

# **MONETARY POLICY REPORT**

**APRIL 2002**



***CENTRAL BANK OF THE  
REPUBLIC OF TURKEY***

## CONTENTS

<b>GENERAL ASSESSMENT</b> .....	1
<b>I. DEVELOPMENTS IN PRICES</b> .....	4
I.1. Developments in Consumer Prices .....	5
I.2. Developments in Wholesale Prices .....	8
I.3. Inflation Expectations.....	12
<b>II. MONETARY AND EXCHANGE RATE POLICY</b> .....	18
II.1. The General Framework of Monetary and Exchange Rate Policy.....	18
II.2. Developments in Monetary Aggregates.....	20
II.3. Developments in the Foreign Exchange Market.....	23
II.4. Developments In Interest Rates.....	25
II.5. Developments on the Central Bank Balance Sheet.....	27
<b>III. DEVELOPMENTS IN FINANCIAL MARKETS</b> .....	32
III.1. The Banking Sector.....	32
III.2. The Securities Market.....	43
<b>IV. PUBLIC FINANCE AND DOMESTIC DEBT STOCK</b> .....	44
IV.1. Revenues.....	44
IV.2. Expenditures .....	45
IV.3. Consolidated Budget Deficit and Financing.....	46
IV.4. Domestic Debt Stock .....	46
<b>V. DEMAND AND OUTPUT</b> .....	49
V.1. Demand Developments.....	49
V.2. Developments in Labor Market.....	55
<b>VI. BALANCE OF PAYMENTS</b> .....	57
VI.1. Developments in Foreign Trade.....	57
VI.2. Current Account.....	61
VI.3. Capital Account.....	62
<b>VII. DEVELOPMENTS IN WORLD ECONOMY</b> .....	63

<b>VIII. ASSESSMENT OF INFLATION OUTLOOK FOR FUTURE</b>	67
<b>VIII. A. FUNDAMENTAL FACTORS<sup>ii</sup> AFFECTING INFLATION</b> —————	67
VIII.A.1. Developments in Overall Demand and Overall Supply—————	67
VIII.A.2. Developments in Exchange Rate—————	72
VIII.A.3. Developments in Public Prices—————	72
VIII.A.4. Global Economic Conditions—————	72
VIII.A.5. Developments in Prospects for Inflation—————	74
VIII.A.6. Fundamental Assumptions and Possible Risks—————	74

## GENERAL ASSESSMENT

*The continuing empowered monetary, financial as well as structural fundamentals of the Strong Economy Program, additional foreign financing by the IMF, restructuring non-cash domestic debt stock, and consequently decreasing doubts on the sustainability of domestic debt increased the confidence in the Program. Accordingly, financial markets have become stable, the Turkish lira began to appreciate as of November, and a downward trend was observed in Treasury borrowing rates. This recovery in markets had a favorable effect on inflationary expectations. Price increases slowed down in recent months due to inadequate domestic demand along with the reduction in cost push inflationary pressure.*

*In November and December 2001, consumer inflation, especially due to the temporary decrease in VAT applied to durable consumer goods such as electrical and non-electrical households, entertainment and culture, and private automobiles, remained below the expectations. Nonetheless, this tendency did not continue in January 2002 since the decrease in VAT was temporary and food prices increased rapidly. In February and March, rate of increase of consumer prices slowed down significantly and were realized less than expected due to the fact that the increase in food prices halted in February and decreased in March. In the same period, the increases in the prices of food and other consumer goods became 11.1 percent and 7.1 percent, respectively. The recovery in the Turkish lira as well as continuation of insufficient demand reduced the rate of increase of prices in other consumer goods while the price increases in services were not affected at all.*

*The harmony between public sector prices and inflation target as well as favorable developments in production costs contributed to the decline in wholesale price indices excluding agriculture in recent months. Agricultural prices were adversely affected by the contraction of agricultural production along with production shortfalls and transportation nuisances occurred due to negative weather conditions. In the January-March 2002 period, prices in agricultural goods increased by 23.8 percent while wholesale price indices excluding agriculture rose by 4.7 percent. In this period, significant*

*unlikeness as of sub-groups was observed as the price increase in private manufacturing industry was realized as 4.2 percent.*

*The increase in wholesale price index, which were higher than consumer price index after the February 2001 crisis, continued this tendency in the first quarter of 2002. As of March 2002, annual inflation rate on a basis of consumer and wholesale price indices were realized as 77.5 percent and 65.1 percent, respectively. The annual inflation trend calculated on a basis of the three-month moving averages of seasonally adjusted data continued its decelerating trend both in consumer and wholesale price indices. As of March, annual inflation trend declined in WPI, which was 39.7 percent and CPI, which was by 35.5 percent. Annual inflation trend was realized as 19.5 percent in WPI excluding agriculture and 43.7 percent in CPI excluding foods.*

*Base Money was determined as a nominal anchor in the Program until the preconditions for inflation targeting were met. The realized base money growth was consistent with the targeted rate.*

*The 2002 Monetary Policy, as in the previous year, has been set in line with monetary targeting. However, there are some changes for targeted performance criteria and indicative aggregates; periodic base money ceilings in 2002 have been accepted as performance criteria rather than indicative whereas Net Domestic Assets that were taken as performance criteria has turned out to be indicative. Moreover, performance criteria, that was accepted for periodic changing value of Net International Reserves in 2001 has been changed to be end-period stock value of Net International Reserves. Additionally, Net Domestic Assets and Net International Reserves have been redefined due to the fact that foreign financing by the IMF will be directly extended to the Treasury in 2002. While the foreign exchange debt with less than one year maturity of the Treasury and the liabilities to the IMF have been added to the Net Domestic Assets of the Central Bank, same liabilities have been excluded from International Reserves of the Central Bank.*

*Base money that was determined to be nominal anchor in the monetary program has been anticipated to increase by 40 percent, being consistent with inflation and growth projection in 2002. Consequently, while providing a criterion to the economic agents to form their inflationary expectations, it has*

been engaged that monetary expansion would be coherent with the macroeconomic targets. Base money will be reviewed within the year in line with developments such as increasing demand for the Turkish lira, providing not to be inconsistent with the inflation target.

As for exchange rate regime, exchange rates are to be determined in the market by supply and demand conditions, as was the case in the last year. It is adopted that intervention in the market would be realized only if any sudden and temporary fluctuations would occur. However, if necessary, FX auctions can be transparently initiated without affecting the long-term equilibrium value of exchange rate. As a matter of fact, daily FX auctions as of April have been initiated to accumulate reserves in line with this framework.

Favorable expectations as of October have strengthened in 2002. Reaching the monetary targets of the 2001 program, additional external financing by the IMF, empowering fiscal policy to realize the targeted primary surplus, and the fact that Turkey's rating has been changed from stable to positive have improved this case. Along with the stability in financial markets, the real appreciation of the Turkish lira, implementing fiscal and monetary policies as targeted has led a reduction in inflationary expectations and interest rates.

The Central Bank uses short-term interest rates as a basic policy instrument to control inflation. The Central Bank, after a 1 percentage point decline in the interest rates on September 4, 2001, did not decrease interest rates until February 20, 2002 due to higher inflationary expectations compared to the inflation target. As of this date, annual overnight interest rates have been reduced four times by 11 percentage points. These reductions were made since especially the February and March rate of price increases pointed out a stable decline in inflation, and consequently favorable signals for the inflationary expectations and inflationary tendencies, stability in exchange rates, and positive developments in risk premium. The Central Bank, as in previous year, will continue to use short-term interest rates efficiently, considering the rate of inflation in the future as well as other economic developments in the economy.

In order to increase the efficacy, the Central Bank initiated a series of new implementation. In this framework, in order to develop interbank markets, to increase deepening, and to pass-

through the risk evaluation of market makers to prices, the Central Bank will terminate its mediatory function gradually at the Interbank Money Markets and Foreign Exchange Markets in 2002. The Central Bank initiated to hold daily foreign exchange buying auctions at the end of March so as to increase its reserves as well as strengthen the confidence in markets in the medium and long-term. In addition to current liquidity, to eliminate the liquidity-increasing impact of FX auctions, it has been decided to hold limited Turkish lira depo buying auctions with a 4-week maturity. Also, in order to decrease intermediate costs of the financial agents and to increase flexibility in liquidity management, the required reserve and disponibility scheme have been redesigned. Maturity to perform of required reserves that is determined to be 6 percent for Turkish lira liabilities, 11 percent for foreign exchange liabilities has been changed from 1 week to 2 weeks, and it has been allowed to hold 3 percentage points of them on average. It has been decided to pay interest to Turkish lira required reserves as well as foreign exchange required reserves.

Monetary aggregates declined in real terms in the first three months of the year. The appreciation of the Turkish lira and the tendency of investors towards Turkish lira led a decline in the ratio of FX deposits/M2Y. Credit volume diminished due to both supply and demand factors. Increase in the funding cost of banks, contraction of funding, increase in the non-performing loans and the liquidity preference of banks had unfavorable effects on credit supply. In addition, high credit interest rates, and rapid contraction both in domestic demand and production led the demand for credit to decline. Moreover, as the recapitalization process has continued, the tendency of not taking new risks has adversely affected credit supply.

A tight fiscal policy implementation has resumed to control the budget. In the January-March 2002 period, while primary budget surplus of TL 3.9 quadrillion was observed, budget deficit of TL 12.6 quadrillion was realized due to the high domestic debt interest payments. The high interest payments were due to early redemptions during the recapitalization of non-cash debt stock. The ongoing contraction in the economy adversely affected especially some of indirect taxes while a rise in primary transfer expenditures was observed.

Domestic debt stock, which had been TL 122.2 quadrillion at the end of 2001, was realized as TL 118.1 quadrillion declining

by 3.4 percent as of February 2002. The decline in debt stock was due to the fact that IMF credit extended to the Treasury on February 7, 2002 was used for early redemption of FX indexed T-bills and those held at the SDIF banks' portfolio. Applied policies dispersed uncertainties and reduced inflationary expectations; consequently, led the Treasury to lengthen maturities and to decline domestic interest rates to a great extent.

The economy sharply contracted after the February 2001 crisis, and deepened in the last quarter despite the expectations. GDP declined by 7.4 percent and GNP decreased by 9.4 percent as a result of the drop in net factor income throughout 2001. The regression in the economy was due to the contraction in domestic demand; consequently, total domestic demand declined by 18.4 percent. Especially, durable consumption goods and fixed investment expenditures decreased substantially. The rising unemployment rate, the decline in real wages and salaries, the fluctuations observed in financial markets, and the adverse affect of uncertainties on the confidence of consumer and producer were contributing factors to the rapid contraction in the domestic demand. Nonetheless, the contraction in the agricultural sector as a result of the drought and seasonality accelerated the bottleneck in the economy.

Goods and services exports increased by 7.4 percent in real terms in 2001 compared to the previous year as a result of the facts that the rapid contraction of domestic demand directed firms towards foreign markets, and the Turkish lira depreciated. Goods and services imports declined by 24.8

percent in real terms. Current account that gave a deficit of US\$ 8.8 billion in 2000 yielded a surplus of US\$ 3.3 billion due to the fact that trade balance declined by 65.1 percent in 2001 especially due to a rapid decrease imports. A capital outflow of US\$ 13.9 billion was observed in 2001. A capital outflow of US\$ 15.5 billion was realized in portfolio investment and short-term capital account whereas a capital inflow of US\$ 2.8 billion was observed in net direct foreign investment. Banks and non-bank private sector reduced their credit and preferred to be net debt payer throughout 2001.

Monetary and fiscal policy targets have been achieved as a result of effectively carrying out the program in the last quarter. In parallel with these developments, ongoing implementation of structural reforms such as Law on Public Debt Management has contributed to hinder inflationary expectations by increasing the confidence of the program.

In the second quarter of 2002, it is envisaged that foreign exchange oversupply will continue. Although a relative recovery in the real sector has been observed, it is expected that this situation will not put heavy pressure on import demand and foreign exchange rate. When the overall demand is concerned, as of the second quarter of the year, a limited recovery is anticipated, not leading to a pressure on inflation. It is expected that firms' stock and private consumption expenditures will be primary basis for this recovery. Therefore, in the following period, it is envisioned that there will no pressure on inflation due to foreign exchange rates and the demand; consequently inflation will decline.

## I. DEVELOPMENTS IN PRICES

As of November 2001, the appreciation of the Turkish lira, ongoing shortage of domestic demand and positive developments in inflation expectations were effective in price developments. During this period, price increases excluding food and agriculture sectors slowed down. When looked at the yearly inflation rates after the 2001 currency crisis, it can be seen that WPI inflation rates were higher than CPI inflation rates, and this trend continued in the first three months of 2002 (Figure I.1). By March 2002, yearly inflation rates were 77.5 percent in WPI and 65.1 percent in CPI (Table I.1).

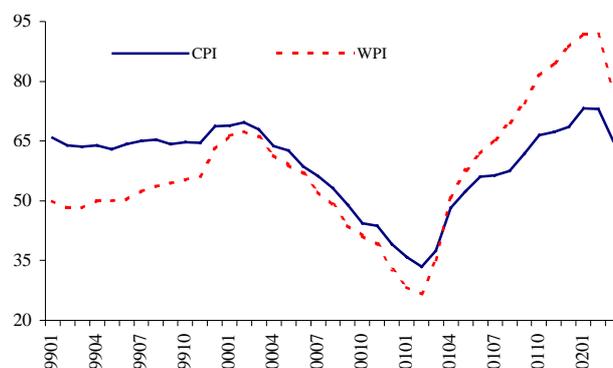
Table I.1. Annual and Periodical Inflation Rates

	Weight (%)	YEARLY			JAN-MARCH		
		2000 Dec	2001 Dec	2002 Mar	2000	2001	2002
WPI	100.00	32.7	88.6	77.5	13.5	15.6	8.8
WPI (Public)	23.17	24.7	99.7	81.2	9.8	15.9	5.2
WPI (Private)	76.83	35.7	84.6	76.2	15.0	15.5	10.2
WPI (Excluding Agriculture)	77.78	30.4	96.3	77.5	11.0	15.6	4.6
CPI	100.00	39.0	68.5	65.1	11.9	10.7	8.4
CPI (Tradables)	58.16	34.6	78.1	77.3	11.1	10.4	9.9
CPI (Non-tradables)	41.84	43.4	59.4	53.6	12.7	10.9	6.8
CPI (Goods)	70.69	34.6	80.9	77.1	11.3	11.1	8.7
CPI (Services)	29.31	47.0	48.2	45.3	13.0	10.0	7.9
CPI (Pub. Controlled)	20.72	32.9	92.0	72.3	13.0	19.8	7.5
CPI (Not Pub. Controlled)	79.28	40.7	62.1	62.7	11.3	8.1	8.5
CPI (Food)	28.50	52.0	28.1	81.8	17.5	10.6	12.7
CPI (Consumer Durables)	7.33	38.5	65.6	85.3	14.3	11.4	24.7
CPI (Excluding Food)	68.91	41.3	64.3	59.3	10.5	10.7	7.4
CPI (Excluding Housing)	74.2	35.7	72.9	72.1	12.1	9.8	9.3
Exc. Rate Basket (average)	-	22.2	113.6	38.1	4.2	42.1	-1.3
Export Price Index	-	-1.0	-5.0	-	-	-	-
Import Price Index	-	0.2	-5.8	-	-	-	-

Source: SIS, CBRT

As of November 2001, the appreciation of the Turkish lira, ongoing shortage of domestic demand and positive developments in inflation expectations were effective in price developments.

Figure I.1. WPI and CPI; 1994=100 (Annual Percentage Change)



In the last two months of 2001, CPI inflation was lower than expectations due to the temporary decrease in VAT (value-added tax) rates on some consumer durable goods including household equipments, cultural and recreational equipments and private automobiles. However the trend did not continue into January because the decrease in VAT rates was temporary and there were high increases in food prices in this period. The February and March inflation rates were substantially lower than market expectations both for the CPI and the WPI. During the November 2001-March 2002 period, food and agriculture sector prices were influential in the CPI and WPI increases, respectively.

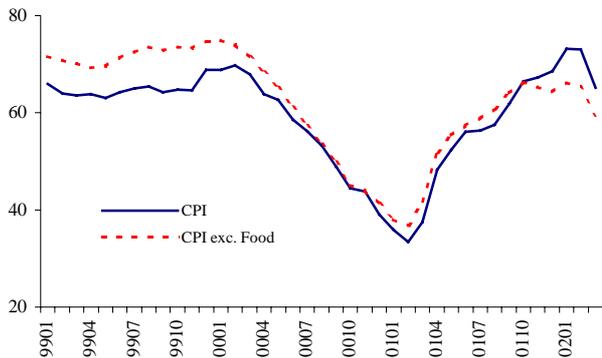
In the last five months, the increase in administered prices was lower than private sector prices. The support given by the public sector authorities to the inflation target and the slowdown in the price of energy, chemicals and petroleum products due to the appreciation of the Turkish lira were effective in this development.

The insufficient domestic demand was also effective in constraining the price increase of services and nontradables in CPI.

**The sectors that prevented further decrease in the inflation rates of the November 2001-March 2002 period were agricultural sector in WPI and food sector in CPI.**

The sectors that prevented further decrease in the inflation rates of the November 2001-March 2002 period were agricultural sector in WPI and food sector in CPI (Figure I.2). In the referred period, the cumulative increase in food prices was 28.4 percent and the cumulative CPI increase excluding food-prices was 12.4 percent. Agricultural sector prices similarly increased cumulatively by 50.9 percent, while the WPI increase excluding agriculture was just 10 percent.

*Figure I.2. CPI and CPI excluding Food; 1994=100 (Annual Percentage Change)*



**1.1. Developments in Consumer Prices**

In the November 2001-March 2002 period, CPI increases were mostly pronounced in food and consumer durables goods. The positive developments in exchange rates and inflation expectations restricted the price increases in other sectors.

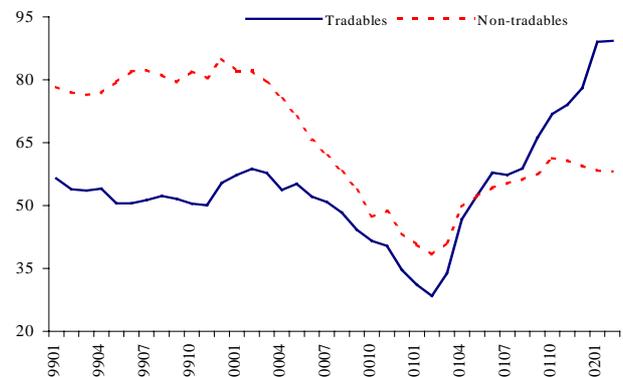
The continuation of the sound monetary, fiscal and structural policies in the current economic program and the supplemental external financing from IMF removed the sustainability risk of the public debt and increased confidence in the program. As a result, the Turkish lira has been appreciating since November 2001 and in the November 2001-March 2002 period; the cumulative

appreciation of the Turkish lira with respect to US dollar was 12.2 percent. Besides, the insufficient domestic demand was helpful in restraining CPI inflation excluding food prices. In the same period, because of the adjustments in VAT rates on consumer durable goods, their prices declined in November and increased again in January. In the January-March 2002 period, the CPI increase was 8.4 percent while the CPI increase excluding food prices was 7.4 percent.

**Developments in Tradables and Non-tradables Goods Prices**

Despite the appreciation of the Turkish lira during the January-March 2002 period, the increase in the price of tradable goods was higher than the increase of the price of non-tradables and the difference between the two indices widened further in this period. The price increase of tradables in the referred period was 9.9 percent while the price increase of non-tradables was 6.8 percent (Figure I.3). The price increase differential between the two groups was created by the high price increase of consumer durable goods in January due to the readjustment of VAT rates and the high increase in food prices stimulated by the high price increases in agricultural sector.

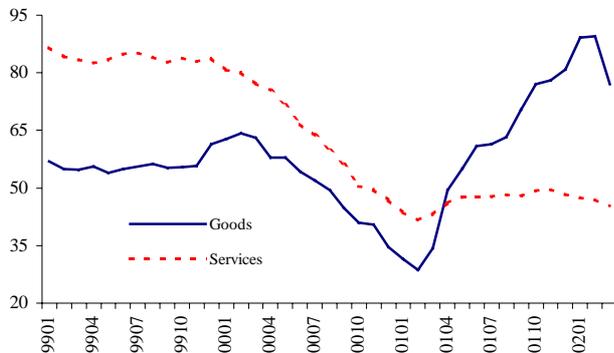
*Figure I.3. CPI, Tradables and Non-tradables; 1994=100 (Annual Percentage Change)*



**Developments in Goods and Services Prices**

During the first three months of 2002, goods price increase was higher than services price increase. For the considered period, goods prices increased by 8.7 percent and services prices increased by 7.9 percent. Goods price increase was caused by the high increase in food sector prices and especially by the increase in consumer durable goods prices, which showed a monthly increase of 20.4 percent in January. Services price increase was slower because of the continuing low increase rates in housing rents (Figure I.4). When the inflation rate of January is excluded, because transitory factors were dominant in its determination; it can be seen that there is a significant slow-down in goods prices, while the services price increases preserved their momentum.

**Figure I.4. CPI Goods and Services Prices; 1994=100 (Annual Percentage Change)**

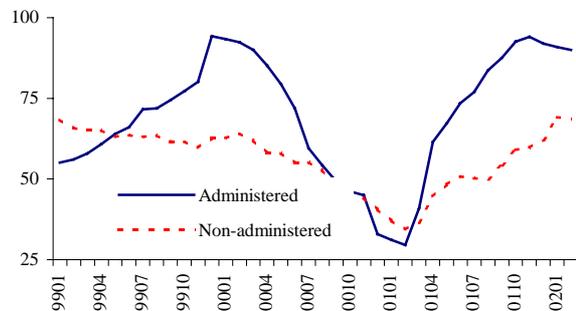


**Developments in Administered and Non-administered Prices**

In spite of the slowdown in the increase of administered prices starting in November 2001, their yearly increase reached 92.0 percent by the end of 2001. In contrast, administered prices increased by just 7.5 percent in the first three months of 2002. In the same period, the increase in non-administered prices was 8.5 percent and the difference between the yearly inflation rates of the two groups has been decreasing since November (Figure I.5). The favorable effect of the appreciation of the exchange rate on petroleum, energy and manufacturing sector prices were helpful in the slower increase of administered prices. In addition, there is an underlying

motive to make the public sector price adjustments in line with the year-end inflation target of 35 percent. The public sector price adjustments at the end of the year 2001 and at the beginning of 2002 were coherent with targets starting with November 2001.

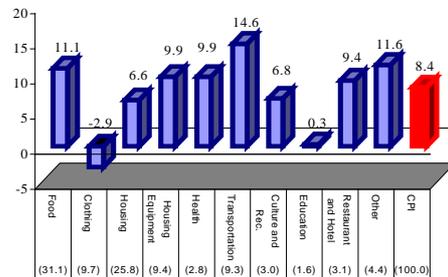
**Figure I.5. CPI, Public Sector Controlled and Not Public Controlled Prices; 1994=100 (Annual Percentage Change)**



**Developments in Food Prices**

The 6.1 percent contraction of agricultural production in 2001 and the unfavorable weather conditions during November 2001-February 2002 resulted in substantial increase in agriculture and food prices (Table I.3).

**Figure I.6. CPI and Selected Sub-items: 1994=100 (Jan-Mar 2002 Period, Percentage Change)**



While the slow increase in food sector prices was the main factor limiting inflation rates during the February-September 2001 period, this trend reversed after September 2001 and because of the decrease in the

production of unprocessed food products and transportation difficulties due to unfavorable weather conditions, increase in food sector prices was 40.4 percent in the September 2001-January 2002 period.

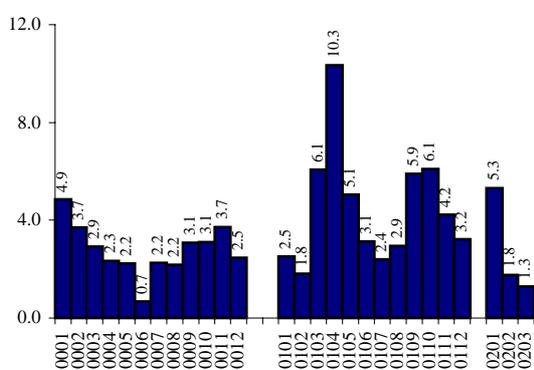
In this period, the 12.6 percentage points of the 20.1 percent CPI increase were due to the increases in the food sector prices. Food price increases lost momentum by February and they decreased by 0.6 percent in March. In the January-March period, food sector price increase was 11.1 percent.

Table I. 3. CPI and Sub-items; 1994=100

	MARCH		JAN-MARCH		MAR-MARCH	
	2001	2002	2001	2002	2001	2002
<b>CPI</b>	6.1	1.2	10.7	8.4	37.5	65.1
<b>Food, Beverages and Tobacco</b>	6.9	-0.5	10.5	11.1	27.1	81.2
<b>Food</b>	6.7	-0.6	10.6	12.7	28.1	81.8
<b>Clothing and Shoes</b>	0.9	1.4	-5.9	-2.9	34.1	70.5
<b>Housing</b>	6.2	1.9	12.6	6.6	47.6	51.2
<b>Rent</b>	1.8	2.3	7.6	7.2	44.5	39.1
<b>Housing Equipment</b>	5.7	1.0	11.0	9.9	40.7	71.0
<b>Health</b>	5.5	3.0	17.5	9.9	42.9	48.2
<b>Transportation</b>	7.3	2.4	12.2	14.6	28.6	81.4
<b>Culture and Rec. Activities</b>	5.2	1.2	14.3	6.8	38.9	51.2
<b>Education</b>	0.2	0.1	6.3	0.3	27.5	52.4
<b>Restaurant and Hotel</b>	2.8	3.3	7.9	9.4	39.5	48.2
<b>Other Goods and Services</b>	13.4	2.5	28.0	11.6	56.0	58.1
<b>Goods</b>	7.7	0.7	11.1	8.7	34.3	77.1
<b>Goods excluding food.</b>	8.3	1.5	11.3	6.4	38.1	74.5
<b>Services</b>	3.4	2.2	10.0	7.9	43.1	45.3

Source: SIS

Figure I.7. CPI; 1994=100

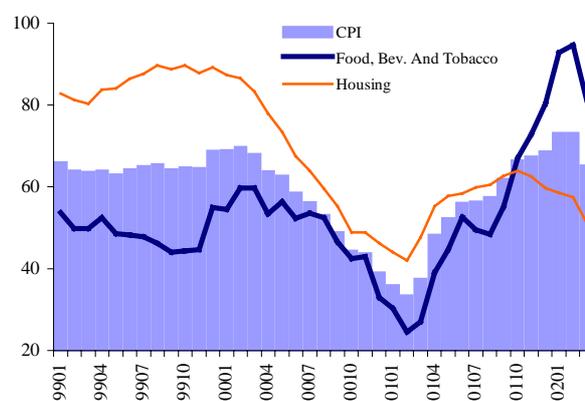


(Monthly Percentage Change)

### Price Developments in Consumer Durables

VAT rates on consumer durable goods and private automobiles were decreased from 26 percent to 18 percent from the beginning of November-2001 to the end of 2001. Following this, a decrease in the prices of consumer durable goods was observed in November, but with the readjustment of VAT rates to their previous levels in January and as manufacturing firms expected to enjoy the increase in the transitory demand further, the increase in consumer durable goods was 20.4 percent in January. This situation was the main cause of the higher than expected inflation rate in January, but the increase in consumer durable goods prices were much lower than earlier year averages in February and March because the expected domestic demand increase did not materialize. As a result of the afore-mentioned factors, the January-March consumer durable goods price increase was 24.7 percent.

Figure I.8. CPI, Food and Housing Prices; 1994=100 (Annual Percentage Change)

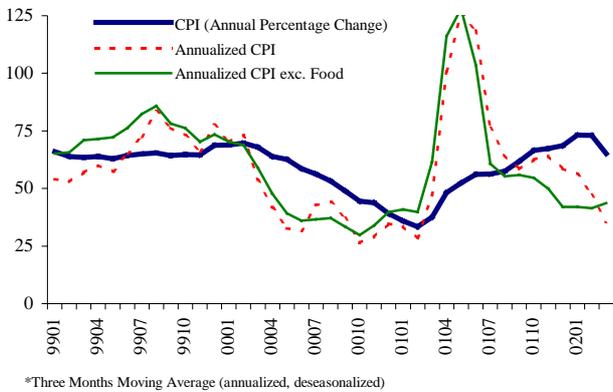


### Developments in Housing Group Prices

The increase in housing group prices was lower than the general CPI increase because of the continuing slow increase in housing rents. In contrast, heating, electricity and other utility items, which are contained in the housing group index also, were subject to high price increases during 2001, which affected the yearly inflation rate adversely. Housing group prices excluding rents are

dominantly determined by the public sector, and their price increases slowed down after November 2001 with the decrease in the price of natural gas in February 2001, which is the most influential factor in this development. Following these, during January-March 2002, housing group price increase was 6.6 percent, and the increase in rents was 7.2 percent.

Figure I.9. Annual Inflation Trend, CPI (Annual Percentage Change)



When the developments in consumer prices are overviewed, it is seen that the slow-down in price increases that started in November 2001 was more apparent in the first three months of 2002. The monetary and fiscal policy implementations in line with the program, the appreciation of the Turkish lira and the positive effects of these developments on expectations were effective in the recent lower inflation levels. In addition, the persisting low domestic demand was another factor, which restrained inflation. As a result, the yearly inflation rate by March 2002 has been 65.1 percent.

The slow-down in the annual inflation trend, annualized from the three-months moving average of the deseasonalized CPI, which started in November 2001, continued to be more apparent in the first three months of 2002. While the realized annual increase in CPI in March 2002 was 65.1 percent, the deseasonalized, annualized inflation trend was 35.5 percent for CPI, and 43.7 percent in CPI excluding food (Box.I.1).

## I.2. Developments in Wholesale Prices

With the appreciation of the Turkish lira which started in November, total manufacturing industry price increases slowed down, and because of the 71.1 percent weight of manufacturing industry in the WPI, WPI inflation rate was affected favorably by this development (Figure I.10). After November 2001, WPI increases were driven up by agricultural sector price increases. In the January-March 2002 period, in spite of the high agricultural sector price increases, because of the slow-down in manufacturing sector prices, the realized WPI increase was 8.8 percent (Figure I.11). In the same period, WPI increase excluding agriculture was 4.6 percent.

Figure I.10. CPI; 1994=100 (Monthly Percentage Change)

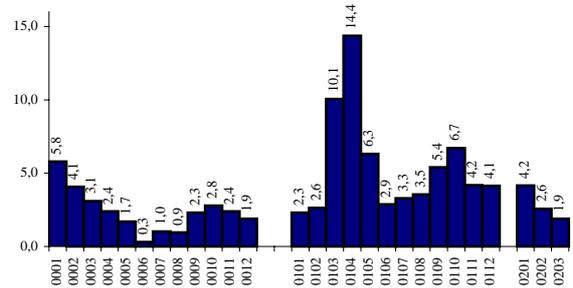
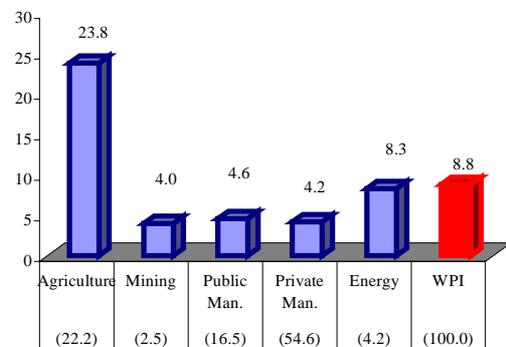


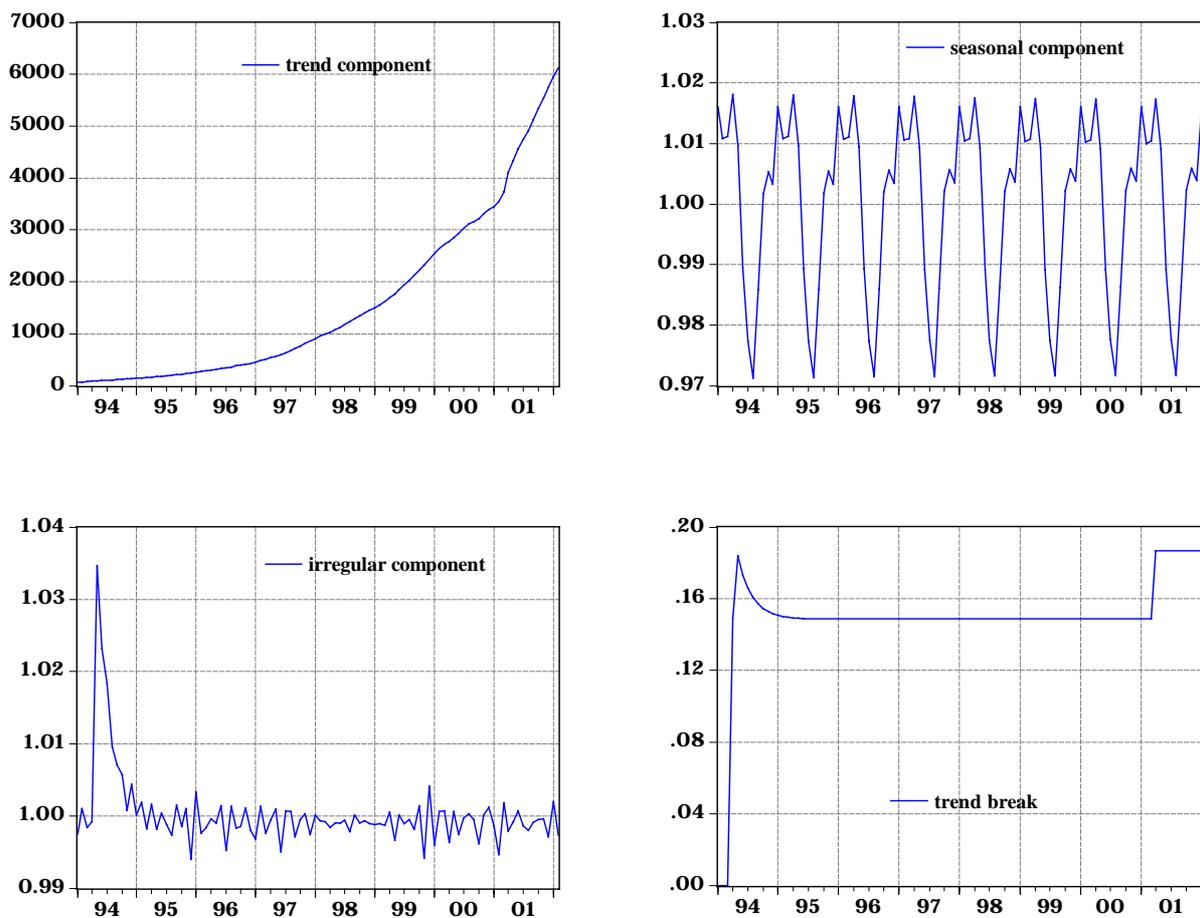
Figure I.11. CPI and Sub-items; 1994=100 (January-March 2002 period, percentage change)



**BOX.1.1 DESEASONALIZING THE PRICE INDICES: A COMPARISON OF CENSUS X-11, TRAMO/SEATS AND X-12 ARIMA METHODS**

Assessing whether a given time series is subject to seasonal fluctuations or not is done by decomposing the series into seasonal parts. Each time series consists of trend, cyclical, seasonal, random components and a deviation from trend part (Figure 1).

