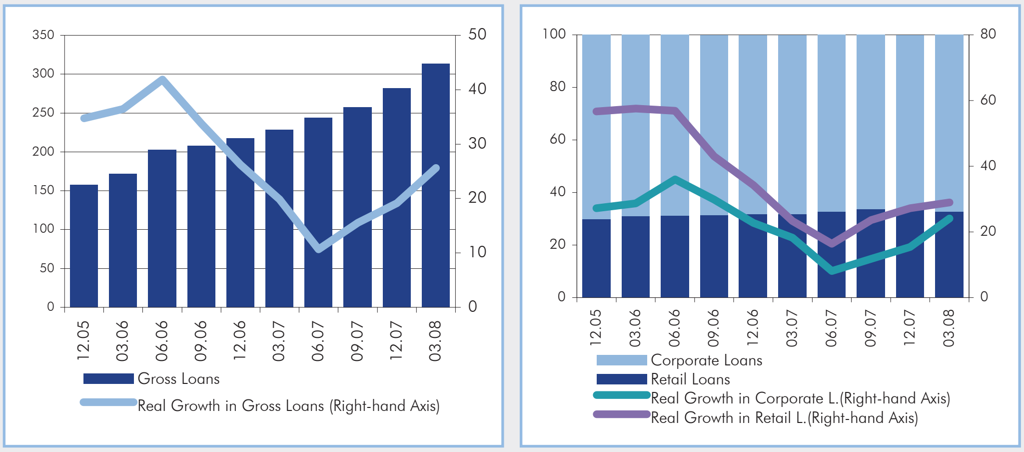
III. BANKING SECTOR RISKS

Participation banks, which have the same legal status as traditional banks but different operating principles, are excluded from the risk analyses of this section.

III.1. Credit Risk and Scenario Analysis

III.1.1. Credit Portfolio

Chart III.1.
Gross Loans, Gross Loans by Borrowers and Real Annual Growth Rates (Billion YTL, %)[1,2]



Source: BRSA-CBRT
(1) Expressed in real terms using CPI (1994=100).
(2) Annual percentage change as compared to the same month of the year.

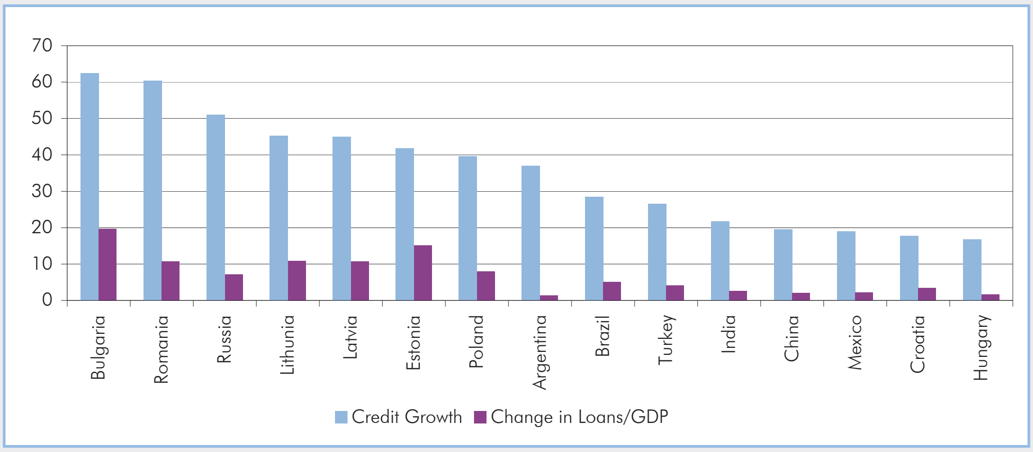
The gross credit volume[6] of the banking sector increased by 19.2 percent in real terms compared to the same period last year and reached YTL 281.4 billion by end-2007. The rate of increase of credit volume, which declined due to tight monetary policy being implemented since the second quarter of 2006, re-entered an upward trend from the second half of 2007 onwards. In March 2008, credits increased annually by 25.6 percent in real terms and reached YTL 313.3 billion (Chart III.1).

The growth rate of retail loans, which are the main determinant of the increase in gross credit volume in recent years, is affected more by the monetary tightening compared to corporate loans as they are mostly extended in Turkish currency. However, the rate of increase in retail loans resumed its upward trend from June 2007 onwards. The share of retail loans in total loans, which was 31.8 percent at end-2006, increased to 34 percent at end-2007, but decreased in March 2008 and became 32.7 percent (Chart III.1).

[6] Gross Loans = Total Loans + Gross NPLs

In the upcoming period, credit supply is expected to be determined by the course of turbulence in global markets. In this period, banks' tendency to hold more liquid portfolios will probably restrain credit growth, as well.

Chart III.2.
Credit Growth in Selected Countries and Change in Loans/GDP (2008) (%)



Source: IMF Global Financial Stability Report (April 2008)

Although Turkey's credit growth lagged behind that of Bulgaria, Romania, Lithuania, Latvia, Estonia and Poland, it stood at a high level of 26.5 percent in nominal terms at end-2007 (Chart III.2).

Table III.1. Some Selected Credit Ratios (Million YTL, %)

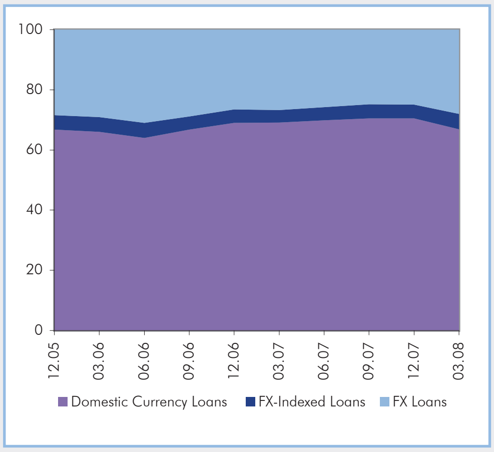
	2005	2006	2007	03.08
First 5 Banks[1]				
Total Gross Loans	87,889	127,494	162,452	180,354
Share in Total Gross Loans	55.8	58.5	57.7	57.6
NPLs/Total Gross Loans	3.9	4	3.8	3.1
Loans/Deposits	54.7	79.9	88.8	91.1
First 10 Banks[1]				
Total Gross Loans	127,913	183,154	236,833	262,556
Share in Total Gross Loans	81.2	84.1	84.2	83.8
NPLs/Total Gross Loans	5	3.8	3.6	3.1
Loans/Deposits	58.9	68.5	77.2	78.6
Sector				
Total Gross Loans	157,440	217,848	281,370	313,285
NPLs/Total Gross Loans	4.8	3.8	3.5	3
Loans/Deposits	64.8	73.5	82.3	83.9

Source : BRSA-CBRT
(1) The first 5 and 10 banks have been taken into consideration according to the gross loans.

By the end of 2007, the share in total loans of the first five banks that extended the majority of loans declined by 0.8 points compared to the end of the previous year, while the share of the first ten banks rose by 0.1 points. The share of these banks in the total credit volume declined in the first quarter of 2008. At end-2007, the NPL ratios of both groups declined by 0.2 points. Yet, despite the continued downward trend in March 2008, the ratios of both groups remained above the sector average.

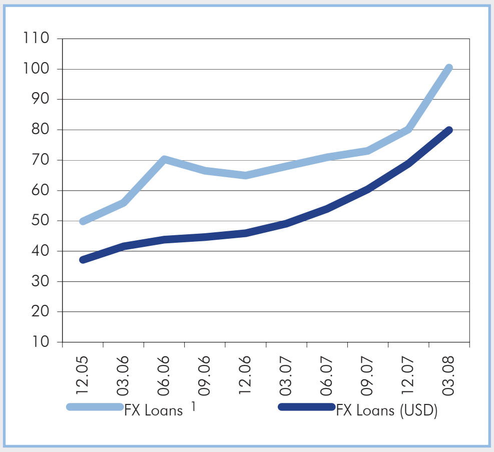
The loans to deposits ratio of the sector was realized as 82.3 percent as of end-2007 and reached its highest level in the last six years with a 1.6 point increase in March 2008. Meanwhile, the downward trend of NPL ratio continued although this was mainly due to the relatively higher increase in gross loans compared to that in non-performing loans. This decline is considered a favorable development as it indicates that the banking sector retained its soundness in a conjuncture where international banks face tremendous losses due to global fluctuations (Table III.1).

Chart III.3.
Currency Composition of Loans
(%, Excluding NPLs)



Source: BRSA-CBRT

Chart III.4.
FX Loans
(Billion YTL-USD, Excluding NPLs)



Source: BRSA-CBRT
(1) They were converted to USD using CBRT buying exchange rate as of month-end.

The share of domestic currency loans in total loans, which was 69.1 percent at the end of 2006, rose to 70.5 percent at the end of 2007 but went down to 66.9 percent in March 2008 (Chart III.3). Domestic currency loans, which displayed an increase of 33.8 percent compared to the same period of previous year, reached YTL 203.3 billion by March 2008.

FX loans[7], which amounted to YTL 64.9 billion as of year end 2006, reached YTL 80.1 billion at end-2007 with a 23.5 percent-increase and later rose to YTL 100.5 billion in March 2008 with an annual increase of 47.8 percent (Chart III.4). The low rate of increase in the Turkish lira equivalent of FX loans stemmed from the appreciation of the Turkish currency in the last one-year period. In March 2008, the USD equivalent of FX loans increased in annual terms by 62.9 percent.

[7] FX-indexed loans are considered within the scope of foreign currency loans.

