

Capital flows to Turkey: financial implications and policy responses

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1. Introduction

In recent years, capital inflows to almost all emerging countries have significantly increased. While it is possible to identify a number of push factors as the driving forces behind this development, country-specific pull factors have also played an important role. Indeed, most emerging countries have improved their macroeconomic stability by implementing sound monetary and fiscal policies and intensive structural reforms. This surge in capital inflows to the emerging economies has on the one hand supported economic growth but on the other hand introduced challenges for the policymakers of emerging economies with regard to monetary and financial stability.

Since the deep economic and financial crisis of 2001, Turkey has been one of the emerging countries that has improved its economic fundamentals by implementing sound monetary and fiscal policies and has received intensive capital inflows. This paper aims to discuss the structural changes that took place in capital inflows to Turkey, the implications of these inflows for the financial system and potential policy responses.

2. Macroeconomic developments

The historical data clearly reveal that 2002 was a turning point in recent Turkish economic history. After 2002, Turkey started a new IMF- and World Bank-endorsed stabilisation programme with strong disinflation, fiscal discipline and structural reforms in the banking system and privatisation targets. In addition to the stabilisation programme, the European Union (EU) convergence process has backed both the political and structural reforms as in December 2004 the European Council accepted 3 October 2005 as the start date of accession negotiations. The new framework of EU integration has anchored both political and structural reforms that have facilitated strong improvements in longer-term expectations and confidence in the sustainability of the reforms.

Table 1
Main trends in Turkish economy

Averages	1984–90	1991–2001	2002–07
Inflation	54.5	75.9	13.9
Standard deviation	14.9	21.6	8.7
GDP growth	5.7	2.9	6.8
Standard deviation	3.6	5.4	1.9
Total investment annual change	9.7	1.9	15.9
Private investment, annual change	13.1	2.4	18.4
Primary surplus/GNP	–0.3	1.8	4.6
Productivity growth	n/a	5.8	6.8
Privatisation revenues (total, USD billions)	0.5	6.8	22.5

Sources: TURKSTAT; Treasury; Central Bank of the Republic of Turkey (CBRT).

As a result of strong commitments to the targets of the programme, these policies have yielded impressive disinflation, an increase in growth potential and improvements in most other macroeconomic variables. The average GDP growth rate increased from only 2.9% in the 1990s and early 2000s to 6.8% during 2002–07. Output volatility (measured as the standard deviation of growth) also fell over the same period from 5.4% to only 1.9%. Moreover, the average inflation rate declined from 75.9% in the 1990s and early 2000s to 13.9% in 2002–07 (Table 1).

The improvements and the trends can be better analysed with year-over-year data, as shown in Table 2.

Table 2
Main macroeconomic indicators
(2001–07)

	2001	2002	2003	2004	2005	2006	2007
Inflation	68.5	29.7	18.4	9.3	7.7	9.6	8.4
GDP growth	-5.7	6.2	5.3	9.4	8.4	6.9	4.5
Total investment annual change	-30.0	14.7	14.2	28.4	17.4	13.3	3.4
Primary surplus/GDP	5.1	4.0	4.9	5.5	5.1	4.6	3.5
PSBR/GDP	12.2	10.0	7.3	3.6	-0.3	-2.0	0.0
Real interest rates (ex post)	26.3	12.0	16.3	12.5	7.5	7.5	8.9
Net public sector debt stock/GDP	66.5	61.5	55.1	49.1	41.7	34.2	29.1
Net domestic debt/GDP	38.9	36.3	37.9	35.7	35.2	30.2	27.8
Net external debt/GDP	27.6	25.2	17.2	13.4	6.5	4.0	1.3
Current account balance/GDP	1.9	-0.3	-2.5	-3.7	-4.6	-6.1	-5.7

Sources: TURKSTAT; CBRT; SPO; Treasury.

In the last six years, sustained fiscal discipline that yielded a 5% primary surplus on average has been the leading factor in the success of the programme. During this period, the resulting high economic growth has been mainly driven by rapid growth in private investment and a significant increase in manufacturing sector productivity. In addition to a notable increase in growth, the inflation rate has declined gradually from 70% to single digits. As fiscal discipline and privatisation have reduced the public sector pressure on interest rates and monetary policy oriented towards price stability reduced the inflation risk premium, real interest rates have declined to single digits from the last decade's average of more than 20%. Relatively lower interest rates, privatisation and fiscal discipline have helped the public sector borrowing requirement vanish, from around 10% of GDP towards a current situation in which net debt payments are implemented. As a result of these developments, the ratio of public sector net debt stock to GDP declined from 67% in 2001 to 29% in 2007. Even as the net domestic debt-to-GDP ratio declined from 38.9% to 27.8%, the net external debt stock-to-GDP ratio declined from 27.6% to 1.3%. This impressive macroeconomic performance suggests that although global liquidity conditions have supported capital inflows to the country, the main determinant has been (favourable) country-specific factors.

3. General trends in capital flows to Turkey

Although the capital account in Turkey was fully liberalised in 1989, the weak economic performance of the economy and the volatile nature of Turkish financial markets, together with general volatility in emerging markets, had prevented significant and sustained capital inflows to the country.

Table 3
General trends in balance of payments statistics

	Balance of payments developments (total in billions of US dollars)									
	1984–90	1991–99	2000–01	2002	2003	2004	2005	2006	2007	2002–07
Current account	-4.8	-10.9	-6.2	-0.6	-7.5	-14.4	-22.1	-31.9	-37.6	-114.2
Capital and financial account	9.1	27.9	8.6	7.6	7.1	14.2	38.1	38.2	44.5	149.8
Foreign direct investments	2.2	5.4	3.0	1.0	1.3	2.0	9.0	19.1	19.9	52.2
Inflow	2.2	7.8	5.3	1.2	1.8	2.9	10.4	21.4	22.9	60.7
Outflow	0.0	-2.4	-2.4	-0.3	-0.5	-0.9	-1.4	-2.3	-3.0	-8.5
Portfolio investments	0.1	0.2	-8.5	0.9	2.5	7.5	11.6	8.1	1.9	32.4
Stocks	0.1	2.4	0.4	0.0	0.9	1.4	5.7	1.9	5.1	15.1
Domestic government securities	0.0	-2.1	-8.9	0.9	1.6	6.0	5.9	6.1	-3.3	17.4
Banking system	2.8	-2.4	-8.1	-3.2	2.1	0.6	8.7	-3.1	-1.4	3.6
Assets (securities and FX assets)	-2.4	-13.8	-1.7	-0.8	-0.2	-6.6	-1.6	-14.0	-5.3	-28.7
Liabilities (deposits and credits)	5.2	11.4	-6.3	-2.4	2.3	7.2	10.4	11.0	3.9	32.3
Non-bank sectors	7.1	20.7	3.0	0.9	1.6	7.2	13.8	17.3	28.7	69.5
Public sector and central bank	-3.0	4.0	19.2	8.0	-0.3	-3.0	-4.9	-3.2	-4.5	-8.0
IMF	-1.8	0.9	13.6	6.4	-0.1	-3.5	-5.4	-4.5	-4.0	-11.1
Other	-1.2	3.0	5.6	1.6	-0.2	0.5	0.4	1.3	-0.6	3.1
Net errors and omissions	0.0	3.0	-4.8	-0.8	4.4	1.0	1.8	-0.2	1.1	7.4
Change in reserves ¹	-4.3	-20.0	2.3	-6.2	-4.0	-0.8	-17.8	-6.1	-8.0	-43.0

¹ Negative figures show an increase in reserves.