**Figure 1: Decomposition of CPI into its components <sup>(1)</sup>**



Monthly inflation figures consist of general trend and seasonal variations. Therefore, to conclude whether inflation is decreasing or not and prices following a disinflationary path, the deseasonalised series are observed. From this perspective, it is essential to know the properties of the method utilized to de-seasonalize the series, and whether the method is appropriate for the series involved or not.

Historically, since 1965 the Census X-11 method was extensively utilized. However, this method had some technical drawbacks. The most significant problem with this method was the fact that the observations at the beginning and at the end of the sample were excluded from computations.

<sup>(1)</sup> Decomposition was applied to the CPI series beginning from 1994 and software program Demetra was used.

Today, extensively utilized methods, developed to cover the shortcomings of the X-11 method are X-12 ARIMA method and the model based TRAMO/SEATS method. X-12 ARIMA method, with novelties introduced, made up for the problems the earlier Census X-11 method faced. However, like its predecessor, X-12 ARIMA method was model-independent. TRAMO/SEATS method, on the other hand, has an advantage. This method, unlike the X-12 ARIMA method, is a model-based instrument, does not fail to attain estimation results even in the cases of non-stationary ARIMA errors and omitted data. As a result TRAMO/SEATS, is especially superior vis-à-vis other methods at modeling and de-seasonalizing the series which are non-stationary and have many outliers

Investigating the price indices, variations in these indices in Turkey are mainly accounted for by seasonal variations. The results of the econometric analysis carried out in order to determine the extent of the impact of the seasonal variations on price developments, are presented below in Table 2. It can be inferred from Table 2 that on the average 30 percent of variations in the CPI series and 20 percent of variations in the WPI series can be accounted for by seasonal factors. As expected, the sub-component, which is affected the most, is the Agricultural price series.

**Table 2: Explaining Short-run Fluctuations of Price Indices with the Dummy Variables <sup>(2)</sup>**

Indices	Adjusted R <sup>2</sup>	Adjusted R <sup>2</sup> and Linear Trend
CPI	0.22	0.35
WPI	0.19	0.26
CPI Excluding FOOD	0.19	0.35
WPI Excluding AGRICULTURE	0.04	0.08
Food, Beverages, and Tobacco	0.39	0.44
Agriculture	0.65	0.70

A research was conducted on the method, which would attain fruitful results in Turkish setting. Taking into account of non-stationary nature of the series with many outliers, according to diagnostic tests among Census X-11, X-12 ARIMA and TRAMO/SEATS method, the last method attained the desired results.

However the TRAMO/SEATS method is not without flows. One of the problems is that when a new observation is added to the sample, the previous de-seasonalized observations are altered. The second problem is that seasonal patterns change in the case of including outlier months into the sample. In the developed countries, where the rate of price increase is stable, the first problem is addressed by backward revisioning of the series. On the other hand, in the countries with high and volatile inflation figures, this question can be addressed by estimating a new model for each year and utilizing the coefficients of the model throughout the year.

With this methodology, the data are not revised backwardly throughout that year in the case of introduction of a new variable.

In our country, owing to the fact that the price indices fluctuate frequently, the method of using a new model each year is preferred. The second problem, as it's observed in 1994, arises because of jumps in the price indices. In April of 1994 the prices increased dramatically. However, TRAMO/SEATS, one of the most widely used methods, throws the outlier observations and big jumps deviations from the sample. For CPI, the method found out three outliers, two of which are observed in 1994 and the other observed in 2001 (Figure 1).

In order of have a clearer picture of seasonality the sample is extended backing order to include 1994 in the analysis.

<sup>(2)</sup> The values in the first column of the table are determined as a result of the regression, which has 11 dummy variables and is run on the log-differenced specified variables. The second column, besides the 11 dummy variables a linear trend is introduced (for details refer to Davidson and MacKinnon, 1992).

When WPI increases of private sector and public sector are analyzed, it is seen that public sector price increases were subject to a significant slowdown starting in November 2001, in parallel with administered consumer price developments. In the January-March 2002 period, public sector price increases were 5.2 percent, while private sector price increases were 10.2 percent due mainly to agricultural sector price increases.

Table I. 4. WPI and Sub-items; 1994=100

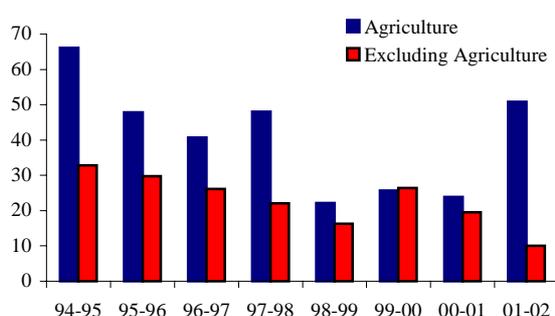
	MAR		JAN-MAR		MAR-MAR	
	2001	2002	2001	2002	2001	2002
WPI	10.1	1.9	15.6	8.8	35.1	77.5
Agriculture	6.6	2.6	15.4	23.8	32.9	77.5
Mining	13.0	0.9	12.7	4.0	42.1	59.0
Manufacturing	11.0	1.7	15.1	4.3	34.4	77.7
Public	11.5	2.7	14.2	4.6	26.0	83.0
Private	10.8	1.3	15.5	4.2	28.2	75.5
Energy	14.5	0.2	25.3	8.3	55.6	86.6

Source: SIS

### Agricultural Sector Prices

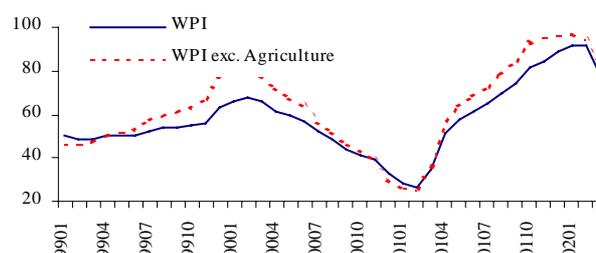
The 11.1 percent contraction in agriculture and livestock sector production in the last quarter of 2001 and the transportation difficulties owing to adverse weather conditions affected agricultural sector prices unfavorably (Table I.4, Figure I.12). In the last five months, while general WPI increase was 18 percent, agricultural sector price increase was 50.9 percent. In the January-March 2002 period, 5.3 percentage points of the 8.8 percent WPI increase were due to agricultural sector price increases.

Figure I.12. Percentage Change in the November-March Period



If the agricultural sector prices, which are a highly effected by seasonalities in supply, are excluded, the slow-down in the WPI inflation rate is quite apparent (Figure I.12).

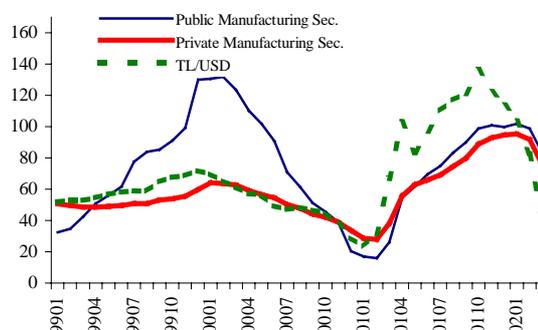
Figure I.12. WPI and WPI excluding Agriculture: 1994=100 (Annual Percentage Change)



### Manufacturing Sector Prices

Manufacturing sector price increases, which are influenced a lot by exchange rate developments and inflation expectations, were subject to a significant slow-down in the last three months. In the January-March 2002 period, manufacturing industry inflation rate was 4.3 percent. The major reasons of this slow-down were the insufficient domestic demand, the slowdown in exports increase, the appreciation in the Turkish lira, and the favorable developments in inflation expectations.

Figure I.13. Exchange Rate, Public and Private Sector Manufacturing Sector Prices; 1994=100 (Annual Percentage Change)



In general, there is a strong relation between manufacturing industry prices, which includes

predominantly tradable products, and exchange rates. This relation is especially pronounced in petroleum products, chemicals, plastic and rubber products and metal products sectors which use imported products in high proportions. In the January-March period, private sector manufacturing industry prices increased by 4.2 percent, while the weighted price increase of the listed four sectors was just 1.7 percent. In this period, the shortage of domestic demand and the slow down in exports, were other factors limiting private sector manufacturing industry price increases. Although the agricultural output declined and the prices of inputs of processed food and beverage industries increased, price increases in these sectors also slowed down due to insufficient domestic demand. The price increases in the clothing sector were well above general WPI increase in the January-March period, with an inflation rate of 12.0 percent.

The positive effect of the appreciation of the Turkish lira after November 2001 was limited in private sector manufacturing industry, compared with public sector manufacturing industry. This situation arose because the private sector chose to reflect the increased energy and financing costs to their prices with a time lag due to decreasing demand and their cash constraints.

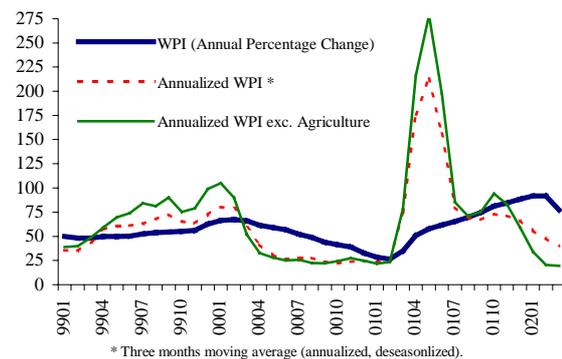
Public manufacturing sector price increases showed a significant slow-down after November 2001. The adjustment of the prices coherent with the program and the appreciation of the Turkish lira were effective in this. The January-March public sector inflation rate was 4.6 percent. While the chemical and main metal industry prices decreased, the petroleum product prices increased by 7.7 percent, in this period. The implicit pegging of the Fuel Consumption Tax (FCT) on petroleum products to WPI was the main cause of the high increase in petroleum product prices. The rapid increase of the crude oil prices in the international market during this period also affected the petroleum and petrol-chemical products industry prices adversely.

### Energy Prices

Energy price increases, which were subject to the highest price increase among WPI sub-items during the January-September 2001 period, have been slowing down since November 2001. The high increase in public sector controlled water and electricity prices in January, and the natural oil price decrease in February were determinant in the energy price increases during the recent period. In the January-March period, while the overall energy sector prices increased by 8.3 percent, the electricity-gas sector price increase was 4.5 percent.

In summary, the main determinant of the January-March WPI inflation was agricultural sector price increases. In this period, the significant slowdown in both the public and the private sector manufacturing industry inflation rates limited WPI inflation. As observed in CPI developments, the yearly inflation trend of WPI (deseasonalized, annualized three-months moving average) declined in the first three months of 2002 and reached 39.7 percent by March 2002. The decline in the inflation trend was much more pronounced in WPI excluding agriculture, and was realized as 19.5 percent in March.

Figure 1.14. Annual Inflation Trend, WPI (Annual Percentage Change)

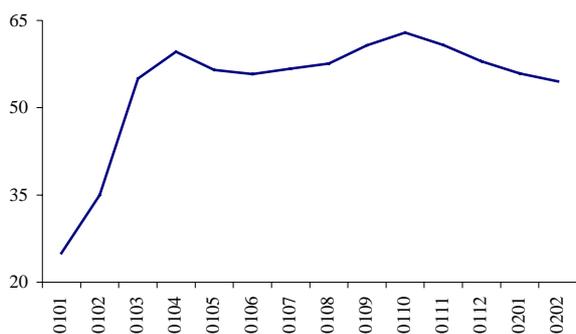


### 1.3. Inflation Expectations

The Central Bank uses 3 surveys to analyze inflation expectations. The first of these surveys is the Business Tendency Survey, which is being carried out since 1987 including both the public and private sector firms in the

sample. 480 firms participated in the survey in February 2002. The second survey which is used to determine inflation expectations is the CBRT Inflation Expectations Survey. It was first implemented in August 2001 and its aim is to find out the inflation expectations of the real, financial sectors and consumers. Expectations data are gathered two times in a month, one in the first week of the month after the inflation rate of the previous month has been announced, and second, in the third week of the month. In the survey, participants' expectations of one month, three months, 12 months and year-end inflation rates are questioned in the referred order. The number of participants in the CBRT Expectations Survey in the first period of April is 74. 70 percent of the participants are from the financial sector and 24 percent are from the real sector. The third survey, which is used to determine inflation expectations, is the SIS Monthly Manufacturing Sector Tendency Survey. It is implemented to give information about the expectations of the manufacturing sector related to future production, sale quantities and sale prices, and the survey represents firms responsible for 70 percent of total industrial production (Box I.2).

Figure I.15 Next 12 Month WPI Inflation Rate Expectations (Percent)

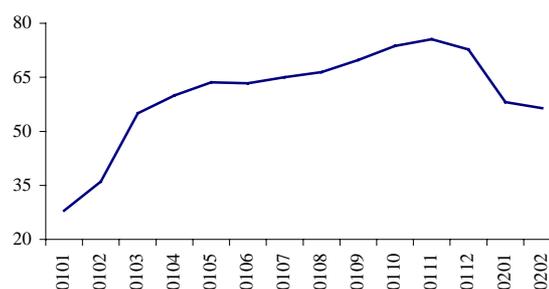


### Expectations About Wholesale Prices

According to the CBRT Inflation Expectations Survey, expectations for next 12-months and year-end WPI inflation rates showed a rising trend from the currency crisis of February 2001 until April 2001 (Figure I.15). With the announcement of the 2001 economic program

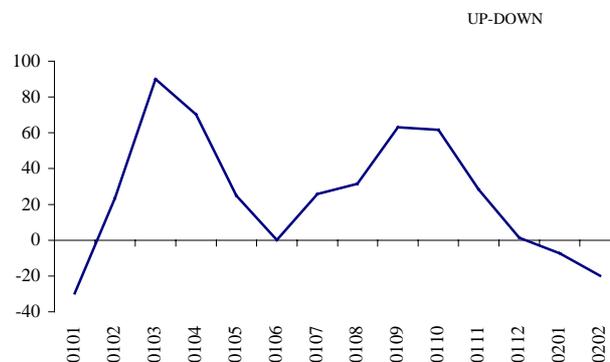
and with the contraction in domestic demand, inflation expectations stabilized till June 2001. In August, WPI inflation expectations regained an increasing momentum, but the new economic program of 2002, which took shape by November 2001 and which included a new package of external financing from IMF affected WPI inflation expectations positively also. Following this, inflation expectations started to decrease. In the survey results of February 2002, next 12-month inflation expectations decreased to 54.5 percent and year-end inflation expectations decreased to 56.4 percent. Regardless, it is seen that private sector firms' inflation expectations are still well above inflation targets (Figure I.14).

Figure I.16. Year-end WPI Inflation Rate (Percent)



WPI expectations began to decline after November, in line with CPI expectations.

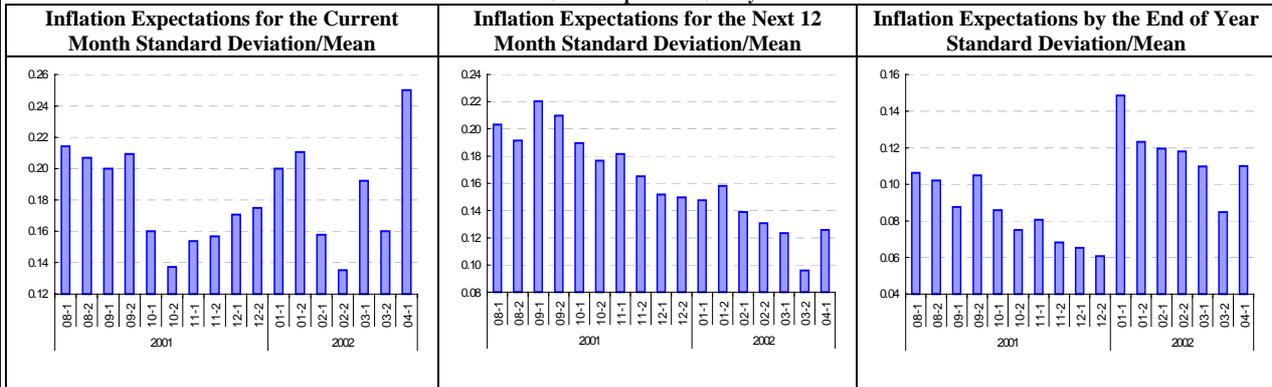
Figure I.17. Next 3-Month WPI Inflation Expectation (Percent)



The next 3-month inflation expectations of the same survey shows that positive developments in inflation

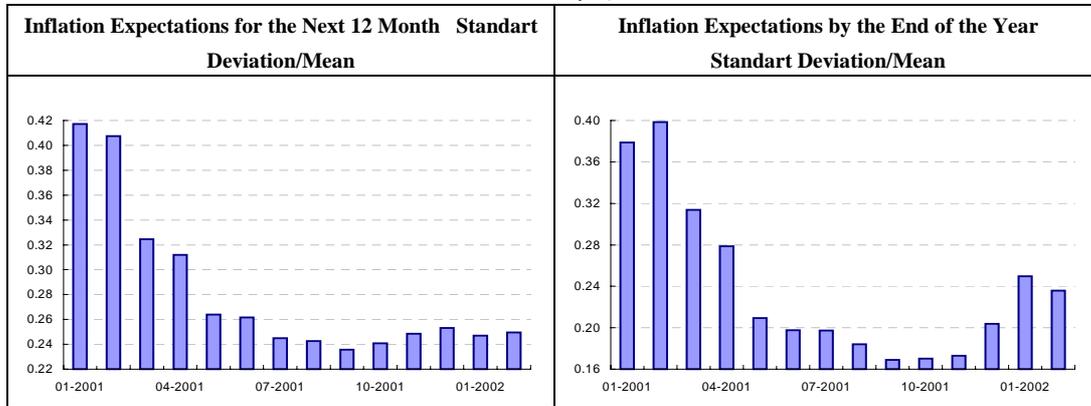
BOX I.2.

CBRT Expectation Survey



The standard deviation / mean ratios from CBRT Expectation Survey pointed to the following facts: The relatively homogenous structure observed in expectations for the current month in February broke down in March. The break down became more evident in April and standard deviation / mean ratio reached to the highest value observed in the history of the survey. On the other hand, expectations for the next 12-month displayed the most homogenous structure in March and standard deviation / mean ratio increased in April compared to March. The differences between the expectations of the different participants decreased gradually from the beginning of the year till March for the end-of-year expectations, whereas this trend also broke down in April.

CBRT Business Survey (Quantitative Data)

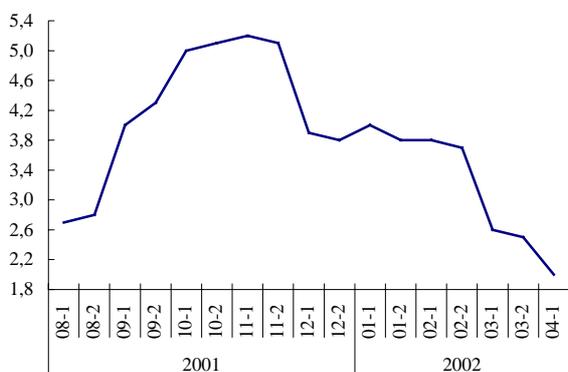


When the standard deviation / mean ratios of the expectations for the next 12- month were analyzed, a rapid and continuous decline was observed from the beginning of the year 2001 till the month of July. After that, the ratio preserved its current level. This picture displayed that the distribution of the expectations around the sample mean was less volatile in the period following July 2001. On the other hand standard deviation / mean ratios of the expectation by the end of the year, was on a declining trend till September which was reversed starting from October. The change in the distribution of the expectations around the sample mean was thought to be a result of the uncertainties arose after September 11. The ratio was strangely higher than the first 6 months in December, although cumulative increase till November was known when the expectations in December were formed. In the first few months of 2002 the ratio became higher as the period in which expectations will be formed became longer.

expectations which started in October 2001 still continues and the up-down difference took a negative value for the first time in January 2002 since January 2001 (Figure I.16).

The appreciation of the Turkish lira, the sound fiscal and monetary policies of the economic program and the contraction in domestic demand was effective in the positive developments of the expectations.

**Figure I.18. CPI Inflation Expectation for the Current Month (Monthly Percentage Change)**

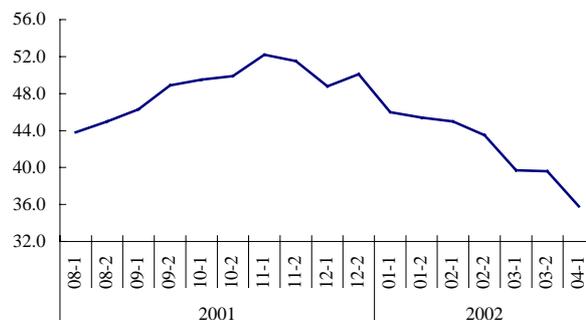


#### Expectations about Consumer Prices

The results of the surveys show that CPI inflation expectations increased till November 2001 as a result of the depreciation of the Turkish lira and the uncertainties in the macroeconomic environment, but after November 2001 owing to the supplementary external financing from IMF and the stabilization of the exchange rate, the inflation expectations has significantly decreased. Following the lower than expected realized inflation rates of February and March, the decrease in the inflation expectations still continues. (Figure I.18).

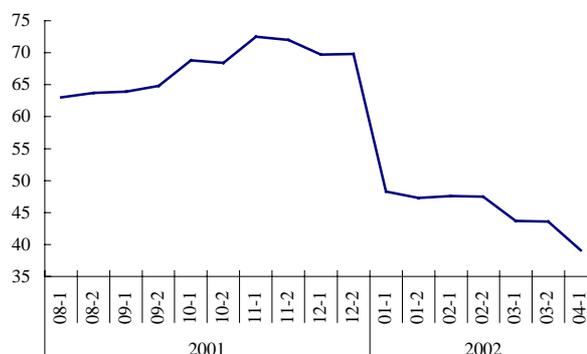
The year-end expected CPI inflation rates for 2002 show a decreasing trend from January on. In spite of the higher than expected inflation rate of January, which was caused by quite transitory factors, the survey participants did not raise their expectations neither for the monthly February inflation rate nor for the year-end inflation rate.

**Figure I.19. Next 12-Month CPI Inflation Rate Expectations (Percent)**



The results of the CBRT Expectations Survey for March and April, point to a considerable decline in year-end and next 12-month inflation expectations, compared to previous months.

**Figure I.20. Year-end Expected CPI inflation Rate (Percent)**



The lower than expected inflation rates for February and March affected the inflation expectations positively. The next 12-month CPI inflation expectations decreased to 39.6 percent in the second period of the March and to 35.8 percent in the first period of April (Figure I.19). The year-end CPI inflation expectations decreased to 43.6 percent and 39.1 percent in the second period of March and first period of April respectively (Figure I.20).

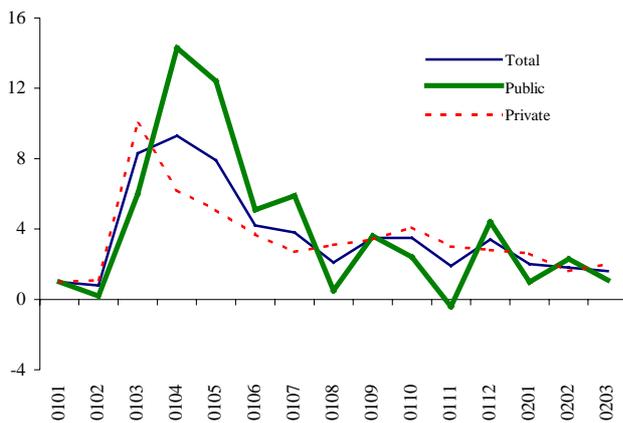
When the data belonging to the first three and a half months of 2002 are analyzed, it is seen that the expectations converge to the year-end target of 35 percent (Figure I.20). It is anticipated that a not too fast

revival of domestic demand, and implementation of the economic program by the authorities without any divergences will bring about still lower inflation rates in future months.

### Expectations of Manufacturing Industry Prices

The expectations for the manufacturing sector sale price increases have been following a decreasing trend since May 2001. According to the latest data of the survey of March 2002, the general manufacturing industry price increase was expected to be 1.6 percent with 1.1 percent in the public sector and 2.0 percent in the private sector. Realized inflation rates in the referred period were 1.7 for the total sector, 2.7 percent for the public sector and 1.3 percent in the private sector (Figure I.21). In the same period inflation figures were realized as 1.7 percent in total manufacturing sector, 2.7 percent in the public sector and 1.3 percent in the private sector, which were well below the expectations.

Figure I.21. Expectations for Industrial Sector Prices (Monthly Percentage Change)



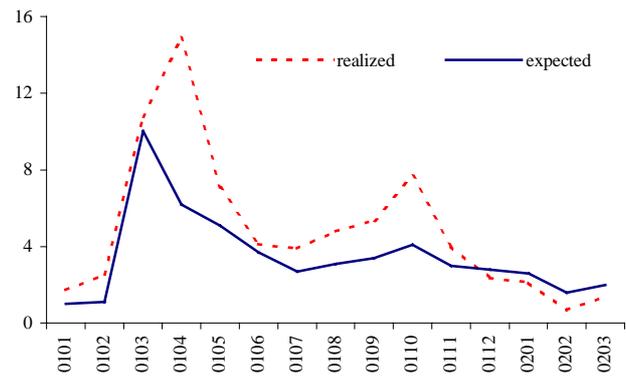
**The expectations for manufacturing sector sale price increases have been following a decreasing trend since April 2001, and the realized prices have fallen behind expectations in recent months.**

Developments in the exchange rates have been influential in inflation expectations for both the public and private sector prices, but the level of domestic demand has been

more effective in the expectations for private sector prices.

When the private sector manufacturing industry sale price expectations are analyzed, it is seen that expectations were lower than realized prices till November 2001, but after that the relation reversed in the opposite direction. In January-March 2002, monthly price increase expectations were 2.6 percent, 1.6 percent and 2.0 percent in calendar order, while the realized price increases were 2.1 percent, 0.7 percent and 1.3 percent.

Figure I.22. Expectations for the Private Sector Manufacturing Industry Sale Prices (Monthly Percentage Change)



In summary, the following trends are observed when the three surveys about the inflation expectations are analyzed:

i.) There is a break in the increasing trend of inflation expectations in October 2001, and inflation expectations have been decreasing since then.

**There is a break in the increasing trend of inflation expectations in October 2001, and inflation expectations have been decreasing since then.**

ii.) The latest data of the CBRT Tendency Survey confirm that the year-end inflation expectations are approaching to the target levels. It is anticipated that the inflation expectations will continue to fall if the economic program is followed firmly.

Besides the appreciation of the Turkish lira, the contraction in domestic demand also decreased inflation expectations in the public and private sector prices. In spite of the recent decrease in the inflation and inflation expectations, there are some risks in terms of the path of inflation for the upcoming period. The main risks are listed as follows;

i) The risk of continuing increase of crude oil prices in international markets is an important threat for the inflation target.

ii) Because of the contraction of domestic demand, the price increases in services have significantly lagged behind the increases in goods prices during the previous year. In March 2002, the 12-month price increase of goods has been 77.1 percent while it is only 45.3 percent in services. The appreciation of the Turkish lira affected the price increase in goods sector excluding food positively during the last three months, but during the same period the price increase in services preserved their earlier momentum regardless of the exchange rate. With the revival in domestic demand, it is thought that the potential price increase in services like housing rents, education and health services might pose a problem for inflation in the future.

iii) In the current economic environment, the situation of labor market does not pose a threat on inflation, but an upturn in the economy might bring about a demand for high wage-increases due to the previous high inflation rates in basic goods and services. This will in turn increase domestic demand and increase production costs of firms imposing a pressure on inflation.

## II. MONETARY AND EXCHANGE RATE POLICY

### II.1. The General Framework of Monetary and Exchange Rate Policy

The monetary policy was implemented in the context of a monetary targeting framework in which Base Money was determined as the nominal anchor, until the prerequisites for inflation targeting regime would be met. The targets were met despite the difficulties of the crisis management. (Table II.1.1)

The targets were met despite the difficulties of the crisis management.

**Table II.1.1. Developments in Base Money and Net Domestic Assets (TL Trillion)<sup>(\*)</sup>**

	Base Money (Ceiling)			Net Domestic Assets (Ceiling)		
	Target <sup>(1)</sup>	Target <sup>(2)</sup>	Realization	Target <sup>(1)</sup>	Target <sup>(2)</sup>	Realization
April 30. 2001	-	-	5.850	-	-	6.739
May 31. 2001	5.900		5.815	9.750		7.942
June 30. 2001	6.050		6.247	13.250		12.943
August 31. 2001	6.300	7.175(I)	6.748	15.850	17.250(P)	16.437
October 31. 2001	6.800	7.550(I)	7.140	19.500	21.150(P)	17.933
Dec. 31. 2001	7.300	7.750(I)	7.642	21.000	22.400(G)	19.493

P: Performance Criteria, I: Indicative Target

\*: Last 5 work day average

(1) Letter of Intend dated May 2001

(2) Letter of Intend dated July 2001

**Table II.1.2. Floor Values of the Changes in the Net International Reserves (US \$ Million)<sup>(\*)</sup>**

	Target <sup>(1)</sup>	Target <sup>(2)</sup>	Realization
April 30. 2001 (Stock)	-	-	3.860
May 31. 2001	-1.500	-1.500	-837
June 30. 2001	-2.900	-3.562	-3.059
August 31. 2001	-2.000	-2.500	-1.370
October 31. 2001	-2.600	-3.250	-304
Dec. 31. 2001	-600	-3.546	-1.730

\*Floor values of change after October will be raised by unused portion of the previous period or 25 percent of the floor value of the current period (whichever is less).

(1) Letter of Intend dated May 2001

(2) Will be raised by unused portion of the previous period or 25 percent of the floor value of the current period (whichever is less).

The monetary program of 2002 took in some arrangements concerning the performance criteria and indicative ceilings that were determined in the previous program. Program definition of the CBRT Net Domestic Assets (NDA) is calculated by adding the Turkish lira equivalents of the IMF credits received by the Treasury and the short-term foreign exchange debt of the Treasury with maturity less than 1 year to the NDA of the CBRT. On the other hand, program definition of Net International Reserves (NIR) is calculated by subtracting these two items from the NIR of the CBRT. In addition to these, the ceiling values of the Base Money, which were determined as indicative values in the previous program, were converted into performance criteria in 2002. The targets on Net International Reserves, which were calculated by periodical changes in the previous program, were set as periodical floor values. Net Domestic Assets, which was a performance criterion in 2001, converted into an indicative target within the new program (Table II.1.3 and Table II.1.4).

**Table II.1.3. Performance Criteria and Indicative Targets for Base Money and Net Domestic Assets (TL Trillion)**

	Base Money		Net Domestic Assets	
	Ceiling <sup>(1)</sup>	Realizations	Ceiling <sup>(1)</sup>	Realizations
Feb. 28. 2002 <sup>(2)</sup>	8.250 <sup>(P)</sup>	7.823	26.100 <sup>(I)</sup>	24.318
March 31. 2002	-	8.207	-	25.259
April 30. 2002	8.900 <sup>(P)</sup>		27.700 <sup>(I)</sup>	
June 30. 2002	9.250 <sup>(P)</sup>		28.900 <sup>(I)</sup>	
Sept. 30. 2002	10.600 <sup>(I)</sup>		31.300 <sup>(I)</sup>	
Dec. 31. 2002	10.850 <sup>(I)</sup>		33.300 <sup>(I)</sup>	

<sup>(1)</sup> These ceilings are based on the average of the stocks prevailing during the five working days including and immediately preceding each of these dates.

<sup>(2)</sup> The February 28, 2002 performance criterion will be calculated using the four working day average of February 11–12 and March 11–12, to take account of the transitory impact of the religious holiday on currency demand.