Table III.2. Loan Distribution by Size (%, Excluding NPLs)

	Total Loans				Number of Customers			
	2005	2006	2007	03.08	2005	2006	2007	03.08
Greater than 1 Million YTL	41.5	42.1	39.8	42.5	0.04	0.05	0.05	0.06
Btw. 501 Thous.-1 Mil. YTL	4.5	4.6	4.8	4.6	0.03	0.05	0.05	0.05
Btw. 101-500 Thous. YTL	10.6	12.1	13.3	12.8	0.27	0.43	0.54	0.56
Btw. 51-100 Thous. YTL	5.6	6.7	7.8	7.7	0.4	0.67	0.87	0.91
Less than 51 Thous. YTL	37.8	34.5	34.3	32.5	99.26	98.81	98.48	98.42
Total	100	100	100	100	100	100	100	100

Source: BRSA-CBRT

The distribution of loans by size suggests that in March 2008, the share of loans over YTL 1 million increased compared to previous periods, while the shares of all other loan groups decreased (Table III.2). The share of the number of customers receiving loans over YTL 1 million increased. The shares of the number of customers of loans between YTL 101-500 thousand and YTL 51-100 thousand also increased while the amount of these loans decreased.

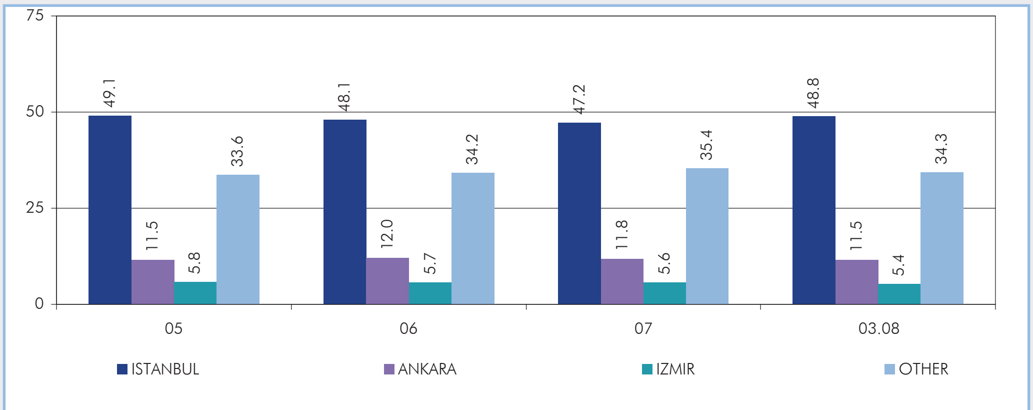
Table III.3. Maturity Structure of the Loans (%, Excluding NPLs)

	2005	2006	2007	03.08
Betw. 0-12 Months	45.3	41.3	39.9	39.5
Betw. 12-24 Moths	23.3	17.8	16.4	16.0
Over 24 Months	31.4	40.9	43.7	44.5

Source: CBRT

The lengthening in maturity of loans in 2007 continued in the first quarter of 2008, as well (Table III.3). The share of the loans with a maturity longer than 24 months increased due to the long maturities of most housing and other consumer loans. Although extension of the loan maturity is deemed favorable in managing household debt and facilitating payment, it increases the maturity mismatch risk of the banking sector.

Chart III.5.
Distribution of Loans by Provinces[1] (%)

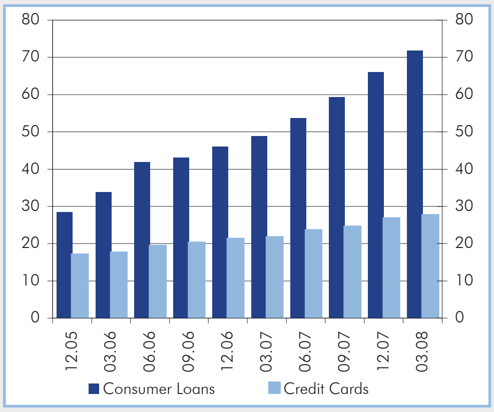


Source: CBRT

(1) Loans are compiled based on bank reporting under the scope of Central Bank Law No:1211, Article 44. They include corporate loans that are greater than ten thousand New Turkish Liras (inclusive) and retail loans that are greater than 5 thousand New Turkish liras (inclusive); extended to real and legal bodies by banks (including external loans used by firms with the intermediation of banks) They are inclusive of non-performing loans and accrued interest and exclusive of non-cash loans. Since October 2007, firms have been disclosing their NPLs without any limits.

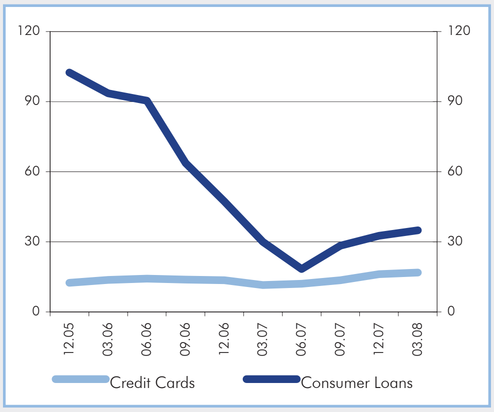
The geographical breakdown of loans shows that the shares of Ankara and Izmir in total loans continued to decrease as of March 2008, whereas the share of Istanbul increased compared to December 2007 (Chart III.5).

Chart III.6.
Retail Loans
(Excluding NPLs, Billion YTL)



Source: CBRT

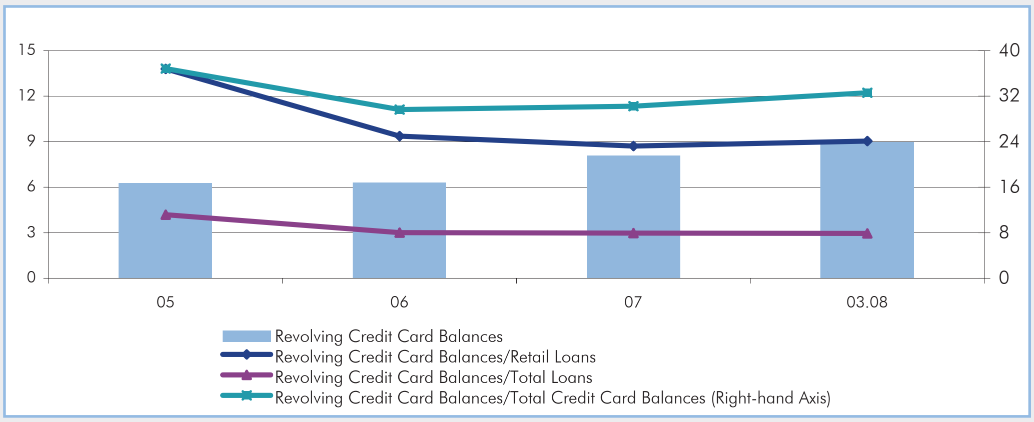
Chart III.7.
Real Annual Growth Rates of Retail Loans (%)[1,2]



Source: CBRT
(1) Expressed in real terms using CPI (1994=100).
(2) Annual percentage change as compared to the same month of the previous year.

The real rate of increase in consumer loans stood at 32.5 percent in 2007. Despite having lagged behind its level of 2006 (47.6 percent), the said ratio reaccelerated as of March 2008 and rose to 34.9 percent (Chart III.7). The real rate of increase in credit cards[8], which was 13.6 percent and 16.1 percent at end- 2006 and 2007, respectively, reached 16.8 percent as of March 2008 (Chart III.7).

Chart III.8.
Credit Card Revolving Rate[1] (Billion YTL, %)



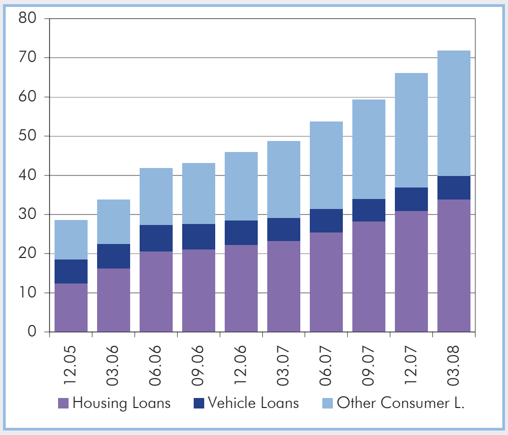
Source: CBRT
(1) Revolving credit card balances are the credit card balances which incur interest charges.

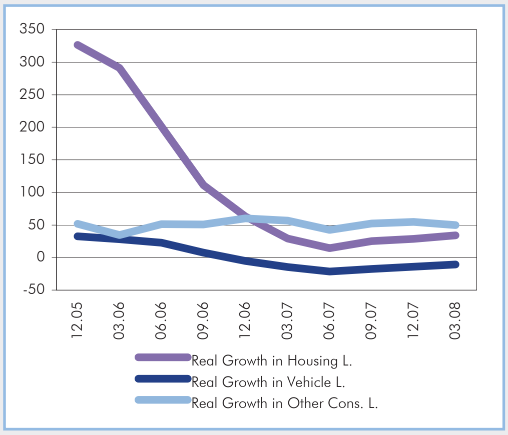
Meanwhile, although the part of credit card balances on which interest is charged has been increasing since 2005, its ratio to retail loans has maintained a horizontal course at 9 percent from 2006 onwards (Chart III.8).

8 Refers to the balance in the cash loans item, until credit card spendings and cash withdrawals are paid back to the Bank by the cardholder.

The upsurge observed in other consumer loans in 2007 stemmed from banks' campaigns targeted especially at wage earners. It is estimated that a certain amount of the other consumer loans extended in 2007 was used in the payment of the credit card debts with high interest rates.

