT was used by the market participants to purchase foreign currency, creating a vicious circle, and the currency had to be left to floating. Turkish lira depreciated by more than 100 percent in a very short period of time, and the treasury borrowing rates increased by around 8 percentage points. The full coverage guaranteed by the SDIF following the November 2000 crisis prevented a bank run, but many

private banks faced huge losses due to their open foreign currency positions. State banks that did not have that many foreign exchange (FX) open positions were safe in terms of foreign currency risk, but they were also badly affected due to their continuing need for overnight funding and the higher interest rates.

Following the February 2001 crisis, the Program for Transition to a Strong Economy was initiated in May 2001, and the Turkish economy has experienced a notable improvement in a very short time, considering the scale of the crisis. The consumer price inflation rate, which was above 70 percent on average throughout the 1990s, declined to single-digit territory in 2004; the huge budget deficit-to-GDP and debt stock-to-GDP ratios declined to levels well below the Maastricht Criteria; and Turkey entered into a sustainable growth period, experiencing economic growth for 24 quarters in a row during from 2002 to 2007.

An integral part of the Program for Transition to a Strong Economy was the Banking Sector Restructuring Program, which aimed to address the following objectives:

1. Restructuring the public banks financially and operationally
2. Resolving the status of banks that had been transferred to the SDIF
3. Strengthening private banks
4. Improving the supervisory and regulatory framework.

Under the first objective—financial and operational restructuring of public banks—treasury bonds of around US\$19 billion were transferred to state banks to cover their so-called duty losses, and these banks were operationally restructured. In only two years, more than 800 branches of two state banks were closed and the number of their employees was cut by 30,000. Moreover, US\$2.9 billion was transferred to these banks to bring their capital adequacy ratios above the minimum legal requirement of 8 percent.

Under the second objective of the restructuring program, the status of the banks that were transferred to the SDIF was resolved by merging the viable ones with other banks, closing them, or privatizing them.

Under the program's third objective, a public support program was designed to strengthen the capital structures of the private banks. In a first step, the banks underwent a screening process in which the capital needs to bring their capital adequacy ratios to above 8 percent were determined. In a second stage, the banks that could not find the necessary financing themselves were offered public resources by the SDIF, with the condition that the SDIF would have a seat on the management of the bank. However, all private banks except one provided the necessary financing themselves; the management of exception was transferred to the SDIF. After normalization of the markets, the full coverage provided by the SDIF for deposits was turned into a deposit insurance scheme, with an upper limit of TL 50,000 (TL 50 billion before the six-zeros were dropped from Turkish lira).

Despite its huge cost, estimated at around US\$50 billion, the Banking Sector Restructuring Program has contributed much to the formation of a resilient and strong banking

sector. Following the implementation of the program, Turkish banking sector reached a structure with a capital adequacy ratio that is well above the minimum legal requirement,<sup>3</sup> put good governance and risk management principles in place, and reached high and stable profitability ratios.

In October 2005, a new Banking Law was passed by the parliament, and the legal environment has been brought in line with the best international practices since then. Under the new Banking Law, the coordination between on-site and off-site supervisions was improved and important steps were taken for stricter criteria to be met by bank owners and management and for separating the responsibility areas of the BRSA and the SDIF. Moreover, new limits and regulations were formed for credits extended to group companies by banks.

As a result of the restructuring program and the consolidation process, the number of banks in Turkey—79 in 2000—declined to 50 as of the end of 2007. These include four Special Financial Institutions that had interest-free banking activities.<sup>4</sup> The consolidation process resulted in a lower number of banks with stronger capital structures. The capital adequacy ratio, which was 9 percent in 2000, increased to 30 percent in 2003. In time, as the share of credits in total assets increased, the capital adequacy ratio of the sector declined due to the higher risk weight of credits compared to the public debt instruments that they replaced, for the most part, in bank balance sheets. Moreover, the inclusion of operational risk concept in capital adequacy calculations in June 2007 also led to a lower capital adequacy ratio, which was around 19 percent, still well above 8 percent.<sup>5</sup>