P: Performance Criteria, I: Indicative Target

**Table II.1.4. Performance Criteria and Indicative Targets for Net International Reserves (US\$ Million)**

	Floor	Realizations
Feb. 28. 2002	-6.500 <sup>(P)</sup>	-4.907
March 31. 2002	-	-5.292
April 30. 2002	-7.200 <sup>(P)</sup>	
June 30. 2002	-7.800 <sup>(P)</sup>	
Sept. 30. 2002	-8.500 <sup>(I)</sup>	
Dec. 31. 2002	-9.700 <sup>(I)</sup>	

P: Performance Criteria, I: Indicative Target

Base Money, which is determined as the nominal anchor in the monetary program, is targeted to grow by 40 percent, consistent with growth and inflation targets. This policy is aimed for shaping the inflationary expectations of economic agents. High levels of currency substitution and financial innovations result in instability in velocity of money, which further leads to difficulties in base money forecasting. Therefore, base money target can be revised as consistent with inflation target in view of the developments in the determinants of the Base Money.

The ratio of primary surplus to GNP is set as 6,5 percent of GNP for 2002. In addition to this, strengthening of the banking sector by recapitalization, long-term restructuring in public management in terms of debt management and improving efficiency are the main elements for the success of the monetary program.

The exchange rate policy in 2002 is based on the principle of the determination of the exchange rate according to the supply and demand conditions in the market, similar to the previous year. Interventions to the foreign exchange will be limited and the CBRT will intervene in the foreign exchange market in order to prevent excessive fluctuations. If required, Central Bank will use transparent methods destined to increasing foreign exchange reserves in compliance with the floating exchange rate regime without distorting the long-term trend of exchange rate and its natural equilibrium point. In fact, daily foreign exchange purchase auctions which were inaugurated in April aims to increase the foreign exchange reserves in the context of the aforementioned principle.

Expectations, which turned positive after mid-October, improved in 2002. The factors behind that improvement are the success in meeting the monetary and fiscal targets of the program of 2001, primary surplus target of 6.5 percent of GNP in 2002 budget, additional financing from IMF, improved credit rating of Turkey from stable to positive. This stability in the financial markets, the appreciation of the Turkish lira and success in the implementation of the monetary and fiscal policy led to an improvement in inflationary expectations and a decline in interest rates. The improvement in inflationary

expectations was reinforced by the decline in inflation in the January-March 2002 period.

---

**The improvement in inflationary expectations was reinforced by the decline in inflation in the January-March 2002 period.**

---

The CBRT is using the short-term interest rates as its main policy instrument against inflation. The CBRT cut short-term interest rates in February, March and April in view of the current developments in inflation and possible future path of the inflation rate. (Table II.4.1)

Excess supply of the foreign exchange due to reverse currency substitution and strong balance of payments position was purchased to enhance foreign exchange reserves without affecting the level of exchange rate after early April. There is no pre-determined reserve level for foreign exchange purchases. These foreign exchange buying auctions will not create volatility in the exchange rate. The US\$ 20 millions worth of Turkish lira liquidity provided by daily foreign exchange buying auctions will be mopped up every Wednesday by TL 100 trillions worth of deposit auctions.

Two main regulations were brought forth in required reserves and liquidity requirement in order to reduce the intermediary costs of financial institutions and to provide more flexibility to enhance their Turkish lira and foreign exchange liquidity management. First, foreign exchange liabilities would also be remunerated in addition to the remuneration of TL liabilities. Second, the required reserve maintenance period of one week had been increased to two weeks and its coverage had also been extended.

The CBRT will gradually end its intermediate function in Interbank and Foreign Exchange markets, without causing any reduction in the amount of the Turkish lira or foreign currency liquidity provided to the banks via these markets. Moreover, the efforts on deepening and improving the efficiency of forward markets for exchange rate and interest rate contracts is still in progress.

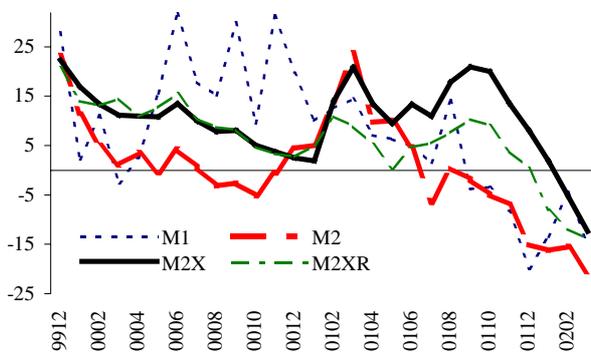
In addition to the monetary policy, the important factors for a sustainable decline in inflation are the resumption of the fiscal discipline, strengthening of the banking sector, accomplishment of the reforms in public sector that will improve the efficiency and productivity and elimination of the price setting mechanism based on backward indexation. Resumption of the decline in inflation in the first three months of 2002 in the following months and the abovementioned positive developments will facilitate the adoption of the monetary policy based on inflation targeting system.

## II.2. Developments in Monetary Aggregates

As of March, M1 and M2 money supplies decreased by 4.3 and 1.7 percent respectively in real terms compared with the end of year. While the currency in circulation, a sub-item of M1 money supplies, increased by 16.9 percent in February because of religious holiday and decreased by 5.6 percent in March compared with the end of year. The sight deposits decreased by 3.4 percent in the same period (Table II.2.2.). Time deposits, a sub-item of M2 money supplies, decreased by 0.8 percent.

**As of March, M1 and M2 money supplies decreased by 4.3 and 1.7 percent respectively in real terms compared with the end of year.**

Figure II.2.1. Monetary Aggregates  
(Annual Real Percentage Change)



\* CBRT "Weekly Press Bulletin", The provisional data was used for the last Friday of each month.

As we look at the developments in issued money, a dominant sub-item of currency in circulation and M1 money supplies, it is seen issued money increased

temporarily as did in previous years because of the religious holiday. This development was observed before religious holiday in February and currency in circulation rose from TL 4.5 quadrillion to TL 6 quadrillion and then decreased to TL 4.9 quadrillion and on March.

Table II.2.1. Monetary Aggregates (TL Billion)

	2001 JAN.	2001 FEB.	2001 MARCH	2001 DEC.	2002 JAN.	2002 FEB.	2002 MARCH
M1	6,805	7,117	8,190	11,073	10,191	11,782	11,486
Currency in Circulation	2,587	2,789	3,071	4,801	4,504	6,012	4,915
Sight Deposits	4,218	4,328	5,118	6,272	5,687	5,769	6,571
M2	32,291	33,438	38,289	46,986	46,811	48,912	50,104
Time Deposits	25,486	26,322	30,100	35,913	36,621	37,130	38,618
M2X	56,897	63,069	71,477	104,133	100,386	103,493	103,335
FX Deposits	24,606	29,631	33,188	57,147	53,575	54,581	53,230
M2XR	65,116	70,057	75,345	106,930	103,690	106,779	107,024
Repo	8,219	6,988	3,868	2,798	3,304	3,285	3,690
CPI (1994=100)	3,501	3,564	3,781	5,756	6,062	6,169	6,242
US dollar	679,253	957,879	1,056,544	1,439,567	1,341,817	1,368,400	1,332,489
EURO	622,059	867,168	932,505	1,268,115	1,176,506	1,195,982	1,161,931

\* CBRT "Weekly Press Bulletin", the provisional data was used for the last Friday of each month.

Table II.2.2. Monetary Aggregates, Real Percentage Change

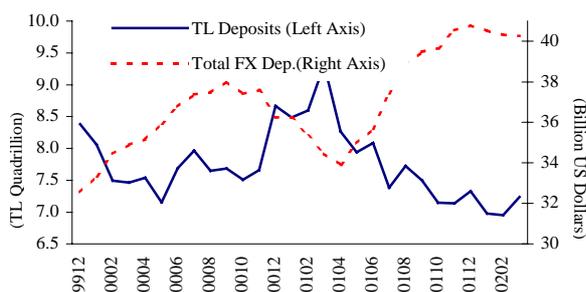
	ANNUAL			CUMULATIVE		
	2002 JAN.	2002 FEB.	2002 MAR.	2002 JAN.	2002 FEB.	2002 MAR.
M1	-13.5	-4.3	-15.1	-12.6	-0.7	-4.3
Currency in Circulation	0.6	24.6	-3.1	-10.9	16.9	-5.6
Sight Deposits	-22.1	-23.0	-22.3	-13.9	-14.2	-3.4
M2	-16.3	-15.5	-20.7	-5.4	-2.9	-1.7
Time Deposits	-17.0	-18.5	-22.3	-3.2	-3.5	-0.8
M2X	1.9	-5.2	-12.4	-8.5	-7.3	-8.5
FX Dep.	25.7	6.4	-2.9	-11.0	-10.9	-14.1
M2XR	-8.0	-11.9	-14.0	-7.9	-6.8	-7.7
Repo	-76.8	-72.8	-42.2	12.1	9.6	21.6

\* CBRT "Weekly Press Bulletin", the provisional data was used for the last Friday of each month.

As of March, M2X money supply decreased by 8.5 percent compared with the end of 2001. The main reason of the decrease in M2Y, higher than one in M2 money supply, is the reduction in FX deposits based on the Turkish lira as a result of the appreciation of the Turkish lira in the last months.

There was a decrease in TL deposits and FX deposits by 1.2 and 14.1 percent respectively in real terms compared with the end of year (Figure II.2.2.). But, FX deposits based on US dollar decreased to US\$ 40.3 billion from US\$ 40.8 billion in the same period.

Figure II.2.2. Real TL and FX Deposits



\* CBRT "Weekly Press Bulletin", The provisional data was used for the last Friday of each month.

As a result of this development, the share of FX deposits in M2Y money supplies decreased to 51.5 percent by the end of March from 54.9 percent at the end of 2001. It is expected that share of FX deposits in M2Y money supplies due to the reverse currency substitution as a result of increase in demand for the Turkish lira with positive expectations (Box II.2.1).

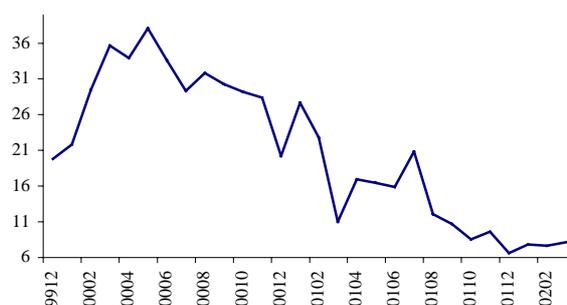
As the developments the maturity structure of TL deposits are observed, it is seen that the share of sight deposits in total deposits decreased to 14.5 percent by the March 2002 from 14.9 percent at the end of 2001. Additionally, the share of repo transactions, which shows a downward trend in 2001, in TL deposits increased to 8.2 percent. Main reason of this increase is seasonal decrease in repo at the end of year, a balance sheet period. The share of time deposits in total deposits

realized as 85.5 percent at the end of March, while that ratio was 85.1 at the end of 2001.

**It is expected that share of FX deposits in M2Y money supplies due to the reverse currency substitution as a result of increase in the TL demand for the TL with positive expectations.**

M2XR money supply, which is the sum of M2X and the repo transactions that banks do with their clients, decreased by 7.7 in real terms compared with the end of 2001. Decreasing repo transactions, which is stemmed from the decline in the balance sheets of banks after the February 2001 crisis, the reduction in O/N borrowing requirement of public banks and increased stoppage cuts for repo incomes in August 2001 within the framework of the re-construction of banking system, increased by 21.6 percent in real terms in the first quarter of 2002. This increase mainly stemmed from seasonal decrease in repo at the end of year, which is a balance sheet period. (Figure II.2.3.).

Figure II.2.3. The Share of Repo Transactions in TL Deposits (Percentage)

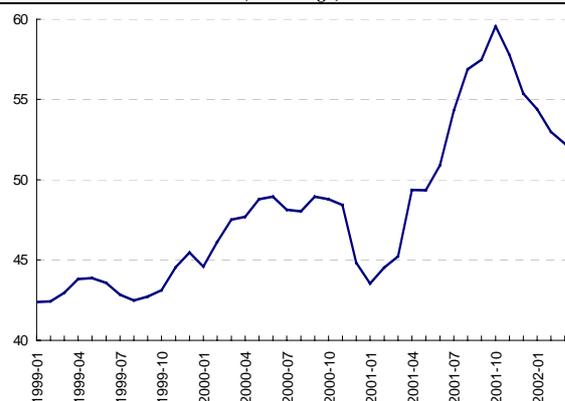


**BOX: II.2.1. EVALUATION OF DEVELOPMENTS CONCERNING CURRENCY SUBSTITUTION**

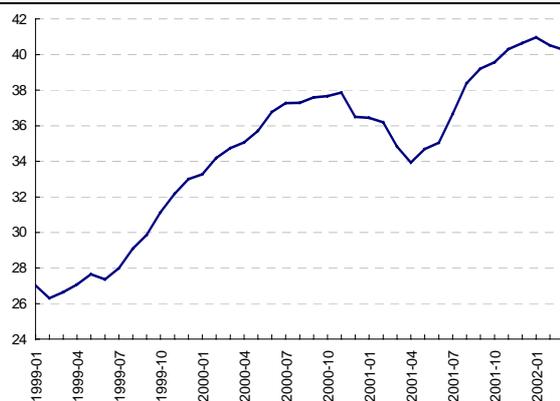
Evaluation of various indicators related to currency substitution leads us to the following observations: A significant downward trend is observed in FX deposits in terms of Turkish liras and in FX deposits/M2X ratio in the period after end-October 2001 (Figure 1). The main reason behind the latter downward trend is the nominal appreciation of the Turkish lira against foreign currencies. On the other hand, a slight decrease is observed in the value of FX deposits in terms of foreign currencies starting from the second half of January 2002 (Figure 2). When the significant amount of FX asset inflow into the banking system due to the euro conversion process is taken into consideration, this slight decrease can be interpreted as a reversal in the increasing trend of the volume of FX denominated investment tools. While a significant increase in TL deposits is not observed in this period, the data point out to an incline towards alternative TL denominated investment tools.

The share of FX deposits in M2XR+mutual funds, a monetary aggregate which can be reached by the inclusion of alternative TL denominated investment tools, namely repo transactions and mutual funds in the M2X monetary aggregate, points out to a decreasing trend similar to that of FX deposits/M2X ratio (Figure 3). The share of repo transactions in the above mentioned aggregate has been decreasing since mid 2001, while the mutual funds' share has been increasing since September 2001 (Figure 4). The increase in the mutual funds' share was mainly caused by the increase in the portfolio volume of government bonds and treasury bills. In addition, in this period, there was a significant increase in the government domestic debt securities held by individual and corporate investors through banks. Besides the decrease in market interest rates, which affected the government debt securities' portfolio value positively, the subsidies through tax-regulations and the speedy decrease in FX interest rates were also effective in this development.

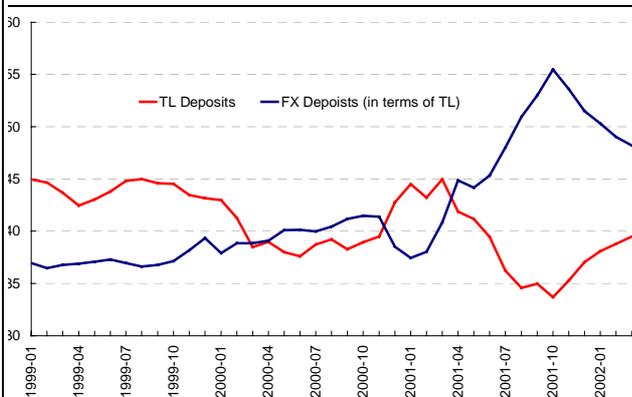
**Figure 1. The Share of FX Deposits in M2X (Percentage)**



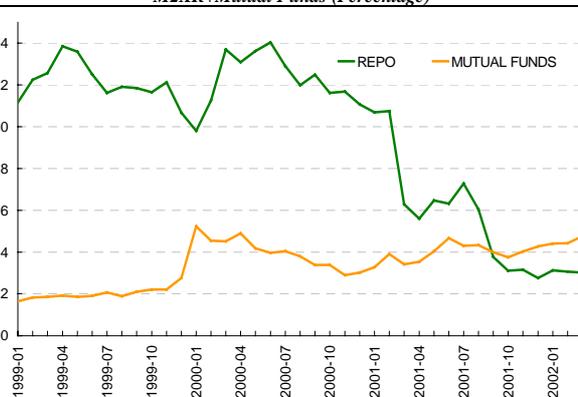
**Figure 2. FX Deposits (Billion US dollars)**



**Figure 3. The Share of TL and FX Deposits in M2XR+Mutual Funds (Percentage)**



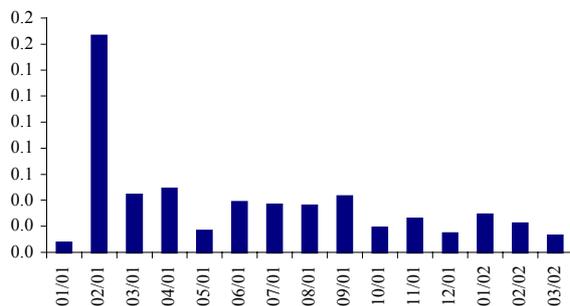
**Figure 4. The Share of Mutual Funds and Repo Transactions in M2XR+Mutual Funds (Percentage)**



### II.3. Developments in the Foreign Exchange Market

In the aftermath of the crisis in February 2001, the exchange rates were exposed to high volatility; however, as of August, the aforementioned volatility declined. Following the September 11 events, the exchange rates have experienced temporary volatility; on the other hand, the exchange rate volatility declined considerably in the last quarter of the year 2001 and in the first months of the year 2002 (Figure II.3.1). The expectations that turned positive as of mid October 2001 alleviated the pressure on exchange rates and caused a significant decline in the exchange rates. Nevertheless, there was an upward pressure on the exchange rates due to an unrest caused by a potential military operation to Iraq and the realization of the actual January inflation figures greater than expected. However, the adverse effects of the abovementioned developments were relieved as of mid February 2002 (Figure II.3.2). Furthermore, during this period, the external financing from the IMF brought ease to exchange rate market. Another development that affected the exchange rate market as of year 2002 is the physical circulation of the Euro, currency of the European Union (Box II.3.1).

Figure II.3.1. Exchange Rate Volatility

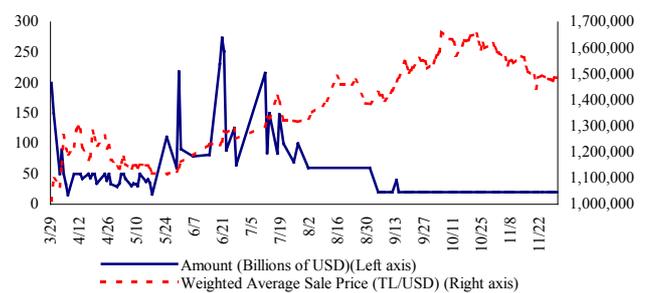


The ratio of the monthly standard deviation of the exchange rate to the monthly average of exchange rate is used to measure the volatility.

The CBRT conducted regular preannounced foreign exchange sale auctions during July-November 2001. Through these auctions, the excess liquidity due to the use of external financing from the IMF for domestic debt redemptions by the Treasury has been sterilized. As of

end of November 2001, no sale auctions were realized since the timing of the foreign currency denominated borrowing and the redemption dates were close which further resulted in no actions by the Treasury during December that would cause excess liquidity (Figure II.3.3).

Figure II.3.3. Foreign Exchange Sale Auctions



The CBRT interventions will be kept at the minimum in the upcoming period that the floating exchange rate regime will continue. The aforementioned discretionary interventions will not affect the long run equilibrium value of the exchange rate, but will only be implemented to counterbalance the excess volatility of the exchange rate.

Figure II.3.2. Exchange Rate (TL/US\$, Buying-Selling Average)



The CBRT announced on January 2, 2002 that in the upcoming period, the floating exchange rate regime would continue.

### **Box: II.3.1 The Transition Period to European Union Currency Unit Euro**

The European Union countries have started to use single currency unit Euro as of January 1, 2002. The Treaty of Rome (1957) has seen a common European Market as the prerequisite to the increase of the economic prosperity. Within this framework, in accordance with the Maastricht Treaty (1992), Economic and Monetary Union has been started effective as of January 1, 1999, and single currency unit Euro started to be used in Belgium, Germany, Spain, France, Luxembourg, Portugal, the Netherlands, Austria, Finland, Italy and Ireland. By Greece joining the European Union countries, as of January 1, 2002, the number of countries recognizing Euro as the single currency unit reached 12. On the other hand, Euro as a single currency unit has not been adopted in European Union countries Denmark, Sweden and the United Kingdom.

The Economic and Monetary Union has been achieved in the European Union in 3 stages. Within this framework, in the first stage between July-1991 and December 31, 1993, the internal barriers to the flow of capital among member countries have been removed. In the second stage between January 1, 1994 and December 31, 1998, European Monetary Institution has been established. Furthermore, during the above mentioned period, cash and credit advances of the central banks of the European union countries to the public sector have been prohibited and excess budget deficits have been avoided. Another development during this period is the establishment of the European Central Bank on June 1, 1998. European Central Bank has replaced the European Monetary Institution, and in addition to maintaining price stability, has targeted for the conduct of a single monetary policy among the Euro countries (countries that were going to adopt the monetary union). In the third stage, Economic and Monetary Union has been established on January 1, 1999, and as of this date, the member countries of the aforementioned Union has started to use Euro as bank money. Furthermore, the conduct of the monetary policy of the Economic and Monetary Union member countries has started to be implemented by the Eurosystem that comprises the central banks of the member countries of the abovementioned Union and the European Central Bank. As of January 1, 2002, Euro banknotes and coins have been in circulation. In Euro area countries, the changeover period from the national currencies to Euro varies from country to country, ranging between 4 weeks and 2 months. During the dual circulation period, national currency and Euro have been in circulation simultaneously in member countries. At the end of this period, national currencies have been out of circulation. Many banks have provided the changeover of the old national currencies to Euro freely. After the dual circulation period, the changeover of the old banknotes and coins will be continued freely by the central banks. The changeover period for the coins is indefinite in some countries, whereas it is until the end of year 2002 in others. The changeover period for the banknotes is indefinite in Spain, Ireland, Belgium, Luxembourg, Germany, and Austria. In other countries, the changeover period varies from 10 to 20 years.

The transition to the single currency unit Euro is expected to have important repercussion effects on Turkey. First of all, European Union is the largest trade partner of Turkey; nearly half of our total exports, imports and banking operations are with European Union countries. Also, European Union is one of the regions, which have the largest share in the total foreign investment in Turkey. In addition, currently, over three million Turkish people are living in European Union countries and finally, more than a half of Turkey's reserves are made up of European Union currency units.

The transition to the single currency unit Euro is expected to reduce operation costs in the Euro area, minimize currency risk and thus, increase the competitiveness of the 12 member countries. At the same time, as the single currency is expected to avoid devaluations made on the basis of competitiveness concerns; Turkey's competitiveness is also expected to improve. It is also foreseen that, the single currency unit will have favorable effects on Turkey's foreign borrowing. With the transition to Euro, member countries will start to borrow in Euro terms. This, in turn, will lead to an increase in the liquidity of Euro-denominated securities, thus to a decline in the difference between the buying and selling prices. In this way, it is foreseen that Turkey's borrowing costs will go down.

The Central Bank of the Republic of Turkey (CBRT) made certain arrangements related to the transition of 12 member countries' national currencies into the single currency Euro that has been in circulation as of January 1, 2002. In the framework of these arrangements, the CBRT has taken the necessary measures to provide that the currency changeover operations are realized without problem. The CBRT imported Euro currencies in order to front-load the banks and to offer for use at its branch offices.

As Euro, which has been used as bank money since January 1, 1999, started to be used as hard currency in 2002, the changeover of the Turkish residents' deposits held in terms of the national currencies of the 12 member countries, has been done freely by the banks, starting from January 1, 2002. Foreign exchange deposits amounting to 925 million Euros at the end of 2002, reached 11.6 billion Euros as of January 2002. In the period between August 2001 and January 2002, the total amount of the 12 member countries' national currencies, sent abroad was realized as US\$ 7.1 billion. In this period, the amount of the cash sent abroad by only the CBRT has been DM 4.8 billion. DM 2.9 billion, which is nearly 60 percent of the total cash sent abroad, have been sold to the CBRT. In other words, more than a half of the total amount of so-called buffer stock cash, which entered into the banking system, stayed in the banking system. The changeover demands of the banks, private financial institutions and authorized corporations will be continued to be met by the CBRT until the end of 2003.

During this period, the buy-sale foreign exchange auctions by the CBRT will not affect the long run equilibrium value of the exchange rate. Within this framework, the foreign exchange interventions during 2002 will be kept at the minimum and the aforementioned interventions will be for counterbalance of the excess volatility. Furthermore, predicted regular foreign exchange sale auctions may take place in order to withdraw excess liquidity that may arise during the use of the external financing from the IMF for the domestic debt redemptions by the Treasury.

With its press release of March 28, 2002, the CBRT restated that a reverse currency substitution as well as excess foreign exchange supply due to strong balance of payment position seems to be a strong possibility in the periods ahead. It was also announced that under these circumstances foreign exchange purchases could be conducted by the CBRT to enhance its foreign exchange reserves without violating the floating exchange rate regime and without effecting long-term trend and natural equilibrium level of the exchange rate. It is expected that CBRT will have a stronger reserve position in the medium to long term with these foreign exchange purchase auctions and this would boost the market's confidence in the existing program.

Moreover, effective from April 1, 2002, new arrangements concerning the determining the indicative exchange rates were bring forth. According to the aforementioned arrangements, the CBRT will make six observations at pre-determined hours by taking the average value of the averages of the buying and selling rates as quoted by banks in the interbank foreign exchange market for US\$ 1 between 10:30 –15:30 hours. The arithmetic average of these six observed values thus obtained would be the CBRT's indicative exchange selling rate of US\$ 1 to be announced at 15:30. Similarly, the cross rates in the international markets will be collected in pre-determined hours and the currencies other than US dollar will be calculated by using the average values of these cross rates.

#### II.4. Developments In Interest Rates

The CBRT determined interest rates by considering the inflation trends, exchange-rate movements and the developments in the international financial markets. By the virtue of easing concerns about the sustainability of domestic debt stock, the CBRT gained room to use the interest rates more efficiently. However, considering the inflation developments the CBRT did not decrease its policy rates after September of 2001. When the decreasing trend in inflation became apparent the CBRT reduced its short-term interest rates three times on 20th of February, 14th of March and 8th of April 2002 (Table II.4.1). Reasons for these reductions in short-term interest rates can be listed as follows; observation of positive signals related to the future inflation trends in monthly inflation realizations in February and March, encouraging developments in expectations due to the decisive implementation of the economic program, stability achieved in exchange rates, absence of a demand sided pressure on the inflation and the constructive progress on risk premium

**Positive developments occurred in the last months of 2001 has gave room to Central Bank for more efficient interest rate policy.**

*Table II.4.1. CBRT Interest Rate Quotations (simple, percentage)*

	July	Aug	Aug	Sept	Feb	March	April
	16	6	27	4	20	4	8
	2001	2001	2001	2001	2001	2002	2002
O/N	67	62	60	59	57	54	51
1 Week	71	68	65	62	59	55	52
2 Week	72	69	66	57	-	-	-

On 20th of February the CBRT abolished its quotations on the interest rates with maturities two week and one month in order to focus its main policy tool, O/N interest rates and to allow other interest rates to be determined by market dynamics. The CBRT will continue to determine short-term interest rates by considering the inflation prospects, expectations and the lagged effects of monetary policy decisions on the other macroeconomic variables.

In ISE Bonds and Bills Outright Purchases and Sales Market, following the 11th of September events with the increasing uncertainty interest rates on bonds jumped and this situation continued till mid-October. Beginning from the mid-October especially as of November it is understood that the program targets would be achieved, exchange markets improved in terms of stabilization and the Turkish lira began to appreciate. Besides economy policies concerning the 2002 period shaped in which tight fiscal policies were again emphasized and the amount of external financing had become definite. By virtue of these developments interest rates decreased considerably in the last two months of 2001. In January and February interest rates are observed to fluctuate in a narrow band however they have demonstrated a sharp decrease in March.

Figure II.4.1. ISE Bonds and Bills Outright Purchases and Sales Market Interest rates (compound, percentage)

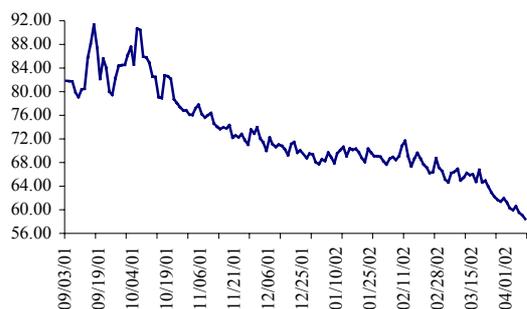
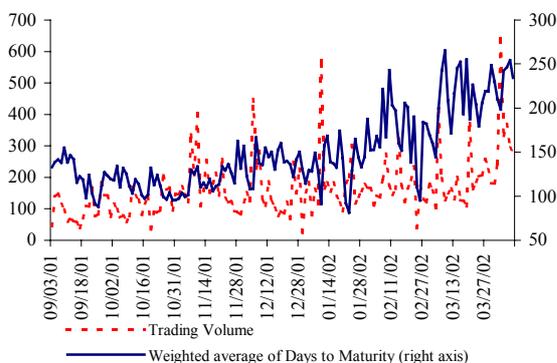


Figure II.4.2. ISE Bonds and Bills Outright Purchases and Sales Trading Volume (TL, trillion) and Weighted Average of Days to Maturity



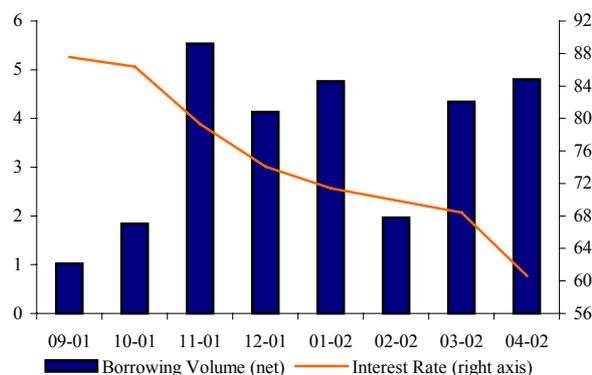
Besides interest rates, another positive development was observed in the average maturity of the bonds, their maturity increased. Average maturities of securities

trading in ISE came to 210 days from 112 days in October of 2001

**T-Bill interest rates fluctuated in a narrow band from December 2001 to the end of February 2002:**

Treasury auction interest rates followed a similar pattern with those of the ISE Bond and Bills Outright Purchases and Sales Market. Auction interest rates declined significantly especially in November and December, but in the following periods this trend slowed down (Figure II.4.3). However, declining trend in the auction interest rate became more visible in April thanks to the decisive implementation of the Program and the reduction in the inflation rate in the last two months.

Figure II.4.3. Treasury Auction Interest Rates (percent) and Borrowing Volume (net, TL quadrillion)

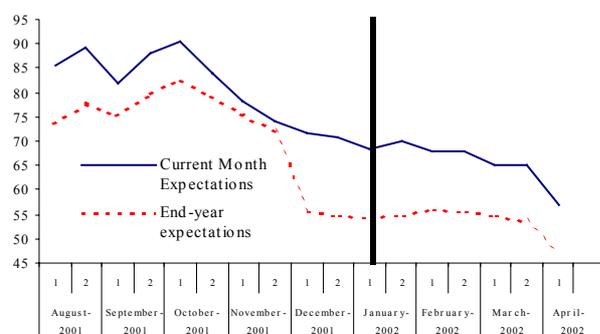


The Central Bank's short term interest rate cut is expected to influence the interest rates in other markets through the transmission mechanism. Short-term interest rates, which are set by the Central Bank, affected the interest rates more considerably in 2002 with the enhanced stability in the markets (Box II.4.1). It is observed that the changes in short term interest rates in 2002 were more effective on the papers with shorter maturities.

According to the Central Bank's Expectations Survey, an increase in interest rate expectations emerged due to the uncertainties created by the September 11 events. Nevertheless, a declining trend in interest rates were

observed which started in the second half of October and accelerating in November 2001. An important observation from the Expectations Survey is that there has been a significant decrease in the end-year interest rate expectations since December 2001. The current month expectations show that the declining trend, which has started in December, continued in 2002 as well. The end-year expectations, which varied between 54-56 percentage points for the first quarter of 2002 dropped to 47 percentage points in April (Figure II.4.4).

Figure II.4.4. CBRT Survey of Expectations Three-Month Treasury Auction Interest Rate Expectations (percentage, compound)



It is observed that the risk premia still play an important role on long term interest rates although the markets take into consideration the favorable developments in the economy. However, it is anticipated that the markets will converge to interest rates which are compatible with the inflation target due to the Central Bank's and government's decisive actions which have considerable impact on the inflation realizations and the optimistic expectations.

## II.5. Developments on the Central Bank Balance Sheet

One of the main developments affecting the Central Bank balance sheet in the period of November 2001-March 2002 has been the continued implementation of the setting up of performance and indicative criteria on the Central Bank balance sheet items. In this respect, the targets specified in the Letters of Intent as the performance and indicative criteria have been achieved as of December and February (Table II.1.1.4).