Chart III.9
Consumer Loans by Type and Real Growth Rate (Excluding NPLs, Billion YTL, %)[1,2]

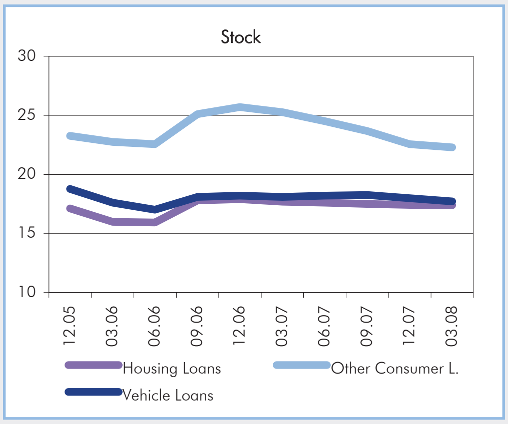


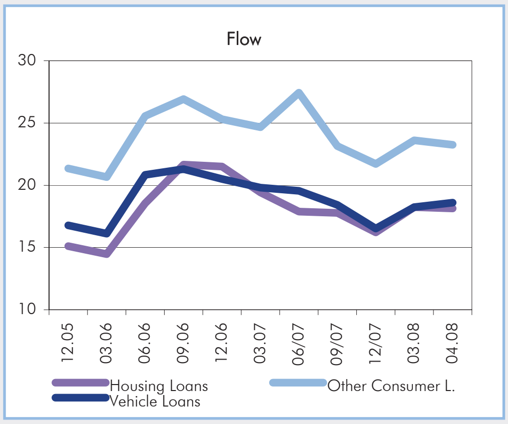


Source: CBRT
(1) Other consumer loans are consumer loans excluding housing and vehicle loans.
(2) Expressed in real terms using CPI (1994=100).

The real rate of increase in other consumer loans, which entered an upward trend from March 2006 onwards, was realized well above that of housing loans with 54.6 percent in 2007. Although the said rate of increase dropped to 49.6 percent by March 2008, it is still above that of housing loans. Meanwhile, vehicle loans have been declining in real terms since end-2006 (Chart III.9). As a result, the share of vehicle loans in consumer loans decreased while that of other consumer loans continues to increase. By March 2008, the shares in consumer loans of housing loans, other consumer loans and vehicles loans were realized as 47.3 percent, 44.6 percent and 8.1 percent, respectively (Chart III.9).

Chart III.10
Interest Rates (%)[1,2]





Source: CBRT
(1) Other consumer loans are consumer loans excluding housing and vehicle loans.
(2) Weighted average interest rates.

Flow interest rates reflecting the latest development of interest rates suggest that consumer loan interest rates, which dropped parallel to the cut in CBT policy rates in the last quarter of 2007, entered an upward trend due to fluctuations in international markets in 2008. In April 2008, the highest increase compared to end-2007 was observed in vehicle loans with 2.08 points, whereas interest rates of housing loans and other consumer loans increased by 1.93 points and 1.55 points, respectively (Chart III.10). Meanwhile, stock interest rates maintained a relatively horizontal course due to the fixed rates of consumer loans extended previously (Chart III.10).

Table III.4. Sectoral Decomposition of Corporate Loans (Excluding NPLs) (%)[1,2]

		Loans				FX Loans/Total Loans			
		2005	2006	2007	03.08	2005	2006	2007	03.08
1	Wholesale and Ret. Trade, Brokerage, Repair of Motor Vehicle	19.2	22.9	19.7	18.2	38.2	37.5	35.6	37.3
2	Transport, Storage and Communication	5.7	7.9	8.5	8.5	68.8	54.7	58.3	60.7
3	Textile and Textile Product Industry.	8.7	6.5	5.9	5.9	70.5	66.7	63.9	67.5
4	Construction	6.5	6.4	8.5	9.3	59.5	50.3	51.0	57.6
5	Industry of Tobac., Bever. and Food	7.3	5.5	5.8	5.5	47.9	46.2	43.5	48.1
6	Man. of Basic Metals and Fabricated Metal Prod.	5.5	5.5	5.8	6.2	73.9	73.5	70.6	73.8
7	Sources of Elect., Gas and Water	4.0	5.2	4.1	4.2	96.0	93.4	90.3	90.8
8	Agriculture, Hunting and Forestry	4.7	4.6	5.6	5.2	19.5	17.3	24.4	25.4
9	Man. of Machinery and Equipment	3.1	3.6	3.2	3.2	60.2	45.9	41.7	45.4
10	Hotels and Restaurants (Tourism)	3.1	3.4	3.1	3.5	77.6	75.8	71.2	76.2
	Total of 10 Sectors	67.9	71.4	70.2	69.6	55.8	51.7	50.3	54.1

Source: CBRT
(1) Loans are compiled based on bank reporting under the scope of Central Bank Law No:1211, Article 44. They include corporate loans that are greater than ten thousand New Turkish Liras (inclusive) and retail loans that are greater than 5 thousand New Turkish liras (inclusive); extended to real and legal bodies by banks (including external loans used by firms with the intermediation of banks) They are inclusive of non-performing loans and accrued interest and exclusive of non-cash loans.
(2) Excluding Financial Intermediation.

According to Central Bank Risk Center data, the share of the ten selected sectors in total corporate loans continued to decline and was realized as 69.6 percent as of March 2008. The sector with the largest share in total corporate loans is the “Wholesale and Retail Trade, Commissions and Motor Vehicles Services” with 18.2 percent, albeit its share is in decline. The shares of “Construction”, “Transport, Storage and Communication” and “Basic Metals and Fabricated Metal Products” in total corporate loans increased, whereas that of the “Textile and Textile Products Industry” continues to decrease. By March 2008, the depreciation of the Turkish lira was also influential in the rise in the share of FX-loans in total loans. Meanwhile, FX-loans especially in “Construction”, “Agriculture, Hunting and Forestry” and “Transport, Storage and Communication” sectors have been increasing since 2006 (Table III.4).

III.1.2. Non-Performing Loans

Non-performing loans increased by 20.1 percent at end-2007 compared to the same period last year and reached YTL 9.8 billion but later decreased to YTL 9.5 billion in March

2008. This actually stems from the amounts that have been written off, as the opportunity to collect these amounts no longer exists.

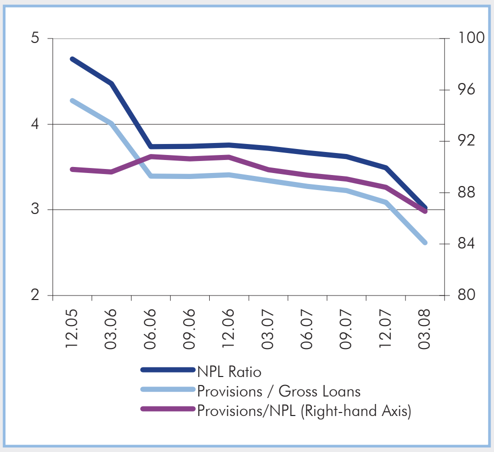
Table III.5. Total NPLs (Million YTL)[1]

	2005	2006	2007	03.08
Loans and Other Rec. with Limited Collectibility	813	1,149	1,356	1,423
Doubtful Loans and Other Receivables	775	820	1,634	1,822
Loans and Other Receivables Classified As Loss	5,907	6,212	6,837	6,221
Total NPLs	7,495	8,182	9,827	9,465

Source: BRSA CBRT
(1) Excluding İller Bank

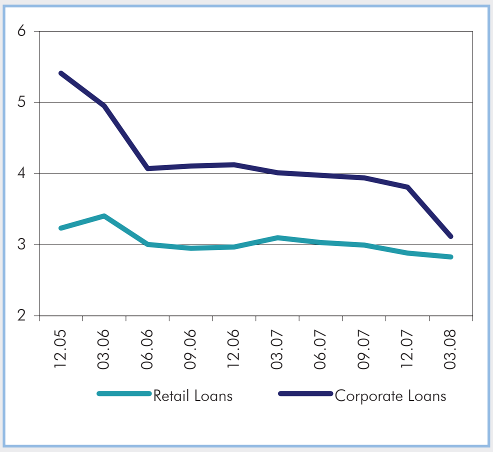
When the distribution of non-performing loans is analyzed, the share of loans and other receivables classified as loss maintains its dominance in the total non-performing loans in all periods. Meanwhile, the share of doubtful loans and other receivables, which was 10 percent at the end of the previous year, increased to 16.7 percent at end-2007 and then to 19.2 percent in March 2008 (Table III.5).

Chart III.11.
NPL Ratio and Provisions to NPLs (%)



Source: BRSA-CBRT

Chart III.12.
NPL Ratios for Retail Loans[1] and Corporate Loans[2] (%)



Source: BRSA-CBRT
(1) Retail Loans=Consumer Loans + Credit Cards
(2) Corporate Loans=Total Loans – Retail Loans

Despite the increasing amount of non-performing loans, the NPL ratio[9] maintained a downward trend in 2007. The provisions to non –performing loans ratio that was 90.8 percent at end-2006 declined to 86.5 percent in March 2008. The provisions to credits ratio exhibited a similar trend (Chart III.11).

[9] Non-Performing Loan Ratio= Gross Non-Performing Loans/ Gross Loans

Box 11.
Amendment to the Regulation on Provisions

Pursuant to the "Regulation to Amend the Regulation on the Principles and Procedures for the Determination of the Quality of the Credits and Other Receivables by Banks and Provisions That are To Be Reserved by Banks", which was published by the BRSA and was put into effect on February 6, 2008, general provisioning rate for the loans that are closely followed-up, which was equivalent to that of standard loans, was increased.