Source: CBRT.

After 2002, thanks partly to favourable global liquidity conditions, but mainly to the economic transformation process of the Turkish economy, the amount and structure of foreign capital flows changed significantly. Foreign direct investment, private sector external borrowing and portfolio inflows increased steadily, as shown in Table 3.

(a) Foreign direct investment

The most dramatic change in capital account items in recent years occurred in foreign direct investment (FDI). While total net FDI during the 1984–2001 period was only USD 10.6 billion, it increased to USD 52.2 billion in the last six years. Although the current account balance has worsened, the rapid increase in FDI after 2005 somewhat eased the concerns due to its non-debt nature and positive effect on the productive and competitive capacity of the Turkish economy. The prospects for EU accession and convergence expectations have also played an important role in increasing FDI flows to the country.

For the time being, FDI inflows to Turkey are concentrated in the banking system and other service sectors such as telecommunications (Table 4). But considering the experience of other emerging countries, FDI inflows are expected to continue and spread to a broad range of industries through mergers and acquisitions and greenfield investments as the sound monetary and fiscal policies and the reform process of the country continue.

Table 4
Foreign direct investment by sector
In millions of US dollars

	2002	2003	2004	2005	2006	2007
Banking	260	51	69	4,018	6,957	11,439
Other services	250	231	852	3,685	8,688	3,263
Manufacturing	110	448	190	785	1,866	4,207
Other	2	15	79	47	128	338
Total	622	745	1,190	8,535	17,639	19,247

Source: Treasury.

(b) Portfolio flows

Until 2003, the instability of financial markets had limited foreign investor participation in bond (mainly domestic government securities) and stock markets. However, foreign portfolio inflows to bond and stock markets increased to USD 32.4 billion by 2007.

The portfolio inflows consist of three items: (i) investments in stock markets; (ii) investments in bond markets; and (iii) investments in money markets. The money market investments of foreigners consist of swaps, deposits and credit transactions with domestic banks. Although investments in stock and securities markets are shown in the portfolio investment item in balance of payments statistics, money market transactions are generally shown under the assets and liabilities of the banking sector. In recent years, the volume of TRY swap and credit transactions increased to USD 17.2 billion. By adding USD 17.2 billion in money market transactions to the portfolio inflows, the cumulative sum of portfolio inflows reached USD 49.6 billion in the last six years (Table 5).

Table 5
Net foreign portfolio inflows

In billions of US dollars

	2002	2003	2004	2005	2006	2007
Stocks	0.0	0.9	1.4	5.7	1.9	5.1
Government securities	0.9	1.6	6.0	5.9	6.1	-3.3
Money market instruments	0.0	0.2	0.1	4.7	6.5	5.7
Total	0.9	2.7	7.5	16.3	14.6	7.6

Source: CBRT.

(c) Other flows

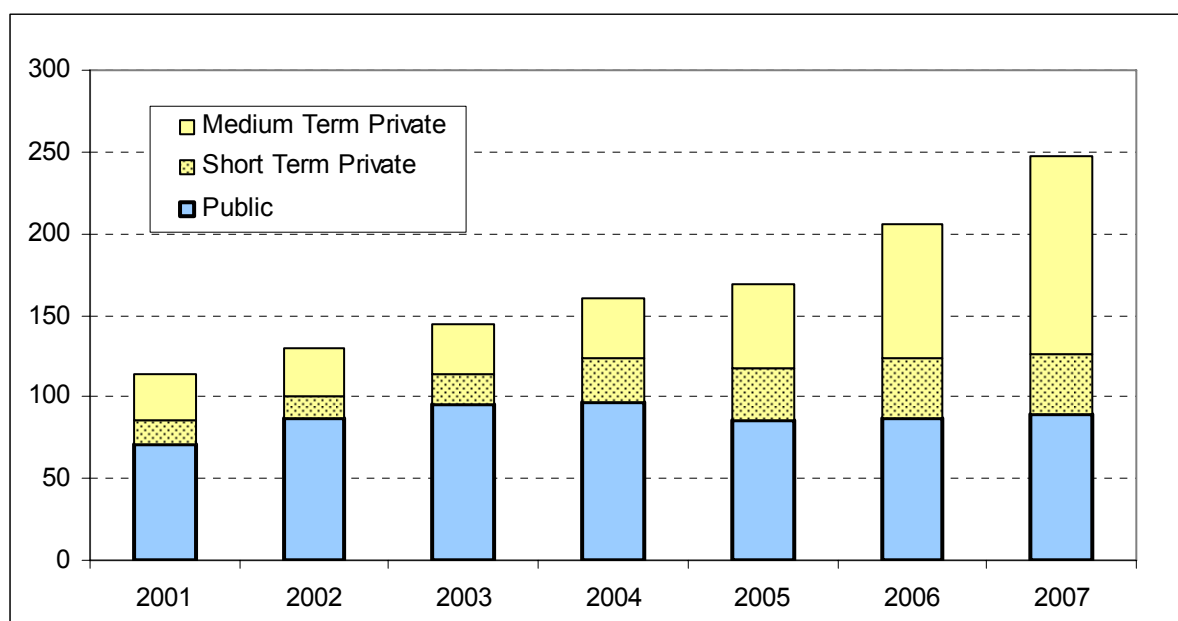
The net effect of the banking system on foreign capital flows has been relatively limited as it also intermediated capital outflows due to currency substitution. For the last two years, there have been USD 4.5 billion worth of net capital outflows through banking system transactions. While the total foreign exchange (FX) borrowing of banks from abroad was USD 16.6 billion during 1984–1999 period, it increased to USD 32.3 billion in the last six years. Likewise, the foreign assets of banks also increased from USD 16.2 billion to USD 28.7 billion.

Despite the increase in the other sub-items of the capital account in recent years, the public sector has made net external debt payments as a result of fiscal discipline and privatisation revenues.

Historically, one of the main sources of FX inflows to Turkey has been the rise in non-bank private sector debt. In recent years, as access to international markets has improved, the non-bank sectors have increased FX borrowing significantly, to finance their investments. The USD 69.5 billion increase in non-bank private sector debt in the last six years significantly outweighs the USD 30.8 billion increase during the 1984–2001 period. Furthermore, the maturity of borrowing shifted from short-term to medium- and longer-term, which in turn reduces the vulnerability of this sector to short-term tightening in global liquidity conditions.