Table II.5.1 The CBRT's Balance Sheet Items (TL trillion)

	12/31	29/03	29/03
	2001	2002	2002
	CONSTANT	CONSTANT	CURRENT
<b>I- BASE MONEY (a+b+c)</b>	<b>7.803</b>	<b>8.425</b>	<b>8.425</b>
a- Currency Issued	5.283	5.563	5.563
b- Required Reserves of Banking Sector (TL)	1.626	1.824	1.824
c- Free Deposits	894	1.039	1.039
<b>II- NET FOREIGN ASSETS (A+B+C)</b>	<b>-12.754</b>	<b>-2.100</b>	<b>-1.843</b>
A- Net International Reserves (1+2+3)	-4.289	7.357	6.787
1- Gross Foreign Assets	27.874	30.304	27.928
2- Gross International Reserve	-32.163	-22.947	-21.141
Liabilities			
- FX Deposits of Banking Sector	-10.353	-9.736	-8.992
- IMF	-20.293	-11.411	-10.496
- Other Liabilities <sup>(1)</sup>	-1.517	-1.799	-1.653
3- Net Forward Position	0	0	0
B- Medium Term FX Credits (net)	2.030	2.024	1.873
C- Other (FX Lending Excl.) <sup>(2)</sup>	-10.495	-11.481	-10.503
<b>III- NET DOMESTIC ASSETS</b>	<b>20.556</b>	<b>10.525</b>	<b>10.268</b>
A- Treasury Debt	32.730	30.541	29.863
a- CBRT Portfolio	32.783	30.588	29.909
aa- Gov. Dom. Debt Inst. Prior Nov.5, 2001	32.703	30.489	29.811
ab- Gov. Dom. Debt Inst. Purchased from Secondary Market	80	99	99
b- Other	-53	-47	-46
B- Public Sector Deposits (TL)	-648	-1.007	-1.007
C- FX Deposits of Non-bank Sector	-3.137	-3.099	-2.862
D- Deposits of Public Funds	-104	-164	-164
E- Deposits of Non-bank Sector	-69	-32	-32
F- Cash Credits to the banking Sector	766	762	761
G- Open Market Operations (net)	-1.244	-6.214	-6.214
H- Other	-8.008	-9.941	-9.941
I- Revaluation Account	80	-512	-327
J- IMF Emergency Treasury	191	191	191
K- FX Lending <sup>(3)</sup>	0	0	0
NDA (1)	20.556	10.525	
Treasury Liabilities to the IMF (2)		13.236	
Treasury FX denominated borrowing with an original maturity of less than 1 year (3)	1.820	1.866	
NDA (program Definition) (1+2+3)	22.376	25.627	

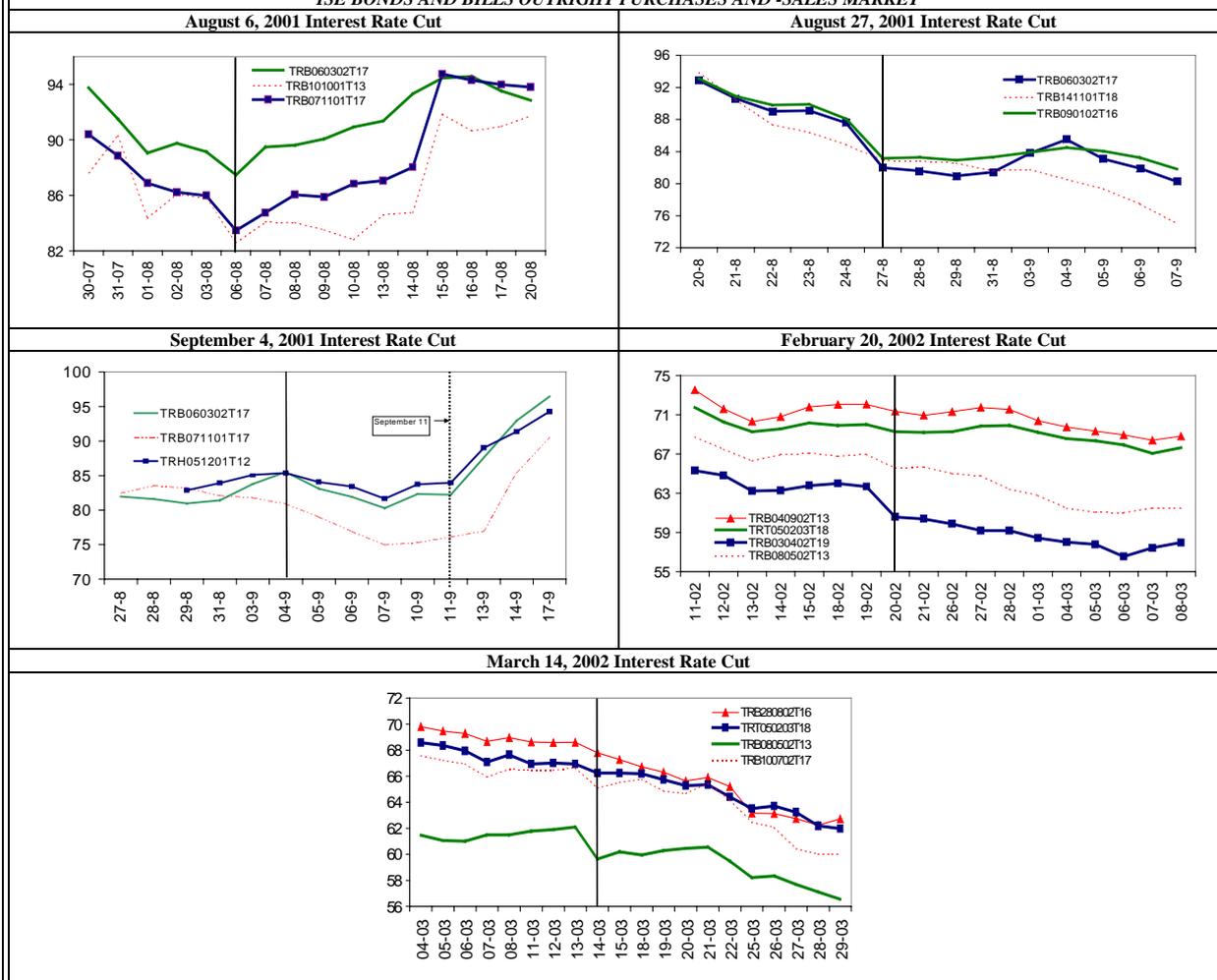
<sup>(1)</sup> Other Liabilities = Overdrafts + Letters of Credits + Short Term Credits + Dresdner Account (1 year)

<sup>(2)</sup> Other = Dresdner Account (2 year) + Dresdner Account (3 year) + Assets and Liabilities in FX (net)

<sup>(3)</sup> CBRT's FX lending has been put under the heading of Net Domestic Assets, which was included in the Net Foreign Assets definition before.

Another main development shaping the CBRT balance sheet in this period has been the banking operation made to reduce the overnight borrowing requirement of the state banks and SDIF banks. In respect of this operation, t-bills with their accumulated interest revenues under the CBRT's OMO portfolio, has been exchanged with longer-term bills.

**BOX: II.4.1. THE INTEREST RATE CUTS OF THE CENTRAL BANK AND THE INTEREST RATES OF GOVERNMENT SECURITIES TRADED IN ISE BONDS AND BILLS OUTRIGHT PURCHASES AND -SALES MARKET**



The Central Bank cut its short-term interest rates five times taking into consideration the forthcoming periods' inflation, the inflation expectations during August 2001- March 2002. The main policy tool of the Central Bank, the O/N interest rates used in the ISE Repo- Reverse Repo Market within OMO and in the Interbank Money Market declined to 54 percent on March 14, 2002 from 67 percent on August 5, 2001. The short-term interest rates are expected to affect the interest rates on other markets within the transmission mechanism.

In this respect, the interest rates of selected government securities decreased on the day of interest rate cutoff the CBRT except September 4, 2001. However, the interest rates of the selected government securities did not display a homogenous structure after the interest rate cut in the five periods analyzed. The interest rates of the selected government securities increased after the August 6, 2001 interest rate cut, while they declined after the interest rate cuts of August 27, 2001, February 20 and March 14, 2002. The interest rates displayed a stable pattern in the following week of September 4, 2001 cut, however, they increased in the following second week. The economic variables such as current period's conjecture (status-quo), exchange rate and expectations are thought to be effective in this development following an interest rate cut. For instance, the interest rate followed a stable pattern after the interest rate cut on September 4, 2001 until September 11, however, there was a significant surge in the interest rate stemming from the uncertainties caused by the September 11, 2001 terrorist attacks. When the interest rate cuts in 2002 are examined in detail, it is seen that the government securities, which have shorter days to maturity, reflect these cuts more considerably.

\* In the figures above, interest rates of government securities, one week before and two weeks after the interest rate cut, are shown. Solid black lines in the figures depict the period in which the Central Bank realized short term interest rate cut. The government securities, of which interest rates are displayed in the figures, are chosen according to their trading volume, days to maturity and redemption volume. Taking the timing of the interest rate cut as the base, days to maturity of the government securities were chosen to be not less than 45 days, since the analyzed period for each interest rate cut lasts for three weeks and every government security has different days to maturity for different days.

With the recording of the previously purchased t-bills' accumulated interest revenues of TL 2.5 quadrillion, there has been an increase in the Credit to the Public Sector (net) item; but, as the Other item decreased at the same time, as a result of an increase in the CBRT profit; the aforementioned operation has not caused a monetary expansion. The longer-term t-bills taken under the CBRT's OMO portfolio, that pay coupon once in a year, have terms in 2006, 2007, 2008, 2009 and 2010 (Table II.5.2). The coupon payments of these bills will be indexed to the rate of change of CPI. The fact that the capital and interest payments of these bills will be collected from the part of the CBRT profit that will be transferred to the Treasury, and that there will be no cash transfer of profits to the Treasury until the bills are totally redeemed; will prevent this operation to create a monetary expansion in the coming periods.

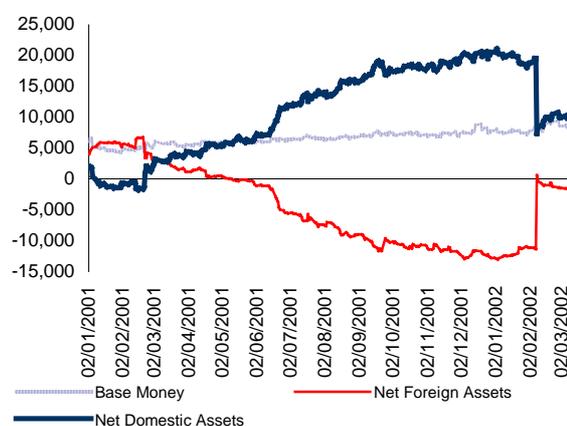
**Table II.5.2 The Repayment Plan of the Securities in the OMO Portfolio with Maturities Extended on 30.10.2001 (Securities are indexed to CPI and have annual coupon repayments)**

Redemption Date	TL Trillion	Coupon Redemption Date	Maturity
2006	1,000	1 Year	5 YEAR
2007	1,750	1 Year	6 YEAR
2008	3,000	1 Year	7 YEAR
2009	5,000	1 Year	8 YEAR
2010	8,028	1 Year	9 YEAR

**The banking operation made to reduce the overnight borrowing requirement of the state banks and SDIF banks has been another development shaping the CBRT balance sheet in this period.**

Another effect of the banking operation on the CBRT balance sheet, has been observed on January 8, 2002, as the Treasury redeemed the bonds it issued to the SDIF banks, using US\$ 3.5 billion of the Stand-by credits. Following this development, as the SDIF banks paid back their loans due to the repo operations with the Central Bank, the total amount of the funding of the Central Bank done through repurchase agreements with quotations declined to TL 2.050 trillion. As a result of these developments, the OMO (net) item on the balance sheet reached TL -5.307 trillion as of January 8, 2002.

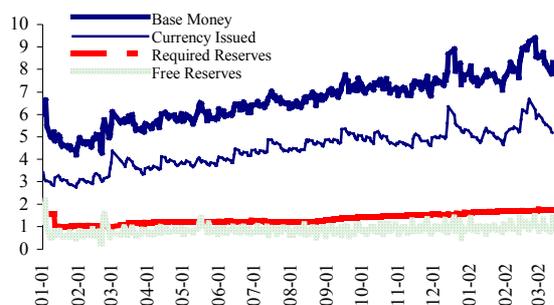
**Figure II.5.1. Base Money, NDA and NIR (TL)**



Another main development affecting the CBRT balance sheet during this period has been the amendment of the CBRT Law on April 22, 2001. With this amendment, the granting of cash advances to the Treasury and credits to the public institutions was ceased and it was stated that the Central Bank will no longer purchase t-bills from the primary market starting from November 5, 2001. On this account, definition changes in certain balance sheet items were made to provide that the developments in the CBRT's securities portfolio are easily monitored. In this respect, "Credits to the Public Sector (net)" item under Net Domestic Assets has been altered as "Treasury Debt". Prior to November 5, 2001, "DİBS prior to Nov. 5, 2001" item under "Treasury Debt" has moved due mainly to the direct purchases of the Central Bank in line with the restructuring of the banking system. Following that date, this item has changed mainly because of reverse repo operations and exchange rate differences related to foreign exchange indexed Government Domestic Debt Securities.

**Another development affecting the CBRT balance sheet during this period has been the amendment of the CBRT Law on April 22, 2001. With this amendment, the granting of cash advances to the Treasury and credits to the public institutions was ceased.**

Figure II.5.2. Base Money and its Sub-items (TL Quadrillion)



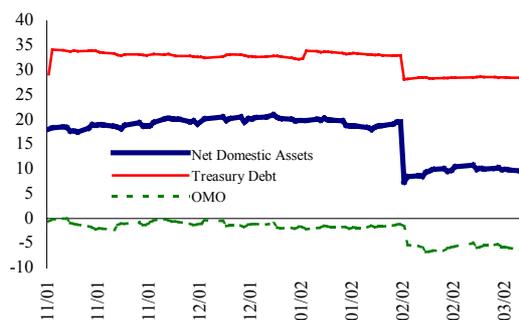
Another reflection of the amendment of the CBRT Law on the Central Bank balance sheet can be seen in the way the IMF financing is used by the Treasury. As a consequence of the amendment of the CBRT Law, in the period following November 2001, the Treasury is no longer allowed to issue bills for the usage of the IMF financing. On this ground, in order to utilize the IMF financing of December, this operation was done in early November. As a result, t-bills, compliant with the payment pattern of the IMF loans, were issued. The reflection of this implementation on the Central Bank balance sheet was seen as an increase in the “Treasury Debt” item on November 2, 2001.

**One other reflection of the amendment of the CBRT Law on the Central Bank balance sheet can be seen in the way the IMF financing is used by the Treasury.**

The developments in the CBRT’s balance sheet aggregates in this period can be summed up as follows: In the last two months of 2001, base money which takes place on the liability side of the CBRT’s balance sheet, was relatively stable, except for the increases related to the religious holiday in mid-December and the following new year holiday. Base money, which contracted in January, displayed an increase of 13 percent in February, compared to the end of previous month figure. Increasing level of money demand related to the religious holiday on the last days of February plays an important role in this increase. As of March 2002, there has been an 8 percent increase in base money compared to December 2001.

Currency issued, which is the most important item of base money, displayed increases related to the salaries in the middle of months and religious holidays; and then contracted on the last days of the months due to cash returns. As of the end of March, currency issued increased by 5 percent, nominally, compared to the end of December. Another item of the base money, TL reserve requirements, increased by 12 percent in nominal terms as of the end of March, compared to the end of December. The last item of base money, free deposits, fluctuated due to banks’ weekly average responsibility and displayed a contraction of 16 percent in nominal terms as of the end of March, compared to the end of December.

Figure II.5.3. NDA and its Important Sub-items (TL Quadrillion)



Net Domestic Assets, which takes place on the asset side of the balance sheet, declined by 50 percent as of the end of March compared to the end of December; while it was relatively stable until the first days of February. On February 7, 2002, due to the decline in the Treasury Debt item under Net Domestic Assets as a result of the redemption of the Government Domestic Debt Securities (DİBS) which were purchased to provide the usage of the IMF financing by the Treasury; a contraction of TL 12.130 trillion was observed in Net Domestic Assets.

The Public Sector Deposits (FX) account, which takes place under the Net Domestic Assets, moved to a large extent together with the movements in the Treasury’s foreign borrowings and repayments. This account declined by 9 percent at the end of March compared to the end of December figures. This item moved during the

repayment of the IMF loans on the 7th of February 2002 and then returned to its early levels.

Figure II.5.4 Open Market Operations (Net-TL Quadrillion)



The Open Market Operations (OMO), another item of the Net Domestic Assets, moved as the liquidity, which

was injected during the banking operation on the state and SDIF banks, was gradually withdrawn. This account has taken negative values since October 2001 and its value shifted from TL -1,244 trillion at the end of December 2001 to TL -6,214 trillion at the end of March 2002.

The Net Foreign Assets, which was worth US\$ -8,859 million at the end of December 2001, shifted to US\$ -1,383 million at the end of March 2002. The main reason behind this movement is the decline in the Gross International Reserves under the Net International Reserves as a result of the repayment of the IMF loans on the 7th of February 2002. Consequently, Net International Reserves, which started to take negative values after July 2002, began to take positive values starting from 7th of February 2002. The FX Deposits of the Banking Sector item under the Gross International Reserve Liabilities, moved from US\$ -7,192 million at the end of December 2001 to US\$ -6,748 million.



**Box.III.1.1. POLICIES IMPLEMENTED DURING BANKING CRISIS AND RECAPITALIZATION IN TURKEY AND IN THE WORLD**

Since 1970's countries, developing and developed, mired in severe banking crisis restructured their banking system. Policies implemented and instruments utilized varied from country to country depending upon the unique conditions of each economy. The policies that have been implemented during the restructuring process can be divided into two categories. Within the first approach, short-term measures are utilized to solve the banking problems. Among these measures liquidity support to the solvent but illiquid banks, providing blanket guarantees, forbearance toward banks, recapitalization and restructuring of debts to the financial sector can be counted as examples. The second approach, on the other hand, involves introduction of new regulatory measures. Increasing capital adequacy ratios, required reserve ratio and the penalty rates in case of violation of the rules and limiting the banking activities are examples of policy measures within this context.

However different may such policy instruments implemented be, country experiences demonstrate certain principles to be followed. First of all, only financially viable banks must be allowed to operate in the banking system, the cost of restructuring should be transparently determined such that the expected loss of the fiscal resources is minimized. Secondly, the cost of restructuring should be allocated first to shareholders, then to borrowers, and lastly to 'big' depositors. Furthermore regulatory measures should be geared towards enhancing credit discipline and increasing banks' capital. Last but not least, restructuring must be rapid and effective to promote credit expansion.

Another common point observed from country experiences is that the motives behind the restructuring of the financial system, such as swift results, not burdening the budget, maintaining a healthy financial sector and reestablishing confidence in the banking system, are similar. However, history exhibits that these motives can conflict with each other. Stylized example of such conflicting cases is the following. Desired results may be attained swiftly by recapitalizing the troubled banks with public funds, but this option involves heavy cost to the Treasury and lacks the incentive structure for bank performance, which may jeopardize the future success of the restructuring. On the other hand, policies, which cost less to the Treasury and motivate good banking practices will take longer to complete. The extent of tension between such conflicting targets varied from country to country depending upon the underlying source of the financial problems.

The economies, which were faced with bank-runs, increase in non-refundable credits and lacked risk management expertise, had to incur dramatically higher bank restructuring costs. Last but not least, moral hazard stands as an impediment against the success of the recapitalization process as observed from country experiences.

It's documented that 113 banking crises occurred in 93 different countries since 1970's. In the last twenty years 40 countries experiencing banking crises allocated on the average 13 percent of their GDP to the rehabilitation of their troubled financial systems. If this sample is restricted to developing countries, the total cost of restructuring as a ratio of GDP surges. In the developing countries the total cost of bank restructuring is estimated to be US\$ 1 trillion. Japan is the developed country with the highest figure for bank restructuring, other South-East Asian countries are the economies to spend relatively higher amounts to restructure their banking sectors.

In the table below, the extent of government expenditure for restructuring of the banking sector as ratio of GDP. All of the countries in the table resort to bank recapitalisation more than once, coupled with some other policies, such as blanket guarantees granted to the creditors and depositors, extended liquidity facility, and liberalization in the regulations.

**Fiscal Resources allocated to bank restructuring during financial crises for Financial Restructuring (As a ratio of GDP)**

Czech (1989-91)	Republic (1991-95)	Hungary (1991-95)	Indonesia (1997-...)	Japan (1992-...)	South Korea (1997-...)	Malaysia (1997-...)	Mexico (1994-...)	Thailand (1997-...)	Uruguay (1981-84)
% 12		% 10	% 50	% 20	% 26,5	% 16,4	% 19,3	% 33	% 31,2

Source: Worldbank Discussion Paper, No.428, 2002

*In various countries such as Indonesia, Japan, South Korea, Malaysia, Mexico, Thailand, Sweden, Spain and Poland fiscal resources are utilized in improving bank capital. In Mexico, Thailand, Malaysia and South Korea banks were recapitalised with Treasury bond, similar to what is planned to be carried out in Turkey. In those countries not only deposit banks but also insurance companies, investment trusts and investment banks were included in the restructuring sequence. The government bond, which was swapped in exchange for equity, was preferred to be inflation-indexed. In most of these countries the operations were planned by the Economic or Public Finance ministries and executed by the independent or semi-independent government agencies, like BRSA in Turkey. Especially in East Asian economies the most effective official body was Savings Deposit Insurance Fund.*

*As it has been observed from the country experiences, the success of the operations hinges upon, proprietor structure and initial capital level of the banks, as well as the legislative and administrative infrastructure of the economy.*

#### **Recapitalization of the Banking Sector in Turkey**

*The sharp increase in non-performing loans, due to both the weak supervision practices and financial crises, financial fragility in the Turkish banking sector increased in the 1990s. The increase in non-performing loans, together with the increased instability in the FX rates has led the capital needs of the banks to increase considerably.*

*The banks taken over by the Savings Deposits Insurance Funds (SDIF) were recapitalized directly by the government, within the restructuring process, which began in 2000 and continued in 2001. At the same time, private sector banks were obliged to commit to increase their capitals. In 2001, a series of regulations including tax incentives, were introduced to encourage bank mergers and acquisitions. In 2001, decrease in asset prices, substantial increase in non-performing loans and increase in uncertainty in economic environment have caused additional capital needs to increase, and also limited the availability of funds to increase capital base.*

*In November 2001, net-worth of the private sector banks was observed to decrease by 31 percent in real terms, with respect to the same month of the previous year. As a result of the recent financial crises, the private sector banks, which committed to increase their capitals have both weakened financially, and also faced with a limited ability to lend the real sector. Therefore, it is necessary to rebuild the private sector banks' financial strength in such a way that they are able to finance the economic growth.*

*The search for strengthening the financial structures of both the financial and non financial firms intensified in the beginnings of year 2002. To this end, a new law, named "The Law no. 4743 on the Restructuring of Debts to the Financial Sector, and Changes in Some Laws" were passed from the parliament on January 31, 2002. With the passage of the new law, establishment of an "asset management corporation" was enabled, and also capital injection to the private sector banks have been made legally feasible by adding a temporary item to the Banking Act. In the first stage of the the recapitalization plan, it was aimed that the banks which accept deposits, and need additional capital support will be determined by a careful examination of the banks, and then additional capital will be injected to these banks by the government.*

*The recapitalization plan envisages a one time and limited capital injection to the financially weakened private banks, which are substantially weakened during the financial crises. The plan also envisages that the capital support will be differentiated for each bank, with respect to their financial strength, and the banks' shareholders will also contribute to the capital injection. Capital support is planned to be made both in the form of direct capital injection (Tier 1 capital) against acquisition of bank shares by the government, and in the form of subordinated debt (Tier 2 capital). In order to determine the banks to be supported, the capital adequacy ratios of each private sector banks will be subjected to a three stage examination, and the share of each individual bank's total asset shares in the sector will be considered*

- *According to the above stated criteria, the eligible banks with a total assets share of 1 percent or more and capital ratios between 0 to 5 percent will be provided with a direct capital injectio up to the amount not exceeding the amount to be raised by the shareholders, which is required to raise the bank's capital adequacy ratio to 5 percent. In this way, the financially weakened banks are encouraged to mergers and acquisitions. With the direct capital provision, the SDIF will acquire banks' shares up to an amount which is indicated by the nominal value of the capital support. In other words, the SDIF will be a shareholder in banks as the representative of the government temporarily. After increasing the capital adequacy ratios of eligible banks to 5 percent, the banks can also make use of the long term capital support (subordinated debt). The banks provided with the direct capital support in increasing their capital adequacy ratios to 5 percent, will be obliged to lend at least 60 percent of the capital support to the real sector firms (excluding their affiliates and financial firms) until the end of June 2003. Whether the eligible banks meet this requirement or not will be controlled by the Bank Regulation and Supervision Agency (BRSA) once in every three months.*

• Banks of which the capital adequacy ratios lie between 5 percent -9 percent, will be provided with subordinated debt (tier 2 capital) up to an amount, which is sufficient to raise the bank's capital adequacy ratio to 9%. The subordinated debt will be in the form of government securities issued at market terms, with 7-year maturity, a grace period of 2 years, and will carry a maximum spread of 5 percent. The maturity of the subordinated debt will be equal to the maturity of the government securities. In cases, where the banks are not able to make repayment for the subordinated debt, all the securities given to banks will be converted to stocks and will be owned by the SDIF in the name of the government. Furthermore, the part of the shares being equal to the capital support, and belonging to the present bank owners will be put in pledge. At the same time, banks of which capital adequacy ratios lie between 5 percent and 9 percent will be exempted from the condition of having at least 1% share in the sector's total assets.

The SDIF will appoint several members to the managerial boards of the banks to be supported. The number of the members to be appointed by the SDIF is going to be determined by the percentage of the bank shares held by the SDIF. This will also enable the SDIF to monitor the activities of the banks closely. Contribution to bank capitals will also be open to all investors. Time schedule for the removal of the pledge on the bank shares, or the transfer of the shares owned by the SDIF to the private sector banks will be determined later.

The government securities to be given to the banks will not be traded in the market. The reason for this is to avoid unnecessary increase in the liquidity, which may be induced by the liquidation of these securities, and the need for a close coordination between the monetary policy implementation and bank recapitalisation.

Potential benefits expected from the recapitalization program are as follows:

- If a bank with inadequate capital is too big to fail, capital injection to this bank by the government may limit further losses to the public,.
  - Bank's shareholders will be induced to contribute in injecting additional fresh capital,
  - Further take over of the problem banks by the SDIF will be prevented and the cost of bank restructuring to the public will be limited. (It is also expected that liquidity needs of the private sector banks, and hence their resort to the overnight markets will also diminish. This will enable the Central Bank to leave its guarantor role in the overnight Turkish lira and FX markets, without creating adverse effects in the market, and to implement the monetary policy more easily),
  - Financial conditions of banks will be improved permanently, and the banks are expected to be in a better financial condition before the initiation of the program to restructure corporate sector debts to the banking sector,
  - Bank mergers and acquisitions are encouraged,
- Bank balance sheets are expected to become more transparent, and this is expected to improve the investor confidence in the banking sector.
- Credit supply to the real sector firms by the banks is expected to increase,
  - A suitable environment for the removal of full deposit insurance system for bank deposits is expected to emerge,
  - The banks will have been overcapitalized with respect to the BIS standard, which is 8% presently. Therefore, it is expected that the private sector banks will be able to borrow from the international financial markets at favorable terms, and find foreign partners. It should also be kept in mind that the recapitalization by itself is not sufficient to attract interests of foreign investors to Turkish banks, and macroeconomic developments are also important ,
  - Finally, the increase in non-performing loans, and the full state insurance given to depositors can be seen as important factors leading to increases in government domestic borrowing interest rates. This problem is largely emanated by capital inadequacy of banks. Therefore, recapitalization of banks is expected to alleviate this problem.

In Turkey, the new application of remuneration of required reserves, and the new loan provision have been introduced to reduce banking costs.

**Moral Hazard Risk and Measures Implemented Against Moral Hazard:**

*In most of the countries faced with serious banking problems the recapitalization process was repeated. This fact can be interpreted as the initial recapitalization effort was insufficient and the banks operated below the minimum required capital adequacy ratios even after capital injection. To avoid such recurrences, it's necessary to recapitalize the banks swiftly and adequately. Repeated capital injections cause the banks to operate in a non-prudent manner, and delay the necessary restructuring of their operations due to anticipated new round of recapitalization.*

*This operation will be beneficial provided that the banks assess their credit demands more prudently. For example, recapitalisation, being regarded as a prize for mismanagement, may lead to protraction of the problems. Therefore inspecting whether the ratio of performing loans, these banks extend, are higher than their pre-recapitalisation levels or not is a must for the success of the effort.*

*In Turkey, regulations that are aimed to prevent banks from extending unnecessary risk are the following:*

*To avoid the risk concentration in the credits extended, within the new framework, direct and indirect credits will be assessed together, bank subsidiaries and shareholders will be evaluated within the same risk classification. Furthermore, credits extended to the real and legal persons are limited from above, to 25 percent of the stockholders equity. As of now, if the corresponding ratios exceed the specified level, no new credit should be granted toward these groups and the exceeding part should be step by step reduced to the designated level until the end of 2006. Beginning from 1st of January 2002 the derivative instruments such as forward operations and option contracts are included in the credit definition.*

*Banks, on the other hand, trying to attain 8 percent capital adequacy ratio will be trying to lower the provision requirements, which they have to keep against credits and past due loans. As a result, banks will act hesitantly to extend credit to the real sector, and will try to call back the previous extended loans. Banks may wish to form their portfolios composed of low risk and assets for which no legal provision is required.*

*Financial source for the recapitalization will be provided from Treasury and the amount will be managed by the savings deposit insurance fund. The success of the recapitalization depends upon the following factors: adequate funds should be transferred to the body that will carry out the recapitalization process, also necessary authority and power should be delegated to the body managing the recapitalization, at the same time the process should be carried out in a timely and swift manner, the transferred funds increase banks' profitability and their refinancing capacity which prevents transfer of bank proprietorship to the saving deposit insurance fund, after extending fresh credits to the real sector, the repayment should not be problematic, and prudent decision making while extending credits.*

**Reference:**

*B.R.S.A (2002) "Bank Capital Strengthening Report"*

*Enoch C., Garcia G., Sundararajan V. (2001) "Recapitalizing Banks with Public Funds" IMF Staff Paper, Vol.48 No.1*

*Klingebiel D., Laeven L. (2002) "Managing the Real and Fiscal Effects of Banking Crises" World Bank Discussion Paper, No.428*

Table III.1.2. Financial Markets-Main Indicators (TL Trillion)

	26.12 2000	30.03 2001	28.12 2001	29.03 2002
Deposit (Residents)	55,209	69,901	102,069	100,451
TL	30,854	36,713	44,922	47,221
FX	24,355	33,188	57,147	53,230
Credit To Non-Financial Sector by Deposit Banks	25,689	28,032	31,249	30,931
TL	17,264	16,770	17,544	18,130
FX	8,425	11,262	13,705	12,801
Consumer Loans	4,619	3,878	2,323	2,096
Repos (Savings Holders)	5,977	3,868	2,798	3,690
Past Due Loans/Tot. Credit (%)	10.5	12.1	16.9	18.6
Past Due Loans/Tot. Credit (%) - Excluding SDIF	5.7	6.7	14.3	16.3
Securities Portfolio/Tot. Deposit (%)	21.8	20.3	44.8	20.3
Securities in Non-Trading Port. /Total Deposit (%)	8.5	15.7	13.4	46.9
Credit/Deposit (%)	46.5	40.1	30.6	30.8
Public Bank Dep./Tot.TL.Deposits (%)	58.9	53.9	54.5	56.5
Public Bank credit/Tot.TL Credit (%)	32.8	31.3	23.3	23.6

Source: CBRT Weekly Press Bulletin, Last Friday data of each month.

The number of branches and personnel of the banking system decreased due to policies aiming to decrease personnel and operating expenses as part of the banking sector restructuring program. While total number of branches was 7,799 in February 2000. It decreased to 6,855 in February 2002.

### III.1.a. Credit

Total credits shrunk significantly due to dropping both the demand and supply of credits after the November 2000 crisis. The fact that banks preferred to stay liquid, due to the increasing interest expenses of the banks, the shrinking financing possibilities, and difficulties to use in past due loans affected the credit volume negatively. The demand of the credit was also shrunk because of high credit interest rates, weak domestic demand and contraction in the economy.

**Total credits shrunk significantly due to dropping both the demand and supply of the credit after the November 2000 crisis.**

Total credits extended by the deposit banks to the non-financial sector decreased by 33 percent in real terms and dropped to TL 31.3 quadrillion in March 2002 compared to the same month of the previous year. It was mainly

resulted from the decrease of the commercial loans denominated in the Turkish lira, and specialized loans of the state banks and the loans denominated in the foreign currency. In this period, while commercial loans denominated in the Turkish lira and specialized loans decreased by 29 percent and 50 percent in real terms, respectively, compared to the end of the previous year. The loans denominated in the foreign currency decreased by 31 percent in real terms.