Turkish banks that used to play the main role in financing public deficits in 1990s due to very high real interest rates have turned back to banks' traditional role of intermediation and financing households and the real sector, thus supporting economic growth. Since almost all types of credits have increased from a very low base by international comparisons, the high credit growth rates in 2002–07 were widely perceived as a normalization process. The credits-to-deposits ratio, which stood at only 30.5 percent at the end of 2001, rose to 80 percent at the end of 2007. During the same period, the share of credits in total assets increased to 49.3 percent from only 20 percent. The sharp decline in credit interest rates, rising maturities offered by banks, increasing access to funds from abroad by banks and the decline in the borrowing needs of the Treasury were among the most significant supporting factors behind the credit growth. The CBRT monitored the credit growth closely in the pre-2008 period due to its impacts both on price stability and financial stability. The policy rate decisions of the CBRT in the inflation targeting framework have naturally been informed and affected by credit growth rate through its impact on the price stability and the auxiliary financial stability objectives of the Bank. In this regard, the policy rate of the Bank may be viewed as a macro-prudential policy tool before the global financial crisis. The required reserve ratio was also used in this period although it was not used as actively in a creative and unconventional manner as it has been used recently as it will be

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<sup>3</sup> The international legal minimum requirement of 8 percent and the “target ratio” of 12 percent introduced by the Banking Regulation and Supervision Agency as a buffer in November 2006. Banks that fail to meet the target ratio are not allowed to open new branches.

<sup>4</sup> At the time of writing this paper (July 2011), the total number of banks is 48. Special Finance Institutions are now called Participation Banks.

<sup>5</sup> The capital adequacy ratio stood at 17.36 percent as of May 2011.



mentioned in the second part. The CBRT has also affected credit growth by liquidity operations that increased or decreased the amount of funds which the banks may use in offering credits.

Along with the increase in the share of credits in total assets, asset quality—proxied by the nonperforming loans (NPL) ratio—improved as well after 2001. The NPL ratio, as high as 29.3 percent in 2001, declined steadily in the following years. The decline was supported by macroeconomic improvement as well as large-scale credit restructuring events, such as the Istanbul Approach,<sup>6</sup> which allowed real sector companies that had problems paying their credit debt back to restructure their credits and extend their maturities. The NPL ratio declined to only 3.5 percent as of the end of 2007 and stood at 3.04 percent as of May 2011.

In addition to the improvement in the credit risk of the sector, banks became very prudent in terms of managing their foreign currency risks. The net foreign exchange position of the overall banking sector in Turkey has narrowly fluctuated around zero since the 2001 crisis. Banks have hedged their in-balance sheet open FX positions using off-balance sheet transactions.

Another visible aspect of the change in the banking sector has been the surging foreign share. The positive developments mentioned above, coupled with the initiation of negotiations between Turkey and the European Union, have led to a significant interest in the banking sector in Turkey by foreign banks, mainly beginning from 2005. Now more than half of the banks operating in Turkey are classified as foreign banks.

The next section explains the macro-prudential steps taken by the CBRT (i) in response to the immediate impacts of the global financial crisis and (ii) in response to the widening current account deficit in Turkey and the financial risks associated with the increasing deficit, with a strengthened emphasis on financial stability since the last quarter of 2010.

### ***The 2008 Global Financial Crisis and the Response by the Central Bank of the Republic of Turkey***

This section focuses on the macro-prudential policies applied by the CBRT in response to the global financial crisis of 2008 in three phases: (i) full liquidity support after Lehman Brothers' collapse (September 2008), (ii) the exit strategy (April 2010), and (iii) the new policy mix (late 2010).

The Turkish economy contracted sharply in the initial phase of the recent global crisis, as was the case in almost all countries, but this contraction was followed by a very strong rebound in 2010 with an annual real GDP growth rate of 8.9 percent. The recovery in Turkey was the strongest within the European countries in 2010. The real GDP grew by 11 percent in the first quarter of 2011 compared to the GDP of the first quarter of 2010. It would be fair to say that the

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<sup>6</sup> The Istanbul Approach was a voluntary restructuring agreement between creditors (banks) and debtors. The companies included in the approach were potentially viable ones with temporary illiquidity which led to problems in paying back their bank credits back. After due diligence by external experts and agreement by majority of the creditors, restructuring agreements were signed between banks and these companies which allowed restructuring of their credits by maturity extension, grace period for principal repayment, debt write-down and providing new working capital. Through the Istanbul Approach, more than US\$6 billion of real sector credit to banks were restructured.