As a result of the increase in banking and non-banking sectors' external borrowing, the gross external debt of Turkey increased from USD 113.6 billion in 2001 to USD 247.2 billion in 2007. A decomposition of external debt shows that while the public sector debt stock has increased from USD 71.5 billion to USD 89.2 billion, the private sector debt stock has increased from USD 42.1 billion to USD 158.0 billion in recent years (Figure 1). But the increase in external debt mainly stemmed from longer-term private sector debt that reduces vulnerabilities. Since 2001, the short-term private sector external debt stock increased from USD 14.6 billion to USD 37.4 billion, while the medium- and long-term external debt stock increased from USD 27.5 billion to USD 120.7 billion.

Figure 1
External debt stock
 In billions of US dollars



Source: Treasury.

(d) Capital outflows

Against a significant increase in capital inflows to Turkey, we have also observed some capital outflows. There have been two main sources of capital outflows: (i) foreign direct investment abroad; and (ii) portfolio investment in international markets through the banking system. For the last six years, while FDI outflows were only USD 8.5 billion, portfolio outflows intermediated by the banking system were more significant.

Residents in Turkey have been allowed to hold FX deposits in the banking system since 1984. As a result of high volatility in domestic financial markets and a lack of confidence in the Turkish lira (TRY), the FX deposits of residents have gradually increased. The banks used these FX deposits to provide FX credits in domestic markets and to invest in FX assets abroad where some part of these assets has been investments in the Turkish Treasury's eurobonds. Thus, the banks have continually intermediated foreign capital outflows except in the 2000–01 crisis years. This intermediation has increased in recent years as a result of the rise in FX deposits of residents. In the last six years, banking system foreign assets increased by USD 28.7 billion.

In the last two years, the strong appreciation of the lira and volatility in the financial markets encouraged domestic residents (individuals and firms) to strongly increase their FX holdings, and the banking system increased its foreign assets, in turn causing heavy capital outflows. FX deposits of the residents in the banking system rose from USD 60 billion to USD 95 billion in last three years (Figure 2), which resulted in a USD 15 billion increase in banking system foreign assets.

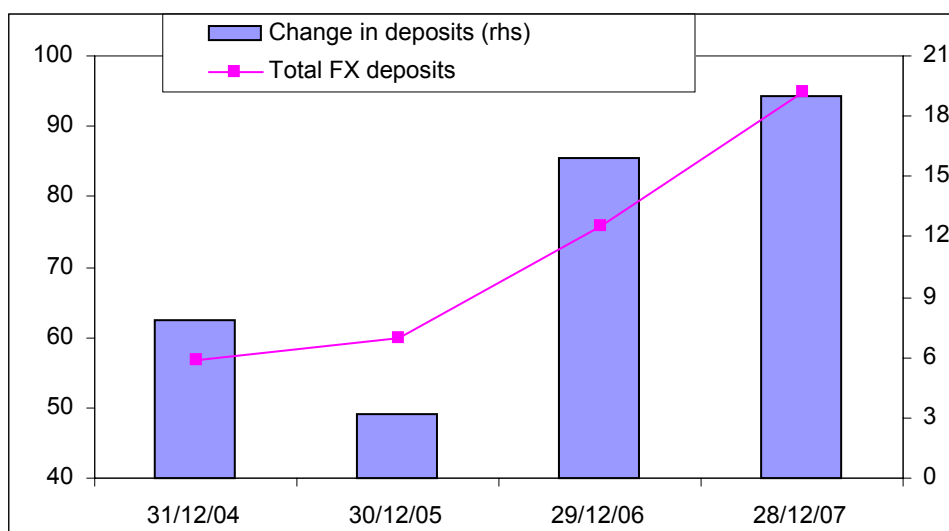
Although the increase in FX deposits of residents is the main source of capital outflows, it has two important positive implications for the stability in the domestic markets: (i) it dampens some of the appreciation pressure on the TRY and excess TRY liquidity; and (ii) it reduces the potential volatility of exchange rates and interest rates in case of external shocks as residents start to sell FX for domestic currency. As a matter of fact, this shock absorber characteristic has been clearly observed during recent volatility periods in the FX markets.

Some foreign portfolio investors call residents' FX deposits an implicit insurance against volatility in FX and securities markets.

Figure 2

FX deposits and yearly change

In billions of US dollars



Source: CBRT.

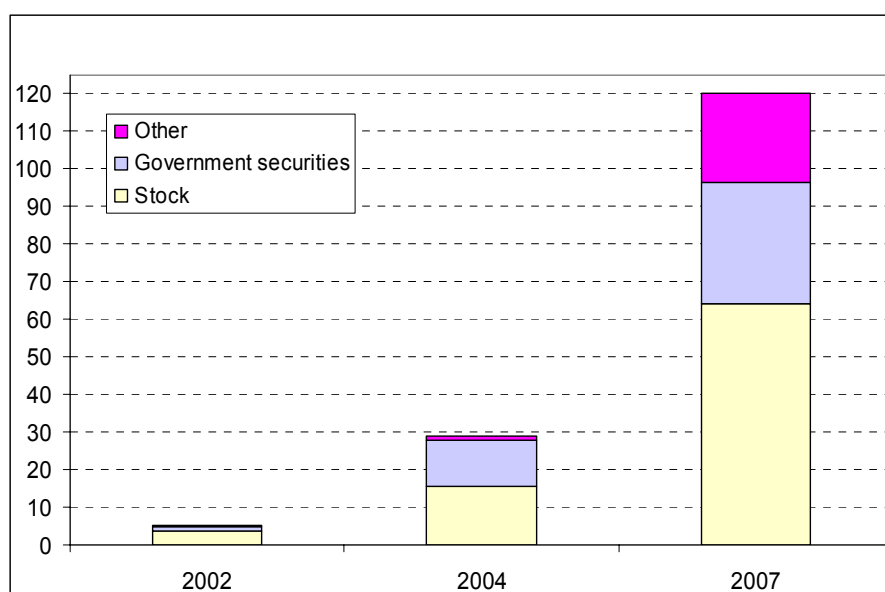
4. The impact of increased capital flows on the domestic financial system

(a) The functioning of local capital markets

As a result of new foreign portfolio inflows and accumulated interest earnings, the total market value of foreign portfolio investments increased from USD 5.3 billion to USD 120.3 billion over the last five years (Figure 3). The increase in foreign portfolio flows intensified especially after 2004, as is the case in most other emerging countries.

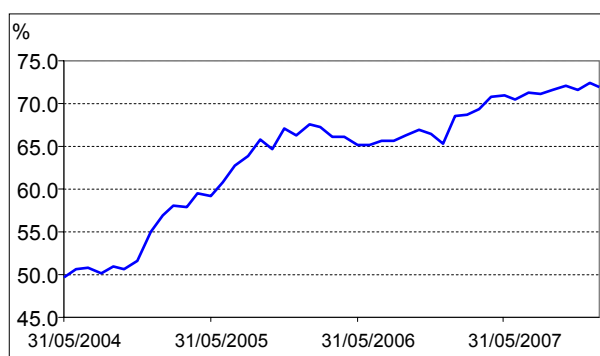
Moreover, the share of foreign investors in stock markets increased from 50% to 72% of free float while their share in government securities rose from 3% to 11.6% of the total domestic debt stock in the last three years (from May 2004 to January 2008; Figures 4 and 5). As a result of the expansion of foreign investors' share in domestic markets, the impact of foreign portfolio flows on domestic markets has significantly increased. The rise in foreign investors' share in these markets has also contributed to the liquidity of the markets.