Figure III.1.1. Loans to Non-Financial Sector (Discounted with CPI 94=100 Index. TL Billion)

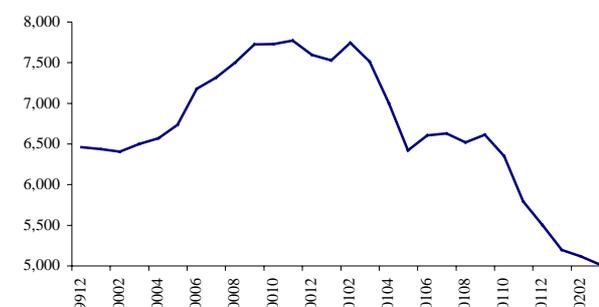


Table III.1.3. Deposit Banks Credit (TL Trillion)

	Public	Private*	Foreign	Total
<b>26.12.2000</b>	<b>8,423</b>	<b>16,405</b>	<b>861</b>	<b>25,689</b>
TL	6,767	10,116	381	17,264
FX	1,656	6,290	479	8,425
<b>30.03.2001</b>	<b>8,883</b>	<b>17,980</b>	<b>1,168</b>	<b>28,031</b>
TL	6,777	9,626	367	16,770
FX	2,106	8,354	801	11,261
<b>28.12.2001</b>	<b>7,389</b>	<b>22,575</b>	<b>1,287</b>	<b>31,249</b>
TL	5,449	11,539	557	17,544
FX	1,940	11,036	730	13,705
<b>29.03.2002</b>	<b>7,374</b>	<b>22,338</b>	<b>1,219</b>	<b>30,931</b>
TL	5,517	12,091	522	18,130
FX	1,857	10,247	697	12,801

\* Including SDIF banks

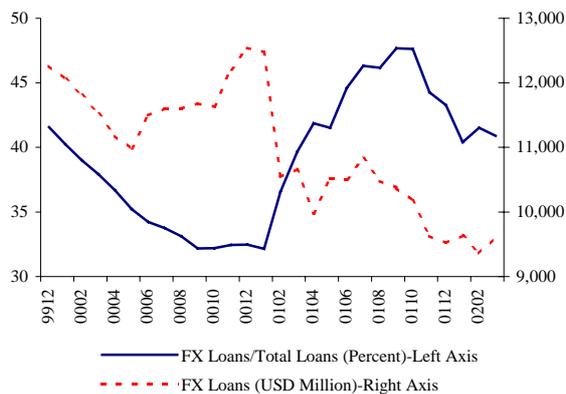
Source: CBRT Weekly Press Bulletin

Total credit extended to the non-financial credit also decreased by 9 percent in real terms in the January-March 2002 period compared to the end of 2001. In this period, while commercial loans denominated in the Turkish lira and specialized loans decreased by 5 percent and 3 percent in real terms, respectively, the loans denominated in the foreign currency decreased by 14 percent in real terms due to the appreciation of the Turkish lira. The

strengthening of owners' equity of the banking sector, the decrease on the credit interest rates and improvement of the growth rate is expected to restrict the shrinking of the total credit volume in the future period.

While the credits extended by the public banks to the non-financial sector decreased by 8 percent in real terms as of March 2002 compared to the end of the previous year, the credits extended by private and foreign banks decreased by 9 percent and 13 percent in real terms, respectively.

Figure III.1.2. FX loans



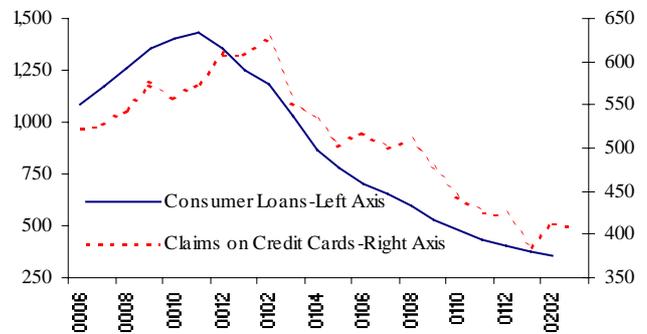
While the loans denominated in foreign currency increased due to the depreciation of the Turkish lira until October 2001, they decreased due to the appreciation the Turkish lira since October 2001. While the share of Turkish lira equivalent of the loans denominated in foreign currency in total loans was 39.7 percent in March 2001, it increased to 47.7 percent at the end of September 2001 and later decreased to 40.9 percent in March 2002. However, while US dollar equivalent of loans denominated in foreign currency was US\$ 10.7 billion in March 2001, it dropped to US\$ 9.6 billion in March 2002.

The share of consumer loans in total loans, which had been 13.7 percent in March 2001, declined to 6.7 percent in March 2002. Due to increasing financing costs and uncertainties, banks cut down the supply of consumer loans, and due to increased costs of borrowing and decreasing real income of individuals, the demand for

consumer loans also decreased substantially. During the same period, while claims on credit cards also showed a decreasing trend, a slight increase was observed in February 2002.

**The share of consumer loans in total loans decreased to 6.7 percent in March 2002.**

Figure III.1.3. Developments in Consumer Loans and Claims on Credit Cards (Discounted by CPI 1994=100, TL Billion)

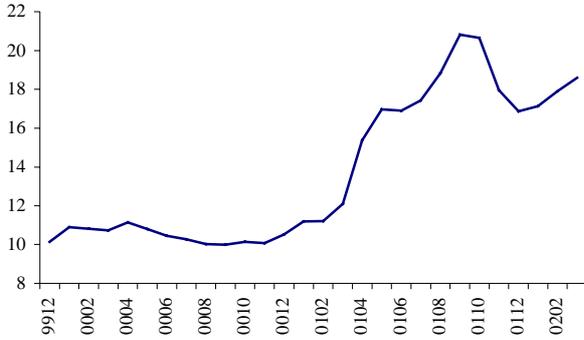


While the share of the past due loans over total loans was 20.8 percent in September 2001, it decreased to 16.9 percent in December 2001 and increased to 18.6 percent in March 2002. Banking system's past due loans decreased because some of the past due loans of the SDIF banks were transferred to the Collection Department after September 2001 until the end of 2001.

While the share of past due loans of the SDIF banks in total past due loans was 13.4 percent as of March 2002, it was realized as 54.6 percent for the public banks and 29 percent for private banks. The decrease of the past due loans share of the SDIF banks resulted from the partial transfer of the past due loans of these banks to the Collection Department. High credit rates, weak domestic demand and credit call-backs disturbed financial structures and transactions of firms, and caused firms fail to repay their loans on time.

**The share of the past due loans of the public banks in total past due loans jumped to 54.6 percent in March 2002.**

**Figure III.1.4. The Share of Past Due Loans in Total Loans (Percent)**



The largest share in past due loans belongs to the textile sector, which is export oriented and which was severely affected by the balance of payments deteriorations in 2000. The share of textile sector past due loans in total past due loans decreased by a small amount in 2001 due to the increase in exports. The share of past due loans of textile and textile products industry in total past due loans, which had been 28.8 percent in February 2001, declined to 22.8 percent in February 2002. When Turkey became a member of the Customs Union, the textile sector made a large amount of investment, but after the 1997 Asian and 1998 Russian crises, the sector faced a decline in external demand and lost in competitiveness. This is the reason for the persistent high level of past due loans of the sector, and this also negatively affected the banking sector indirectly.

**III.1.b. Developments in the Securities Portfolio and the Securities in Non-Trading Portfolio of the Banks**

Securities portfolio and the securities in the non-trading portfolio of the banks increased fast in real terms in January 2002 compared to the same month of the previous year. Main reason of this increase is the government securities given to state banks to compensate their special duty losses and to SDIF banks in order to strengthen their financial structure and to obtain the desired capital level. The aim was to obtain the stability

in financial markets and to strengthen the banking system.

**Figure III.1.5. The Sum of Securities Portfolio and Securities in Non-Trading Portfolio (Discounted by CPI 1994=100, TL Billion)**



**The substantial increase in securities portfolio and the securities in non-trading portfolio of the banking sector in real terms in January 2002 compared to the same month of the previous year was mainly caused by the domestic government securities given to the state banks to compensate their special duty losses and to SDIF banks in order to strengthen the financial structure and to obtain the desired capital level.**

In February 2002, as a result of the restructuring of the government securities in the securities portfolio of the public banks, these securities transferred to non-trading portfolio of the banks. Therefore, securities portfolio of the banks decreased by 59 percent in real terms and dropped to TL 20.4 quadrillion in March with respect to the end of the previous year.

In addition to this, repo transactions are being followed in the balance sheet from February 2002 on, with the inclusion of repo transactions in the non-trading portfolio item. With the restructuring of the government securities of the public banks and the inclusion of repo transactions in the non-trading portfolio, the non-trading portfolio aggregate increased by 218 percent in real terms and reached TL 47.2 quadrillion in March compared to the end of the previous year.

**Table III.1.4. Developments in Securities Portfolio and the Securities in Non-Trading Portfolio (TL Trillion)**

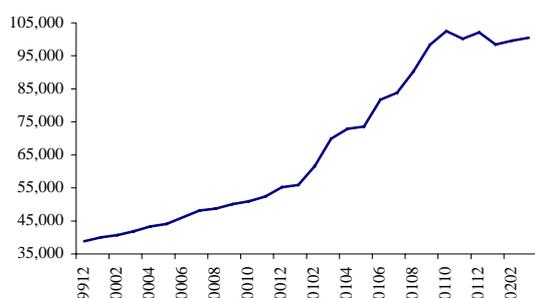
	SDIF	Banking Sector
<b>December 2001</b>		
<b>Securities Portfolio</b>	<b>5,127</b>	<b>45,775</b>
TL	3,670	30,939
FX	1,457	14,837
<b>Sec, in Non-Trad, Porfolio</b>	<b>82</b>	<b>13,683</b>
TL	82	8,195
FX	0	5,488
<b>March 2002</b>		
<b>Securities Portfolio</b>	<b>2,007</b>	<b>20,351</b>
TL	1,986	12,083
FX	21	8,268
<b>Sec, in Non-Trad, Porfolio</b>	<b>1,494</b>	<b>47,150</b>
TL	1,494	35,053
FX	0	12,098

Source:CBRT

### III.1.c. Developments in the Source Structure of Banking Sector

During the February – October 2001 period, total deposit volume of domestic residents had an increasing trend in real terms as a result of the increment of foreign currency denominated deposits. After October 2001 and at the beginning of 2002, real appreciation trend of TL caused a decline of foreign currency deposits in terms of TL in real terms. This development became the most important reason of the decrease in total deposit volume. In the first three months of 2002, total deposit volume decreased by 9 percent in real terms compared with the deposit volume of the end of the previous year.

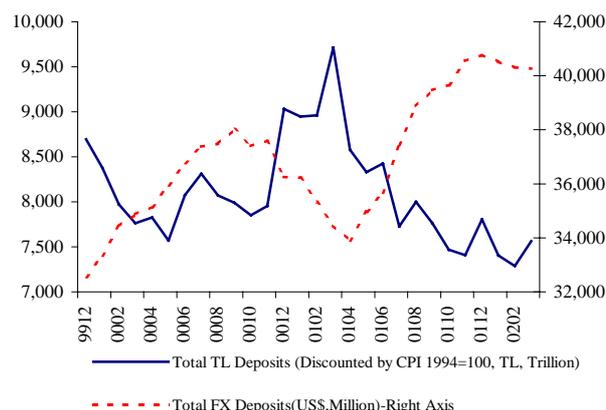
**Figure III.1.6. Total Deposit (TL Billion)**



The most important reason of the decreasing tendency in total deposit volume in the first three months of 2002 is the decline of foreign currency deposits in terms of TL, in real terms.

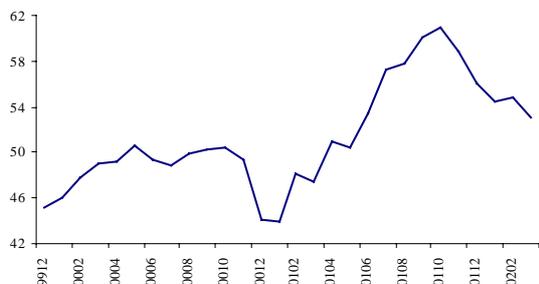
TL deposit volume that has a declining trend in real terms since April 2001, decreased by 22 percent in real terms in March 2002. TL deposit volume declined by 3 percent in the first three months of 2002 in real terms compared with the deposit volume of the end of the previous year. The share of state banks in TL deposit volume is 56.5 percentage, the share of private banks that include SDIF banks is 42.9 percentage and foreign banks' share is 0.7 percentage.

**Figure III.1.7. Developments in TL Deposits and FX Deposits**



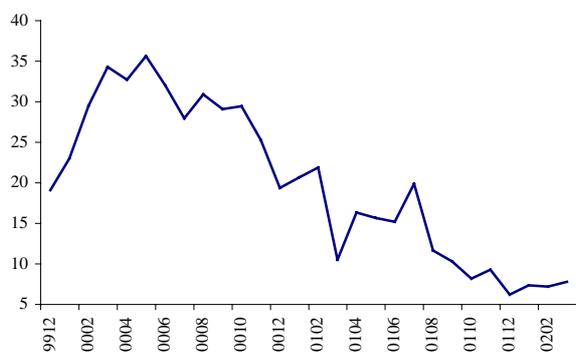
FX deposit volume that has a declining trend since October 2001 was subject to a 3 percent yearly decrease in March 2002. During 2002, the decreasing tendency has accelerated and TL value of FX deposits declined by 14 percent in real terms compared with the deposit volume of the end of the previous year. FX deposit volume increased to US\$ 40.8 billion at the end of 2001 and it decreased to US\$ 40.3 billion at the end of March, in terms of the US dollar. In March, the US dollar value of FX deposits increased by 17 percent yearly and it decreased by 1 percent compared with the end of the previous year.

Figure III.1.8 The ratio of FX Deposits to Overall Deposits(Percentage)



While the ratio of FX deposits to overall deposits was 47.5 percent in March 2001, it increased to 61 percent as a result of depreciation of the Turkish lira and declining confidence towards the Turkish lira. After October 2001, the same ratio decreased to 56 percent by the end of 2001 and 53 percent in March as a result of appreciation of the Turkish lira, reinsured financial stability and rapid decline of TL value of FX deposits.

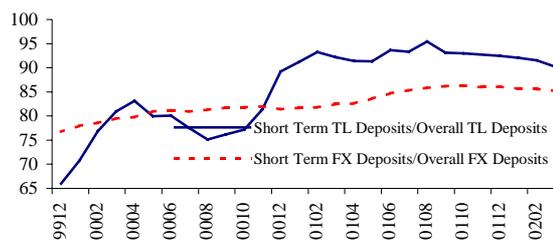
Figure III.1.9. The Ratio of Repo Transactions to TL Deposits (Percentage)



The repo volume of the banking sector with customers decreased by 42 percent in real terms and became TL 3.7 quadrillion in March 2002. Repo volume entered a declining phase as a result of decreasing short term financing requirements of SDIF and state banks in 2001. In August 2001, the increase in the withholding tax rate on repo income from 16 percent to 20 percent accelerated the downward trend in repo transactions volume, and the ratio of repo transactions to overall TL deposits became 6.2 percent at the end of 2001 while it was 10.5 percent

in March 2001. This downward trend is also supported by seasonal factors. The same ratio became 7.8 percent in March 2002 with a limited improvement in the amount and maturity structure of deposits. It had deteriorated during 2001 compared to 2000 as a result of short term preference of deposit holders and banks. The share of short term TL deposits, which include three months and less than three months deposits, to total TL deposits were observed as 90.2 percent and 92.4 percent, in March 2002 and in end of 2001 respectively. The ratio of short term foreign deposits to total deposits became 85.2 percent and 86.1 percent in the aforementioned dates.

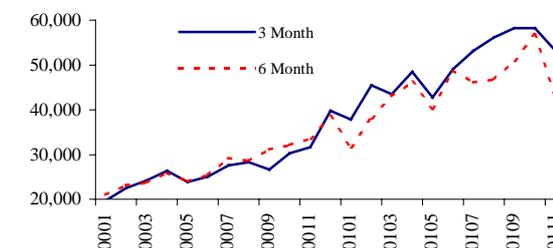
Figure III.1.12. The Shares of Short Term TL and FX Denominated Deposits in Total Deposits (in percent)



Short term deposits consist of sight, 1 month and 3 months time deposits.

Although the maturity structure of deposits shortened in 2001 as a result of negative developments, it lengthened in the first three months of 2002

Figure III.1.14. Maturity Mismatch (TL Trillion)



Maturity Mismatch=(Short-term Liabilities+Off-Balance Sheet Debts)-(Short-term Assets+Off-Balance Sheet Claims)

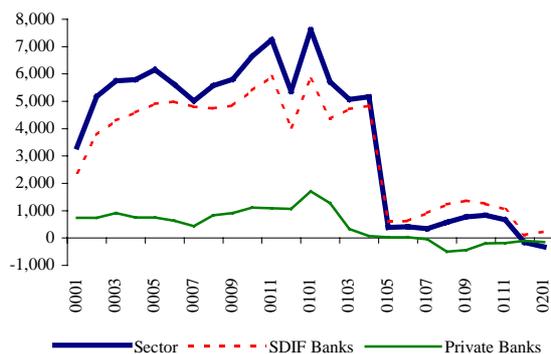
The regulation that adjusted withholding tax rates on interest incomes in favor of long-term deposits introduced in August 2001 and the increasing stability in

financial markets at the end of October contributed to longer average maturity of deposits.

Considering both in balance and off balance sheet items, the analysis of maturity structure of the banking sector indicates that the increase of maturity mismatch prevailed till October 2001. The most important reason of increase in maturity mismatch is lengthening maturity of state banks' securities portfolio since April 2001. The lengthening maturity of state banks' portfolio stemmed from the increase in the share of longer term government securities. The share of short-term securities portfolio that includes three months and less than three months securities to total securities portfolio was observed as 7.8 percent and 30.4 percent in October 2001 and in November 2000, respectively.

That ratio became 10.3 percent in November 2001. The maturity mismatch decreased as a result of shortening maturities of securities portfolio and lengthening maturities of deposits and due to banks items in November 2001.

Figure III.1.15. Open Foreign Currency Position Of Banking Sector- Net Open Foreign Currency Position (US\$ Million)



Open foreign currency position of the banking sector that includes FX linked government securities decreased after March 2001, because of falling open positions of all banks in the sector. While net open foreign currency position of banking sector was US\$ 7.620 million in January 2001, it became a surplus of US\$ 327 million in January 2002. In the same period, SDIF banks' open currency position decreased from US\$ 5.280 million to

US\$ 236 million and private banks' open currency position decreased from US\$ 1.710 million to a surplus of US\$ 150 million. In the January 2002, open currency positions of state banks, foreign banks and development and investment banks were in an excess of US\$ 364 million, US\$ 18 million and US\$ 31 million, respectively.

The decrease in foreign credits to the domestic banking system dampens the funding sources. The crises of November 2000 and February 2001 the change in the exchange rate regime from crawling peg to floating, the decline in economic activity and negative effects of September 11th events on capital inflows from developed countries to developing countries, caused a decrease in used foreign credit volume of the banking system from both demand and supply sides. While the used foreign credit volume of the banking sector was US\$ 16.8 billion in November 2000, it decreased to US\$ 10.6 billion in November 2001.

Figure III.1.10. Foreign Credit Used by the Banking System (US\$ Billion)

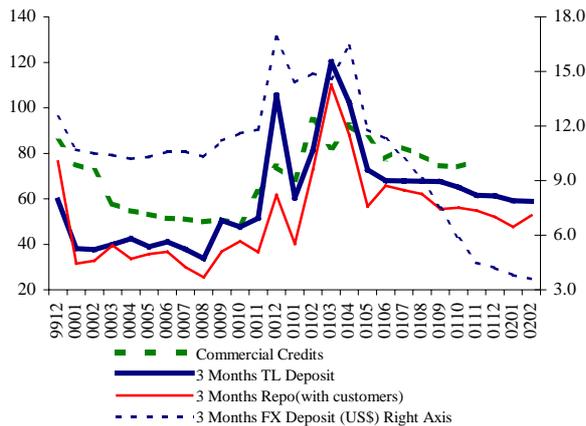


### III.1.d. Developments in Interest Rates

Deposit interest rates decreased significantly in the last quarter of 2001 and first two months of 2002. Decrease in inflationary expectation and government securities rates caused falling deposit interest rates. In addition to that, decreasing short term financing requirements of state and SDIF banks and falling deposit rates of these banks to a lower level than government securities interest

rates, making their rates compatible with market rates, have also contributed to that development.

Figure III.1.11. Commercial Credit, TL, FX Deposit and Repo Interest Rates (Percent)

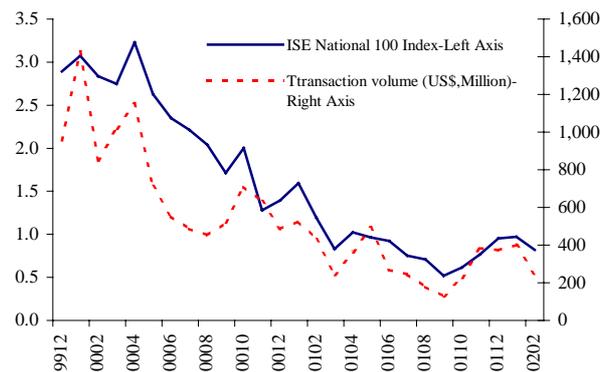


3-month weighted nominal TL and foreign currency deposit interest rates had a decreasing trend from March 2001 to February 2002. 3-month weighted repo rates decreased between March 2001 and January 2002 and increased in February 2002. Commercial credit interest rates of banks prevailed high levels in November 2001.

### III.2. The Securities Market

The ISE National 100 had an increasing trend from September 2001 to January 2002, it decreased in February 2002 and increased in March compared to its level in February. The ISE National 100 index decreased by 22 percent in real terms in March compared to its level at the end of the previous year. In the same period, the service index decreased by 29 percent in real terms, which is the highest decrease among indices, and financial and industrial indices decreased by 17 percent and 24 percent, respectively. In the aforementioned period, trading volume continued to decline.

Figure III.2.1. ISE National 100 Index and Transaction Volume (US\$)



The ISE National 100 index continued to decline in March compared to the end of the previous year level, as a result of high interest rates and decline in economic activity.

While the value of foreign investors' custody in ISE was US\$ 5.365 million at the end of the previous year, it became US\$ 4.719 million in February 2002.

Although the ISE 100 index was US\$ 1 in December 2001, it decreased to US\$ 0.9 at the end of March 2002. In the same period, service, financial and industrial indices decreased from US\$ 0.6 to US\$ 0.5, from US\$ 1.3 to US\$ 1.2 and from US\$ 0.8 to US\$ 0.7, respectively. While the daily trading volume was US\$ 372 million in December 2001, it decreased to US\$ 279 million in March 2002.

## IV. PUBLIC FINANCE AND DOMESTIC DEBT STOCK

Due to the tight fiscal policy to provide fiscal discipline, primary budget balance excluding privatization realized at TL 3.9 quadrillion in the January-March 2002 period by increasing 16.8 percent with respect to the same period of the previous year. (Table IV.1). However, the budget deficit realized at TL 12.6 quadrillion in this period due to the high domestic interest payments.

*Table IV.1. Consolidated Budget Balances (TL Trillion)*

	2001	2002
	Jan-Mar	Jan-Mar
Revenues	10561	15028
Expenditures	10651	27663
Budget Balance	-90	-12636
Primary Budget Balance	4719	3904
Primary Budget Balance Exc. Privatization	3344	3904

Source: Ministry of Finance.

**The consolidated budget primary balance excluding privatization performed well in the January-March 2002 period.**

### IV.1. Revenues

While the budget revenues realized at TL 15 quadrillion in the January-March 2002 period by increasing 42.3 percent with respect to the same period of the previous year, the tax revenues realized at TL 11.7 quadrillion by increasing 65.5 percent. The tax revenues excluding supplementary taxes performed better than total tax revenues.

In the year 2002, the share of the revenues allocated for metropolitan municipalities from the general budget tax revenues decreased from 5 percent to 4.1 percent to increase the budget tax revenues.

While the tax revenues collection/assessment ratio realized at 60.9 percent in the January-March 2001 period, this ratio increased to 66 percent in the same period of 2002. While the domestic VAT collection/assessment ratio realized at 49.3 percent in the January-March 2001 period,

this ratio increased to 53.1 percent in the same period of 2002.

The increase in the tax revenues in the January-March 2002 period with respect to the same period of the previous year mainly resulted from the indirect tax revenues. While the share of the indirect tax revenues in the total tax revenues realized at 57.5 percent in the January-March period 2001, this ratio realized at 67 percent in the same period of 2002. The increase in the indirect tax revenues mainly resulted from the petroleum consumption tax and VAT on imports. The domestic VAT rates on private automobile and durable goods, which were decreased temporarily in November, increased to their earlier levels again in January. The domestic VAT revenues increased by 74.9 percent in the January-March 2002 period.

The petroleum consumption tax, which is an important part of the indirect taxes, performed very well in January-March 2002 period. In this period, petroleum tax revenues increased by 174.6 percent with respect to the same period of the last year (Table IV.2).

*Table IV. 2. Consolidated Budget Revenues (TL Trillion)*

	2001	2002	Increase Rate
	Jan-Mar	Jan- Mar	(Percent)
REVENUES	10561	15028	42.3
Tax Revenues	7065	11696	65.5
Tax Rev. Exc. Supplementary Taxes	6708	11382	69.7
Income Tax	2274	2685	18.0
Corporate Tax	362	846	133.4
Motor Vehicle Tax	185	302	63.6
Domestic VAT	1369	2394	74.9
Motor Vehicle Purchase Tax	43	45	5.4
Petroleum Consumption Tax	781	2144	174.6
Banking & Insuran. Trans. Tax	248	275	10.6
VAT on Imports	879	1673	90.4
Non-Tax Revenues	2607	1534	-41.1
Privatization	1375	0	-100.0
Other	1232	1534	24.6
Special Revenues and Funds	697	1498	115.0
Annexed Budget Revenues	192	299	55.8

Source: Ministry of Finance.

While the increase in the motor vehicles tax revenues paralleled the increase in the tax revenues, motor vehicle purchase tax revenues increase was very limited in the January-March period. The decrease in the tax rates in the last two months of 2001 increased demand for automobiles. Thus, the sales for automobiles and the motor vehicle purchase tax revenues were affected negatively in the January-March 2002 period. At the beginning of 2002, lump sum motor vehicle tax and lump sum motor vehicle purchase tax revenues increased by 75 and 53.2 percent, respectively.

#### IV.2. Expenditures

The total budget expenditures and non-interest expenditures increased steeply in the January-March 2002 period with respect to the same period of the previous year. (Table IV.3). The increase in the total expenditures mainly resulted from the high level of domestic interest payments.

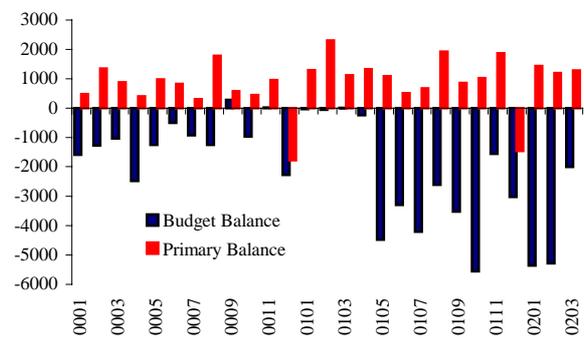
Table IV. 3. Consolidated Budget Expenditures (TL Trillion)

	2001	2002	Increase Rate (percent)
	Jan-Mar	Jan- Mar	
EXPENDITURES	10651	27663	159.7
NON-INTEREST EXP.	5841	11123	90.4
Personnel	3026	5221	72.5
Wages	340	567	66.7
Other Personnel Expenditures	2685	4653	73.3
Other Current	269	470	74.7
Investment	182	281	54.5
Transfer Expenditures	7175	21692	202.3
Interest Payments	4809	16540	243.9
Domestic Debt Interest Pay.	4237	15488	265.5
Foreign Debt Interest Pay.	572	1052	83.9
Transfers to the SEE's	145	483	233.3
Tax Rebates	324	698	115.1
Social Security Institutions	1336	2861	114.1
Payments to Retirement Fund	690	1365	97.8
Payments to SSK	80	710	787.5
Payments to Bag-Kur	503	713	41.7
Unemployment Insuran. Fund	63	73	15.7
Agricultural Support	25	545	2080.0
Other Transfers	535	565	5.6

Source: Ministry of Finance.

Due to early redemptions by the treasury to public banks, fund banks and the Central Bank, the domestic interest payments increased in January and February 2002. The high level of domestic interest payments affected the budget deficits negatively in these months. (Figure IV.1).

Figure IV.1. Consolidated Budget Balance and Primary Balance (Monthly, TL Trillion)



The increase in the domestic interest payments played an important role in the increase of the consolidated budget deficits in the January-March 2002 period.

Due to the rise in the transfers to social securities, the SEE's and the increase in direct income support, non-interest expenditures increased by 90.4 percent. In this period, the increase in the personnel, other current and investment expenditures remained low with respect to the increase in non-interest expenditures.

In total TL 2.9 quadrillion was transferred to social security institutions in the January-March 2002 period. The payments to SSK increased highly in the January-March 2002 period with respect to the same period of the last year. Although SSK performed well in 2000, the increase in unemployment and the decrease in the real wages ended in high level of transfers from the budget to SSK. The transfers to the SEE's are the other increased expenditure item in the January-March 2002 period. This increase resulted from the capital transfers to the SEE's. The increase in the agricultural support was caused by direct revenue support.

### IV.3. Consolidated Budget Deficit and Financing

The consolidated budget cash deficit realized at TL 8.7 quadrillion in the January-February 2002 period. In this period, the Treasury was in TL 4.9 quadrillion net payment position in domestic borrowing and in TL 12.1 quadrillion net borrowing position in foreign borrowing.

In year 2002, due to the decrease in economic uncertainty, the expectations about Turkish economy were affected positively in international markets. The credits provided from the IMF played an important role in the increase in the net foreign borrowing in the January-February 2002 period.

In the January-February period the Treasury was at net payment position in domestic borrowing. The Treasury remained at net payment position in government bonds and net borrowing position in Treasury bills. In this period, the net borrowing in the Treasury bills was realized as TL 1.6 quadrillion (Table IV.4).

Tablo.IV.4. Consolidated Budget Balance and Financing (TL Trillion)

	2001 Jan-Feb	2002 Jan-Feb
Primary Budget Balance	3597	2624
Budget Balance	-95	-10634
Cash Balance	-578	-8699
Financing	578	8699
Net Domestic Borrowing	513	-4856
Government Bonds	-3330	-6432
Treasury Bills	3843	1577
Guarantied Debt Returns	0	0
Net Foreign Borrowing	-130	12123
Other	195	1431

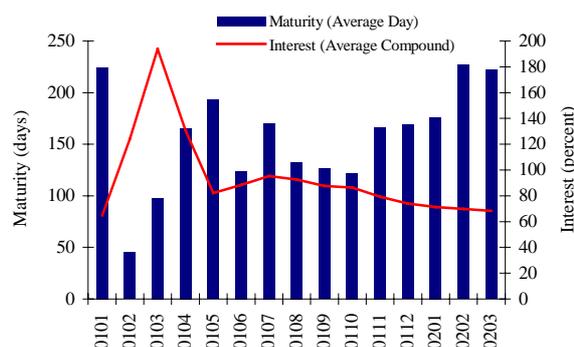
Source: Treasury.

The other item realized at TL 1.4 quadrillion to finance the cash deficit in the January-February 2002 period. The increase in the domestic interest payments and the other item resulted from the replacement of some government

securities –with their accrued interest-, held by the SDIF and state banks, with new securities.

Due to the measures that were taken to provide economic stability, the Treasury auction interest rates decreased at the beginning of 2002 (Figure IV.2). While the average compound interest rate realized at 86.4 percent in October 2001, it decreased to 68.4 percent in March 2002. At the same time the borrowing maturity increased.

Figure.IV.2. 2001 and 2002 Auction Interest Rates and Maturity Structure



To extend the borrowing maturity, the Treasury restarted the floating rate note auctions, in January 2002.

### IV.4. Domestic Debt Stock

Domestic debt stock decreased by 3.4 percent declining to TL 118.1 quadrillion as of February 2002 from TL 122.2 quadrillion at the end of 2001. IMF credits which were transferred to the Treasury as of February 7, 2002, the early redemption of the FX linked securities which take place in the Central Bank's portfolio and in the Savings Deposit Insurance Fund (SDIF) banks' portfolio, and the reduction of the liabilities of the SDIF banks to the Central Bank were the main reasons that led to the decline in the domestic debt stock. In this context, the effects of the IMF credits on domestic debt stock occurred in two ways. The first is the decline in the domestic debt stock and its financing requirement,

and the other is the change in the interest and foreign exchange structure of the domestic debt stock (Table IV.5, Table IV.6).

**Table IV.5. Domestic Debt Stock and Its Structure (Amounts are in TL Quadrillion and Shares are in Percent)**

	2000		2001		2002*	
	Amoun t	Share In Total	Amoun t	Share In Total	Amoun t	Share In Total
CASH	29.6	81.2	58.3	47.8	56.3	47.7
Fixed Income	19.4	53.3	17.7	14.5	18.9	16.0
Flexible-rate	9.0	24.7	11.4	9.4	14.5	12.3
FX Denominated	1.2	3.2	7.1	5.8	7.1	6.0
FX Linked	0.0	0.0	22.1	18.0	15.9	13.5
IMF Credit	0.0	0.0	13.8	11.3	7.6	6.5
Swap/Tap	0.0	0.0	7.7	6.3	7.7	6.6
Public Sales	0.0	0.0	0.5	0.4	0.5	0.4
NON-CASH	6.8	18.8	63.8	52.2	61.7	52.3
Fixed Income	1.0	2.8	0.0	0.0	0.0	0.0
Flexible-rate	4.0	11.0	49.5	40.5	50.3	42.6
Interest linked	4.0	11.0	30.7	25.1	31.5	26.7
CPI-Indexed**	0.0	0.0	18.8	15.4	18.8	15.9
FX Denominated	1.8	5.0	12.4	10.1	10.4	8.8
FX Linked	0.0	0.0	1.9	1.6	1.0	0.9
TOTAL STOCK	36.4	100.0	122.2	100.0	118.1	100.0
Fixed Income	20.4	56.1	17.7	14.5	19.0	16.0
Flexible-rate	13.0	35.7	61.0	49.9	64.8	54.9
Interest linked	13.0	35.7	42.1	34.5	46.0	39.0
CPI-Indexed**	0.0	0.0	18.8	15.4	18.8	15.9
FX Denominated	3.0	8.2	19.5	16.0	17.4	14.8
FX Linked	0.0	0.0	24.0	19.6	16.9	14.3

\*: As of February 2002

\*\* : Indicates the CPI-Indexed part of the non-cash securities that take place in the Central Bank portfolio.