CBRT had a significant role in alleviating the negative effects of the crisis on the economy so quickly and strongly.

The CBRT took a series of measures to maintain economic and financial stability as a reaction to the global financial crisis that started in advanced economies. As the crisis led to the beginning of a recession in the last quarter of 2008, the CBRT started to cut its policy rate. Between November 2008 and November 2009, 1025 bps was cut in total from 16.75 percent to 6.50 percent in order to mitigate the adverse affects of the crisis on economic activity and to avoid large downward deviations from the inflation target. The bank also took measures to provide ample liquidity to the financial sector to mitigate the potential adverse effects of a liquidity crunch in the money markets and to prevent excessive volatility in short-term interest rates. The measures taken for Turkish lira and FX liquidity for smooth operation of credit markets were as follows:

#### Turkish Lira Markets

1. In October–November 2008, the spread between the CBRT overnight lending and borrowing rates was decreased from 3.5 to 2.5 points.
2. Starting in October 2008, the CBRT began to provide liquidity more than needed by the market.
3. CBRT resumed its repo auctions with three-month maturity as of June 2009.
4. The Turkish lira required-reserve ratio was decreased from 6 percent to 5 percent as of October 2009.

#### FX Markets

1. FX buying auctions were suspended in October 2008.
2. FX selling auctions were held.
3. In October 2008, the CBRT restarted its intermediary activities in FX deposit markets.
4. Transaction limits for banks were increased, and the maturity of FX deposits borrowed by banks was increased from one week to one month.
5. The lending rate of 10 percent was reduced to 7 percent in US dollars and 9 percent in euros.
6. In February 2009, the maturity of FX deposit transactions was raised from one month to three months and the CBRT lending rate was decreased to 5.5 percent in US dollars and 6.5 percent in euros.
7. The FX required-reserve ratio was decreased from 11 percent to 9 percent as of December 2008 and limits for export rediscount credits were raised.

As the impact of the crisis on financial markets eased, the bank announced its Exit Strategy in April 2010, which aimed at the removal of excess liquidity (or overfunding) provided

during the crisis. The purpose was to normalize the operational framework of monetary policy. As a result of the favorable developments in credit markets and the recovery in economic activity, the bank withdrew the temporary liquidity measures it had introduced during the crisis and raised required reserve ratios. The details of the Exit Strategy and the related Central Bank policies are as follows:

- Measures were taken for gradually reducing excessive Turkish lira and FX liquidity: Required reserve ratios for both TL and FX were raised.
- Remuneration of required reserves held at the Central Bank was halted.
- As a result of the cutback in the excess funding amount, the interest rate of one week repo auctions started to increase. Then, the second stage of the exit strategy was initiated, and the first step of the technical interest rate adjustment process was taken in May 2010. The one-week repo rate became the new policy rate.
- An interest rate corridor (the difference between overnight lending and borrowing rates) was introduced for more effective liquidity management purposes.
- The intermediary function of the CBRT in the foreign exchange deposit market was abolished. (However, banks would still be allowed to borrow foreign exchange deposits from the CBRT within the predetermined borrowing limits. Nevertheless, the maturity of these transactions was decreased from three months to one week.)
- The three-month repo auctions were terminated with the consideration that the liquidity shortage would diminish and the need for longer term funding would decrease due to the continuation of the CBRT's foreign exchange purchases.

In addition to the monetary policy exit strategy, the Central Bank accelerated reserve accumulation to contribute to financial stability. In order to be able to adapt to the rapidly changing structure of capital flows, the bank also adopted a more flexible method for foreign exchange buying auctions from October 2010 onward. Moreover, the bank introduced further measures to direct the capital inflows driven by global monetary expansion to longer-maturity investments.