Figure 3
Non-residents' portfolio stock
 In billions of US dollars



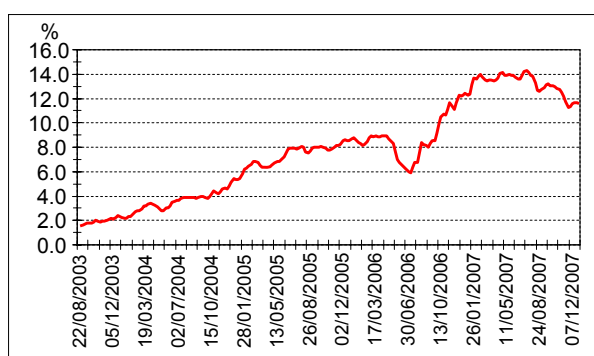
Source: CBRT.

Figure 4
Foreigners' share in ISE stocks in free float



Source: Central Registry Agency.

Figure 5
Foreigners' share in government debt securities



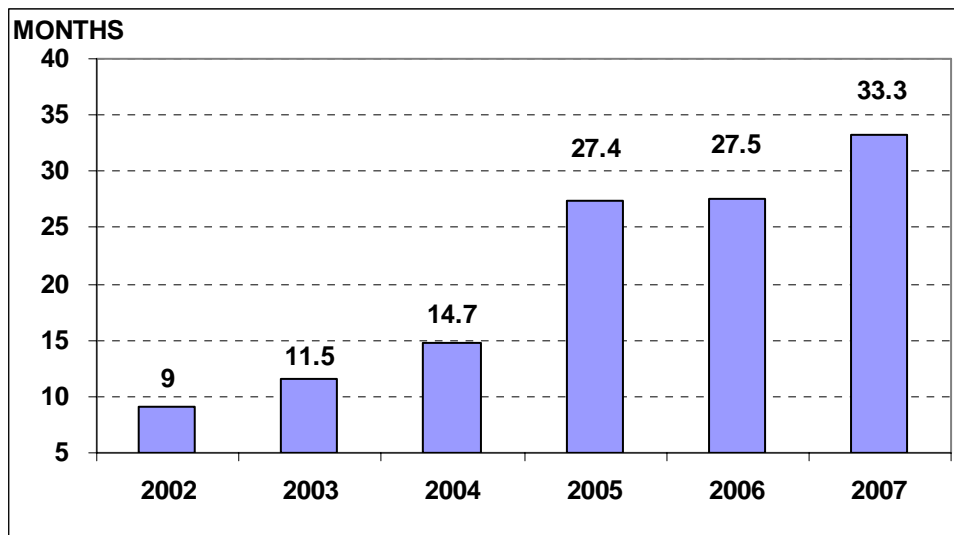
Source: CBRT.

Until some years ago, as a result of the lack of institutional and international investors, the high domestic debt stock was mostly carried on the banking system balance sheet in Turkey. The average maturity of deposits of the banking system was only three months, and holding government debt stock at longer maturities had posed a critical problem as the banking system was reluctant to assume the maturity mismatch risk. The average maturity of the domestic debt stock was very short, and the Treasury could only issue floating rate notes in the longer term.

In recent years, however, the growing participation of foreign investors who are also eager to invest in fixed rate longer-term securities has reduced the dependence of the Treasury on the domestic banking system. In addition to the new investor base, a decisive monetary policy oriented towards price stability which reduced inflation risks has enabled the Treasury to issue longer-term fixed rate securities. In the last six years, the average maturity of the

government debt stock has increased from nine months to almost three years, with an average borrowing cost under the previous levels (Figure 6).

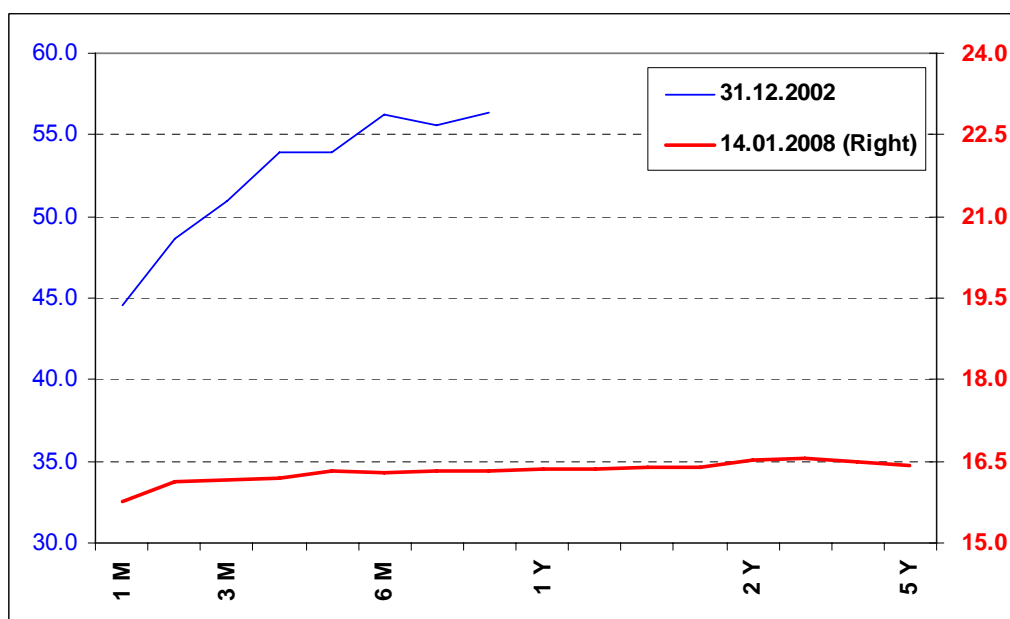
Figure 6
Average maturity of domestic debt stock



Source: Treasury.

In addition to lengthening, the yield curve has become inverted (Figure 7), mainly because of the decline in inflation and the improvement in the credibility of the Central Bank of the Republic of Turkey (CBRT). However, the concentration of foreign investors on longer maturities has also been critical in terms of shifts in the yield curve. Although the share of foreign investors in the total domestic debt stock is only 15%, their share in long-term fixed rate securities is almost 50%.