Source: Treasury.

**Table IV.6. The Distribution of the Domestic Debt Stock According to Buyers (TL Quadrillion)**

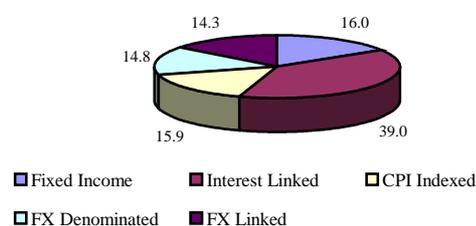
	2000	2001	2002
	December	December	February
1. PUBLIC SECTOR	12.2	80.6	73.6
a. CBRT	1.5	32.5	26.4
IMF Credit	-	13.8	7.6
Other	1.5	18.7	18.8
b. State Banks (*)	2.9	22.7	25.3
c. SDIF Banks	3.9	15.1	10.5
d. Other Public	4.0	10.2	11.5
2. MARKET	24.2	41.6	44.4
TOTAL (1+2)	36.4	122.2	118.1

(\*) The duty loss accruals, which are not linked to paper amounts TL 15.1 quadrillion as of the end of 2000.

The IMF credits, which were used in February 2002 led to a decline in the domestic debt stock and changed the interest and foreign exchange structure.

As a result of the additional foreign financing, the share of the interest rate indexed securities in government domestic borrowing securities reached 39 percent increasing by 4.5 percentage points, the share of the CPI indexed securities reached 15.9 percent increasing by 0.5 percentage points, and the share of the FX and FX linked securities declined to 29.1 percent decreasing by 6.5 percentage points as of February 2002 with respect to the end of 2001 (Figure IV.3). Concerns about the sustainability of the domestic debt stock reduced due to the extension in the maturity of the government domestic borrowing securities stemming from the issuance of longer maturity securities to the SDIF banks in November and December 2001 and the restructuring of government domestic borrowing securities with their incurred interest that take place in the portfolio of the state banks in December 2001 and January 2002.

**Figure IV.3. The Distribution of Domestic Debt Stock as of February 2002 (Percent)**



The restructuring of the government domestic borrowing securities that take place in the portfolios of state and SDIF banks affected the domestic debt service in 2002 positively and reduced the concerns about the sustainability of domestic borrowing.

Government domestic borrowing securities of the state banks were restructured in December 2001 and January 2002 which in turn led to an extension in the maturity of these securities. In addition to this, the fact that the coupon payments of the securities, which amount to TL 7.1 quadrillion, will be realized in the first half of 2003 which is a part of the total TL 23.1 quadrillion

government domestic borrowing securities that take place in the portfolio of the state banks alleviated the concerns related to the domestic debt interest payments in 2002 and increased the reliability of the fiscal policy.

The achievement of the primary budget surplus target in 2001, additional foreign financing and the extension of the maturity of the non-cash securities led to an enhanced confidence in the markets and a reduction in the interest rates.

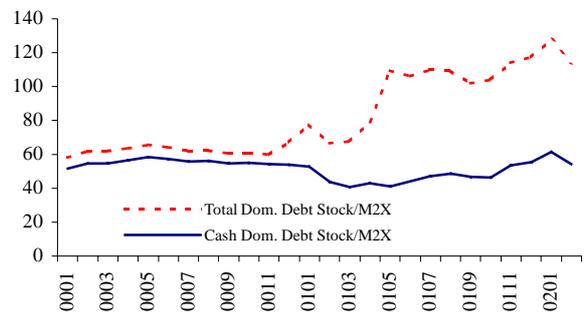
In addition, optimistic expectations that emerged in the markets helped extend the maturity of the domestic borrowing. The Treasury began to issue long maturity 3-month coupon payment flexible-rate securities since January.

The maturity of the domestic debt stock was extended and the share of the flexible-rate government securities in the cash domestic debt stock was increased by the issuance of 2-year maturity flexible-rate government domestic borrowing securities in the period of January-February 2002.

In the period of January-February 2002, total payments to the market realized at TL 8.2 quadrillion while the amount of borrowing was TL 9.2 quadrillion of which TL 1.9 quadrillion was a non-issuance sale. In this context, the rollover ratio reached 113.2 percentage points in this period increasing by 19.6 percent with respect to December 2001.

The shares of the total and cash domestic debt stock in M2X, which are indicators of the pressure of the debt stock in the financial markets started to decline as of February 2002 (Figure IV.4).

Figure IV.4. The Ratio of Domestic Debt Stock to M2X



## V. DEMAND AND OUTPUT

### V.1. Demand Developments

The Turkish economy entered into a deep recession phase due to the crisis in February of 2001. GDP decreased by 7.4 percent in 2001 compared to previous year, while GNP declined by 9.4 percent at the same period due to the fall in net factor income from abroad. These figures indicate the sharpest recession in the economy of the last 50 years. The contraction of the economy stemmed from the reduction in domestic demand. Total domestic demand decreased by 18.4 percent in 2001 compared to previous year.

Table V.1.1. Main Expenditure Groups (Annual % Change)

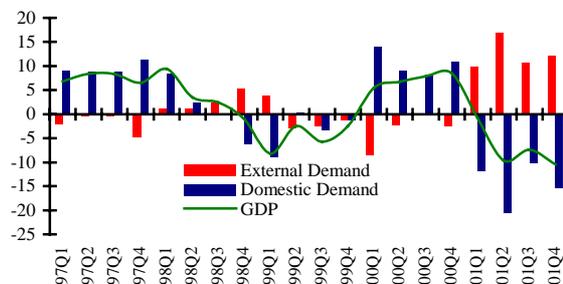
	2000		2001			Annual 1
	Annual	Q1	Q2	Q3	Q4	
Total Consumption Expenditures	6.3	-2.4	-10.9	-10.2	-11.2	-8.9
Private Consumption Expend.	6.2	-2.5	-11.5	-9.7	-11.7	-9.0
Public Consumption Expend.	7.1	-1.3	-6.6	-15.0	-8.9	-8.6
Gross Fixed Capital Formation Investment	16.9	-13.1	-32.1	-37.3	-38.7	-31.7
Public Fixed Capital Investment	19.6	-5.8	-32.0	-23.4	-18.8	-22.0
Private Fixed Capital Investment	16.0	-14.4	-32.1	-41.5	-50.2	-35.1
Machinery-Equipment	37.2	-18.3	-44.4	-61.7	-69.0	-49.6
Construction	-9.7	-7.2	-8.9	-9.2	-9.2	-8.7
Stock Change*	1.1	-5.3	-8.6	-0.3	-2.9	-4.0
Total Investment Expenditures	19.7	-29.0	-51.2	-38.4	-46.3	-42.1
Total Domestic Demand	9.8	-9.5	-23.9	-17.6	-21.4	-18.4
Total Final Domestic Demand	8.9	-5.0	-17.0	-17.2	-18.9	-15.0
Exports of Goods and Services	19.2	9.7	8.2	5.9	6.4	7.4
Imports of Goods and Services	25.4	-14.5	-31.0	-26.5	-26.0	-24.8
GDP	7.4	-0.8	-9.6	-7.4	-10.4	-7.4

Source: SIS

(\*) Contribution to GDP growth

The Turkish lira depreciated swiftly following the February crisis, interest rates rose and considerable amount of capital outflow was realized during this period. This situation led to the decline of both supply and demand of credits. Moreover, increase in unemployment and decline of real wages contributed to the contraction of domestic demand. These negative developments, and rise of uncertainties in the economy caused the deterioration in the expectations of economic agents, mainly expectations of private firms.

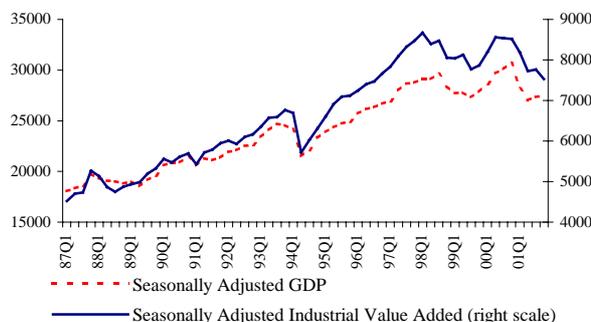
Figure V.1.1. Demand Components Contribution to the GDP (percentage points)



Source: SIS, CBRT

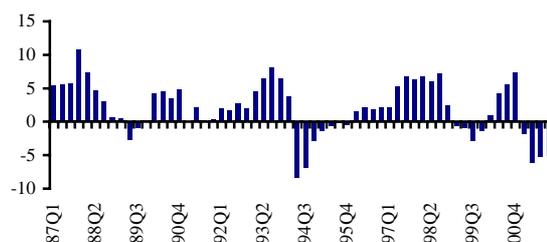
On the other hand, the September 11 events led to lessening of tourism revenues and deepened of the recession in the economy. When seasonally adjusted series are examined, it is observed that reduction of industry sector value added continued in the last quarter of 2001, whereas GDP showed a slight increase in the last quarter of 2001 compared to the previous quarter. (Figure V.1.2). Output gap in the economy increased to a substantial amount in 2001 due to these negative developments. (Figure V.1.3).

Figure V.1.2. Seasonally Adjusted GDP and Industrial Value Added



Source: SIS, CBRT

Figure V.1.3. Output Gap / Potential GDP\* (Percentage)



Source: SIS, CBRT

Output Gap= Seasonally Adjusted GDP - Potential GDP

\*

The negative developments in financial markets were effective in the contraction of domestic demand. Especially, the substantial depreciation of the Turkish lira after exchange rate had been left to float, and its unstable pattern since the last quarter of the year negatively influenced the expectations and expenditures of households and private firms.

Moreover, the significant decrease in employment and real wages in 2001, deepened the contraction in domestic demand. The negative developments in labor market led to the deterioration of consumer confidence and postponement of private consumption expenditures.

As a result of these developments, private consumption expenditures decreased by 9 percent in 2001 compared to the previous year. (Table V.1.2). Expenditures for durable goods declined by 30.4 percent in 2001 and became the sub-item that declined the most during this period. The realization of demand for durable goods by households to take advantage of declining interest rates and increasing real credit volume in 2000 was effective in this development. On the other hand, the shrinking of expenditures for food, semi-durable and non-durable goods demonstrate the seriousness of contraction in domestic demand.

**Table V.1.2. Private Consumption Expenditures (Annual Percent Change)**

	2000		2001			
	Annual	Q1	Q2	Q3	Q4	Annual
PRIVATE CONSUMPTION	6.2	-2.5	-11.5	-9.7	-11.7	-9.0
Food	3.2	1.5	-4.1	-4.9	-4.8	-3.4
Durable Goods	27.4	-20.3	-36.1	-31.1	-33.2	-30.4
Semi-durable & Non-durable	0.9	3.8	-12.5	-9.9	-19.0	-9.0
Energy-Transp.-Communi.	-2.1	2.6	-0.7	0.5	4.7	1.8
Services	7.6	-1.9	-12.2	-9.1	-11.4	-9.1
Ownership of Dwelling	0.0	2.2	2.1	2.1	2.0	2.1

Source: SIS

**The decline of employment and real wages were the main determinants of the reduction of private consumption expenditures.**

Private investment expenditures decreased by 35.1 percent in 2001 compared to the previous year (Table V.1.1). The swift decrease of machinery-equipment expenditures was effective in the decline of private consumption expenditures

Industrial production and capacity utilization rates decreased in 2001 due to the contraction of domestic demand. Capacity utilization rate in private manufacturing industry was realized as 65.7 percent in 2001, which was 74.4 percent in 2000. This situation led to the postponement of investment plans by private firms.

Exports of goods and services increased by 7.4 percent in 2001 compared to the previous year's figures. Contraction of domestic demand and the depreciation of the Turkish lira resulted in the rise of exports of goods and services. However, even though exports of goods increased in the last quarter of the year, the decrease of tourism revenues due to the September 11 events negatively affected the exports of goods and services and thus, the growth of the economy.

Imports of goods and services decreased by 24.8 percent in 2001 compared to previous year's figures. Contraction of domestic demand and decline of industrial production were effective in this development.

Public expenditures decreased by 14.7 percent in 2001 compared to the previous year (Table V.1.3). The decline of public sector demand for final goods and services due to the tight fiscal policy implementation became another crucial factor in the contraction of domestic demand.

**Table V.1.3. Public Expenditures (Annual Percent Change)**

	2000		2001			
	Annual	Q1	Q2	Q3	Q4	Annual
Total Public Expenditures	12.5	-2.9	-18.8	-18.9	-13.6	-14.7
Public Expenditures	7.1	-1.3	-6.6	-15.0	-8.9	-8.6
Compens. of Employees	2.0	2.2	1.9	0.9	1.0	1.5
Purchases of Goods & Services	12.4	-9.4	-15.3	-29.8	-14.4	-18.0
Public Fixed Capital Investments	19.6	-5.8	-32.0	-23.4	-18.8	-22.0
Machinery-Equipment	20.3	-4.6	-65.4	-26.7	-32.3	-39.1
Building Construction	31.6	-12.9	-2.1	-20.7	-27.3	-20.1
Other Construction	12.2	-3.0	-8.2	-23.5	-0.8	-10.3

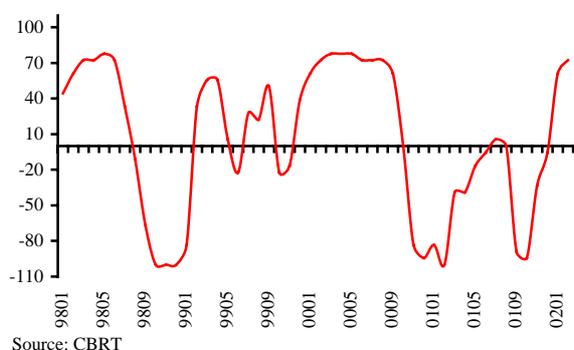
Source: SIS

The appreciation of the Turkish lira in the last few months and the decline of interest rates led to the

improvement of expectations in the private industry sector. Hence, in the CBRT Business Tendency Survey, business sentiment tendency turned in favor of optimistic expectations since November (Figure V.1.5). The expectation index that was produced using the Business Tendency Survey by combining views of private firms concerning demand and output developments demonstrate that a swift improvement in expectations is taking place since November (Figure V.1.4 and Box V.1.1).

This situation continued in January and February, too. Both this development and long-term and advantageous sales campaigns by private firms are expected to positively influence consumption expenditures in the following periods. Moreover, it is thought that the expected increase of agricultural production will strengthen this process in the second half of the year.

Figure V.1.4. Expectation Index for Demand and Production (Private Industrial Sector, Next Three-Month Period)



It is observed that the link between the expectation index and economic aggregates, mainly industrial production, weakened in the second half of 2001 due to the crisis environment. This situation necessitates careful evaluation about the extent of the reflection of positive developments in expectations to demand and output developments. On the other hand, it is thought that negative developments in the labor market constitute a major risk for private consumption expenditures. Consequently, current realizations and expectations indicate that the recovery in the economy will take place slowly. (Box V.1.2).

### V.1.1. Production Developments

The agricultural production value added decreased by 6.1 percent in 2001 compared to previous year's same period. This contraction is mainly due to the production decrease of fruits, vegetables and cereal. The drought in 2001 and the seasonality of various crops like olive caused agricultural production to decrease by 13.6 percent in the last quarter of 2001 compared to previous year's same period. It is expected that the agricultural production decline will continue in the first quarter of 2002.

The industrial sector value added reduced by 7.5 percent in 2001 compared to the previous year (Table V.1.4). Besides, the contraction in domestic demand, the decline of volume of real credits expanded to the private sector and the increase of interest rates led industrial sector value added to decrease.

Table V.1.4. GNP and Value Added by Sectors (Annual Percent Change)

	2000	2001				Annual
	Annual	Q1	Q2	Q3	Q4	
AGRICULTURE	3.9	8.5	-2.9	-5.6	-13.6	-6.1
TOTAL INDUSTRY	6.0	0.8	-10.1	-8.9	-10.7	-7.5
Manufacturing Industry	6.4	1.7	-11.0	-9.7	-12.0	-8.1
SERVICES	7.2	-1.5	-8.0	-5.5	-7.5	-5.8
Construction	4.4	-5.2	-5.8	-8.3	-3.6	-5.9
Trade	12.0	-2.3	-12.1	-7.4	-14.3	-9.3
Wholesale and Retail	11.1	-2.3	-16.5	-12.6	-17.0	-12.7
Hotel & Restaurant Services.	17.3	-2.2	14.0	20.1	0.8	10.0
Transportation - Communication	5.5	-2.3	-8.8	-4.5	-3.7	-4.9
Financial Institutions	0.9	-5.3	-10.0	-9.8	-14.2	-9.9
Ownership of Dwelling	0.0	2.2	2.1	2.1	2.0	2.1
Business & Personnel Services	6.1	-0.3	-9.7	-7.8	-10.4	-7.4
Government Services	2.0	2.2	1.9	0.9	1.0	1.5
IMPORT TAX	28.1	-10.1	-32.1	-28.0	-28.4	-25.1
GDP	7.4	-0.8	-9.6	-7.4	-10.4	-7.4
GNP	6.3	-3.1	-12.1	-9.0	-12.3	-9.4

Source: SIS

**BOX: V.1.1. EXPECTATION INDEX FOR DEMAND AND PRODUCTION**

A cumulative expectation index for demand and output is formed by using the private industrial sector data of the CBRT Business Tendency Survey (BTS). This expectation index is mainly a diffusion index. In CBRT survey, several questions are asked to firms about their economic performance and firms answered the questions as “optimistic, same, pessimistic”, “up, same, down”, “above normal, normal, below normal” and “more, same, less”. Thus, the answer options of the firms to the related questions reflected the increase, uphold or decrease of economic activity. The survey calculated the percent distributions of the firm’s answers implying “increase, uphold or decrease” given to any questions and the difference between the percentage for the increase and the percentage for the decrease gave the general trend. Thus, it will be accurate to accept each tendency in the BTS as a diffusion index in relation to that particular economic activity. For this reason, when calculating the expectation index in line with the BTS’s data, the trends own level instead of change ratio is used.

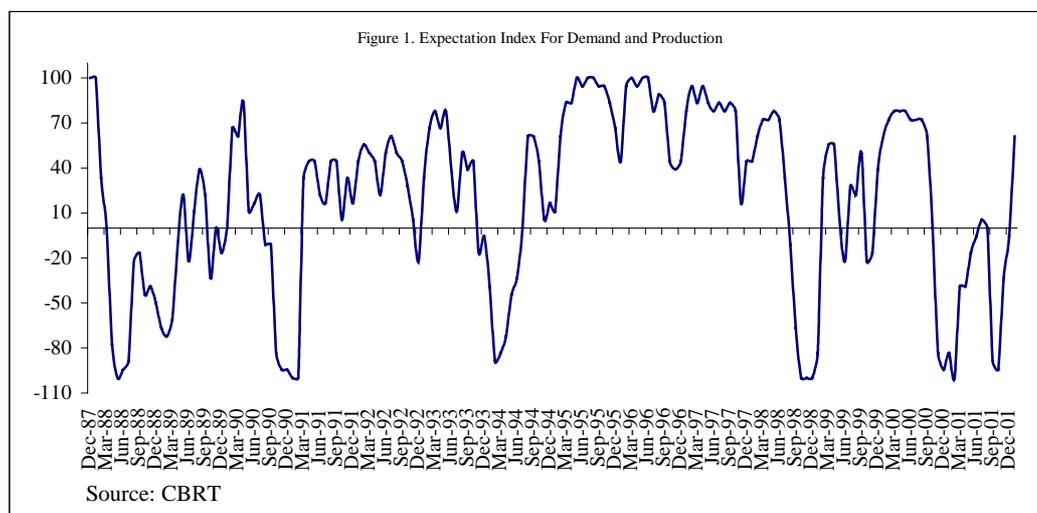
When calculating the expectation index, the expectations of the firms concerning the production and demand for the next three months are used. Therefore, the index calculated by these indicators not only gives the opportunity to examine the economic conjuncture, but also, help to make foresight for the following three months. Consequently, the expectation index includes 9 different trends from the BTS, each separately reflecting the next period expectations demand and production.

**Table 1. Indicators for the Expectation Index**

Quest.Num.	Question	Answer Options
2	Your opinion about export prospects over the next three months compared to the previous month	Optimistic, Same, Pessimistic
3	How much investment expenditure do you expect to realize over the next twelve month	More, Same, Less
12	Total Employment, trend of next three months	Up, Same, Down
13	Amount of new orders received from the domestic market, trend of next three months	Up, Same, Down
14	Amount of new orders received from the export market, trend of next three months	Up, Same, Down
15	Volume of output, trend of next three months	Up, Same, Down
16	Volume of goods sold in the domestic market, trend of next three months	Up, Same, Down
17	Volume of exported goods, trend of next three months	Up, Same, Down
19	Volume of work in progress, trend of next three months	Up, Same, Down

Source: CBRT Business Tendency Survey

Each indicator within the index is weighted equally. Classical diffusion index is defined as the ratio of percentage rise of a variable in a definite period to the number of variables. Here, in addition to this, variables are weighted as +1, +0,5, -0,5 and -1 according to the trends being positive or negative. Hence, the index takes the values between the +100 and -100 and while, the fall in the index indicates that expectations are becoming worse, the rise show that expectations are becoming better. The values that the expectation index takes in the 1987-2002 period is shown in Figure 1. As it can be seen from the figure, the index demonstrate the deep points during the decisions of February 1988, the Gulf crisis in 1990, 1994 crisis, the Russian crisis, and the February 2001 and September 11 crises.



**BOX: V.1.2. ECONOMIC GROWTH AFTER CRISIS**

Both developed and developing countries have faced several banking and exchange rate crisis till today. When we compare the economic growth rates of GDP before crisis and after crisis with respect to country experiences, while the average recovery period of GDP is 2.6 years in emerging countries; it is 5.8 years in industrialized countries<sup>1</sup>.

When we examine the output gap/ potential output<sup>2</sup> ratios of developing countries, it is seen that these ratios are negative following the two years after the crisis (Table 1). Also, after the crisis, the seasonal adjusted GDPs of countries continue to decline approximately four quarters and annual growth rates of GDP reaches its pre-crisis level in around two years.

Table 1- GDP Growth Rates and Output Gaps of Several Countries During and Afterwards of Crises

Countries	Crises Years (t)	Causes of crises	GDP before the crises year (% change)	GDP in crises year (% change)	GDP in the year following crises year (% change)	Average GDP of three years following crises year (% change)	Quarterly GDP recovery period*	Output Gap/ Potential Production			
								t	t+1	t+2	t+3
Thailand	1997	Foreign Exc. Banking	5.9	-1.8	-10.1	-0.5	7	3.8 (1997)	-6.7 (1998)	-2.6 (1999)	0.8 (2000)
Malaysia	1997	Foreign Exc. Banking	10.0	7.5	-7.5	2.3	4	6.3 (1997)	-5.4 (1998)	-3.6 (1999)	0.9 (2000)
Korean	1997	Foreign Exc. Banking	6.7	5.0	-6.7	4.3	2	4.0 (1997)	-7.1 (1998)	-1.4 (1999)	2.5 (2000)
Mexico	1994	Foreign Exc.	2.0	4.5	-6.2	1.9	3	3.7 (1994)	-4.7 (1995)	-2.5 (1996)	0.3 (1997)
Argentina	1994	Spread Effect	5.7	5.8	-2.8	3.6	4	2.3 (1994)	-3.8 (1995)	-2.0 (1996)	2.9 (1997)
Turkey	1994	Foreign Exc.	8.0	-5.5	7.2	7.2	3	-3.7 (1994)	-0.7 (1995)	2.0 (1996)	4.9 (1997)

\* The number of quarters passed until the economy reached positive growth rates after the crisis (economic growth rate is the increase rate of GDP and the series are seasonally adjusted.)

Source: IFS.

Turkey had experienced economic crises in April 1994 and February 2001. When we compare the crises of Turkey with financial crises in Far East Asian Countries in 1997 and Mexican and Argentinean crises in 1994, there are similarities especially with respect to real sector developments.

In Far East Asian countries, the crisis that happened in the unsupervised and vulnerable banking sector, which is important in financing the real sector, affected the real sector negatively. In the Turkish case, different from other countries experiences, the high domestic debt stock, caused by the deterioration of public finance, and the banking sector that financed it by foreign debt, played an important role. Besides, the November 2000 crisis and the rise of interest rates after the fast and sudden devaluation in February 2001 created difficulties about the rollover of the firm's domestic and foreign debts.

Far East Asian countries, after the settlement of the problems between the banking and real sectors, attained an export based re-growth rate in 1999 by the effect of the international competitive edge gained by the devaluation. In this respect, like the financial crisis that happened in the Turkish economy in 1994, the recovery in the economy came after one year of recession and followed a V-shaped path.

Overcoming the financial problems faced by the real sector after the crisis of February 2001 in Turkey in a very short-term is less possible compared to both the Far East Asian example and the 1994 crisis. The crisis before the February 2001 (Russian and Asian crises in 1998, the earthquake disaster in 1999, and liquidity crisis in November 2000) had already reduced the profits of the real sector and the real sector was caught in the crisis of February 2001 with a fragile financial situation. In addition, the slowdown of the world economy in 2001, the problems in the banking sector and the uncertainty created by September 11 events prevented the exports of goods and services from rising inspite of a competitive exchange rate power and constituted the factors that prevented the real sector from recovery in the short-run. Additionally, the appreciation of the Turkish Lira in the last months of the year and the contraction of the domestic demand are among the factors that delayed the recovery. In line with the reasons mentioned above, it is expected that after the February 2001 crisis, the recovery in the Turkish economy will be slow and will follow a U-shaped path.

The industrial production decreased by 8.9 percent in 2001. Unlike the previous year, the increase of petroleum sector production restricted the contraction of industrial sector production. When we exclude the petroleum sector production, contraction of industrial sector production increased to 11.3 percent. The decline of industrial production continued its trend in February 2002 and contracted by 4.5 percent compared to previous year's same month (Table V.1.5). On the other hand, while average total manufacturing industry capacity utilization rate was 70.7 percent during January-February period in 2001, it increased to 73.3 percent in the same period of 2002.

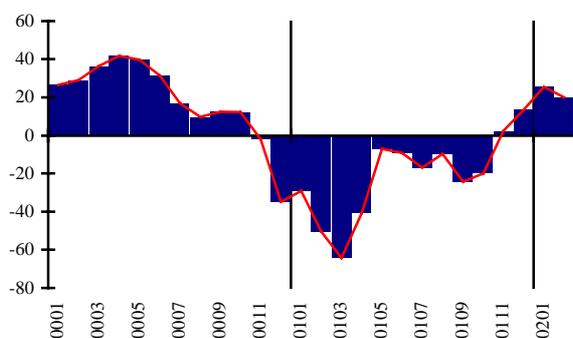
**The industrial production decline is expected to continue in the first quarter of 2002, as the domestic demand contraction is persisting.**

*Table V.1.5. Industrial Production (Annual Percent Change)*

	February		January-February	
	2001	2002	2001	2002
Total Industry	-4.9	-4.5	1.0	-3.7
Mining	-9.8	-0.4	3.1	-4.4
Manufacturing	-4.9	-4.5	1.0	-4.0
Energy	-3.5	-6.3	0.1	-1.1
Non-petroleum Industrial Production	-6.8	-7.0	0.7	-7.4

Source: SIS Monthly Industrial Production Index

*Figure V.1.5. Business Sentiment in Business Tendency Survey*



Source: CBRT Business Tendency Survey

Business sentiment, which illustrates the expectations of private firms in the industrial sector about the on going economic environment turned to positive in November 2001 and continued its trend in favor of optimistic in February 2002 (Figure V.1.5). It is believed that the recovery in the expectations is mainly due to the supplementary credits obtained from IMF and stability in the foreign exchange rate.

Services sector value added decreased by 5.8 percent in 2001 compared to the previous year (Table V.1.4). The decline in the production of agriculture and industry and deep import contraction affected services sector value added, especially the value added of the trade sector, negatively. The highest value added contraction is in trade and financial institutions sectors among services sectors in 2001. The crises in the banking sector in 2001 led the value added of financial institutions to decline. The substantial contraction in agricultural and industrial sectors caused especially the wholesale and retail trade sector's value added to decrease by 12.7 percent. Also, the value added of the transportation and communication sectors declined by 4.9 percent in 2001 compared to previous year as a result of the production decrease in these sectors.

Up to the September 11 events, the recovery in the tourism sector led the hotels and restaurant's value added, one of the sub-sectors of the trade sector, to increase by 10 percent in 2001. In addition to this, ownership of dwelling's value added increased by 2.2 percent and affected the services sector's value added positively.

The construction sector's value added decreased by 5.9 percent in 2001. Besides, according to data announced by SIS, house construction permits with respect to construction area (m<sup>2</sup>) declined by 9.2 percent compared to the previous year in 2001. The decrease of construction permits given to constructions point out that the contraction of construction sector value added will continue in the first quarter of 2002.

## V.2. Developments in Labor Market

According to Survey of Household Labor Force (HLF) which is conducted by the SIS, the total employment which was 20,182 thousand in the fourth quarter of 2000, decreased by 2.2 percent due to the sharp contraction in the economy and declined to 19,742 thousand in the same quarter of 2001. Total employment declined in both urban and rural areas and the unemployment rate, which was 6.3 percent in the fourth quarter of 2000, reached the high level of 10.6 percent. In the last quarter of 2001 compared to the same period of the previous year, the number of unemployed people increased by 969 thousand and reached 2,335 thousand. During this period, 21.7 percent of the total unemployed people (507 thousand) were the ones who had lost their jobs while 20.8 percent of the total unemployed people (486 thousand) were the first time job seekers (Table V.2.1).

While the urban area unemployment rate was 8.2 percent in the fourth quarter of 2000, this rate was realized as 13.2 percent in the same quarter of 2001. Similarly, the rural area unemployment rate increased from 4 percent to 7 percent in the fourth quarter of 2001. Economic contraction and negative performance in the agricultural sector caused a greater number of people to become unemployed, thus causing a sharp increase in the unemployment rate in 2001. Especially, educated young people unemployment rate increased considerably.

Table V.2.1. Labor Force and Employment

	2000		2001				
	IV: Mid Y.	I	II	III	IV	Mid Y.	
Labor Force	21.547	22.031	21.031	22.694	23.782	22.077	22.269
Employment	20.182	20.579	19.222	21.127	21.875	19.742	20.367
Urban	55,5	53,5	56,6	52,2	51,2	55,7	53,8
Rural	44,5	46,5	43,4	47,8	48,8	44,3	46,0
Number of Unemployed	1.366	1.452	1.809	1.567	1.907	2.335	1.902
Unemployment Rate	6,3	6,6	8,6	6,9	8,0	10,6	8,5
Urban	8,2	8,8	10,8	10,4	11,6	13,2	11,5
Rural	4,0	4,0	5,6	2,7	3,9	7,0	4,8
Educated Young Peop.	22,7	21,9	23,7	23,2	28,7	27,0	25,8
Underempl. / L. Force	6,0	6,9	6,0	6,0	5,7	6,1	6,0
Inactive Labor Force (Percent)	12,3	13,2	14,6	12,9	13,7	16,7	14,5

Source: SIS Household Labor F. Survey

In 2001, economic contraction and negative performance in the agricultural sector caused a greater number of people to become unemployed, thus causing a sharp increase in the unemployment rate.

Another important indicator of labor force dynamics, underemployment rate, defined as people who are employed but seeking a job or can work more hours on their job or on another job, realized at 6.1 percent in the fourth quarter of 2001. Therefore, the inactive labor force, which is the sum of the underemployment and unemployment rates, increased to 16.7 percent in the fourth quarter of 2001.

When the sectoral breakdown of employment is taken into consideration, it is observed that the share of agricultural sector was 32.6 percent in the fourth quarter of 2001. In the same period, the shares of industry and services sectors were realized as 19.5 percent and 48.0 percent, respectively. Compared to the same period of the previous year, while non-agricultural employment decreased in urban areas, it increased in rural areas. In the fourth quarter of 2001 compared to the same period of the previous year, while the share of unpaid family workers and workers getting salaries or daily wages declined, the share of self-employed people increased (Table V.2.3). In addition, in the fourth quarter of 2001, the total employment decreased by 440 thousand people compared to the same period of the previous year. Almost 85 percent of this decline in the total employment level was composed of 372 thousand workers getting salaries or daily wages.

Table V.2.2. Employment by Sectors (Thousand Person, Aged 15+)

	2000		2001				
	IV	Mid Year	I	II	III	IV	Mid Year
TOTAL	20,182	20,579	19,222	21,127	21,875	19,742	20,367
Agriculture	6,628	7,103	6,268	8,222	8,676	6,432	7,217
Industry	3,811	3,738	3,628	3,584	3,764	3,843	3,734
Services	9,743	9,738	9,326	9,321	9,435	9,467	9,416
Construction	1,402	1,313	1,029	1,183	1,138	955	1,073
Urban Employ.	11,198	11,013	10,872	11,037	11,209	11,001	10,953
Rural Employm.	8,984	9,566	8,350	10,090	10,666	8,741	9,414

Source: SIS Household Labor F.

Manufacturing industry employment declined due to the contraction of its production and the index for the manufacturing industry employment decreased by 8.4 percent (Table V.2.4). The decline in manufacturing industry employment stemmed from both public and private sectors. In particular, it is observed that the decline in manufacturing industry employment accelerated in the second half of the year. Likewise, in the manufacturing industry, real wages per hour declined by 14.4 percent stemming from both public and private sectors. On the other hand, while the productivity per hour declined in private sector, it increased in public sector.