It is widely accepted that a high current account deficit may threaten financial stability in case of a sudden stop or reversal of capital inflows. Turkey's current account deficit has widened sharply on the back of continued revival in domestic demand and imports as well as higher energy prices as the recession was left behind and as the country resumed fast economic growth. The 12-month current account deficit had reached US\$68.1 billion as of May 2011. It is worth noting that in addition to the role of credit growth in fuelling import demand, Turkey's dependence on imported energy leaves it vulnerable to the volatility of global energy prices. A recent IMF report prepared for the G20 in July 2011 estimated that the current account deficit-to-GDP ratio would reach 10.5 percent in Turkey at the end 2011.<sup>7</sup> Although the current account

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<sup>7</sup> Participants of the Expectations Survey (July 2011) of the CBRT expect the current account deficit to be US\$68.1 billion as of the end of 2011 (8.7 percent of estimated GDP for 2011 in the Medium-Term Programme) and US\$62.5

deficit might not be a problem itself, a high deficit-to-GDP ratio may leave countries vulnerable to sudden stops or capital inflow reversals in case of a general risk aversion sentiment in global financial markets triggered by an event even outside that country. This was one of the motivations behind the new policy applied since late 2010, which is explained in detail below.

The monetary expansion decisions of the Federal Reserve, Bank of England, Bank of Japan and the European Central Bank in response to the recessions and weak economic activity increased the risk of a rising current account deficit through an increase in domestic demand for imported goods and services and real appreciation of Turkish lira caused by intense capital inflows. The weak economic activity and the very low interest rates coupled with quantitative easing and huge liquidity injections in advanced economies combined with strong growth prospects and high interest rate differentials in emerging economies led to a surge in capital inflows to emerging market economies, including Turkey. Higher credit growth rates supported by intense capital inflows in emerging markets may be a common aspect of financial deepening in emerging markets,<sup>8</sup> but it has also been observed in the past that credit growth rates beyond a certain point may be used as a leading indicator for crises in balance of payments and banking. Hence, credit growth needs to be monitored closely and should be addressed by countercyclical policies if a need arises.

The main policy challenge here was the mixed outcomes of an increase in the policy rate. Such an action may reduce the current account deficit through the credit channel, on one hand, and increase the deficit through the exchange rate channel, on the other. The Central Bank's innovative solution introduced in late 2010 was to prevent the acceleration in credit growth<sup>9</sup> by using non-interest-rate monetary tools, such as increasing reserve-requirement ratios and preventing the appreciation of Turkish lira by reducing the short-term interest rate, in a controlled manner. To prevent any confusion, it should be underlined that the reduction in the policy rate takes inflation developments and the inflation targets into account in the two-pillar framework used. Put differently, using non-interest-rate monetary tools leads to a convergence between the policy rate needed for price stability and the policy rate needed for financial stability. Hence, it becomes easier to target both price stability and financial stability using a single policy rate. The benign inflation outlook has also allowed the CBRT to devote relatively more effort to financial stability since then.

The approach just mentioned is supported by several other measures. One of the issues that the Monetary Policy Committee (MPC) discussed in its December 2010 meeting was the maturity mismatch between the banking sector liabilities and assets. In this respect, the MPC suggested that it would be useful to differentiate reserve-requirement ratios for different Turkish lira deposit maturities in order to encourage longer-term funding, to raise reserve-requirement ratios especially for short-term liabilities, and to widen the scope of reserve requirements. Another issue discussed by the MPC was the need to lengthen the maturity of capital inflows. Such a development would mean better quality financing of the current account deficit and better

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billion as of the end of 2012, which correspond to much lower current account deficit-to-GDP ratios compared to IMF forecasts.

<sup>8</sup> The credits to GDP ratio was 25 percent as of end-2000, 34 percent as of end-2007 and 48 percent as of end-2010.

<sup>9</sup> The Bank explicitly stated that a 25 percent increase in credits in 2011 would be a suitable quantitative target in line with the financial stability objective of the Bank and added that it would take all necessary steps to reach this target by year-end.

prospects for financial stability. Hence, the MPC decided to lower the policy rate and widened the corridor between overnight borrowing and lending rates to allow fluctuations in the short-term interest rates when needed.

In summary, a lower policy rate and a wider interest rate corridor, combined with higher required-reserve ratios, served as a more effective policy mix, contributing to both price stability and financial stability under the given conditions. These measures are also good illustrations of how a central bank may use its existing tools more actively in a creative manner.

In more detail, the first pillar of the policy response was to reduce the incentives for carry trade and lengthen the maturity of capital inflows, which together aimed at improving the quality of capital accounts, limiting maturity mismatches, and avoiding exchange rate misalignments.