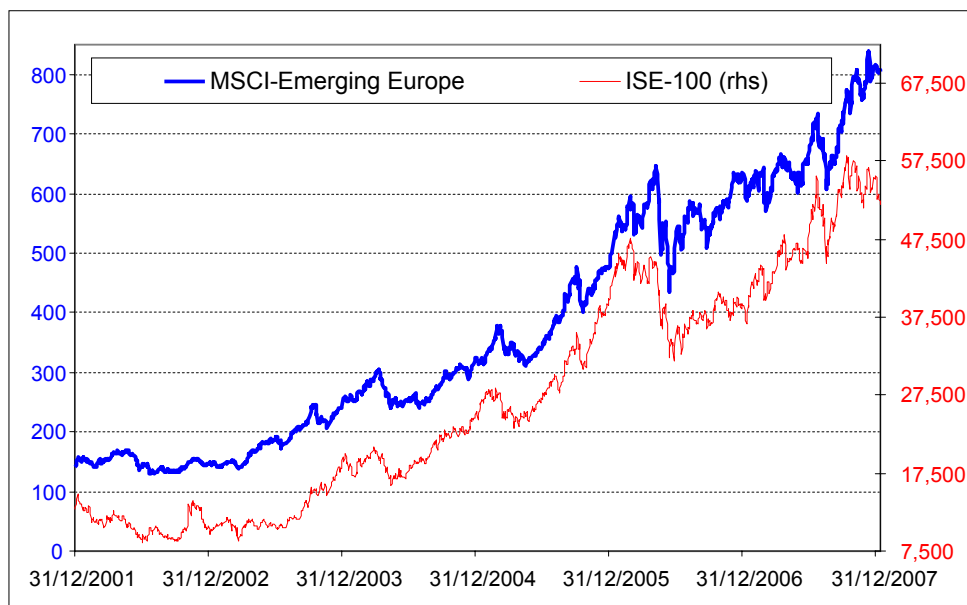
Figure 7
Nominal yield curve



Source: CBRT.

On the other hand, as the share of foreign investors in the Istanbul Stock Exchange (ISE) has increased, they have become the main driver of market performance. As a result, ISE indices have tracked global market indices (Figure 8).

Figure 8
MSCI and ISE



Source: Bloomberg.

Although it may be concluded that domestic pull factors in most emerging countries have outweighed push factors stemming from favourable global liquidity conditions, the increase in the share of foreign investors in domestic markets and financial integration led to a significant increase in the sensitivity of domestic asset prices to developments in mature markets.

The simple correlation matrixes given in Table 6 shows how the sensitivity of Turkish assets to international market developments has increased.

Table 6
Correlation of Turkish asset returns with foreign markets

	TRY	DJ	VIX	ISE
2004–05				
TRY	1.00	-0.09	0.10	-0.43
DJ	-0.09	1.00	-0.77	0.08
VIX	0.10	-0.77	1.00	-0.10
ISE	-0.43	0.08	-0.10	1.00
2007				
TRY	1.00	-0.52	0.40	-0.68
DJ	-0.52	1.00	-0.82	0.40
VIX	0.40	-0.82	1.00	-0.27
ISE	-0.68	0.40	-0.27	1.00

Source: Bloomberg.

This suggests that despite the decoupling argument, domestic markets are even more susceptible to changes in global liquidity conditions and risk appetite now.

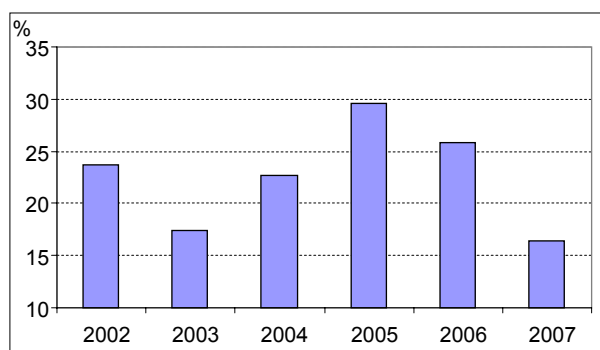
(b) Bank intermediation in the domestic economy

In recent years the growth rate of the banking system balance sheet has reached 23% on average (Figure 9). There have been three main sources of this impressive growth: (i) deepening of the financial system as a result of an increase in confidence; (ii) a decline in nominal and real interest rates; and (iii) an increase in TRY and FX borrowing opportunities in international markets. The change in the structure of the banking system balance sheet has been more impressive. The high domestic debt, which in recent decades generally had crowded out lending to consumers and private sector, had been absorbed by the banking system. But the trend has dramatically changed since 2003 as fiscal discipline and higher foreign investment in government securities have reduced the pressure of domestic debt stocks on the balance sheet of the banking system. Thus, the banking system has focused on normal banking activities.

As a result of the high primary surplus and privatisation revenues, the Treasury has reduced the domestic debt rollover ratios significantly below 100%, which in turn has increased loanable funds in the banking system for private sector and consumer credits (Figure 10).

Figure 9

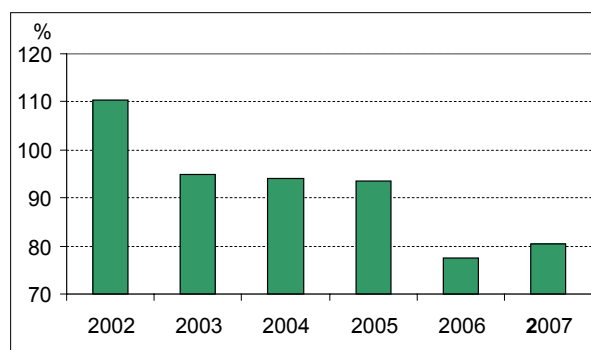
Growth rate of banking system assets



Source: CBRT.

Figure 10

The Treasury's rollover ratio (TRY + FX)



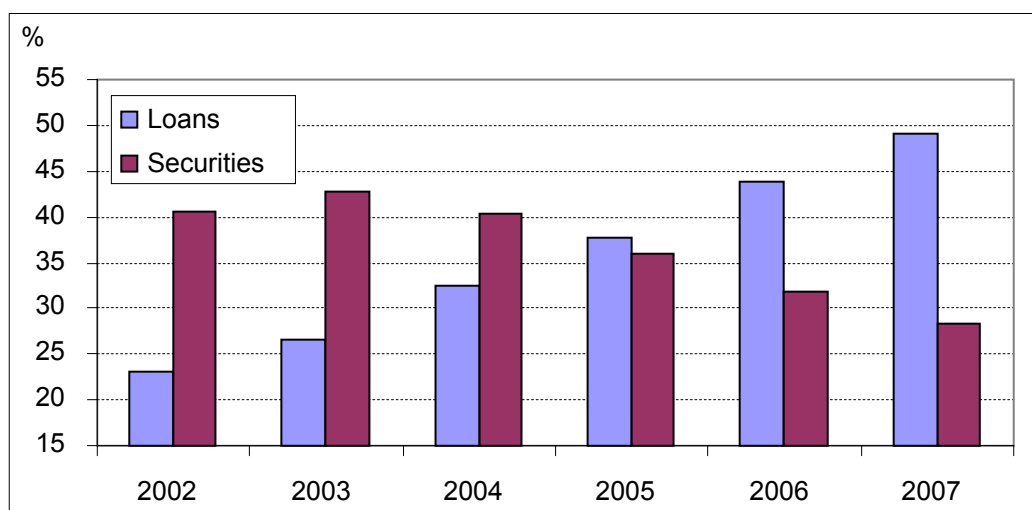
Source: Treasury.