Accordingly, banks shall reserve as general provisions 1 percent of cash loans, 2 per thousand of the total of letters of guarantee, bill guarantees and other non-cash loans classified as standard and 2 percent of total cash loans, 4 per thousand of the total of letters of guarantee, bill guarantees and other non-cash loans classified as close follow-up.

When the development of non-performing loans is analyzed with respect to economic agents, it is seen that the NPL ratios for retail loans displayed a horizontal course, while that of corporate loans decreased. This decline mainly stemmed from the rise in corporate loans and the increase in the Turkish lira equivalent of corporate FX loans (Chart III.12).

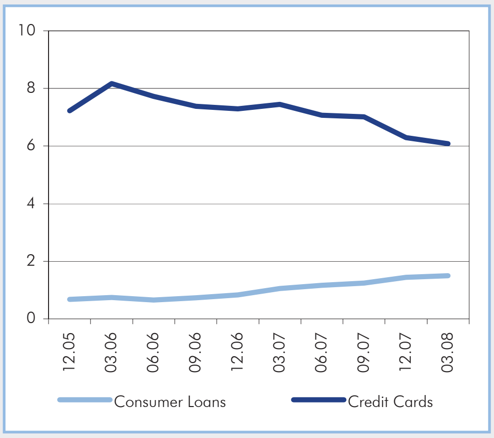
Table III.6.
NPL Ratios and Provisions to NPLs for Selected Countries (%)

	NPL Ratio				Provisions/NPLs			
	2005	2006	2007	Latest Data	2005	2006	2007	Latest Data
Argentina	5.2	3.4	2.9	Oct.	125.1	130.3	130.3	Oct.
Brazil	4.2	4.1	3.1	Sep.	151.8	152.8	182.4	Sept.
Bulgaria	2.2	2.2	2.2	Sept.	45.3	47.6	-	Sept.
Czech Republic	4.3	3.6	3	Sept.	63.2	58.5	56.4	Sept.
Croatia	6.2	5.2	4.9	Sept.	60	61.5	58.9	Sept.
Hungary	2.5	2.5	2.5	June	54.4	53.9	55.9	June
Latvia	0.7	0.4	0.4	Sept.	98.8	116.6	125.9	Sept.
Lithuania	0.6	1	0.9	Sept.	-	-	-	
Poland	7.7	3.5	3.1	Sept.	61.6	57.8	-	Sept.
Romania	8.3	8.4	9.1	Sept.	31.4	32	36.9	Sept.
Russia	3.2	2.6	2.6	June	156.3	159.3	-	Sept.
United Kingdom	1	0.9	-	Dec.	54	54.6	-	Dec.
USA	0.7	0.8	1.1	Sept.	155	137.2	104.8	Sept.
Turkey	3.9	3.2	3.6	Sept.	89.8	90.8	89.1	Sept.

Source: IMF Global Financial Stability Report, April 2008, BRSA-CBRT

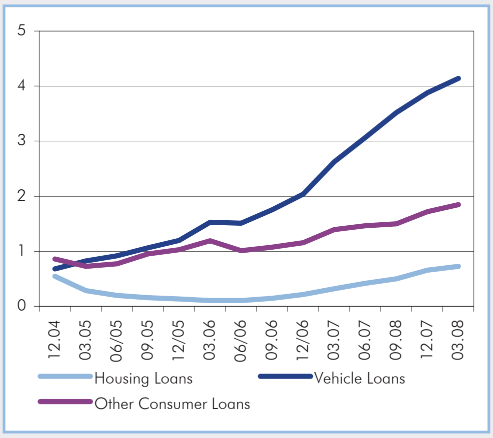
In 2007, the NPL ratio of Turkey remained below that of Romania and Croatia but displayed a higher trend compared to the NPL ratios of other selected countries. Meanwhile, it is seen that provisions to non-performing loans ratio for Turkey is higher than that of the selected countries excluding Brazil, Argentina and Latvia (Table III.6).

Chart III.13.
NPL Ratios for Retail Loans (%)



Source: CBRT

Chart III.14.
NPL Ratios[1] (%)



Source: CBRT
(1) Other consumer loans are consumer loans excluding housing and vehicle loans.

The NPL ratio of credit cards, which was above 8 percent in early 2006, entered a downward trend following the enforcement of the Law on Bank Cards and Credit Cards, and maintained this trend in 2007. In the last quarter of 2007, the NPL ratio of credit cards dropped significantly, as one bank wrote off the non-performing amounts of credit cards from its total assets. The said decline continued in the first quarter of 2008 and the NPL ratio of credit cards stood at 6.1 percent as of March 2008 (Chart III.13).

The NPL ratio of consumer loans has displayed an upward trend since the second half of 2006 and gradually increased from 0.8 percent at end-2006, to 1.4 percent at end-2007 and to 1.5 percent in March 2008 (Chart III.13). Based on types of consumer loans, vehicle loans have the highest NPL ratio. The said ratio increased further to 4.1 percent in March 2008. By March 2008, the NPL ratio of housing loans was realized as 0.7 percent, while that of other consumer loans increased to 1.8 percent (Chart III.14). Despite the high rate of increase in other consumer loans, their NPL amount also displays an upward trend.

Table III.7.
NPL Ratio for Some Selected Sectors (%)[1]

		2005	2006	2007	03.08
1	Wholesale and Ret. Trade, Brokerage, Repair of Motor Vehicle	3.9	2.3	3.3	3.4
2	Transport, Storage and Communication	3.4	1.3	1.2	1.2
3	Textile and Textile Product Industry.	10.0	11.2	11.7	9.5
4	Construction	4.3	4.0	2.4	1.9
5	Industry of Tobacco, Beverages and Food	3.8	3.8	4.7	3.7
6	Manufacture of Basic Metals and Fabricated Metal Prod.	2.7	0.9	1.1	0.7
7	Sources of Electricity, Gas and Water	0.2	0.2	0.1	0.1
8	Agriculture, Hunting and Forestry	3.4	3.1	3.2	3.5
9	Manufacture of Machinery and Equipment	5.0	2.1	2.1	1.6
10	Hotels and Restaurants (Tourism)	3.1	2.4	2.4	1.8
	Total of 10 Sectors	4.4	3.1	3.2	2.9

Source: CBRT
(1) Loans are compiled based on bank reporting under the scope of Central Bank Law No:1211, Article 44. They include corporate loans that are greater than ten thousand New Turkish Liras (inclusive) and retail loans that are greater than 5 thousand New Turkish liras (inclusive); extended to real and legal bodies by banks (including external loans used by firms with the intermediation of banks) They are inclusive of non-performing loans and accrued interest and exclusive of non-cash loans. Since October 2007, firms have been disclosing their NPLs without any limits.

According to the Central Bank Risk Center data, the downward trend observed in NPL ratios of "Construction", "Machinery and Equipment Industry" and "Hotel and Restaurants (Tourism)" sectors continued in March 2008, whereas NPL ratios of "Wholesale and Retail Trade, Commissions and Motor Vehicles Services" and "Agriculture, Hunting and Forestry" sectors have been increasing since 2006 (Table III.7).

Box 12.
Amendment to the Regulation on Risk Operations of The Customers of Banks and Other Financial Institutions

Risk Centralization system procedures, which are carried out by the Central Bank Risk Center in the framework of Article 44 of the Central Bank Law No.1211, have been amended with "The Regulation on Risk Operations of The Customers of Banks and Other Financial Institutions" promulgated in the Official Gazette No.26649, dated September 20, 2007. The data exchange with banks and other financial institutions since October 2007 is carried out in the framework of the principles and procedures defined in the "Circular on Risk and Notices of Protest" and in the notifications about credit limits and risks, total amount of receivables to be discharged are reported on a corporate basis regardless of their amount. Therefore, the data related to the default rates of corporate loans given in previous Financial Stability Reports have changed.

In the analysis of firms by sectors, the average default rate, which is calculated by dividing the number of loans monitored in the NPL accounts to total number of credits, rose to 7.2 percent by March 2008 (Table III.8).

The average default rate of the selected 10 sectors was realized as 5.8 percent in March 2008. Besides, default rates of "Wholesale and Retail Trade, Commissions and Motor Vehicles Services", "Textile and Textile Products Industry", "Food, Beverages and Tobacco Industry" and "Agriculture, Hunting and Forestry" remained above the average default rate of the selected 10 sectors by March 2008 (Table III.8).