To this end, the CBRT decreased overnight borrowing rates by a cumulative of 500 bps to 1.50 percent, and reduced the policy rate by a total of 75 bps to 6.25 percent in December 2010 and January 2011 MPC meetings. Moreover, the corridor between overnight borrowing and lending rates has been widened, as mentioned, to introduce some volatility in the short-term interest rates and discourage short-term Turkish lira conversion through currency swaps. The unpredictable behavior of short-term rates, especially in swap markets, and the higher exchange rate uncertainty generated by the new policy framework, aimed at reducing the expected return-to-risk ratios from carry trades and discouraging short-term speculative inflows.

In order to offset the potential expansionary impact of policy rate cuts on domestic absorption, the CBRT launched a quantitative tightening strategy, basically aiming at directly controlling the amount of liquidity and moderating the rapid credit expansion. As the slowing credit growth was seen as a key intermediate objective, as it would support both financial and price stability objectives, the CBRT started using reserve-requirement ratios as an unconventional policy tool.

Next, the Central Bank started increasing reserve-requirement ratios significantly for shorter maturities, while implementing comparatively lower ratios for longer maturities.<sup>10</sup> Coverage of liabilities subject to reserve requirements was also broadened. These decisions aimed at slowing credit growth as well as extending the maturity of the banking system's liabilities, thereby reducing maturity mismatches.

It is also obvious that central banks can be more successful if they are supported by related institutions in the economy in turbulent times. In the Turkish case, continued fiscal discipline and tax hikes on certain consumer loans on the fiscal side, and measures such as restrictions on credit card borrowing and loan to value ratios on the regulatory side, have contributed much to the effectiveness of the monetary policy. In this context, some of the

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<sup>10</sup> The Turkish lira required-reserve ratio (RRR) was raised to 6 percent from 5 percent by 50bps increases in September 2010 and November 2010 for all maturities of deposits. The ratios were differentiated for different maturities, beginning in December 2010 in four increments, including the last one in April 2011. Currently the RRR distribution for TL deposits is as follows: 16 percent for demand deposits and deposits up to 1 month, 13 percent for deposits up to 3 months, 9 percent for deposits up to 6 months, 6 percent for deposits up to 12 months, and 5 percent for deposits with one-year or longer maturity.

significant measures that have been taken by the Council of Ministers and BRSA so far are as follows:

1. Declaration of a medium-term program that underlines fiscal discipline by the Council of Ministers
2. Restricting the extension of FX-indexed loans to real persons in Turkey
3. Increasing Resource Utilization Support Fund rates imposed on some consumer loans, leading to a rise in credit interest rates
4. Introducing a 12-percent target capital adequacy ratio for banks
5. Allowing banks to issue Turkish lira bonds within Turkey
6. Setting an upper limit of 75 percent for the loan-to-value ratio in mortgages and of 50 percent for commercial real estate loans
7. Increasing the minimum payment ratios for credit cards
8. Increasing the provisions for consumer loans (except vehicle and housing loans) for banks that have a consumer credits-to-total credits ratio above 20 percent and for banks that have NPL ratios on consumer credits (except vehicle and housing loans) above 8 percent
9. Differentiating the risk weights of some types of consumer credits in capital adequacy calculations using time to maturity

### ***Outcomes of the New Policy Mix***

The most significant outcomes of the new policy mix have been as follows:

- The net impact of the measures adopted within the new policy framework resulted in a tighter monetary policy stance, as evidenced by yield curves. Tighter domestic liquidity conditions driven by reserve-requirement hikes have led to an upward shift in the yield curve of government securities while also creating more volatility in the short end of the yield curve.
- The hikes in required-reserve ratios introduced since September 2010 have led to a withdrawal of around 10 percent of the total credit stock of liquidity from the banking system (annex figure 1).
- The volatility of overnight rates in the money market has increased markedly since the drastic cut in the CBRT borrowing rate in November 2010, which significantly widened the interest corridor in which the overnight rates fluctuate (annex figure 2).
- One of the goals of the new policy package was to increase the maturity of the liabilities of the banking system in order to support financial stability. The strategy of inducing more volatility for the short end of the yield curve has been instrumental in maturity extension in Turkish lira market operations. The average maturity of deposits also increased—the average maturity of Turkish lira deposits rose from around 45 days to around 60 days (annex figure 3).