In addition, the availability of longer-term TRY-denominated credit and swap transactions in international markets has enabled banks to increase the maturity of their loans. Foreign direct investment in the banking system and the increase in available funds for loans have resulted in heavy competition in the banking industry which has entailed some relaxation in credit conditions and a significant increase in credit maturities.

All these factors have enabled banks to significantly increase their lending activity and the share of credits in their total assets. While the share of securities in the banking system's balance sheet has decreased from 41% to around 28%, the share of credits has increased from 23% to 49% (Figure 11).

Figure 11

Share of securities and loans in total assets



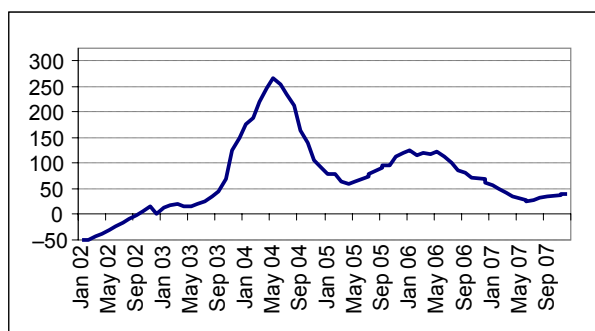
Source: Treasury.

Consequently, credit growth has increased to triple digits and supported domestic consumption and investment (Figures 12 and 13).

Figure 12

Growth rate of consumer credits

Annual, in per cent

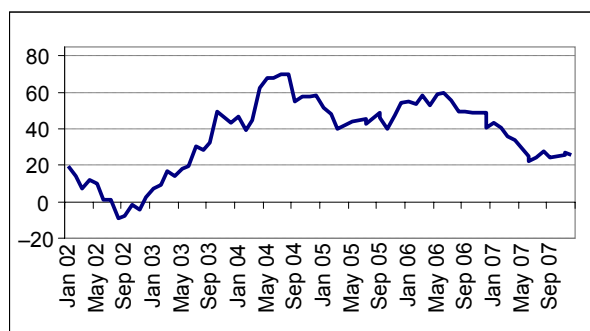


Source: CBRT.

Figure 13

Growth rate of total credits

Annual, in per cent

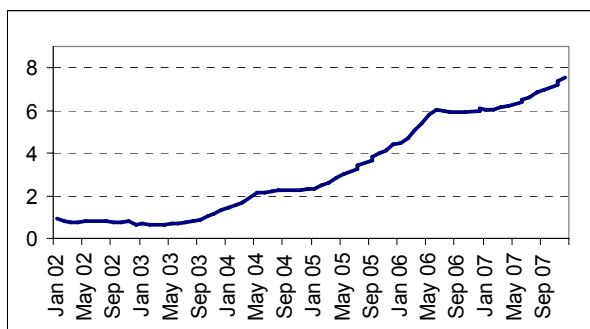


Source: CBRT.

Even though the ratio of credits to GDP has been lower than in developed countries, it has dramatically increased from around 10% to 25% in last four years (Figures 14 and 15). The CBRT has always kept a close eye on domestic credit growth for both price and financial stability purposes.

Figure 14

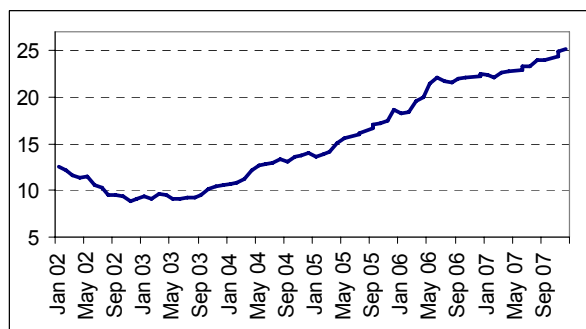
Ratio of consumer credits to GDP



Source: CBRT.

Figure 15

Ratio of total credits to GDP



Source: CBRT.

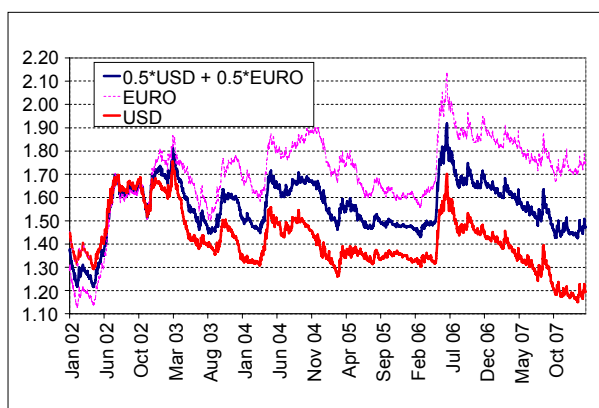
5. Policy responses

(a) Exchange rate policy and liquidity management

Since the adoption of the floating exchange rate regime in February 2001, exchange rates have been determined by supply and demand conditions in the market, and the CBRT has not had any exchange rate level target. But considering the importance of the level of foreign exchange reserves for reducing the unfavourable effects of potential shocks and for boosting confidence in the economy, the CBRT has conducted foreign exchange purchase operations in the market since 2002. Despite the CBRT's massive FX purchases, the significant increase in foreign capital inflows has resulted in general stability in nominal exchange rates and a significant real exchange rate appreciation of the lira.

Figure 16

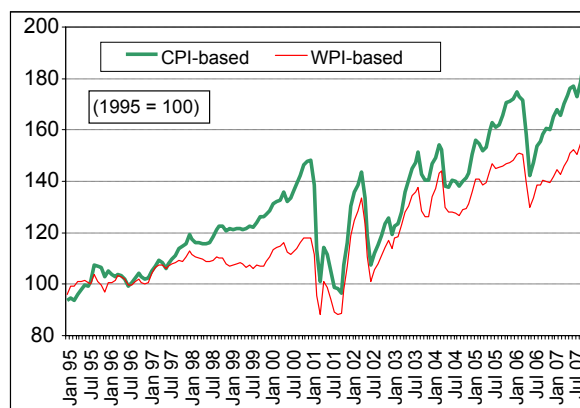
Nominal exchange rates



Source: CBRT.

Figure 17

Real exchange rates



Source: CBRT.