**Table V.2.3. Employment by Economic Activity (Thousand Person, Aged 15+)**

	2000		2001				Mid Year
	IV	Mid Year	I	II	III	IV	
Total	20.182	20.579	19.222	21.127	21.875	19.742	20.367
Workers Getting Salaries	10.363	10.198	9.682	9.791	10.057	9.991	9.908
Self-employer	5.992	6.138	5.884	6.347	6.364	6.077	6.142
Unpaid Family Worker	3.827	4.243	3.656	4.989	5.454	3.674	4.318
Percentage Distribution							
Workers Getting Salaries	51,3	49,6	50,4	46,3	46,0	50,6	48,6
Self-employer	29,7	29,8	30,6	30,0	29,1	30,8	30,2
Unpaid Family Worker	19,0	20,6	19,0	23,6	24,9	18,6	21,2

Source: SIS Household Labor Force Survey

**Both the decline in real wages and the increase in unemployment are two of the main reasons leading to contraction in domestic demand.**

The decline in real wages and the increase in unemployment are two of the main reasons leading to contraction in domestic demand and it is expected that this situation will affect domestic demand negatively in 2002.

**Table V.2.4. Developments in Manufacturing Employment, Wages and Productivity (Annual Percentage Change)**

	2000		2001			
	Annual	I	II	III	IV	Annual
Employment <sup>(1)</sup>	-2,4	-1,3	-9,0	-11,3	-11,5	-8,4
Public	-6,2	-2,1	-5,6	-10,4	-7,2	-6,6
Private	-1,6	-1,3	-9,5	-11,4	-12,2	-8,6
Wage <sup>(2)</sup>	0,5	-3,7	-14,6	-15,4	-20,6	-14,4
Public	15,1	5,5	-12,5	-14,2	-21,0	-12,0
Private	-2,1	-5,8	-15,5	-15,9	-20,3	-15,2
Productivity <sup>(3)</sup>	7,6	2,8	-0,5	2,5	0,1	1,1
Public	-0,6	12,2	9,2	9,3	2,0	7,9
Private	10,0	0,7	-2,9	0,7	-0,7	-0,5

Source: SIS

(1) SIS, Index for Workers in the Manufacturing Industry, 1987=100

(2) SIS, Quarterly Index of Wages per Production Worked Hour, 1987=100

(3) SIS, Quarterly Index of Partial Productivity per Production Worked Hour, 1987=100

## VI. BALANCE OF PAYMENTS

### VI.1. Developments in Foreign Trade

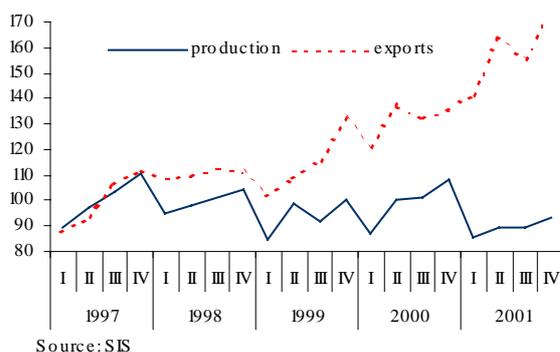
In 2001, while exports were realized as US\$ 31.3 billion with an increase of 12.7 percent, imports were realized as US\$ 40.4 billion with a decline of 25.9 percent. The real depreciation of the Turkish lira and the contraction in the economic activity following the crisis caused foreign trade deficit to decrease substantially. The downturn in the foreign trade deficit, that is US\$ 17.6 billion, was mainly due to the decrease in imports. In 2001, foreign trade deficit (fob) was realized as US\$ 4.8 billion, which is the lowest level since 1994.

Table VI.1. Foreign Trade (US\$ Million)

	January-December			January		
	2000	2001	Percentage Change	2001	2002	Percentage Change
EXPORTS (Excluding Gold)	27774.9	31313.7	12.7	2235.9	2441.1	9.2
Agriculture	1973.3	2234.2	13.2	171.0	173.2	1.3
Fishing	24.5	29.7	21.2	2.3	1.1	-52.2
Mining	400.4	348.9	-12.9	25.3	23.3	-7.9
Manufacturing	25339.6	28676.9	13.2	2035.2	2241.0	10.1
Other	37.1	23.9	-35.6	2.1	2.4	14.3
IMPORTS (Excluding Gold)	54502.8	40409.7	-25.9	3984.8	3031.6	-23.9
Consumption	7265.0	4083.6	-43.8	362.6	363.7	0.3
Investment	11341.5	6964.4	-38.6	698.2	391.2	-44.0
Intermediate	35710.2	28981.9	-18.8	2810.0	2266.3	-19.3
Crude Oil	4208.3	3860.7	-8.3	240.4	291.6	21.3
Other	186.1	379.8	104.1	113.9	10.4	-90.9
EXPORTS (Includ. Gold)		31340.0		2236.4	2444.0	9.3
IMPORTS (Includ. Gold)		41399.1		4071.6	3134.9	-23.0

Source: SIS

Figure VI.1. Manufacturing Export Volume and Production Indices (1997=100)

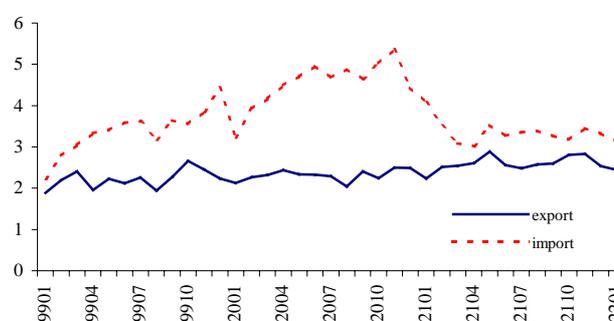


Source: SIS

As a consequence of firms' switching from the internal markets into external markets as a result of the rapid contraction in domestic demand and the real depreciation of the Turkish lira, manufacturing goods exports rose by 13.2 percent in 2001, which constituted 91.6 percent of total exports.

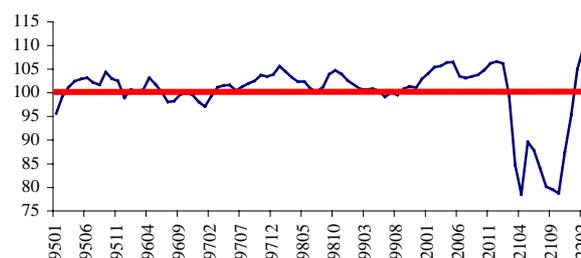
The contraction in domestic demand and the real depreciation of the Turkish lira positively affected exports; however, the recession in foreign markets and the financing problem limited this positive effect

Figure VI.2. Monthly Exports and Imports (US \$ Billion)



Source: SIS

Figure VI.3. Real Effective Exchange Rate (1996=100)



The currency basket of 0.77 Euro ve 1 US dollar is used in the calculation of real effective exchange rate. 1995 based WPI is used for Euro Area and USA and 1987 based WPI for Turkey. The increase in the index value indicates real appreciation of the Turkish lira.  
Source: CBRT, SIS

The slowdown of growth in the OECD countries, which constituted approximately 66 percent of Turkish total exports, the contraction in the finance of exporters and increasing financing cost and the recent appreciation of the Turkish lira affected the exports performance negatively.

**BOX: VI.1.1. : COMPETITIVENESS INDICATORS**

The direction of competition in international markets has gained importance in recent years. One of the mostly used measures of the competitiveness is the real exchange rate index. In the real exchange rate defined conceptually as the relative prices of tradable and non-tradable goods, the relative increase in the domestic production costs of tradable goods raises its relative prices. In other words, this increase cause the real exchange rate to appreciate and the domestic production of tradable goods gets relatively unproductive, *ceteris paribus*. This situation influences the international competitiveness negatively.

However, because of the difficulties faced in the goods decomposition, real exchange rate is calculated by nominal exchange rate deflated by domestic-foreign relative prices. For countries with high, chronic and volatile inflation rates like Turkey, the published total (all items) price indices are insufficient for the sectoral analysis. Therefore, in order to calculate the competitiveness of sub-sectors of the manufacturing industry it will be more appropriate to deflate nominal exchange rates by the relative prices of sub-sectors.

Another competitiveness measure is the level of input costs. Taking the world commodity prices are given, the decrease of the input costs is relatively advantageous for the producers. While the wages and capital costs are the more appropriate indicators conceptually, it is too difficult to compare them among countries. Hence, unit wage index is used as an indicator of cost competitiveness. Due to the varying nominal wages and productivity, it is more accurate to analyze sub-sectoral unit wage index.

**1- Sectoral Real Exchange Rates**

Since nominal exchange rate increase has realized below the inflation rate, the Turkish lira appreciated by 5.2 percent against the basket of 1 US dollar and 0.77 euro according to the index based on private manufacturing price. After the crisis in February 2001, nominal exchange rates depreciated by 28 percent and the depreciation continued gradually until October 2001. In October, the depreciation stopped after reaching 58 percent and then nominal exchange rates started to appreciate. Because of the lagged response of inflation to this exchange rates change, the Turkish lira depreciated in real terms until October. However, the Turkish lira started to appreciate in real terms with the appreciation of nominal exchange rates and the adjustment of inflation rates to exchange rates.

**Table 1: Sectoral Real Exchange Rates in Private Manufacturing Industry<sup>1</sup>**  
Against the basket of 1 US dollar + 0.77 euro

	Total	Basic Metal	Food	Textile	Clothes	Electrical Machinery	Chemistry	Motor Vehicles
1995	105.24	108.07	98.57	115.22	103.02	112.42	112.35	102.26
1996	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1997	99.97	105.08	103.24	96.41	96.38	94.97	99.91	97.25
1998	100.24	96.64	111.02	89.97	99.57	95.67	95.48	97.74
1999	96.83	92.10	105.15	83.42	105.53	96.77	96.03	93.06
2000	99.64	102.40	106.22	89.32	100.19	100.03	103.88	95.42
2001	85.25	93.85	85.33	82.47	81.89	84.51	92.70	80.92
0101	100.98	102.78	106.98	93.71	106.84	104.18	104.35	99.10
0102	94.66	98.30	98.97	90.57	98.81	98.14	101.14	95.51
0103	81.24	90.49	81.78	79.61	79.37	83.13	86.96	76.86
0104	75.50	89.10	73.79	74.03	75.80	73.90	83.59	66.53
0105	86.48	95.78	84.79	83.79	84.94	84.69	94.44	79.63
0106	85.13	93.69	83.03	82.12	81.44	82.63	93.59	80.16
0107	81.96	93.26	79.11	79.44	75.34	81.20	91.46	75.50
0108	79.01	91.61	75.42	78.74	74.57	79.55	88.26	74.03
0109	78.52	90.59	74.86	78.55	71.37	78.82	87.74	75.48
0110	78.63	89.40	78.67	77.30	71.49	77.24	86.26	74.39
0111	87.09	94.03	90.21	83.23	78.71	82.36	93.49	82.42
0112	93.78	97.21	96.33	88.54	83.99	88.32	101.16	91.42
0201	101.40	99.44	105.81	96.44	91.61	93.45	106.86	100.39
0202	104.32	100.30	109.34	99.71	97.35	95.84	106.87	105.38
0203	104.77	102.66	109.24	100.13	101.74	95.65	105.64	105.77

<sup>(1)</sup> Yearly average index values. + indicates real appreciation, - indicates real depreciation in the Turkish lira.

Since nominal exchange rate increase has realized below the inflation rate, the Turkish lira appreciated by 5.2 percent against the basket of 1 US dollar and 0.77 euro according to the index based on private manufacturing price. After the crisis in February 2001, nominal exchange rates depreciated by 28 percent and the depreciation continued gradually until October 2001. In October, the depreciation stopped after reaching to 58 percent and then nominal exchange rates started to appreciate. Because of the lagged response of inflation to this exchange rates change, the Turkish lira depreciated in real terms until October. However, Turkish lira started to appreciate in real terms with the appreciation of nominal exchange rates and the adjustment of inflation rates to exchange rates.

The real depreciation in the indices based on food, clothes, electrical machinery and motor vehicles prices were higher than the total index after the crisis. In the food sector, a trend parallel to the total index has been observed since October. On the other hand, high rates of real depreciation in the motor vehicles sector observed until October, returned to real appreciation. In March 2002, real appreciation realized as 5.8 percent, which was substantially higher than the total index. Since October, the real appreciations in the indices based on clothes and electrical machinery sector prices have been lower than the total index.

According to the developments in the real exchange rates, clothes and electrical machinery sectors kept their competitiveness. Conversely, the significant rates of real appreciation in textile and motor vehicles sectors affected their competitiveness negative.

## 2- Sectoral Unit Wage Indices

Unit wages in the private manufacturing industry sector recovered during the 1989-1993 period but due to the 1994 crisis, they decreased rapidly to the levels in 1989. As a result of the income policy of the stabilization program in 2000, unit wages, which were stable until 1999, begun to decrease. After the crisis in February 2001, unit wages reached the lowest level of the last 13 years. In other words, during the 1989-1993 period unit wages in the private manufacturing industry affected adversely the competitiveness but this negative effect decreased after that period.

Table 2: Unit Wages In The Private Manufacturing Industry-In Terms of US dollar (1997=100)

	Total	Basic Metal	Food	Textile	Clothes	Electrical Machinery	Chemistry	Motor Vehicles
1988	84.06	56.97	71.36	75.61	37.47	83.39	90.24	89.14
1989	97.96	66.14	99.98	95.58	148.18	105.14	145.27	158.14
1990	131.24	73.78	138.12	121.69	96.97	121.31	252.01	89.99
1991	155.69	111.08	162.51	204.75	97.94	148.57	263.16	174.36
1992	149.03	98.86	169.84	145.48	96.63	195.71	216.75	157.73
1993	137.16	121.50	164.14	158.66	98.82	180.65	202.87	141.54
1994	97.42	78.48	100.17	84.50	89.44	127.94	125.89	116.04
1995	96.15	92.07	100.24	91.53	70.96	112.80	123.44	109.28
1996	102.27	97.81	101.64	99.68	87.21	102.80	114.68	105.93
1997	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1998	107.86	105.66	111.72	106.06	88.09	118.79	117.64	116.22
1999	106.53	118.74	117.84	112.25	91.17	115.86	119.42	133.42
2000	99.07	119.13	111.77	97.46	81.40	114.88	104.37	111.21
2001	70.11	77.12	68.24	65.65	54.53	88.18	73.90	129.19

Unit wages in the private manufacturing industry sector recovered during the 1989-1993 period but due to the 1994 crisis, they decreased rapidly to the levels in 1989. As a result of the income policy of the stabilization program in 2000, unit wages, which were stable until 1999, begun to decrease. After the crisis in February 2001, unit wages reached to the lowest level of the last 13 years. In other words, during the 1989-1993 period unit wages in the private manufacturing industry affected adversely the competitiveness but this negative effect decreased after that period.

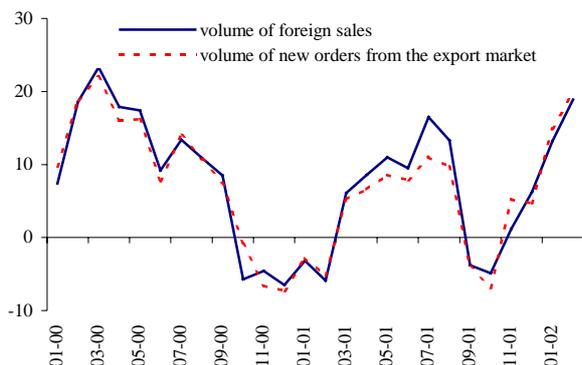
By the 1994 crisis, unit wage indices declined in all sub-sectors. While the lowest decrease was observed in clothes sector, unit wages started to increase in the textile and basic metal sectors after the crisis. In the period of 1995-2000, the highest rate of unit wage increase observed in basic metal sector. Whereas the unit wage decreases in chemistry, motor vehicles and electrical machinery sectors were permanent.

After the crisis in February 2001, exchange rates depreciated considerably. Therefore, unit wages in all sub-sectors declined to the lowest rate of last ten years and competitiveness with respect to unit wages increased. However, in the same period unit wages in motor vehicles sector increased.

In December 2001, the growth rate of exports slowed down and exports increased by 1.9 percent according to the same month of the previous year. Exports reached US\$ 2.4 billion with an increase of 9.3 percent, in January 2002. According to the Turkish Exporters Association reports, exports in February and March are expected to be US\$ 2.3 billion and US\$ 2.8 billion, respectively. These data point out that the substantial recovery in exports in March following the fall down in February.

According to the CBRT February Business Survey results, the gradual increases were observed in the optimistic expectations in volume of goods sold in the foreign markets and the new orders received from the exports markets in the following three months.

**Figure VI.4. Exports Expectations For The Next Three Months (Percentage)**  
(Optimists minus Pessimists)



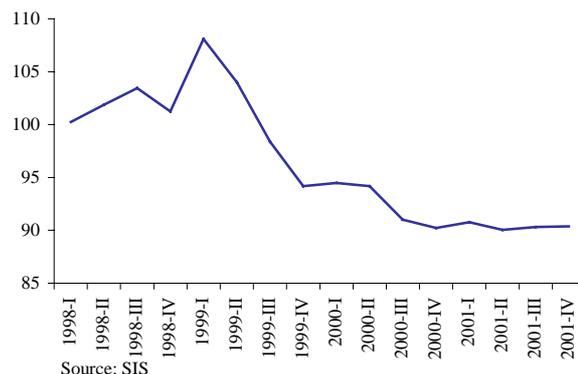
Source: CBRT Business Survey

As indicated by the IMF World Economic Outlook projections, the recession in the world economy, which has been persisting since the second half of 2000, is expected to recover in the second half of 2002. It is projected that the developments in the external environment will have positive impact on exports growth. In fact, the increase in growth in the US industrial production on January and February 2002 was evaluated as a positive sign and increases the expectations about revival in the world economy.

The downturn in real domestic credit that is due to the problems of the banking sector took place in 2001, have a negative impact on financing the exports sector. Regularities related to recapitalization in order to

strengthen the banking sector and accelerating the attempts to remove the problems between the real sector and the banking sector is expected to contribute to exports performance by affecting the production positively.

**Figure V.5 Terms of Trade (Export Prices/Import Prices)**



Source: SIS

Imports (excluding gold) were realized as US\$ 40.4 billion with a decrease of 12.7 percent. In 2001, regarding the sub-items of imports, it is observed that the consumption goods imports, which have high demand elasticity, declined by 43.8 percent according to 2000. Meanwhile, intermediate and investment goods imports decreased by 18.8 and 38.6 percent, respectively. In 2001, amount of crude oil imports increased whereas crude oil imports decreased to US\$ 3.9 billion due to decrease of crude oil prices by 96 percent.

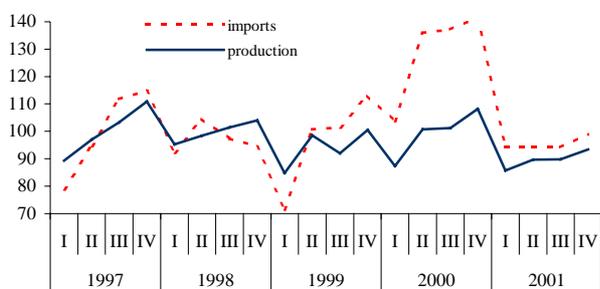
In January 2002, imports kept its downward trend and realized as US\$ 3.1 billion with a decline of 23.9 percent.

**The contraction in both domestic demand and manufacturing sector production as well as the depreciation of the Turkish lira caused imports to decline in 2001.**

The terms of trade deterioration beginning from the second half of 1999 continued in 2001. In that period, export prices and import prices decreased by 2.6 percent and 0.3 percent, respectively, according to 12-month average. Therefore, the real annual increase in exports was realized as 15.7 percent whereas the real annual decrease in imports was realized as 25.6 percent.

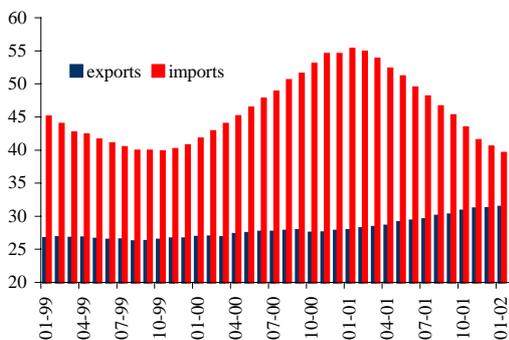
According to the CBRT Business Survey February results, in the next three months, a recovery in domestic market is expected. The rising trend in favor of optimists related to expectations in production and sales continued in the next three months. The new orders received from the domestic markets are expected to increase in the forthcoming three months. Thus, in line with the recovery in domestic demand in the following period, it is expected that the import demand will gain the increasing trend.

Figure VI.6. Manufacturing Import Volume and Production Indices (1997=100)



Source: SIS

Figure VI.7. Exports and Imports (Annual, US \$ Billion)



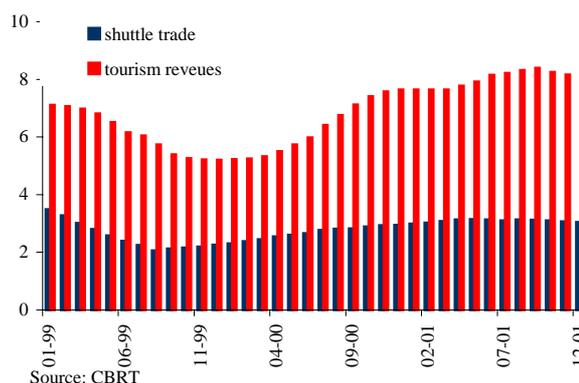
Source: SIS

## VI.2. Current Account

Deterioration in the trade balance has been the main determinant for the US\$ 3.3 billion current account surplus. The contribution of other goods and services balance to the current account lessened in 2001 with respect to the previous year. The other goods and services balance, which reached US\$ 7.3 billion net income in 2000, decreased by 43.8 percent in 2001 to US\$ 4.1 billion. A significant drop in other

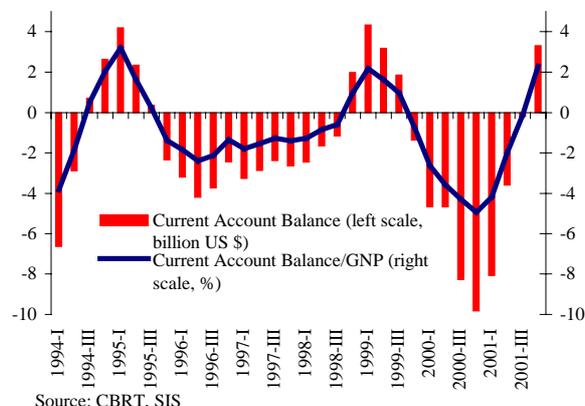
private/official services income in 2001, bringing the balance to US\$ 3.6 billion. Interest payments, which increased by US\$ 834 million in 2001, exerted a negative effect on the current account.

Figure VI.8. Shuttle Trade and Tourism Revenues (Annual, US \$ Billion)



Source: CBRT

Figure VI.9. Current Account Balance (Annual)



Source: CBRT, SIS

Tourism revenues, being an important item of the current account, rose by 13.1 percent in the first three-quarters of 2001 with respect to the same period of the previous year. However, an 18.2 percent fall in the tourism revenues was observed in the last quarter of 2001 because of the September 11 events.

The downward tendency in the unrequited transfers continued in 2001 as well. Evidently, workers' remittances, which were US\$ 4.6 billion in 2001, fell to US\$ 2.8 billion.

Table VI.1. Balance of Payments (US \$ million)

	December		January-December	
	2000	2001	2000	2001
Foreign Trade (fob)	-1498	-593	-22375	-4775
Other Goods and Services	261	-165	7331	4111
Transfers	527	342	5225	3978
Current Account	-710	-416	-9819	3314
Capital Account	-95	-1378	9610	-13882
Foreign Direct Investment (Net)	-17	9	112	2769
Portfolio (Net)	-238	23	1022	-4515
Long-term (Net)	460	-212	4276	-1130
Short-term (Net)	-300	-1198	4200	-11006
Net Errors and Omissions	487	1410	-2788	-2356
Shuttle Trade	237	209	2946	3039
Tourism Revenues	291	224	7636	8090
Workers' Remittances	452	242	4603	2835
Other Invisible Revenues	1019	456	11848	7092

Source: CBRT

### VI.3. Capital Account

Capital account posted a deficit of US\$ 13.9 billion in 2001. There was a US\$ 15.5 billion capital outflow in 2001 through the channels of portfolio investments and short-term capital flows, while there was a US\$ 2.8 billion capital inflow through the net foreign direct investment channel. In the crisis month February, non-residents sold US\$ 4 billion worth of securities; and in the remainder of the year they net US\$ 1 billion worth of securities. Banks and non-bank private sector were the main determinant of short-term capital flows. The rollover rate of these sectors' credits was low in 2001; hence, these sectors became net re-payers throughout the year.

Table VI.3. Net Capital Inflow by Sub-sectors (US \$ million)

	2000	2001
NET CAPITAL INFLOW	9610	-13882
GENERAL GOVERNMENT	6227	-1878
Bond Issues	6110	99
Medium and Long-term	-883	-977
Short-term	1000	-1000
BANKS	4636	-8669
Bond Issues	142	-3
Medium and Long-term	-363	-1024
Short-term	4857	-7642
PRIVATE SECTOR	5830	-1475
Bond Issues	0	0
Medium and Long-term	4905	267
Short-term	925	-1742
OTHER	-7083	-1860
Securities	-4637	-3823
Direct Investment (in Turkey)	982	3266
Other	-3428	-1303

Source: CBRT

Of the net US\$ 2.8 billion worth of foreign direct investment, the portion of US\$ 1.5 billion was due to the proceeds of the third GSM license sales in 2000. In addition, a foreign bank's acquisition of a domestic bank, and the sale of an automobile manufacturing company's domestic shares to its foreign shareholder were other raising factors behind the surge in foreign direct investments.

## VII. DEVELOPMENTS IN THE WORLD ECONOMY

Global recessions that began in the midst of 2000 have become more severe with the September 11 events, which considerably deteriorated expectations and confidence of both households and businesses. The world trade volume is forecasted to increase only by two percent in 2001 compared to 2000. However, economic indicators as of the beginning of 2002 show that global recession is bottoming out albeit very slowly. Both in Europe and in the US, consumer and business confidence indices and the leading indicators seem to improve. Nevertheless, world's biggest second economy, Japan, is still giving no sign of improvement. In the other Asian countries previous figures of 2002 are more promising. Latin American countries, of which growth rates were disappointing for 2001 due to the severe crises in Argentina does not seem to accompany the global recovery. Recovery process in developed country economies is expected to be evident in the second half of the year. IMF states three main reasons for the expected shift from recession to global recovery. These are, completion of ongoing.

Inventory cycles, low oil prices, and the macroeconomic policies in advanced countries, which have been eased as a response to recession. Depending on these reasons, the IMF revised its world growth rate forecasts to 2.5 percent for 2002 and 4.2 percent for 2003. However, the OPEC's production cut decision, which is put into effect in the beginning of 2002 and despite the expected global recovery process, absence of a tangible declaration to revise this decision seems to conflict the IMF scenario.

Table VII.1. World GDP Growth Rates  
(Annual Percentage Change)

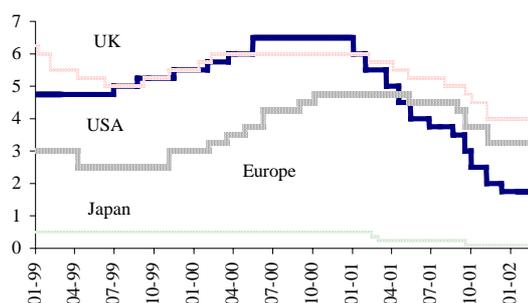
	2000	2001	2002
World	4.7	2.5	2.5
Developed Countries	3.9	1.2	1.2
U.S.A.	4.1	1.1	1.4
Canada	4.4	1.4	1.2
Euro Area	3.4	1.5	1.2
Germany	3.0	0.6	0.7
France	3.6	2.0	1.3
Italy	2.9	1.8	1.2
U.K.	3.0	2.4	1.8
Japan	2.2	-0.4	-1.0
Developing Countries	5.7	4.0	4.3
Developing Asian Countries	6.9	4.9	5.4
Newly Industrialized Asian Countries**	8.2	0.7	2.8
ASEAN-4***	5.0	2.5	3.1
China	8.0	7.3	7.0
India	5.4	4.1	5.1
Developing Countries in America	4.0	0.9	1.1
Argentina	-0.8	-3.7	-8.4
Brazil	4.4	2.0	2.5
Chile	5.4	3.0	3.0
Mexico	6.6	-0.3	1.7
EU members	4.9	0.4	3.2
Turkey	7.4	-6.2	3.6
Czech Republic	2.9	3.3	3.1
Hungary	5.2	3.7	3.5
Poland	4.1	1.5	1.8
Bulgaria	5.8	4.5	4.0
Romania	1.6	4.8	4.5
CIS	7.9	6.5	3.8
Russia	8.3	5.4	3.4
Africa	2.9	3.7	3.4
Middle East	5.6	4.5	3.0

\* Newly Industrialized Asian economies are Hong Kong, Korea, Singapore and Taiwan.

\*\* ASEAN-4 includes Indonesia, Malaysia, the Philippines and Thailand.

Source: IMF, World Economic Outlook, and March 2002.

Figure VII.1. Main Central Bank Interest Rates (Percentage)



Source: Corresponding Central Banks.

World economy is expected to grow more rapidly in the second half of the year.

Table VII.2. CPI Inflation for Selected Country Groups (Annual Percentage Change)

	2000	2001	2002
Developed Countries	2.3	2.3	1.2
U.S.A.	3.4	2.8	1.4
Canada	2.7	2.8	1.6
Euro Area	2.4	2.7	1.6
Germany	2.1	2.4	1.1
France	1.8	1.8	1.2
Italy	2.6	2.7	2.1
U.K.	2.1	2.1	2.3
Japan	-0.8	-0.7	-1.1
Developing Countries	6.1	5.7	5.6
Developing Asian Countries	1.8	2.5	2.7
Newly Industrialized			
Asian Countries**	1.1	1.9	1.2
ASEAN-4***	3.0	6.6	6.7
China	0.4	0.7	0.8
India	4.0	3.8	4.5
Developing Countries in			
America	8.1	6.4	6.8
Argentina	-0.9	-1.1	15.9
Brazil	7.0	6.8	5.8
Chile	3.8	3.6	2.4
Mexico	9.5	6.4	4.4
EU members	24.7	21.1	18.0
Turkey	54.9	54.4	49.1
Czech Republic	3.9	4.7	3.5
Hungary	9.8	9.1	5.1
Poland	10.1	5.4	3.8
Bulgaria	10.4	7.5	4.5
Romania	45.7	34.5	26.9
CIS	25.0	19.9	13.4
Russia	20.8	20.7	14.1
Africa	14.2	12.6	9.0
Middle East	9.7	8.1	8.7

\* Newly Industrialized Asian economies are Hong Kong, Korea, Singapore and Taiwan.

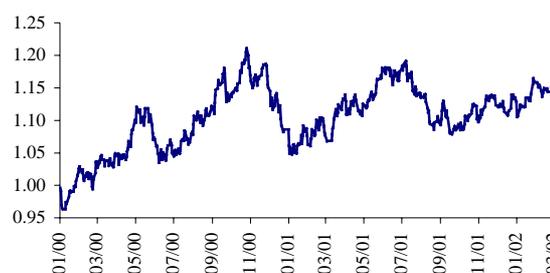
\*\* ASEAN-4 includes Indonesia, Malaysia, the Philippines and Thailand.

Source: IMF, World Economic Outlook, and March 2002.

The US economy expanded by 1.4 percent according to the seasonalized fourth quarter data, which is higher than expectations. It could be seen that consumer and government spending were the main factors to contribute to this high growth rate. However, investment spending contracted during the same period. Industrial production and surveys on the expectations of economic agents seem to improve. This development is accepted to be the tangible signals of recovery process ahead. Nevertheless process of bottoming out the recession is expected to occur slower compared to past experiences. A new interest rate easing is not expected to occur, last of which was made in December 2001. Moreover, if the growth process becomes solid, FED is expected to raise interest rates again. Positive developments have effected forecasts also and the growth rate forecasts have been revised up. The US economy, which is expected to recover first among the other, developed countries, is expected to grow by 1.4 percent in 2002.

The US economy is expected to recover earlier than the other developed countries.

Figure VII.2. The Euro-US Dollar Parity



Source: Related Central Banks.

As the shocks causing the global recession effect the countries jointly the slowdown process of European economies follows a similar trend to the US economy. However, considering different countries, one observes that the extent of effects of the global recession are varying for each country. Especially the differences in consumption expenditures are the cause of the different degrees of recession among countries. The consumption expenditures have slowed down in countries like Germany and Italy, while the higher consumption expenditures in France and particularly in the UK triggered a higher rate of growth in these two countries. Although the recession in economic activities and demand has been still continuing, one may observe stronger signals of recovery in European economies. Germany with the strongest economy in the region experienced an increase in industrial production in the last month of 2001. In addition, the improvements in the consumer and business expectations in the first months of 2002 strengthen the optimistic expectations of recovery in Germany. Although experiencing a decrease in exports in 2001, the UK is the country least affected from the global recession. It is also thought that the policies including, not raising interest rates by the Central Bank and accommodating fiscal policies by the government in the 2002/2003 fiscal year will contribute to a continuing growth in the UK economy in 2002.

The European economies have been affected in different degrees from global recession.