- The share of Turkish lira swaps at longer maturities increased, while the share of short-term swaps declined significantly after the adoption of the new monetary policy.
- As the strategy to discourage short-term carry trade has been quite effective, there was a significant drop in the stock of short-term speculative inflows, mainly through cross currency swaps, which can be tracked via off-balance sheet positions following the adoption of the new policy mix.
- Consequently, appreciation pressures reversed and the behavior of the Turkish lira diverged significantly from the currencies of peer emerging economies, which is estimated to have contributed to an improvement in the current account deficit (annex figure 4).

### *Conclusions*

As indicated in the interest rate decision summary on July 21, 2011, due to the measures taken so far via the monetary policy, the domestic demand is now under control and the current account balance will start to improve in the final quarter of the year. According to the most recent credit growth data, as of July 15, 2011, annual credit growth was 35.7 percent,<sup>11</sup> which is still above the 25 percent target for the year end, but it shows that there is a slowdown in credit growth as desired by the CBRT (annex figure 5). Although the annual credit growth rate is still not at the target level, the acceleration in credit growth came to an end in the last few months. The tightening in credit supply conditions has continued in the second quarter of 2011 thanks to the measures taken by the CBRT and the BRSA. There has been a significant increase in credit interest rates recently. Hence credit growth is expected to decelerate in the second half of the year through the lagged effect of tightening in credit supply conditions. The credit growth rate in the first half of 2011 was around 17% and if the credits grow by around 7% as a result of the expected significant deceleration, the target growth rate of 25% may be achieved.

To sum up, the banking sector in Turkey became more and more resilient after 2001, with high capital adequacy, better managed risks, and high profitability. This outcome was one of the main reasons why Turkey left the global financial crisis of 2008 behind so quickly and strongly. Turkey had already experienced its own financial crisis in 2001 and had taken the necessary macroeconomic and regulatory steps to prevent another, while advanced economies accumulated financial risks and sovereign debt in the same period.

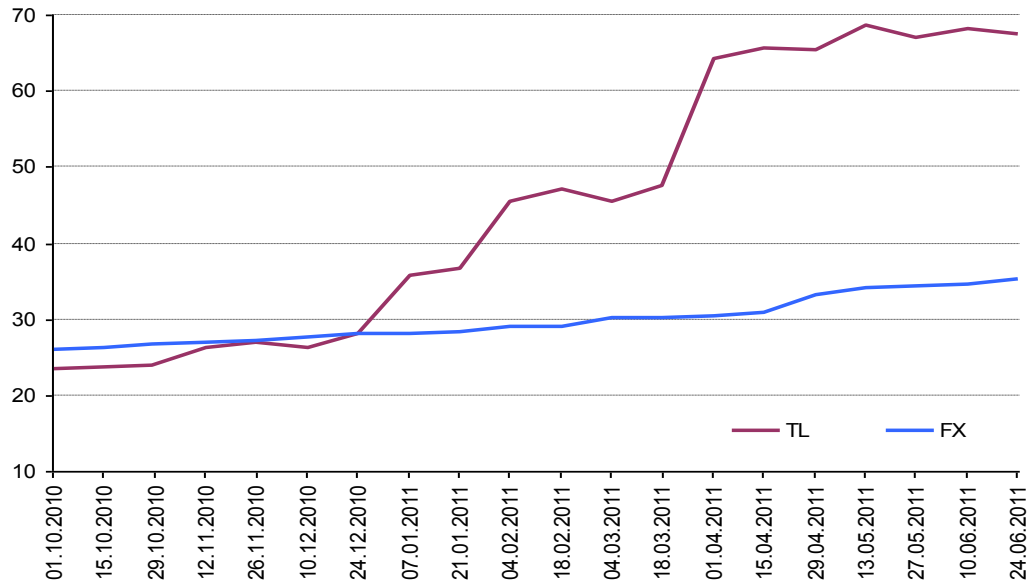
The recent global financial crisis was a litmus test that differentiated country economies with sound and prudent economic policies from those with unsustainable monetary, financial, and fiscal practices. The Turkish economy, which is in the former group, did suffer from the crisis, mainly due to the spillover effects from the biggest economies of the world. However, Turkey was also one of the countries that left the negative effects of the crisis behind faster and emerged stronger compared to both developed economies and many emerging market countries.

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<sup>11</sup> Although this figure is not much below the peak growth rate observed in total credits (36.5 percent), the acceleration in credits has been contained in the last few months.

