

Annual report  
2003



CROATIAN NATIONAL BANK

**Monetary  
Policy  
Instruments**

**2**

## 2.1 Monetary Policy Instruments

The first half of 2003 was marked by high liquidity in the banking system. Following the changes in the reserve requirement regulation by the central bank, banks experienced reduced liquidity in the second half of 2003. Free reserves had a negative sign in mid-August, mid-September, mid-November and mid-December. In addition, the central bank was primarily focused on sterilisation instruments in the first half of the year, while in the second half of the year banks largely used the secondary liquidity sources of the central bank.

### 2.1.1 Relations with Banks

The total amount of funds from the primary issue that was extended to banks reached HRK 8.6bn in 2003, and was 2.9 times higher than the amount placed in 2002.

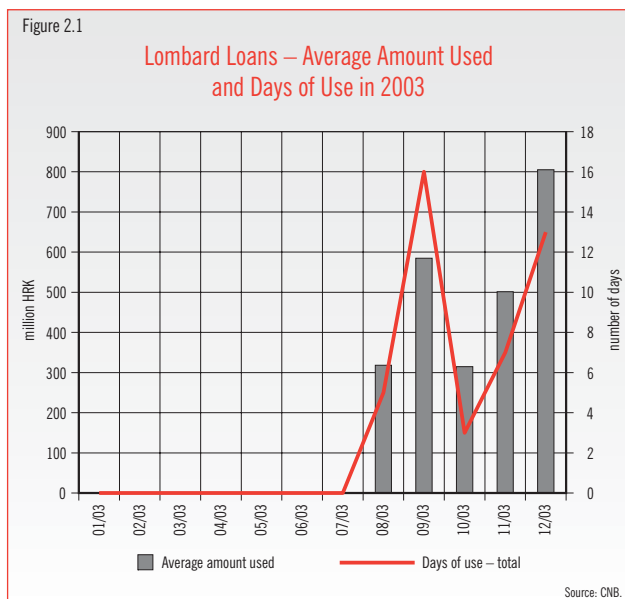
#### Lombard Loans

In 2003, banks and savings banks could use Lombard loans in the amount of up to 50% of the nominal value of purchased kuna CNB bills and T-bills and up to 30% of the nominal value of foreign currency CNB bills, for a maximum of 15 business days in a month. The interest rate charged on this loan was 9.5%.

**Table 2.1** Lombard Loans – Average Amount Used and Days of Use in 2003

Month	Lombard loan	
	Days of use	Average amount used (in kuna)
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	5	318,026,542
September	16	584,614,381
October	3	314,737,075
November	7	501,204,938
December	13	805,179,965

Source: CNB.



Lombard loans used by banks totalled HRK 8.6bn in 2003, which was 3.6 times above the amount of loans used in 2002. The average amount of Lombard loans used in 2003 was HRK 587.8m. In this period, Lombard loans were used for 44 days. The days of use were two times larger and the average amount used was 6.5 times higher in 2003 than in 2002. Due to short periods of illiquidity experienced by the banking system in the second half of 2003, banks were forced to use the Lombard loan instrument, as evidenced by the total amount of loans extended by the central bank in the said period. Moreover, some banks took out the Lombard loan in order to solve the difficulties they had experienced in complying with the new reserve requirement regulation, while some used the loan due to the increased deposit base.

## Short-Term Liquidity Loans

In 2003, banks did not turn to the central bank as the lender of last resort, i.e. they did not use the short-term liquidity loan. The interest rate on the short-term liquidity loan was the interest on Lombard loans plus 0.5 percentage points for a loan utilization period of up to 3 months and 1 percentage point for longer utilization periods.

## Repo Auctions

Like in the previous year, there were no repo auctions held in 2003 and there were no placements from the primary issue on this basis. The last repo auction was held on 31 October 2001.

## Reserve Requirements

In 2003, the reserve requirement calculation rate was 19% and it was calculated on the base consisting of the kuna and foreign exchange components. 25% of the calculated foreign exchange component was allocated in kuna and added to the calculated kuna reserve requirements. This percentage was increased to 35% in September, to 40% in November and finally to 42% in December. Minimum 40% of the calculated reserve requirements had to be deposited in the accounts with the CNB, whereas maximum 60% could be maintained by the average daily balances in the accounts of liquid claims.