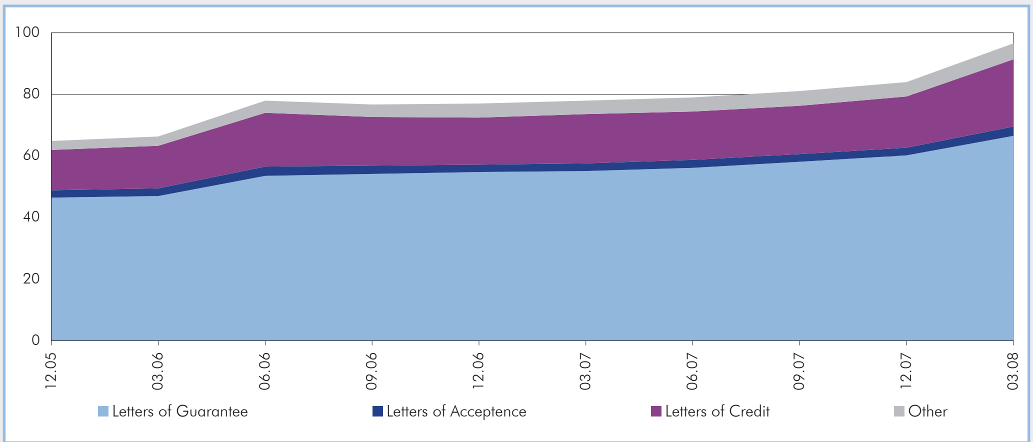
Table III.8.
Default Rates for Some Selected Sectors (Item, %)[1,2]

		10.07	12.07	03.08
1	Wholesale and Ret. Trade, Brokerage, Repair of Motor Vehicle	14.2	12.2	12.2
2	Transport, Storage and Communication	2.4	2.5	2.9
3	Textile and Textile Product Industry.	6.5	6.5	7.1
4	Construction	5.1	4.7	5.1
5	Industry of Tobacco, Beverages and Food	5.9	5.9	6.4
6	Manufacture of Basic Metals and Fabricated Metal Prod.	2.7	2.8	3.2
7	Sources of Electricity, Gas and Water	3.1	3.5	4.0
8	Agriculture, Hunting and Forestry	8.3	8.6	8.7
9	Manufacture of Machinery and Equipment	2.7	3.1	3.5
10	Hotels and Restaurants (Tourism)	4.5	4.7	5.1
	Total of 10 Sectors	5.5	5.4	5.8
	Total Corporate Sector	5.9	6.1	7.2

Source: CBRT
(1) Loans are compiled based on bank reporting under the scope of Central Bank Law No:1211, Article 44. They include corporate loans that are greater than ten thousand New Turkish Liras (inclusive) and retail loans that are greater than 5 thousand New Turkish liras (inclusive); extended to real and legal bodies by banks (including external loans used by firms with the intermediation of banks) They are inclusive of non-performing loans and accrued interest and exclusive of non-cash loans. Since October 2007, firms have been disclosing their NPLs without any limits.
(2) Excluding Financial Intermediation.

III.1.3. Non-Cash Loans

Chart III.15
Non-Cash Loans by Type (Billion YTL)



Source: BRSA-CBRT

The ratio of off-balance sheet liabilities, which include banks' non-cash loans and commitments, to total balance sheet size decreased gradually from 15.9 percent at year end-2006 to 14.9 percent at year-end 2007 and later increased again to 15.8 percent by March 2008.

The ratio of non-cash loans (Chart III.15), which are mainly composed of letters of guarantee and letters of credit, to cash loans was 35.4 percent at end-2006. This ratio decreased to 29.8 percent at end-2007 but then went up to 30.8 percent in March 2008. The share of foreign currency denominated non-cash loans was 64.5 percent in March 2008.

III.1.4. Credit Risk Scenario Analysis

With the aim of assessing the credit risk that the banking sector might be exposed to, analyses were conducted on how the CARs of banks might be affected by a probable increase in NPL ratios as of March 2008.

Within this framework, scenario analyses were conducted under the following assumptions:

i) The total credit amount of banks remains unchanged,

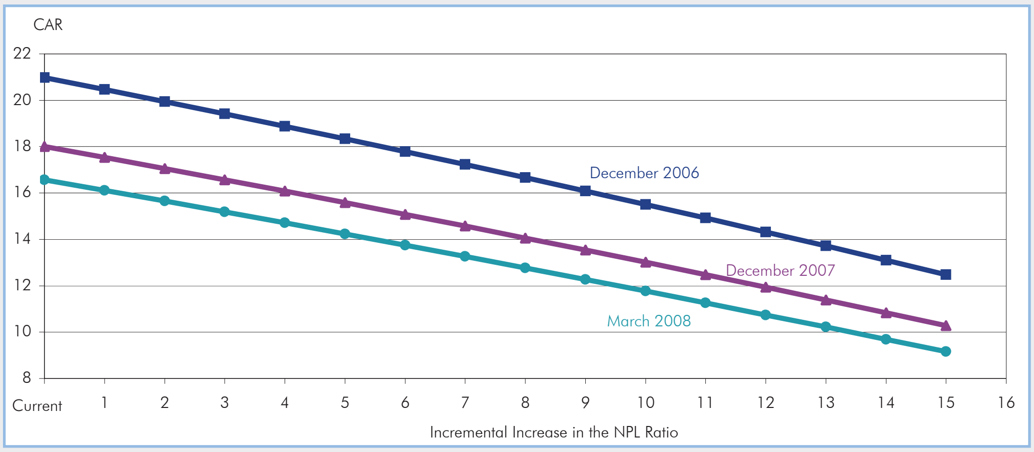
ii) NPLs resulting from shocks have the same composition as the existing NPLs of banks. For banks, which did not have any NPLs before the shocks, in the event of a shock, their post-shock NPLs are classified as "loans and other receivables with limited collectibility", setting aside a 20 percent provision.

iii) Post-shock NPLs are accounted in the 100 percent risk weight category for the calculation of pre-shock CARs.

iv) There is no change in the total risk weighted assets and own funds of the sector except for the shocks.

Moreover, collateral amounts were not taken into account when calculating additional provisions.

Chart III.16.
Effects of Credit Shocks on the CAR of the Sector (%)[1]



Source: BRSA-CBRT
(1) Excluding the SDIF Bank, Iller Bank and banks that do not have loans in their portfolio.

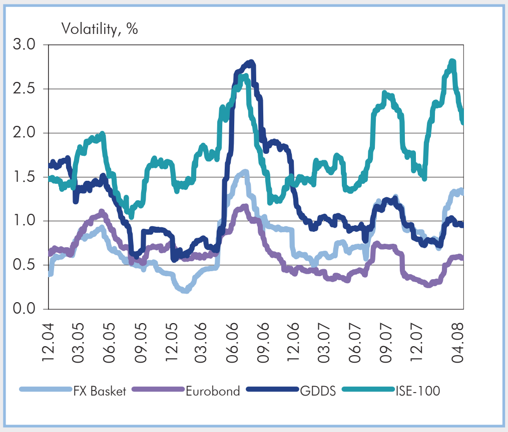
The scenario analysis focuses on the effects of 1-15 point-incremental increases in the NPL ratio of the CAR of the banking sector. Accordingly, the 15-point increase in the NPL ratio of the banking sector reduced the CAR of the sector by 8.5 points as of December 2006 and by 7.4 points as of March 2008 (Chart III.16). As a result of the maximum shock, the CAR of the sector decreased to 9.2 percent but still remained above the legal limit of 8 percent. As a result of the shocks exceeding 10 points, the CAR of the sector remained below the target ratio of 12 percent.

III.2. Market Risk and Scenario Analyses

In this section, where the implications of the developments in interest and FX risk on bank balance sheets are assessed, the impact of two scenarios based on hypothetical and historical data are analyzed.

III.2.1. Market Risk

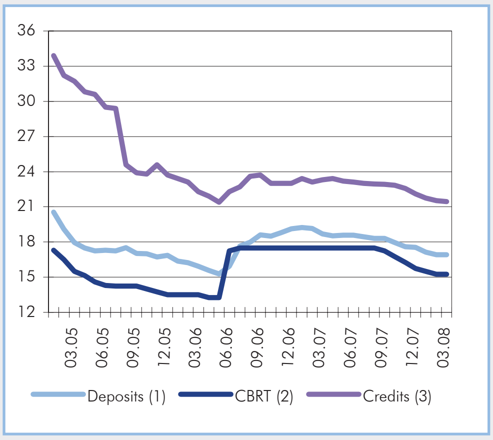
Chart III.17.
Foreign Exchange Rates, Interest Rates and Equity Prices[1]



Source: CBRT
(1) For volatility calculations, standard deviation of daily logarithmic yield of the related market instrument (60 day moving average) is used.
(2) 50 percent of the Foreign Exchange Basket is in USD and the rest is in Euro.
(3) Based on USD denominated Eurobond interest rate with 2030 maturity.
(4) Based on the interest rate on the GDDS with the largest transaction volume in the secondary market.
(5) Calculated by dividing ISE-100 by 1,000.

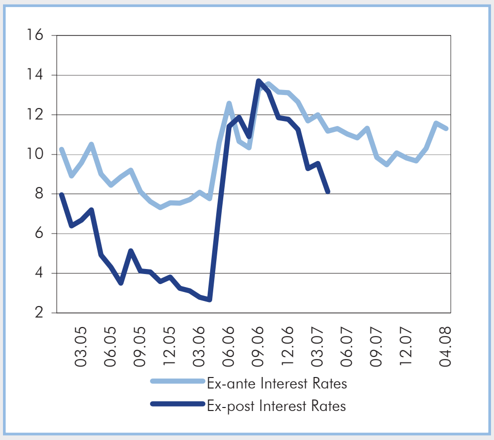
Fluctuations in international markets affected the financial markets in Turkey, as in other developing countries. Beginning in February 2008, the ISE index started to decline, interest rates on GDDS increased and YTL began to depreciate. Parallel to these developments, the volatility in financial markets increased. After the second half of April, the Turkish lira started to appreciate again and the volatility in the ISE index somewhat declined (Chart III.17).

Chart III.18.
Interest Rates (%)



Source: ISE, CBRT
(1) Banking sector 3-month weighted "stock YTL deposit" interest rate.
(2) CBRT overnight (O/N) borrowing rate.
(3)Banking sector weighted "stock YTL credit" interest rate.