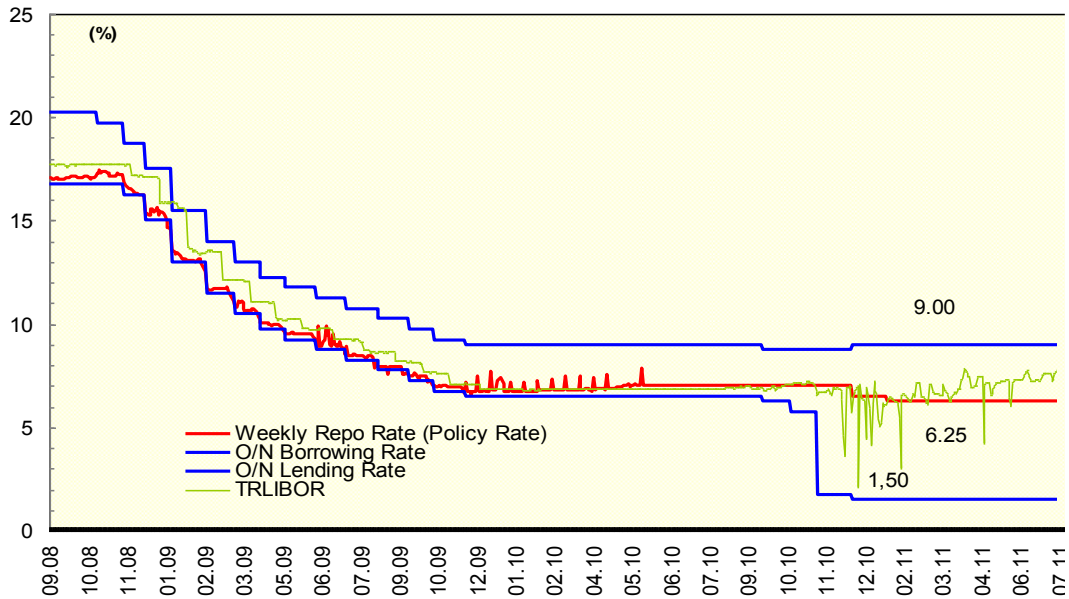
## ANNEX FIGURES

**Annex Figure 1. Reserve-requirement Balances Held at the CBRT (billion TL)**



Source: CBRT.

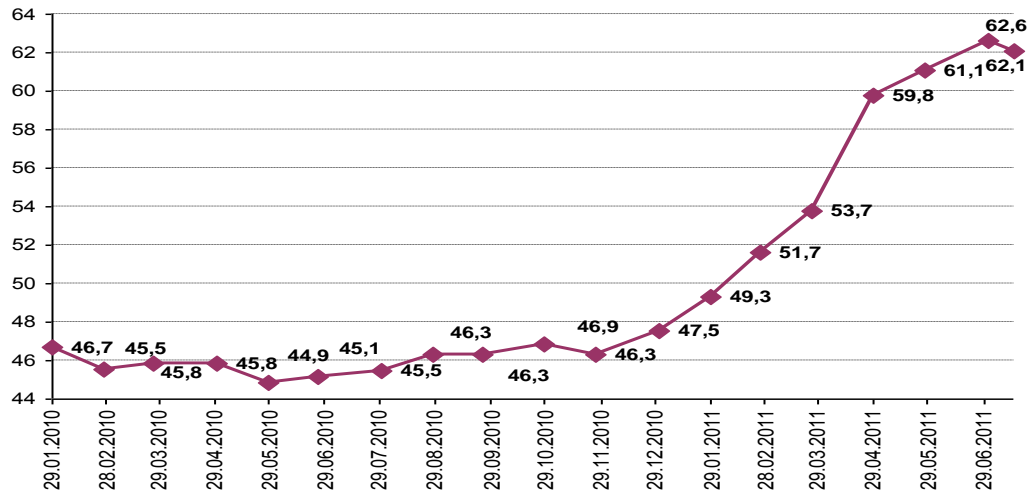
**Annex Figure 2. Volatility of Overnight Rates and the Widened Interest Rate Corridor**



Source: CBRT.