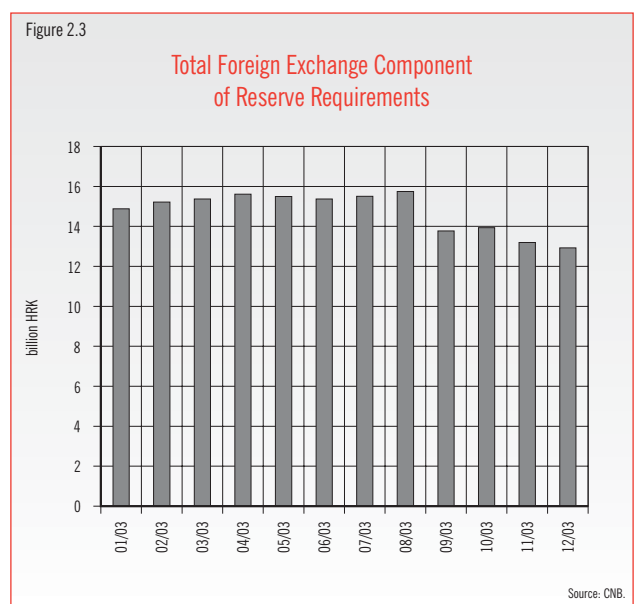
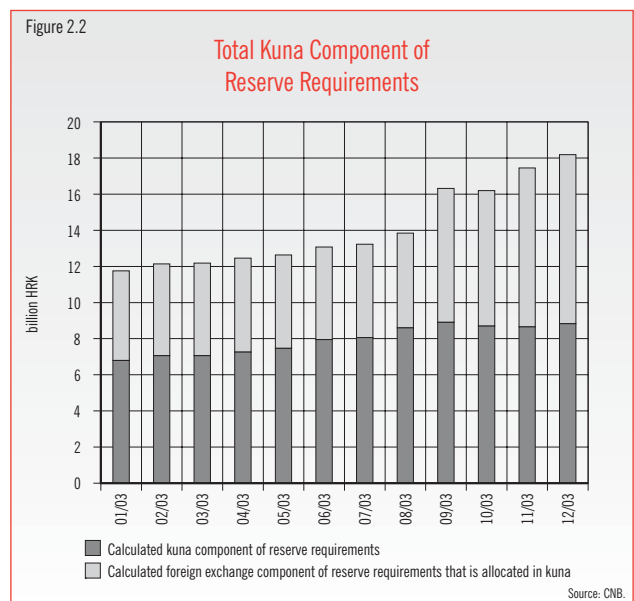
The kuna component of reserve requirements grew steadily over 2003, primarily owing to the increase in the calculation base (i.e. the growth in kuna and foreign currency deposit with banks) and the increase in the percentage of the calculated

foreign exchange component allocated in kuna. The kuna component of the base ranged between HRK 35.8bn registered in the December 2002 calculation period to HRK 46.5bn registered in the November 2003 calculation period, and went up 30.0%. In the same period, the foreign exchange component of the base ranged between HRK 104.4bn and HRK 117.3bn and grew 12.3%. The total kuna reserve requirements grew throughout 2003, from HRK 11.8bn in January to HRK 18.2bn in December, which was an increase of 54.8%. On account of the increase in the percentage of the foreign exchange component allocated in kuna, the growth rate of the kuna reserve requirements exceeded the growth rate of the kuna component of the base. Moreover, the share of the calculated foreign exchange component which was allocated in kuna grew by 88.7% from the January 2003 maintenance period to the December 2003 maintenance period. Observing the kuna component alone, the ratio between the portion allocated in a special account with the CNB and the portion maintained in the settlement accounts remained almost unchanged over 2003. The average percentage of allocation ranged between 67.14% and 70.52% in 2003, and was slightly lower than that in 2002.

At the same time, stimulated by the said growth in the foreign exchange component of the base, the foreign exchange component of reserve requirements was on an upward trend till mid-August, growing from HRK 14.9bn to HRK 15.8bn or by 5.9%. However, due to the increase in the percentage allocated in kuna, the second half of the year saw a decrease in the foreign exchange component of reserve requirements to HRK 12.9bn in December, which was a fall of 15.5% compared with the beginning of 2003.