Chart III.19.
Ex-ante[1] and Ex-post[2] Real Interest Rates of GDDS (%)

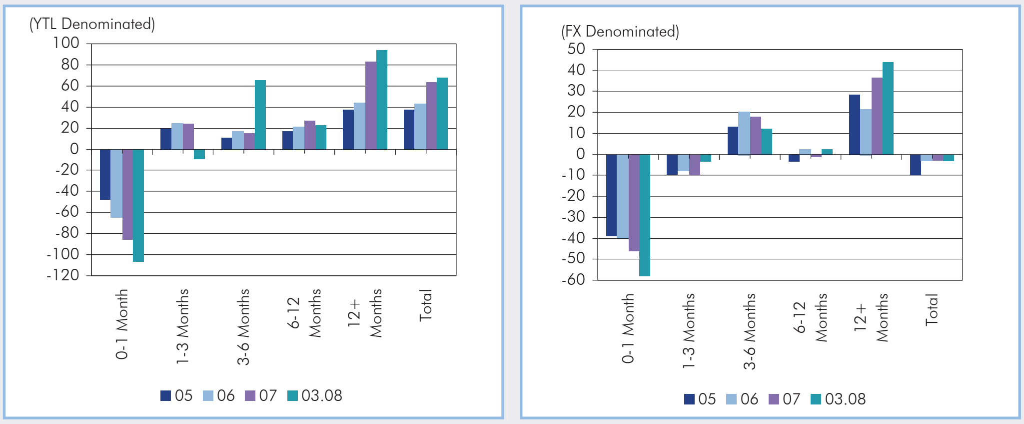


Source: Calculated by using the data of CBRT, ISE and TURKSTAT.
(1) Ex-ante interest rate=(((1+ nominal interest rate)/(1+expected inflation rate))-1)*100
(2) Ex-post interest rate=(((1+ last year's nominal interest rate)/(1+realized inflation rate))-1)*100
As expected inflation rate, yearly ex-ante CPI figures in the bi-weekly Survey of Expectations published by the CBRT are used.

In the September 2007-February 2008 period, interest rates on deposits and loans displayed a downward trend due to the decline in policy rates but started to increase as of March, parallel to developments in international markets (Chart III.18).

The expected real interest rate rose to 11.3 percent in April 2008 from 9.8 percent at year-end 2007 (Chart III.19).

Chart III.20.
Interest Rate Sensitivity Gap of the Banking Sector (Billion YTL)[1,2]

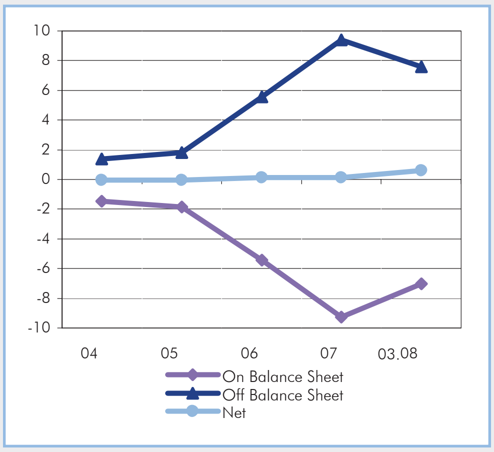


Source: BRSA-CBRT
(1) Time to re-pricing is used.
(2) Excluding SDIF bank.

In terms of the days to re-pricing period of the banking sector, it is observed that the negative interest-sensitive YTL and FX gaps were mainly concentrated in the 0-1 month maturity bracket, similar to previous periods (Chart III.20).

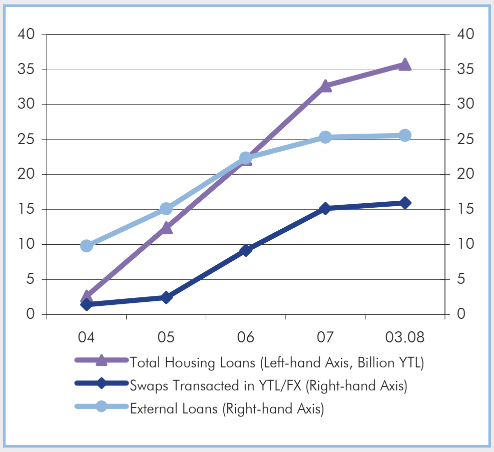
The positive sensitivity gap in the 1-3 month maturity bracket at end-2007 turned to negative in the March 2008 period. In terms of the overall position, while the interest rate-sensitive total YTL gap is positive, the interest rate-sensitive total FX gap is negative (Chart III.20).

Chart III.21.
Foreign Exchange Position of the Banking Sector[1] (Billion USD)



Source: BRSA
(1) Participation Banks are included.

Chart III.22.
Financing of Housing Loans and Swap Purchases (%)[1,2,3] (Billion YTL, Billion USD)



Source: BRSA-CBRT
(1) "External loans" consist of syndication and securitization loans.
(2) The banks which extend housing loans are taken into consideration.
(3) Participation Banks are excluded.

The course of net overall FX position of the banking sector is almost balanced, while the on-balance sheet position is short (Graph III.21).

The main reason for the banking sector to have a high on-balance sheet short position is the funding of YTL denominated loans by foreign currency resources. Banks convert a portion of their long-term foreign currency loans from abroad into Turkish currency through swap operations and extend long-term housing loans (Chart III.22).

Banking sector, which offsets its on-balance sheet short position with the off-balance sheet long position, has USD 40.3 billion invested in selected derivative assets in YTL as the counter currency, as of March 2008. USD 35.4 billion of this amount is conducted with financial sector institutions.

III.2.2. Scenario Analyses

III.2.2.1. Interest Rate and Exchange Rate Increases

In this section, the individual and collective effects of interest rate increases and appreciation of exchange rates on the banking sector are analyzed under two different scenarios assuming that the shocks occur independently.

Under Scenario A, it is assumed that Turkish lira depreciates by 30 percent against other currencies, the interest rates for the Turkish currency and foreign currencies increase by 6 and 5 points, respectively, and Eurobond prices decline by 5 percent.

Under Scenario B, it is assumed that Turkish lira depreciates by 30 percent against other currencies, interest rate increases are twice the interest rate fluctuations observed during the 2006 May-June period, and Eurobond prices decrease by 5 percent[10].

Table III.9. Interest and FX Rate Increase Scenarios

	SCENARIO A	SCENARIO B
A. Depreciation of YTL	30 percent depreciation of YTL against other currencies	30 percent depreciation of YTL against other currencies
B. Interest Rate Increase-YTL	Re-pricing of YTL interest sensitive assets and liabilities falling in 0-1 and 1-3 month maturity brackets at 6 points higher	Re-pricing of YTL interest sensitive assets and liabilities falling in 0-1, 1-3, 3-6 month maturity brackets at 9, 8, 11 points higher, respectively.
C. Interest Rate Increase-FX	Re-pricing of YTL interest sensitive assets and liabilities falling in 0-1 and 1-3 month maturity brackets at 5 points higher	Re-pricing of YTL interest sensitive assets and liabilities falling in 0-1, 1-3, 3-6 month maturity brackets at 1.1, 0.7, 1.1 points higher, respectively.
D. Trading Portfolio-YTL[1]	6 points increase in market interest rates of YTL denominated fixed income securities in the trading portfolio	Increase in market interest rates of YTL denominated fixed income securities in the trading portfolio by 9, 8, 11 points for the 0-1, 1-3, 3-6 month and remaining maturity brackets, respectively.
E. Eurobond Portfolio	Decrease in prices of Eurobonds in the trading portfolio by 5 percent	Decrease in prices of Eurobonds in the trading portfolio by 5 percent

Source: CBRT
(1) BRSA defines the trading portfolio as "Securities in the trading portfolio" and "Securities available for sale" in accordance with the description of the Basel Committee.

FXNGP data was used in calculating the effects of exchange rate appreciation on the sector. While calculating the impact of interest rate increases on the sector, the re-pricing gap method, which complements the standard method and is recommended by the Basel Banking Committee, was employed. In this framework, the difference between interest rate-sensitive assets and liabilities in the time to repricing maturity brackets of 0-1, 1-3, and 3-6 months were used.

In the scenario analyses based on repricing, it was assumed that:

- The interest rate sensitivity of banks' assets and liabilities has remained unchanged throughout the analysis period,

- Demand deposits are not interest rate-sensitive,

- There are no new fund inflows or outflows,

- The interest rate increase would last for 3 months in scenario A and for 6 months in scenario B.

[10] GDDS interest rates have been taken into account for the interest rate increases following the May-June 2006 fluctuations.

The loss of value in the Turkish currency-denominated discount securities within the trading portfolio and the Eurobond portfolio to stem from the rise in interest rates has also been calculated.