**Table VII.3. Current Account Balance to GDP ratio for Selected Country Groups Percentage**

	2000	2001	2002
Developed Countries	-1.0	-0.8	-0.6
USA	-4.5	-3.9	-3.6
Canada	2.5	3.1	1.9
Euro Area	-0.2	0.4	0.7
Germany	-1.0	-0.2	0.5
France	1.8	2.5	2.4
Italy	-0.5	0.3	0.5
UK	-1.8	-1.3	-2.2
Japan	2.5	2.3	3.0
Developing Countries			
Developing Asian Countries	3.0	2.5	1.8
Newly Industrialized Asian Countries**	5.0	4.8	4.3
ASEAN-4***	7.9	5.6	3.7
China	1.9	1.5	1.0
India	-0.9	-0.3	-0.5
Developing Countries in America	-2.5	-2.8	-2.9
Argentina	-3.1	-2.1	0.9
Brazil	-4.1	-4.6	-3.8
Chile	-1.4	-1.5	-2.0
Mexico	-3.2	-2.7	-3.2
EU members	-5.1	-2.9	-3.6
Turkey	-4.9	1.3	-1.2
Chezck Republic	-4.5	-4.8	-5.2
Hungary	-2.9	-2.2	-2.9
Poland	-6.3	-4.0	-4.3
Bulgaria	-5.8	-6.4	-5.9
Romania	-3.7	-6.0	-5.6
CIS	13.6	8.3	4.0
Russia	18.0	11.2	6.1
Africa	0.6	-0.8	-3.3
Middle East	12.1	6.7	0.1

\* Newly Industrialized Asian economies are Hong Kong, Korea, Singapore and Taiwan.

\*\*ASEAN-4 includes Indonesia, Malaysia, the Philippines and Thailand.  
Source: IMF World Economic Outlook and March 2002.

Japan has been experiencing its third recession in the past decade. The current recession stems to a great extent from the deterioration in the consumer confidence and the global slowdown. However, the unsolved and deep-rooted structural problems, particularly in the banking sector, prevented reaching a stabilized growth rate over the decade. In the short-term, the sustained weakness in the private sector demand, and the restrained export prospects led to a slowdown in production. High unemployment rate since the beginning of 2001, lessening working hours, and leveled off real wages resulted in a decrease in the consumption demand. Although the private sector investment somewhat recovered in 2001, forward indicators imply that this tendency would be weakened in early 2002. On the other hand, the global slowdown together with the sharp contraction in the demand for ICT products led to a fall in Japan's exports. The Japanese government announced a package in late February, with which it aims to combat

the persistent deflation by continuing to support the banking sector and by some other micro measures. However, with the expectation that the effect of announced measures would be limited, markets did not react as positively as desired.

Most countries in the Asia-Pacific region experienced sharp decreases in growth rates on account of weakening external demand. Especially, developments in the demand for electronic products have been the major determinant for these countries' growth rates. Severe global downturn in this sector recorded huge losses for some of region's countries. Contrary to the fact that the drop in oil prices has been a supporting factor for some countries of the region, oil-exporting countries like Indonesia and Malaysia are likely to be hard by downward price movements. In China and India, countries that are less-dependent on foreign trade compared to other region countries, economic activity remains vigorous. However, the fall in exports since 2000, and low consumer and business confidence in both countries led to a drop in growth rates, in addition to concerns on recent depreciation of the Japanese yen, it is expected that the contraction in Japan would further contribute to the weakness in the economic activity of region's other countries, taking into account that Japan is an important trading partner, and source of capital and investment.

**The expected recovery in the latter half of the year in the US economy is expected to support the Asian countries where the share of the US in the foreign trade volume is high.**

**Table VII.4. World Commodity Price Developments (US \$. Annual Percentage Change)**

	1999	2000	2001	2002
Manufactured Products	-1.9	-5.1	-2.2	-1.8
Crude Oil	37.5	57.0	-14.1	-17.6
Basic Non-Oil products	-7.0	1.8	-5.5	-0.1
Food	-15.6	-0.5	3.0	3.9
Beverage	-21.3	-16.6	-19.1	3.9
Agricultural Products	2.3	2.0	-7.3	-4.5
Metal Products	-1.5	12.1	-9.5	0.3
World Trade Prices Deflator	-1.9	0.2	-3.4	-0.8

Source: IMF, World Economic Outlook, and March 2002.

The evolution and prospects of the Latin American economies centers around on the crisis the Argentine economy faces. Indicators concerning the Argentine economy remain uncertain in the short-term. Factors directly affecting income and expenditure, such as rapidly increasing unemployment rate, the low confidence level, and the freeze of bank deposits are likely to cause a sharp contraction in the domestic demand. Despite the probable favorable developments in external demand and the competitiveness gained after the Argentine devaluation, a jump in exports does not seem likely because of the inelasticity of agricultural exports.

To sum up, it seems that a significant contraction in the Argentine economy and an acceleration of inflation are inevitable in 2002.

The contagion of the Argentine crisis to other countries of the region does not seem very probable, yet the risk of contagion will keep its importance if appropriate policies are not taken, a further decline in the level of confidence takes place, and the neighboring countries cannot adjust smoothly to the recently gained Argentine competitiveness. Despite the mentioned concerns, these countries' foreign trade and financing connections will continue to shape the developments in the economies of the region.

---

**The risk of contagion will keep its importance if appropriate policies are not taken, and the neighboring countries cannot adjust smoothly to the recently gained Argentine competitiveness.**

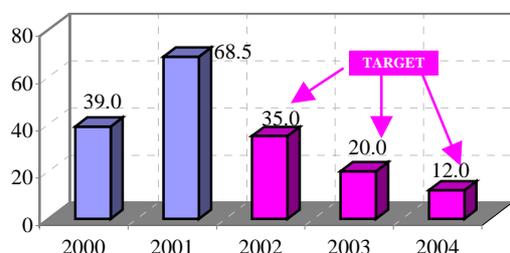
---

## VIII. ASSESSMENT OF INFLATION OUTLOOK FOR FUTURE

In this chapter, economic developments following the November 2001 Report will be assessed within the context of the course of inflation in the next period. Moreover, an evaluation will be made on likely developments in inflation for overall 2002.

Within the framework of the current economic program, a medium-term strategy has been mapped out in order to curb inflation. This strategy aims at reducing the inflation, progressively, to 35 percent at the end of 2002, 20 percent at the end of 2003 and 12 percent at the end of 2004 with the help of monetary and fiscal policies to be adopted as well as structural reforms that improve efficiency and productivity in the economy (Figure VIII.1).

Figure VIII.1. CPI Inflation: Realization and Targets (Annual Percentage Change).



### VIII.A. FUNDAMENTAL FACTORS<sup>ii</sup> AFFECTING INFLATION

#### VIII.A.1. Developments in Overall Demand and Overall Supply

In the last quarter of 2001, GDP dropped by 10.4 percent when compared to the same period of the previous year. GNP declined by 12.3 percent due to the decline in net factor income from abroad.

Domestic demand contracted owing to the uncertain economic environment of the last year caused by the crisis as well as

considerable decline in credit flow to the real sector and consumers because of problems in banking sector and recession in employment and real wages.

In the last quarter of 2001, private consumption expenditures that comprise more than 60 percent of GDP declined by 11.7 percent. The most apparent factor in this drop is the decline in durable consumer goods consumption by 33.2 percent.

As observed in other countries that have experienced banking or balance of payment crisis, it is the investments item that reacts firstly and sharply in expenditures. Uncertainties and the loss of confidence in the economy after crisis increase the risks of investments that have been made to provide income in the coming periods. Similarly, investments in Turkey decreased by 13.1 percent in the first quarter of the previous year, mainly due to the November 2000 crisis. However, the impact of the February 2001 crisis on investments was more dramatic. The drop in investments, particularly investments of real sector in machinery and equipment accelerated towards the end of the year and was realized as 38.7 percent in the last quarter of the year.

Table VIII.A.1.1. Sub-items of GDP in Growth (percentage)

	Private Consumption	Public Consumption	Private Fixed Capital Investment	Public Fixed Capital Investment	Stock Changes	Net Exports	GDP Growth
2000	4.2	0.6	3.1	1.3	1.1	-3.0	7.4
I-2001	-1.9	-0.1	-3.3	-0.2	-5.3	10.3	-0.8
II-2001	-7.8	-0.6	-7.4	-2.6	-8.6	17.3	-9.6
III-2001	-6.2	-1.0	-8.0	-1.4	-0.3	10.0	-7.4
IV-2001	-7.5	-1.1	-9.4	-2.0	-2.9	12.3	-10.4
2001	-6.1	-0.7	-7.3	-1.6	-4.0	12.4	-7.4

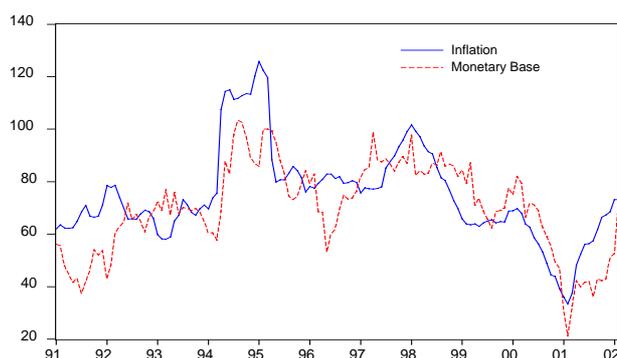
Source: SIS, CBRT.

Last year, net goods and services exports were determined by mainly three factors: devaluation of the Turkish lira in real terms, contraction in domestic demand and production, and deterioration of global economic conditions. Dramatic devaluation of the Turkish lira in real terms and decline in unit labor prices in 2001 created competitive power for exporters.

**BOX VIII.A.1. INFLATIONARY PROCESS IN TURKEY**

The notion that inflation is a monetary phenomenon is widely accepted in economic literature. There is a strong evidence that in the medium and long term, there exists a very close correlation between the rate of growth of monetary aggregates and inflation, after changes in output and velocity taken in to consideration. This correlation has been corroborated both in international and the Turkish experiences (Figure 1).<sup>(1)</sup>

Figure 1: Monetary Base and Inflation (1991:01-2002:02)



At first blush, the above discussion might suggest that it would be relatively straight forward for the Central Bank to eliminate inflation in light of its influence on the behavior of monetary aggregates, the monetary base in particular. Needless to say, however, the close correlation between money and prices does not reveal anything about the direction of causality. Economic theory offers two alternative explanations concerning this discussion on causality. Traditional monetary models with flexible prices suggest that causality runs from money to prices. Under this framework, prices will adjust immediately to changes in the stance of monetary policy. For example, if the central bank decreases the rate of growth of monetary base, agents will adjust their expectations as a result and inflation will move towards its long-run equilibrium.

Models with price rigidities, however, contend that in the short-run inflationary shocks—i.e. wage increases inconsistent with the inflation target—cannot be compensated immediately by the central bank. In principle, the central bank could maintain the money supply constant. However, owing to the low elasticity of the demand for real balances, the decline in real balances would lead to a substantial increase in interest rates. Consequently, the central bank will be forced to accommodate—totally or partially—the inflationary impact of such shocks. This, in turn, suggests that the assessment of the stance of monetary policy should entail determining the degree of accommodation by the central bank.

The above discussion underscores two alternative sources of inflationary pressures:

(i) exogenous shocks to the supply of money cause inflation (monetary explanation), and;

(ii) shocks to key prices in the economy—wages, exchange rates, and public sector prices—directly influence inflation, and monetary policy partially accommodates these shocks (models with price rigidities) under which the degree of accommodation will be essential in determining the long-run inflationary impact of the shocks.

In light of the above discussion, it is important to investigate whether the inflationary process in Turkey is driven largely by exogenous monetary shocks or by shocks to key prices that are partially accommodated by the Central Bank. To analyze this question more formally, Granger Causality tests are performed<sup>(2)</sup>. Bivariate Granger Causality tests of Monetary Base and Inflation (CPI) were computed for the period 1988:01-2001:12. Taking the marginal significance levels (p-values) into account, the results of these tests show that the causality runs from prices to base money.

Even though the Granger Causality tests provide information about the direction of the causation, they do not reveal anything concerning the magnitude of this relationship. To investigate this issue in more detail, a Vector Autoregression (VAR) Model was estimated that incorporates, as its endogenous variables: CPI, monetary base, exchange rate, wages, and public sector prices<sup>(3)</sup>. We follow a recent paper by Peseran and Shin (1998), which proposes an alternative approach to widely used orthogonalized impulse response analysis. Unlike the traditional impulse response analysis, this approach—referred as generalized impulse response analysis—does not require orthogonalization of shocks and is invariant to the ordering of the variables in the VAR. We also employ this approach to construct order-invariant forecast error variance decompositions.

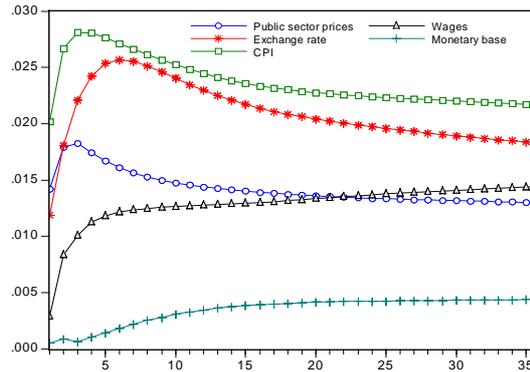
<sup>(1)</sup> R. Lucas (1996), "Nobel Lecture: Monetary Neutrality", *Journal of Political Economy*, vol.104.

<sup>(2)</sup> Granger, C. W. J. (1969).

<sup>(3)</sup> There is an issue of whether the variables in a VAR need to be stationary. Sims (1980) and others recommend against differencing even if the variables contain unit root. They contend that the goal of a VAR analysis is to determine the interrelationships among the variables, not to determine estimates. The main argument against differencing is that it "throws away" information concerning the co-movements in the data. Although the results of the Phillips-Perron stationarity tests indicate that variables involved are integrated order of 1, I(1), conscious of these suggestion variables are not differenced.

The below figure (Figure 2) displays the impulse-response functions of inflation (CPI) to one standard deviation innovations in public prices, wages, exchange rate and monetary base for a period of 36 months<sup>(4)</sup>.

Figure 2. Response of CPI to Generalized One Standard Deviation Innovations



In order to compute the impulse-response functions, a VAR with 2 lags, according to AIC (Akaike Information Criterion), SC (Schwarz Criterion) and HQ (Hannan-Quinn) statistics, were estimated. This VAR model satisfies the stability condition and has no autocorrelation.

Figure 2 depicts the response of inflation to one standard deviation shock in public prices, exchange rate, wages and monetary base<sup>(5)</sup>. A shock in public prices has a statistically significant impact on prices after 3 months: A one standard deviation shock in public prices causes the price level to increase by 1.8 percent. The effect of public prices on price level dies out after 13 months.

The statistically significant effect of exchange rate shock on price level occurs after 6 months: one standard deviation shock in exchange rate raises the price level approximately by 2.5 percent. The effect of exchange rate on price level dies out after 20 months.

It is seen that shocks in monetary base do not have a statistically significant effect on price level. However, it is observed that shocks in both wages and the price level itself have statistically significant effects on price level.

The results of generalized forecast error variance decomposition are presented below (Table 1 and Table 2). Public prices and exchange rate explain 0.19 (19 percent) and 56 percent of the forecast error in monetary base, respectively, at the 36-month horizon. Nonetheless, wages and CPI explain 15 percent and 56 percent of the forecast error in monetary base, respectively.

<sup>(4)</sup> Standard errors have been computed by Monte Carlo with 1000 repetitions and standard error bands ( $\pm 2$  standard deviation) have been included. Monte Carlo standard errors have been calculated as follows: In each repetition, a random sample was chosen from the asymptotic distribution of the VAR coefficients. The asymptotic distribution of the VAR coefficients is given in Hamilton (1994). The impulse-response functions were then computed from these simulated coefficients. After repeating this process 1000 times, 95 percent confidence intervals were constructed by the percentile method. The standard errors used in this study are those, which were obtained after repeating the simulated impulse-responses 1000 times.

<sup>(5)</sup> Since the variables are in logarithms, the impulse-responses show the cumulative increase rates with respect to the base.

**Table 1: Generalized Variance Decomposition for Monetary Base**

Period (months)	Public Prices	Exchange Rate	CPI	Wages	Monetary Base
12	0.12	0.50	0.32	0.07	0.31
24	0.17	0.56	0.50	0.12	0.16
36	0.19	0.56	0.56	0.15	0.11

The generalized variance decomposition for inflation (CPI) shows that public prices, exchange rate, wages and monetary base explain 25 percent, 55 percent, 21 percent and 2 percent of the forecast error in price level, respectively, at the 36-month horizon. The fact that inflation explains 70 percent of the forecast error in its own at the 36-month horizon, clearly reveals the importance of the inflationary inertia on inflationary dynamics in Turkey.

**Table 2: Generalized Variance Decomposition for CPI**

Period (months)	Public Prices	Exchange Rate	CPI	Wages	Monetary Base
12	0.27	0.58	0.73	0.14	0.01
24	0.26	0.57	0.71	0.18	0.01
36	0.25	0.55	0.70	0.21	0.02

The empirical results underline that to a very important degree monetary policy has accommodated these inflationary shocks. On the other hand, exogenous shocks to money have very little importance in explaining the behavior of exchange rates, wages and public prices.

In sum, according to the empirical findings summarized above, inflationary pressures in Turkey have their origin in non-monetary factors. Empirical results suggest that these factors are: (i) shocks that lead to sharp exchange rate depreciations; (ii) adjustments in public sector prices; and (iii) inflationary inertia. In this context, it is of great importance that the Central Bank should respond to shocks in exchange rate, wages, and public prices to pave the way to the targeted inflation rate.

**References:**

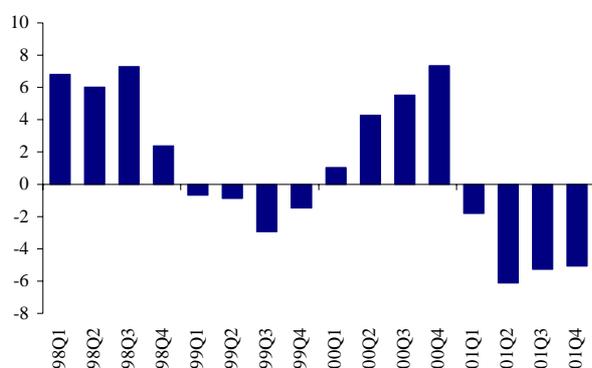
- Granger, C.W.J. (1969), 'Investigating Causal Relations by Econometric Models and Cross-Spectral Methods,' *Econometrica*, July 1969, Pages 424-38.
- Hamilton, J. D. (1994), *Time Series Analysis*, Princeton University Press.
- Lucas R. (1996), "Nobel Lecture: Monetary Neutrality", *Journal of Political Economy*, volume 104.
- Peseran, M. H. and Y. Shin (1998), "Generalized Impulse Response Analysis in Multivariate Models", *Economic Letters*, volume 58, pages 17-29.
- Sims, C. (1980), "Macroeconomics and Reality", *Econometrica*, volume 48, pages 1-49.

However, weak domestic demand during the year in general, decline in export prices, financing difficulties of exporters and high import-input utilization in exports as well as strengthening of the Turkish lira towards the end of the year curbed the increase in exports.

Despite favorable developments in exports of goods particularly in the last quarter of the year, the drop in tourism revenues due to the September 11 incidents had an adverse impact on exports of services. On the other hand, import demand has significantly decreased as a result of decline in investment expenditures and production.

When the similar crisis experiences of other countries are considered, it can be seen that positive growth starts 3-5 quarters after the crisis quarter. As a matter of fact, deseasonalized GDP displayed a rather limited increase in the last quarter of 2001 when compared to the previous period. Moreover, a slight improvement was observed in the supply deficit that is calculated as deviation from potential production. In January and February, industrial production decreased when compared to the corresponding period of the previous year. Nevertheless, seasonalized supply indices increased compared to the previous month's data.

Graphic VIII.A.1. Supply Deficit/Potential GDP\* (Percentage)



Source: SSI, CBT  
\* Production deficit = de-seasonalized GDP

The Demand and Supply Expectation Index, which is calculated after various questions of the CBRT Business Tendency Survey on expectations for domestic and foreign demand and supply have been minimized to a single index, presents a rapid recovery in expectations for the next three months as of November 2001, (Figure VIII.A.1. Box V.1.1). According to the results of Business Tendency Survey, there are indications for a relative recovery in domestic demand in January and February. However, the sharp decline in real wages and employment in the last quarter of 2001 handicapped the expected increase in private consumption expenditures.

Considering the developments in overall supply and demand as well as favorable expectations, a limited recovery in the economy is anticipated without leading to pressure on inflation. It is assumed that the said recovery will mainly be stemmed from the stock accumulations of firms and private consumption expenditures.

According to the results of the Business Tendency Survey, finished goods stock of firms decreased until the end of 2001. Nonetheless, their finished goods stock began to rebuild again as of December 2001. Following the 1994 crisis, the stock adjustments made in the year after contributed to the rapid recovery in 1995. Similarly, increasing stock of firms, which significantly diminished in the previous year, will trigger growth.

Additionally, private consumption expenditures will be another determinant of growth in the light of recent favorable indicators in the economy. Stabilization of the exchange rate, progressive decline in inflation and interest rates, progress in restructuring of banking sector and favorable expectations for the economy will support domestic demand by creating a real income and wealth impact as well as increasing credit facilities. Nonetheless, the contribution of the public sector to the domestic demand will be limited due to its primary surplus target, (Table VIII.1.1).

The currently available data and foreign developments are not deemed sufficient to make a final assessment about exports and tourism. Nevertheless, strengthening of

the Turkish lira and uncertainties on foreign demand - even though a gradual recovery is observed-. hinder exports to reach the performance of previous year. The number of tourists that visited Turkey in the January-March period exceeded the expectations. Continuance of this tendency in tourism sector for the next period will have a positive impact on growth provided that there is no unfavorable international political development.

### ***VIII.A.2. Developments in Exchange Rate***

The Central Bank has not intervened in foreign exchange markets since August 2001 and terminated the scheduled-FX sale auctions in December. Recovery in the confidence in the program announcement of additional foreign financing and dispelled doubts on sustainability of domestic debt strengthened the Turkish lira as of November 2001.

In the first quarter of 2002, nominal exchange rates pursued a steady course. Starting from the end of December 2001, the Turkish lira appreciated by 1.3 percent against the basket in nominal terms. In addition to the appreciation of the Turkish lira in the first three months, fluctuation in exchange rates (TL/US dollar, exchange coefficient) decreased evidently.

In the first three months of the year, additional foreign financing from the IMF and its utilization led to excess FX supply in the markets. Moreover, Treasury's borrowings from international markets and the fact that the banking sector had covered its open positions contributed to the excess FX supply thus causing the appreciation of the Turkish lira. During this period, inadequate domestic demand prevented FX demand from the real sector that might have put pressure on exchange rates.

Appreciation of the Turkish lira limited price increases in private manufacturing industry, mainly public prices. However, the effect of exchange rates have not been homogeneous in all sectors. Along with exchange rates, demand and other cost factors as well as pricing policies of firms played important roles in this development.

Excess FX supply is envisioned to continue in the second quarter of 2002 as well. Even though a relative recovery is observed in real sector, it is anticipated that it will not create an intense pressure on exchange rates. Hence, it is foreseen that exchange rates may impose only a limited pressure on inflation in the following period.

### ***VIII.A.3. Developments in Public Prices***

Since November 2001, a public sector pricing policy, which is consistent with the targeted inflation in general,, has been adopted. Developments in exchange rates have also played a significant role in such policy. When the first three months of 2002 are examined, it is seen that prices that are under control of public sector rose by 7.5 percent. Along with the developments in exchange rates, favorable developments in energy and manufacturing industry prices, mainly fuel prices, contributed to the course of prices that is consistent with the 35 percent CPI inflation target.

Discipline in public finance is maintained decisively. Current figures for base money and consolidated non-budget primary surplus are in line with the pre-announced targets during the transition period to inflation targeting. This development, by improving the credibility of the program, has a positive effect on expectations. Parallel to these developments, continuance of structural reforms, mainly new Law on Public Debt Management, will contribute to favorable route of prices in overall 2002. In this context, public prices are also envisioned to realize consistent with the 35 percent target throughout the year.

### ***VIII.A.4. Global Economic Conditions***

Following the rapid contraction in the world economy in 2001, first indicators of recovery have begun to appear, especially along with the improvement in the US economy. In Europe, in some Asian countries excluding Japan, similar signs are observed, even though these are not as strong as in the US. A number of countries such as Japan and Argentina are still causing serious concerns. However, indicators for the future point out that recovery in the world economy will accelerate towards the end of

2002. Uncertainties about the world economy are diminishing due to the fact that the impact of the September 11 incidents has not turned out to be persistent, contrary to expectations.

Consumer and producer confidence are reestablished and they are increasing in the US. Though economic activities are still unsatisfactory in the global economy, it is observed that the decreasing tendency in industrial production halted and industrial production indices are pursuing a horizontal path. Meanwhile, world trade volume is displaying a similar tendency. Leading indicator indices of developed countries are encouragingly moving upward. The euro area economies that have been affected by the contraction at the global level are also showing recovery signs parallel to the US economy. Even if there is no sign of a strong recovery at the present, the data that were announced in the first months of 2002 indicated that the stagnation period will come to an end within the year. Favorable expectations of consumers and business world in Germany, which is the strongest economy in the euro area, as well as increase in industrial production - even though a limited one - are significant, as remarkable indicators of recovery of Euro field economies within this year.

Despite the abovementioned positive indicators, there exist a number of risks for global recovery. The most important ones of these indicators are the possibility of long-term regression in private sector investments in US and the rise in crude oil prices. Another significant uncertainty factor is that no prediction can be made on the level of growth of the US economy and on when and how the recovery that will accompany the growth of the US economy will be reflected on other countries.

Meanwhile, positive expectations are dominant in financial markets that have powerfully recovered following the September 11 incidents. Stock markets showed a rapid increase while the spread between the interest rates in fixed income securities of developed and developing markets decreased. Along with the dispersing uncertainty, the risk averse behavior in developing markets that were unfavorably affected by the September

11 incidents also diminished. The US dollar continued to appreciate due to market expectations towards the recovery of the US economy. Meanwhile, the euro that had depreciated in January increased slightly afterwards, floating in the 0.86-0.88 band against the US dollar. Meanwhile, the Japanese yen dropped to the lowest level of the last three years.

The impact of Argentinean crisis on other developing economies was limited as a result of its predictability. Due to effective implementation of the economic program in Turkey and the noticeable difference between the policies of Turkey and Argentina, spreads of Turkish securities stood below EMBI+ index, throughout March 2002.

Another important factor that can stand as a risk for the world economy is the rise of international crude oil prices to high levels due to tensions in Middle East. Though crude oil prices increased sharply just after the September 11 incidents, they dropped to US\$ 19 per barrel towards the end of the year. However, crude oil prices rose to US\$ 27.5/barrel in the beginning of April as a result of the incidents in the Middle East. Due to the decrease in demand for crude oil and high levels of crude oil stock and the resulting decline in crude oil prices, the OPEC decided to curb its production quotas until mid-2002, as of New Year.

In brief, there are two different scenarios, optimistic and pessimistic, which will determine the course of global economy in 2002. The possibility of persistence of unfavorable circumstances in international political developments appears as a significant risk factor to global growth and inflation. This pessimistic scenario will lead to a sharp rise in international oil prices and will have an unfavorable impact on many countries including Turkey. However, in case there is no significant change in political conditions, it is expected that the new quotas will not be determinant on prices and that crude oil prices will float around US\$ 20 per barrel. According to this optimistic scenario, there is not any obstacle to recovery in global growth and inflation.

### ***VIII.A.5. Developments in Prospects for Inflation***

According to the CBRT Expectations Survey results of the second period of April, average year-end CPI inflation rate expectation is 37 percent. According to the CBRT Tendency Survey February results, average year-end WPI inflation expectation is 56.4 percent. When it is taken into consideration that inflation expectations were 48 percent in CPI and 58 percent in WPI in the beginning of 2002, the decreasing trend in inflation expectations starting with the end of 2001 becomes more apparent. The recent year-end CPI inflation expectations of the CBRT Tendency Survey shows that inflation expectations are speedily approaching the year-end inflation target of 35 percent. The stability of the exchange rates, the insufficient domestic demand and the less-than expected inflation rates of the last two months are effective in this development. In addition, the less than expected inflation rates of the last two months are expected to have a positive effect on future WPI inflation expectations, also.

The CBRT is also following inflation expectations of the financial and real sectors. In the second half of April, the year-end inflation expectation of the real sector was 38.3 percent. The average of the inflation expectations of the financial sector was 38.1 percent. When the highest year-end inflation expectation of 65 percent and the lowest year-end inflation expectation of 25 percent by both the financial and real sectors in January 2002 are taken into account, the approach of expectations to the 35 percent target in April becomes more apparent.

Besides expectations surveys, inflation expectations of the short-term inflation forecast models for the future three months, point to a speedy decrease in yearly inflation rates. According to the short-term forecast models, the yearly CPI inflation of 65.1 percent in March 2002 will decrease to the interval of 43.6 and 48.4 percent by June 2002.

As has been to this day, following the current economic program without any divergences, will prevent any cost or demand driven inflationist pressures. In this respect,

the pricing and income policies of the private and public sectors coherent with the inflation target will be effective in achieving the inflation target without output losses.

### ***VIII.A.6. Fundamental Assumptions and Possible Risks***

In this part, factors that are essential to the course of inflation in the following period will be examined.

The Turkish lira appreciated by 18 percent against the US dollar in nominal terms as of October 2001. This development in the exchange rate, which is one of the main determinants of inflation, had a favorable effect on the course of inflation, chiefly WPI. Moreover, ongoing stability in exchange rate had a downward effect on future expectations for inflation. Considering the optimistic atmosphere created by the implementation of the economic program with determination, and gradual recovery of confidence in the program, it is assumed that the stability in exchange rates will continue and this will restrict inflation by easing the impact of transition from exchange rates to inflation.

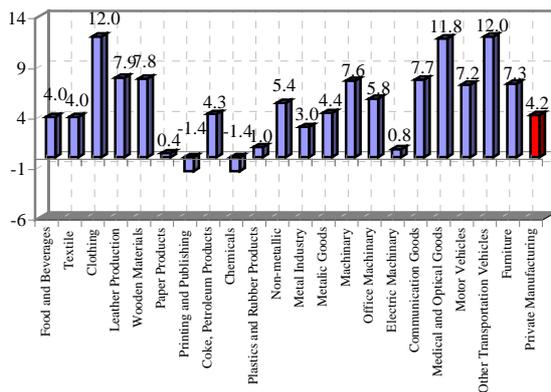
Following the February 2001 crisis, domestic demand significantly decreased, emerging as an important factor that prevented further increase in inflation. In the first three months of 2002, inadequate domestic demand was one of the fundamental determinants of inflation dynamics. As stated above, it is expected that following the second quarter of 2002, a progressive recovery will be recorded in domestic demand that will stem from stock accumulations and private consumption expenditures. Assuming that the recovery in domestic demand will be slow and progressive, it is predicted that inflation will not be affected unfavorably by developments in demand in overall 2002.

In 2002, the major factor that may stand as risk to the course of inflation is the developments in international oil prices. Following the developments in the Middle East, crude oil price that was around US\$ 17 per barrel in mid-November rose to US\$ 27 per barrel in the beginning of April. The rate of increase during the referred period is

about 60 percent. Recent development in international oil prices has negative effects on price developments, mainly WPI. In case of further increase in crude oil prices in international markets. WPI sub-items, chiefly energy prices will directly suffer from increase in oil prices and indirectly through costs.

Another factor that may have an unfavorable effect on prices is that the difference between goods and services prices of 2002 has started to diminish as of February 2002 and that the services prices have showed an upward tendency due to rigidities. In 2001, the gap between goods and services prices sharply enlarged. However, this difference has displayed a tendency to reduce in the last two months. When sub-items of services group consist of items that are not subject to foreign trade, it is assumed that services prices may stand as a risk to general course of inflation.

Graphic VIII.A.6.1. Private Manufacturing and Its Sub-items Prices in the January-March Period (Percentage)



Tendency that is similar to that of goods and services prices is also observed in prices that are under the control of public sector and that are under the control of public sector. Following the February crisis, high adjustments

were made on public sector prices. After that there were no significant increases in this sector until February 2002. However, it is observed that price increases that are under public sector control are increasing more rapidly when compared to those that are not under control of public sector.

When the sub-items of the private manufacturing industry, which were positively affected by the appreciation of the Turkish lira, are examined, it is seen that in January-March period, the price increases in most sub-items are not alike. Prices increases of the sub-items of private manufacturing industry, which is 4.2 percent in cumulative terms in the first quarter of 2002, vary between 12 percent and 1.4 percent in the same period (Figure VIII.A.6.1.). The wide range of the percentage changes and substantially high price increases in some sub-items in spite of the positive picture in exchange rates constitute potential risks for inflation in the following period. Divergence in prices on such a wide band points at an ongoing rigidity in some sub-items of private manufacturing industry.

As a final point, agriculture and food prices, which restricted the increase in CPI and WPI in the first three months of 2002, especially in February and March, are expected to maintain their tendency in the coming months. It is expected that both good weather conditions and the increase in agricultural production predicted for the second half of the year, will have favorable effects on agriculture and food prices. Considering the fact that food prices, which were significantly below seasonal averages in March, and dropped by 0.5 percent monthly, are also affected by the contraction in domestic demand, the probability of domestic demand pressure is weak and it will not stand as a great risk for CPI inflation under the assumption of stable agricultural prices.