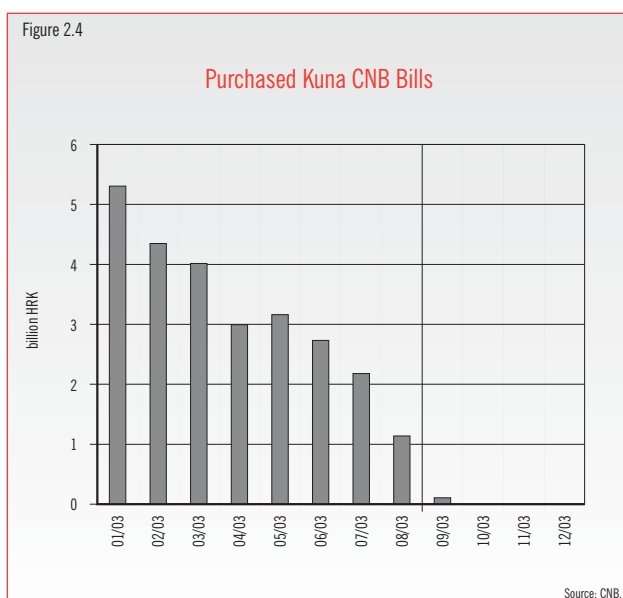
In 2003, the Croatian National Bank paid remuneration on the allocated kuna component of reserve requirements, including the calculated reserve requirement deposit in a special account with the CNB and the calculated reserve requirement deposited in the settlement accounts for the purpose of maintaining average balance and in a special account with the CNB for the settlement of net position in bank clearing account with the NCS. The remuneration rate paid on the kuna component fell from 1.75% to 1.5% per year on 29 January 2003 and to 1.25% per year on 13 November.

In addition, the remuneration rate paid by the CNB on the calculated foreign exchange component of reserve requirements, allocated in the foreign exchange accounts with the CNB, equalled the average interest rates earned on placements abroad.



## Croatian National Bank Bills in Kuna

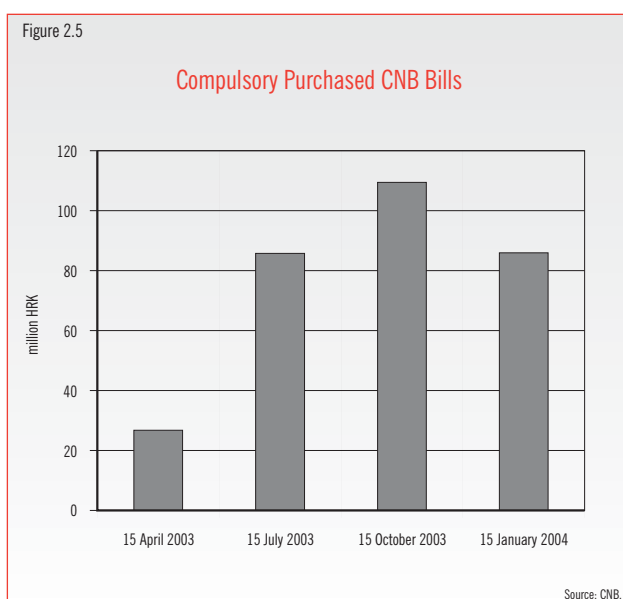
CNB's auctions of kuna CNB bills maturing in 35 days were held on a daily basis in 2003. The stock of CNB bills was on a downward trend throughout 2003; their average stock fell from HRK 5.4bn in January to only HRK 24.5m in October. The reason for this was twofold: funds obtained through increased redemption of CNB bills were in part used by banks for overcoming the liquidity shortage, induced by the changes in the reserve requirement instrument, and in part for the purchase of foreign exchange required for complying with the regulation on the minimum foreign exchange liquidity. The last auction of CNB bills was held on 10 September 2003. In the observed period, the average stock of subscribed kuna CNB bills stood at HRK 2.3bn.



Interest rates on kuna CNB bills grew over 2003, from the average 2.08% in January to the average of 2.55% in September when the last subscription of CNB bills was recorded.

## Compulsory Purchase of CNB Bills

The quantitative measure designed to slow down credit expansion was adopted by the CNB on 15 January 2003. Banks that showed loan growth above 16% (or 4% in a given quarter) in 2003, relative to the balance of loans registered on 31 December 2002, were required to subscribe low-yield CNB bills in the amount equal to 200% of the exceeded growth. The interest rate charged by the CNB on compulsory purchased CNB bills was 0.5% per year. The measure introduced in early 2003 was temporary.