Table III.10. Results of Market Risk Scenarios[1] (Million YTL)

	Scenario A			Scenario B		
	2006	**2007**	**03.08**	**2006**	**2007**	**03.08**
A. YTL Depreciation						
a. Total	80.36	7.26	258.49	80.36	7.26	258.49
Profit (Loss)/Equity (%)	0.16	0.01	0.36	0.16	0.01	0.36
b. Banks Gaining Profits	269.73	226.48	417.30	269.73	226.48	417.30
c. Banks Suffering Losses	-189.37	-219.21	-158.80	-189.37	-219.21	-158.80
Loss of Banks Suffering Loss/Equity (%)	-1.41	-0.09	-0.13	-1.41	-0.09	-0.13
B. Interest Rate Increase						
a. YTL	-172.20	-466.29	-1,236.61	258.30	-725.14	-103.98
b. FX	-290.24	-425.69	-485.31	-1.97	-71.39	-145.79
Profit (Loss) due to Interest Rate Incr. (a+b)	-462.44	-891.98	-1.721.92	256.33	-796.54	-249.77
Profit (Loss) due to Interest Rate Incr./Equity (%)	-0.89	-1.33	-2.43	0.49	-1.18	-0.35
C. YTL Trading Portfolio						
Loss in Value due to Interest Rate Incr.	-1,549.42	-2,342.07	-2,569.87	-2,701.65	-4,058.21	-4,442.79
Loss in Value due to Int. Rate Incr./Equity (%)	-3.00	-3.49	-3.63	-5.23	-6.04	-6.29
D. Eurobond Portfolio						
Loss in Value	-631.58	-695.99	-831.84	-631.58	-695.99	-831.84
Loss in Value/Equity (%)	-1.22	-1.03	-1.17	-1.22	-1.03	-1.17
E. Total Impact						
Profit/Loss	-2,563.09	-3,922.78	-4,865.15	-2,996.54	-5,543.49	-5,265.91
(Profit/Loss)/Equity (%)	-4.96	-5.84	-6.88	-5.90	-8.26	-7.45
Current CAR of the Sector (%)	**19.78**	**17.44**	**16.01**	**19.78**	**17.44**	**16.01**
After-Shock CAR of the Sector[2] (%)	**18.80**	**16.42**	**14.90**	**18.63**	**16.00**	**14.81**

Source: CBRT
(1) Excluding SDIF bank. T. Kalkınma Bank. Iller Bank and Eximbank.
(2) After-shock profit/loss amounts under the scenarios are assumed to affect only equity but not the risk weighted assets.

III.2.2.1.1. Depreciation of YTL

Due to the exchange rate shock, the banking sector incurs a profit as of March 2008 owing to its long position. Meanwhile, the share of losses of banks in equity, arising from their open positions caused by the exchange rate shock, does not mark a significant change compared to end-2007 (Table III.10).

III.2.2.1.2. Interest Rate Increases and Loss in Value

i) As a result of scenarios A and B, the YTL denominated interest income declines as of March 2008. In Scenario A, the decline in interest income is rather high compared to end-2007, owing to the increasing short position in the 0-1 month maturity bracket and long position in the 1-3 months maturity bracket turning into a short position. As for scenario B, based on the assumption that the shock will last for 6 months, the significant increase in the long position in the 3-6 month-maturity bracket limits the decline in interest income arising from shocks, compared to 2007.

As for foreign currency, interest income declines as a result of the shock in both scenarios. The level of the decline does not display a remarkable change compared to end-2007 under Scenario A, while it increases due to the downward trend in the long position in the 3-6 month-maturity bracket under Scenario B.

As of March 2008, while the ratio of the total effect of interest rate shocks to equity increases under Scenario A due to the high level of decline in interest income, it decreases under Scenario B due to the slight decline therein.

ii) The loss in the market value of Turkish currency denominated discount securities arising from interest rate increases went up slightly in March 2008. Nevertheless, the ratio of these losses to equity does not mark a noteworthy change particularly under Scenario A.

iii) The loss of value in the Eurobond portfolio increases compared to end-2007.

In conclusion, as of March 2008, losses increased under Scenario A and decreased under Scenario B, compared to the figures observed at end-2007. A decline of 1 percentage point in the capital adequacy ratio is seen under both scenarios.

Chart III.23.
Impacts of the Scenarios on the Largest 10 Banks of the Sector[1]

(1) Largest 10 Banks considering their share in total assets are included in the analysis.

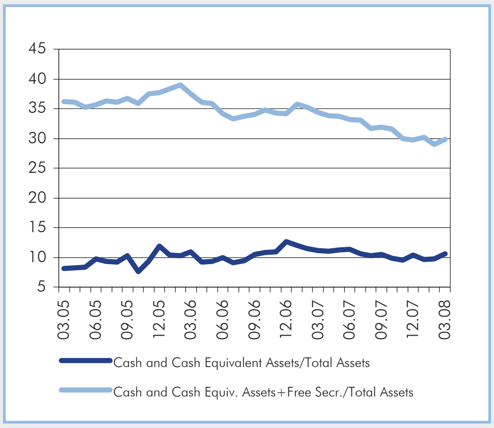
When the impact of Scenario A and B on the CARs of the 10 banks with the highest share in assets are analyzed, even though their maximum, minimum, and average CAR levels did not decline below the legal limits, they were below the levels of end-2007.

III.3. Liquidity Risk[11]

The ratio of liquid assets of the banking sector comprising of cash and cash equivalent assets to total assets has exhibited a declining trend since early 2007 and was maintained at a level of 10 percent. As of March 2008,with a slight acceleration, it was realized as 10.6 percent as a result of the increase in the "due from banks" item.

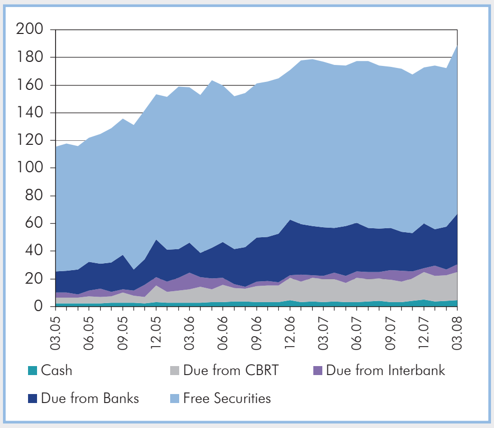
When the free securities not used as collateral or for repo transactions are taken into consideration, this ratio also displayed a tendency to decline, but as of March 2008 it showed a limited increase and stood at 29.8 percent because of the rise in the due from banks and the free securities (Chart III.24).

Chart III.24.
Liquidity Ratios (%)[1,2]



Source: BRSA-CBRT
(1) Cash and Cash Equivalent Assets =Cash + Due from CBRT + Due from Interbank +Due from Banks.
(2) Free Securities = Securities that are not used as collateral or for repo transactions.

Chart III.25.
Liquid Assets (Billion YTL)



Source: BRSA-CBRT

Within the cash and cash equivalent assets, "due from banks" has the largest share. (Chart III.25). The most remarkable development as of March 2008 has been the increase in the due from banks item and the free securities portfolio.

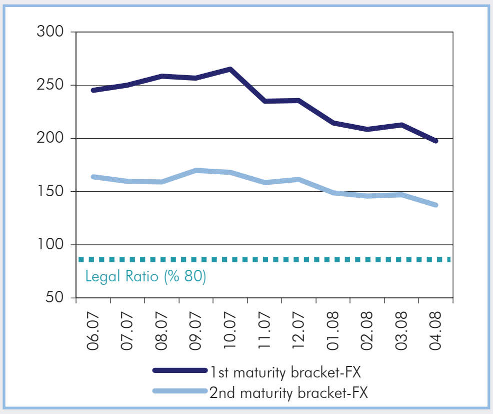
Chart III.26.
Free Securities and Liabilities[1] (Billion YTL, %)

Source: BRSA-CBRT
(1) Participation banks are not included in this calculation.

[11] Participation banks are included in the assessments made in this chapter.

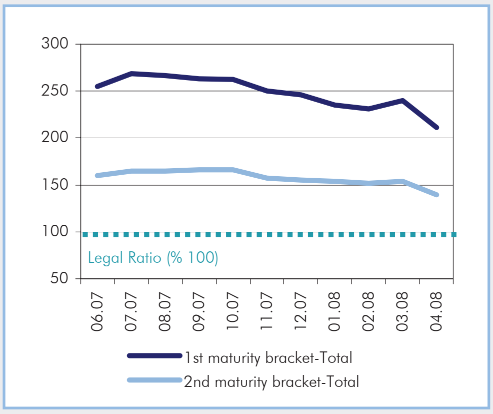
The ratio of free securities, which can be accepted as collateral by the Central Bank to provide liquidity in the event of a temporary liquidity shortage, to liabilities was 22.6 percent in March 2008. The free portfolio/deposits ratio was 32.6 percent as of the same date (Chart III.26). Both ratios have been unchanged since the year-end.

Chart III.27.
FX Liquidity Adequacy Ratios (%)



Source: BRSA-CBRT

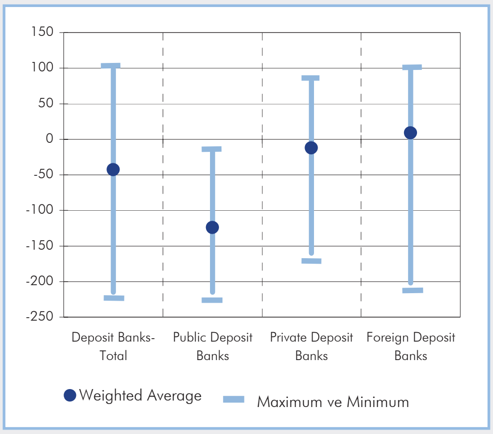
Chart III.28.
Total Liquidity Adequacy Ratios (%)



Source: BRSA-CBRT

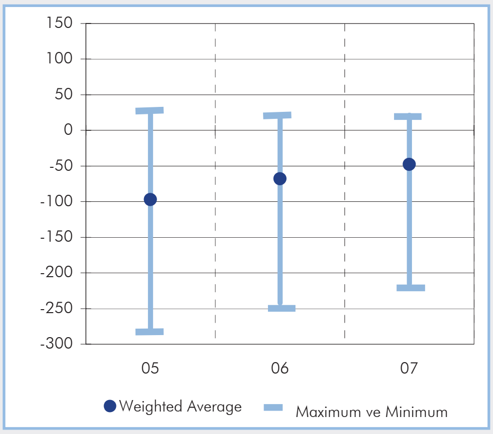
The liquidity adequacy ratios of the banking sector, calculated pursuant to the "Regulation Relating to the Measurement and Assessment of Liquidity Adequacy of Banks", are well above the legal ratio[12] for both total and foreign currency and for the 1st and 2nd maturity brackets[13] despite their downward trend since the last quarter of 2007 (Chart III.27 and Chart III.28). The sharp downward movement in the said ratios observed in April 2008 is mainly due to the amendments to the legislation introduced on 5 April 2008 (Box 13).