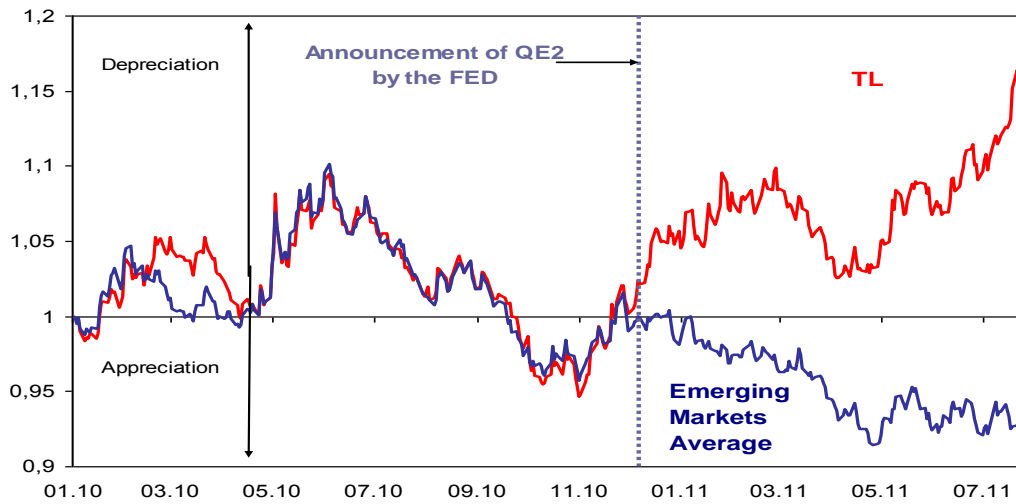


**Annex Figure 3. Average Maturity of TL Deposits (days)**



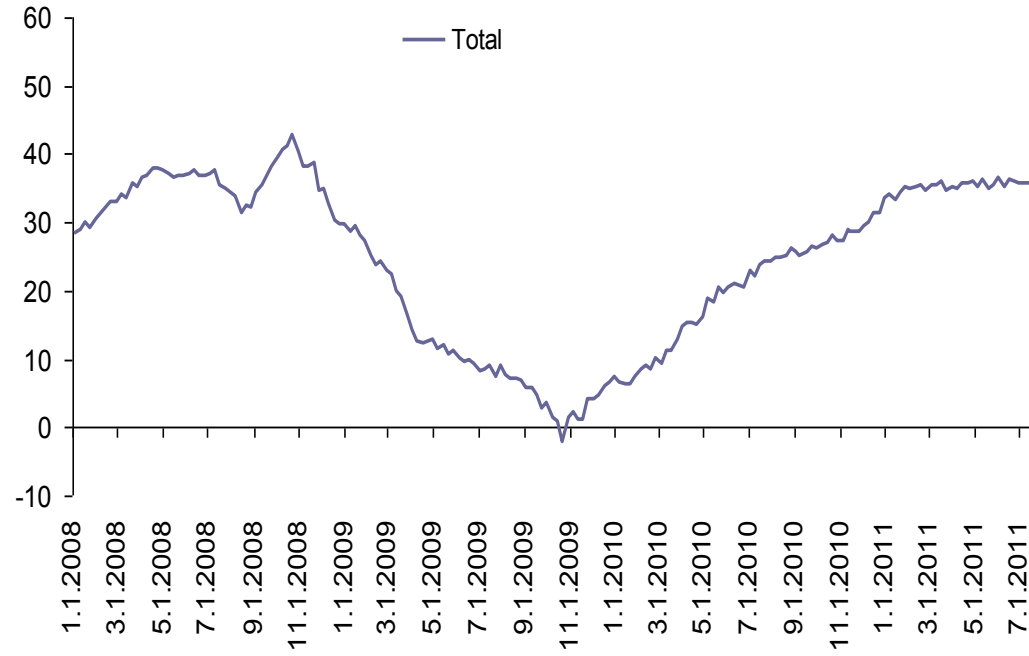
Source: CBRT.

**Annex Figure 4. Divergence of Turkish Lira**



Source: Bloomberg and CBRT. Emerging Markets: Brazil, Chile, Czech Republic, Hungary, Mexico, Poland, South Africa, Indonesia, South Korea and Colombia.

**Annex Figure 5. Loan Growth (% change, yoy)**



Source: BRSA.

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