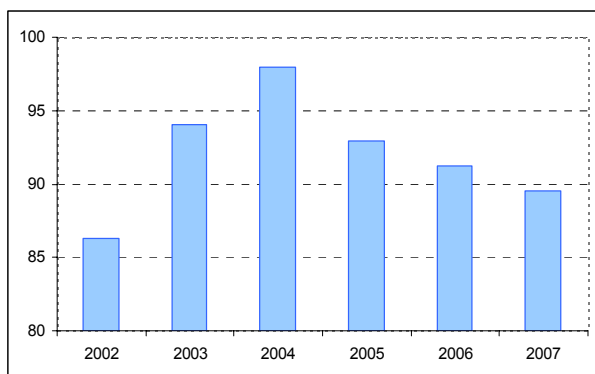
As capital inflows have increased significantly, there has been a coordinated response from the Treasury and the CBRT to excessive foreign exchange supply. While the Treasury has preferred to reduce FX or FX-linked debt stock, the CBRT has focused on building up FX reserves, consistent with the floating exchange rate regime as much as possible.

During 2004–06, the Treasury’s outstanding FX or FX-linked gross debt declined from USD 98 billion to USD 91.2 billion. The decline in FX or FX-linked debt/GDP was more impressive in the 2002–07 period, falling from 37.4% to 13.6% (Figures 18 and 19). This has reduced the government’s vulnerability to exchange rate volatility.

Figure 18

**Gross debt stock
(external + FX/FX-denominated/
domestic debt)**

In billions of US dollars

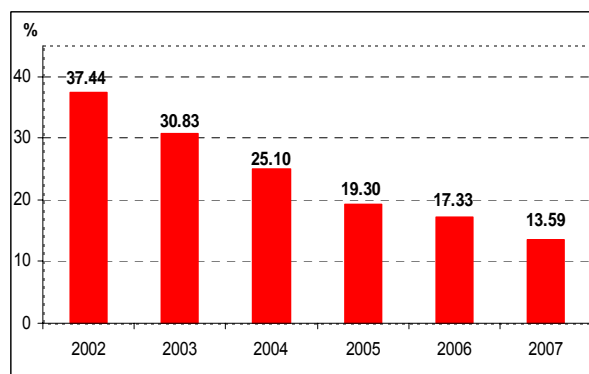


Source: Treasury.

Figure 19

**The Treasury’s gross FX-
indexed domestic debt**

As a percentage of GDP



Source: Treasury.

In order to increase FX reserves, starting in April 2002, the CBRT began conducting transparent FX buying auctions. In order to secure transparency and reduce uncertainty around its activities in the FX market, the terms and conditions of these auctions were pre-announced. Moreover, to improve transparency, the CBRT started to announce annual FX buying auction programmes in 2005 and pledged not to change them unless significant changes in FX liquidity were observed. In addition to FX buying auctions, the CBRT has always announced the possibility of direct buying or selling interventions in case of excessive volatility in FX rates.

During 2002–07, the CBRT purchased net USD 54.6 billion (Table 7), and the CBRT FX reserves increased from USD 18.6 billion to USD 72.3 billion (Figure 20).

Table 7

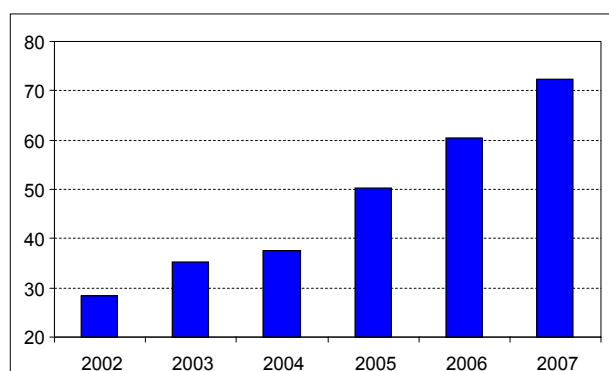
FX sales and purchases of the CBRT

In billions of US dollars

	CBRT FX purchases	CBRT FX sales	Net purchase
2002	0.8	0.0	0.8
2003	9.9	0.0	9.9
2004	5.4	0.0	5.4
2005	22.0	0.0	22.0
2006	9.7	3.1	6.6
2007	9.9	0.0	9.9
Total	57.7	3.1	54.6

Source: CBRT.

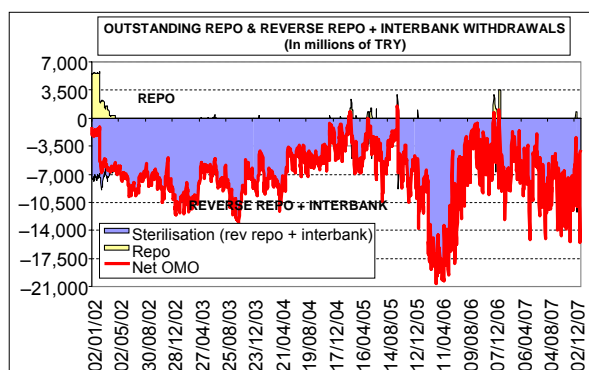
Figure 20
FX reserves of the CBRT
 In billions of US dollars



Source: CBRT.

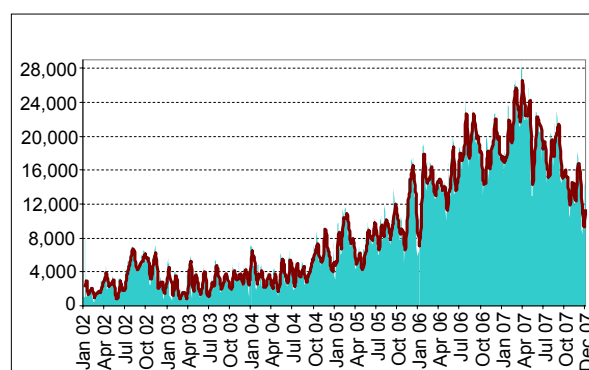
Because of these heavy FX purchases, there has been persistent excess TRY liquidity in the market. The CBRT's sterilisation strategy has been to improve the coordination between its liquidity management and the Treasury's debt management policies, and to withdraw remaining excess liquidity through open market operations (Figure 21). During 2002–07, as market conditions allowed, the Treasury increased the cash balances held with the CBRT to assist in the effective sterilisation of excess liquidity (Figure 22).

Figure 21
Excess TRY liquidity



Source: CBRT.

Figure 22
The Treasury's account with the CBRT
 In millions of TRY



Source: CBRT.

The CBRT has withdrawn the excess liquidity mainly via TRY deposit operations in the Interbank Money Market within the CBRT and via overnight reverse repo transactions in the Istanbul Stock Exchange repo market.

On the other hand, the CBRT Law empowers the CBRT to issue central bank liquidity bills for its own account with maturities up to 91 days that are tradable in the secondary markets. Within this legal framework, considering the fact that the upsurge in excess liquidity withdrawn via overnight maturity may undermine the efficiency and flexibility of monetary policies, the CBRT has decided to issue liquidity bills in addition to the existing open market instruments. The first group of liquidity bills, totalling TRY 735 million, was issued on 20 July 2007 with a

maturity of 32 days. The total amount of liquidity bills issued is TRY 3.3 billion. In July 2007, the CBRT also informed the market that if excess liquidity increased further and caused aggressiveness in the lending behaviour of the banking system, it would consider raising reserve requirements as an effective monetary policy instrument to withdraw excess liquidity permanently, and would prevent aggressive credit growth.