Chart III.29.
Funding Gap (%)[1,2]



Source: BRSA-CBRT
(1) Funding Gap = (Customer Credits-Deposits)/Customer Credits
(2) Birleşik Fon Bankası (Bank under SDIF) is excluded.

Chart III.30.
Funding Gap for the 10 Largest Banks With Respect to their Asset Size (%)



Source: BRSA-CBRT

12 These ratios, for both maturity brackets, are defined as 100 percent for the total liquidity and 80 percent for FX liquidity.
13 Assets and liabilities with remaining maturity of 0 to 7 days are included in the 1st maturity bracket and those between 0 and 31 days are in the 2nd.

As the sum of the loans granted by the deposit banks to the non-financial sector is lower than the deposits belonging to the non-financial sector as of 2007, these banks have a funding surplus; however, this varies among banks. An analysis of bank groups indicates that public deposit banks have a funding surplus by nature and the value range is comparatively less. (Chart III.29). As for the foreign deposit banks group, some banks are more dependent on more volatile interbank funds, which leads the group to have a funding deficit. An analysis of the first 10 banks in terms of asset size suggests that the differentiation among the banks diminished as of 2007 (Chart III.30).

Box 13.
Amendments to the Regulation Relating to the Measurement and Assessment of Liquidity Adequacy of Banks

The regulation issued by the BRSA to ascertain that banks have adequate cash assets and inflows to fully and duly meet their cash outflows and to ensure more efficient liquidity management, was amended on April 5 2008. With the amendment, the rate of consideration for overdraft loans included under liquid assets was reduced to 45 percent from 90 percent of stock value, regardless of maturity. This change was influential in the downward movement of ratios. Based on the data of the week of 25 April 2008, excluding other effects, the ratios marked a decline of 8 percent in the 1st and 7 percent in the 2nd maturity brackets, due to this amendment.

Another change is related to a new ratio calculated by stock values and a hundred percent consideration rate. Under this arrangement, the weekly simple arithmetical average of the ratio of the sum of the selected asset items to the sum of selected liability items that are calculated daily over stock values regardless of maturity, should not be less than seven percent. However, this ratio is foreseen to be applied as at least five percent in the first 3 months and at least six percent for the second 3 months. This ratio stood at 10.1 percent for the sector in the week of 25 April 2008.

III.4. Financial Strength Index

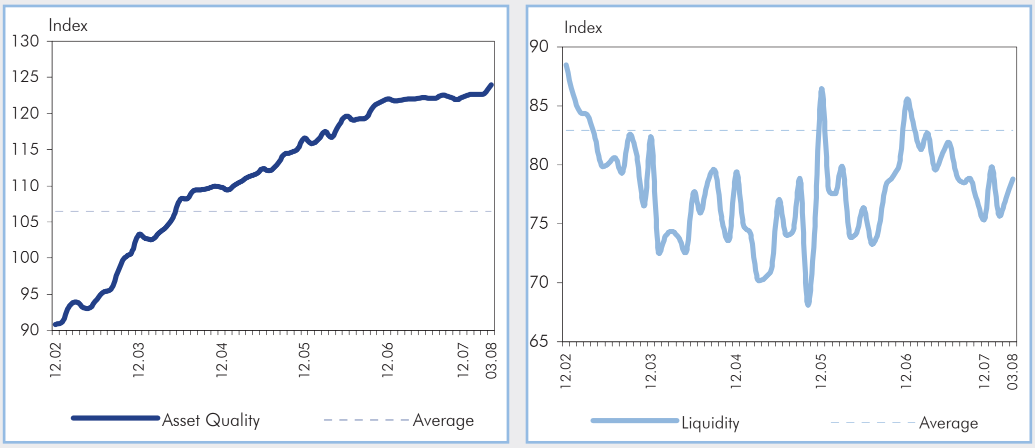
The Financial Strength Index (FSI) is computed with the aim of forming an "aggregate indicator" relating to the direction of the financial strength of the banking sector. Six sub-indices (asset quality, liquidity, exchange rate risk, interest rate risk, profitability, and capital adequacy) were used to form this index. Ratios projecting the risks and fragilities of the banking sector were selected under each sub-index and these ratios formed the index with certain weights (Table III.11).

Table III.11 Financial Strength Index Variables

	Financial Strength Indicators	Direct. of the Impact	Weight
Asset Quality	Gross Non-Performing Loans / Gross Loans	negative	0.33
	Net NPL/Shareholders Equity	negative	0.33
	Fixed Assets/Total Assets[1]	negative	0.33
Liquidity	Liquid Assets/Total Assets[2]	positive	1.00
Exchange Rate Risk	On-Balance Sheet FX Position/Own Funds[3]	negative	0.50
	FX Net General Position / Own Funds[4]	negative	0.50
Interest Rate Risk	(Interest Sensitive YTL Assets with a Maturity up to 1 Month–Int. Sensitive YTL Liabilities with a Maturity up to 1 Month)/Equity[5]	negative	0.50
	(Interest Sensitive FX Assets with a Maturity up to 1 Month–Int.Sensitive FX Liabilities with a maturity up to 1 Month)/Equity[5]	negative	0.50
Profitability	Net Profit / Total Assets	positive	0.50
	Net Profit / Shareholders Equity	positive	0.50
Capital Adequacy	Free Capital / Total Assets [6]	positive	0.50
	Capital adequacy Ratio	positive	0.50

(1) Fixed Assets consist of subsidiaries, assets to be sold, fixed assets and net non-performing loans.
(2) Liquid Assets consist of cash, due from the CBRT, due from money market, due from banks and receivables from reverse repo transactions.
(3) Own funds is the regulatory capital, and it is different from the equity in the balance sheet. The calculation is in absolute values.
(4) Foreign exchange net open position is the sum of on and off balance sheet foreign currency positions. The calculation is in absolute values.
(5) The calculation is in absolute terms.
(6) Free capital is calculated by deducting fixed assets from equity.

Chart III.31.
Finansal Strength Sub-Indices[1] (1999=100)



Source: BRSA-CBRT
(1) The averages used are the averages of related sub-indices between December 1999 and March 2008.

The assessment of the sub-indices that form the FSI is as follows (Chart III.31);

i. Asset Quality Index: Asset Quality Index, which was 122.7 at end-2007, rose to 124 in March 2008 due to the recovery mainly in the NPL ratio.

ii. Liquidity Index: The Liquidity Index, which was 79.8 at end-2007, dropped to 78.8 in March 2008 owing to the limited decline in the share of liquid assets in total assets.

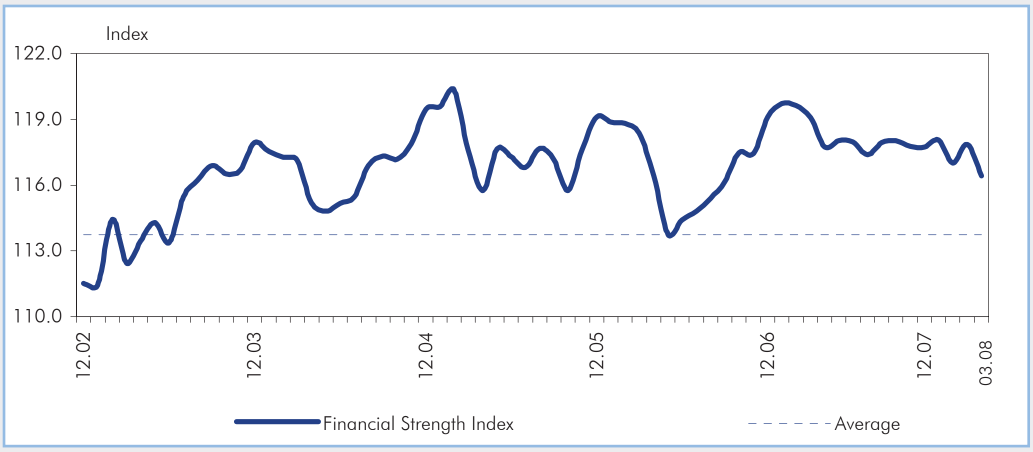
iii. Exchange Rate Risk Index: The Exchange Rate Risk Index, which was 125.6 at end-2007, rose to 126.1 in March 2008. Due to the limited open position of the banking sector, this index follows a stable course.

iv. Interest Rate Risk Index: The Interest Rate Risk Index, which was 127.3 in December 2007, fell to 121.4 in March 2008. The increase in the ratio of the difference between YTL-denominated interest-sensitive assets up to 1 month and interest sensitive liabilities up to 1 month to equity was instrumental in this decline of the interest rate risk index.

v. Profitability Index: The index, which was 107.8 at end-2007, declined to 107.5 in March 2008 due to the decrease in the return on assets of the banking sector.

vi. Capital Adequacy Index: The index, which stood at 145 at end-2007, fell to 140.7 in March 2008, owing to the increase in loans as well as the change in the risk weights of letters of guarantee and letters of credit that came into effect in January.

Chart III.32.
Financial Strength Index[1] (1999=100)



Source: BRSA-CBRT
(1) The average used is the average of financial strength index between December 1999 and March 2008.

The Financial Strength Index monitored as an indicator of the stability of the banking sector, dropped to 116.4 in March 2008 due to the decline in the Profitability, Capital Adequacy and Interest Rate Risk Indices.