Excessive amounts of liquidity sterilised with short-term maturity may cause aggressiveness in lending activity, reduce the effectiveness of liquidity management and interest rate policy and contribute to excessive volatility in foreign exchange markets in case of external shocks. Therefore, to improve the effectiveness of liquidity management, the CBRT's strategy relies on a step-by-step approach: (i) up to some acceptable levels that will not trigger aggressiveness in banks' lending behaviour, the excess liquidity is withdrawn by short-term (eg overnight or weekly) transactions; (ii) beyond these critical levels, coordination with the Treasury should be improved and excess liquidity should be withdrawn with longer maturities, in order to prevent a sharp increase in domestic credits; (iii) if the excess liquidity still prevails and the Treasury is reluctant to go ahead with more sterilisation, central bank bills should be actively used; and (iv) if the active use of the central bank bills is not enough to control the domestic credit growth caused by excess liquidity, reserve requirements should be considered as an effective monetary policy instrument that will support the central bank's interest rate policy, although this is not currently popular in central banking.

(b) Prudential regulations

In order to smooth out the effects of capital inflows on the economy, in addition to FX reserve build-up and effective liquidity management policies, the authorities have also focused on prudential regulations for the banking system in line with the financial stability objective.

For this purpose, Turkey has concentrated on: (i) tight rules for the FX open positions, liquidity and capital adequacy ratio (CAR) of the banking system; (ii) transparency; (iii) risk management; and (iv) coordination with the CBRT and the Banking Regulation and Supervisory Authority (BRSA), rather than focusing on impediments to capital flows.

The CAR requirement is set as 8%, but the target for this ratio is increased to 12%. Banks which do not meet this requirement are not allowed to open new branches. In addition to capital adequacy and liquidity ratios, the net FX positions of the banking system are closely monitored. According to current regulations, "the absolute value of the foreign exchange net open position/own funds" standard ratio may not exceed 20%.

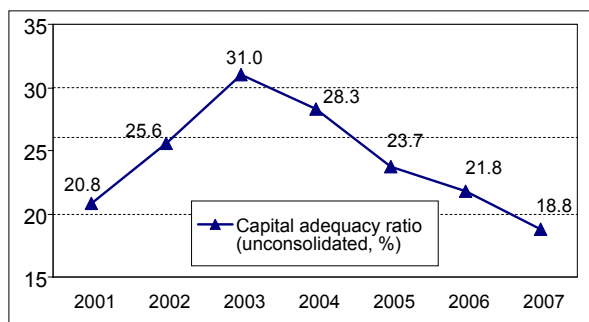
The BRSA also continues to maintain the capacity to evaluate the increasingly complex risk management procedures and risk models used by banks. More frequent on- and offsite bank examinations and increased reporting requirements (even daily for some types of data) are applied. Banks are examined according to a risk-based approach by taking all kinds of risks, including operational risk, into account. Moreover, stress testing has been enhanced. The Turkish authorities plan to implement Basel II as of January 2009. Finally, Turkey voluntarily joined the Financial Sector Assessment Program (FSAP) in 2006 to improve its financial system.

Although the unconsolidated CAR of the banking sector (the ratio of own funds to risk-weighted assets) declined from 31% in 2003 to 19% in 2007, it is still well above the target ratio of 12% (Figure 23). Accordingly, Turkish authorities always keep a close eye on the banking sector's open FX positions. The sector has been behaving cautiously on foreign exchange risks, and the banks have a negligible foreign exchange net position (Figure 24).

The authorities in Turkey focus not only on direct risks stemming from the banking system's net FX open positions, but also on indirect risks stemming from those of the non-bank sector. In order to limit risks associated with the non-bank sector's FX open positions, the CBRT has always warned the public about such risks and has supported the development of derivatives markets. For that reason, the CBRT conducts a detailed analysis on the net open positions of

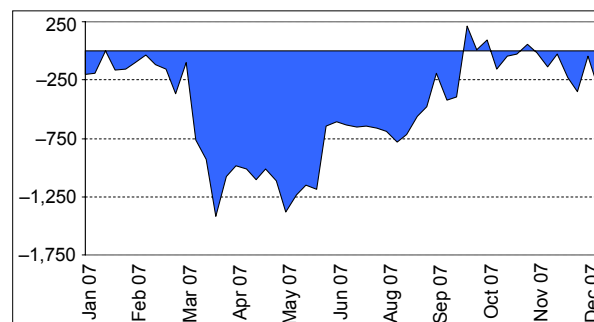
the non-bank firms by including all FX liabilities and assets in the *Financial Stability Report*, published every six months. As can be seen in Table 8, although the gross FX debt stock of the non-bank sector has increased significantly in recent years, the increase in net FX open positions has been relatively muted.

Figure 23
Capital adequacy ratio



Source: BRSA-CBRT.

Figure 24
Open FX positions



Source: CBRT.

Table 8
FX positions of the non-banking sector
In billions of US dollars

	December 2005	December 2006	June 2007	Change % (June 2007– December 2006)
Assets	49.5	67.1	72.4	8.0
Deposits	34.0	49.3	52.2	5.8
Securities	1.7	1.7	1.7	-4.8
Other	13.8	16.0	18.6	16.0
Liabilities	76.6	104.5	123.4	18.1
Cash loans	60.3	86.0	103.7	20.5
Domestic	21.1	25.1	28.6	13.8
Foreign	39.3	60.9	75.1	23.3
Other	16.3	18.5	19.8	6.8
Net position	-27.1	-37.4	-51.0	36.3

Source: *Financial Stability Report*, November 2007.

6. Conclusion

In recent years there has been a shift in the amount and structure of capital inflows to Turkey. As the amount of these inflows have reached unprecedented levels, the share of FDI and longer-term private sector credits has increased significantly. Taking into account the

structural changes in macroeconomic policies and improvements in economic fundamentals, it may be concluded that country-specific pull factors, rather than favourable global liquidity conditions, have been the main driver of capital inflows.

Although capital inflows have supported a rate of economic growth which has significantly exceeded historical averages, the CBRT has faced some challenges involving excess FX and TRY liquidity. In order to manage these challenges, the CBRT has focused on the FX reserve build-up without interrupting the floating exchange rate regime and effective sterilisation of excess TRY liquidity to control inflationary pressures. Furthermore, tight rules on capital and liquidity adequacy and FX open positions of the banking system have been maintained.

The main challenge for emerging countries, especially Turkey, will be to sustain capital inflows in case of changes in global liquidity conditions. In recent years, as a result of a rise in foreign investors' share in domestic markets and increased financial integration, the sensitivity of domestic markets and domestic credit conditions to developed country markets has increased significantly. This has been particularly apparent during recent periods of volatility in global financial markets. Of course, it will not be possible to avoid all the negative effects of a worsening in global liquidity conditions in the short run, but emerging countries can limit these negative effects by sustaining credible monetary and fiscal policies and structural reforms.