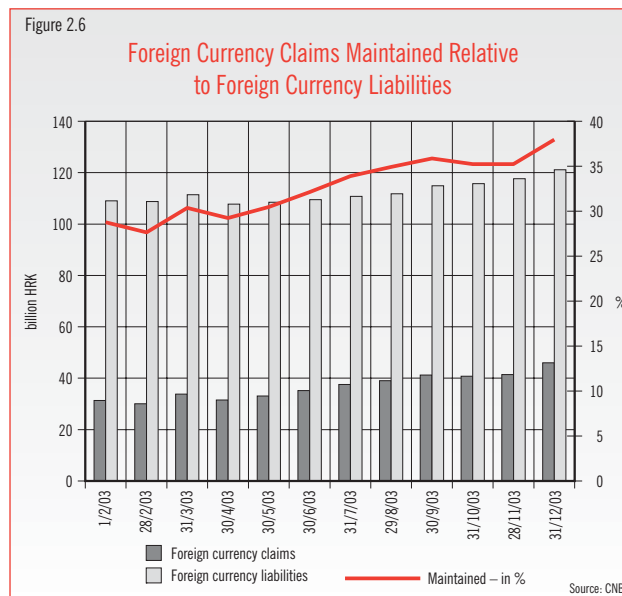


Compulsory CNB bills were purchased on four occasions or every three months, with the first purchase being recorded on 15 April 2003 and the last on 15 January 2004. The average amount of compulsory purchased CNB bills stood at HRK 77.0m in this period and covered no more than fifteen banks.

## Minimum Required Foreign Currency Claims

The Decision on the Minimum Required Amount of Foreign Currency Claims, adopted by the CNB in February 2003, obligated banks to maintain a minimum of 35% of their foreign currency liabilities by foreign currency claims on a daily basis. Banks whose percentage of foreign currency liabilities as maintained by foreign currency claims fell short of the percentage as of the date of application of the Decision, were allowed to gradually adjust such percentages to reach the prescribed percentage, with the final adjustment date being 31 March 2004. This included banks whose maintenance percentage was below 19% on 1 February 2003. The 35% rule replaced the similar rule that was in force till February 2003 and in accordance to which the ratio of foreign currency liabilities to foreign currency claims was set at a minimum of 53%. Since pursuant to the decision in force in 2003 banks were obliged to maintain their total foreign currency liabilities by foreign currency claims with a remaining maturity of up to 3 months, the main effect of this measure was a gradual increase in foreign exchange liquidity.

In 2003, the percentage coverage between foreign currency liabilities and foreign currency claims grew from 28.76%, registered on the first day the decision entered into force, to 37.95% at end-December 2003.



## Croatian National Bank Interest Rates and Remuneration

High liquidity of the system in the first half of 2003, temporary liquidity shortfalls in the second half of 2003 and movements in the money market interest rates were in part reflected in the central bank's interest rates on loans and deposits. The average interest rate on 35-day kuna CNB bills stood at 2.08% in January and grew to 2.55% in September. In order to reduce its expenses, the CNB reduced the rate remunerated on the kuna component of reserve requirements from 1.75% to 1.5% in January and to 1.25% in November. Interest rates charged on CNB loans remained unchanged throughout 2003.

In an effort to limit the current account deficit and contain the external debt growth, the CNB tightened the monetary policy at the end of 2003 and adopted a number of decisions that came into effect in 2004. The most significant changes were made with respect to the reserve requirement instrument in order to limit bank foreign borrowings and to reduce the growth in bank placements. With the change in the reserve requirement instrument, the percentage for allocating the foreign exchange component of reserve requirements calculated on the basis of foreign exchange funds of non-residents and foreign exchange funds received from legal persons in special relationship with a bank was increased to 100%,

while the minimum percentage for allocating the remaining portion of the foreign exchange component of reserve requirements was increased from 40% to 60%. From a maximum of 15 business days in a month, the number of days in which the Lombard loan could be used has been reduced to a maximum of 5 days in a month. The remuneration rate paid on the allocated foreign exchange component of reserve requirements has been changed as well. For the funds allocated in US dollars it equals 75% of the US Federal Funds Target Rate for overnight inter-bank loans and for the funds allocated in euros 75% of the ECB Minimum Bid Refinance Rate for two-week loans granted to banks for the purpose of liquidity improvement. In addition, the central bank adopted the decision on the discontinuance of foreign currency CNB bills and on the occasional issuance of kuna CNB bills.

## 2.2 International Reserves Management

The total international reserves of the CNB grew by USD 2,305.4m in 2003, up 39.2%. Expressed in nominal terms, this growth was the highest annual increase in international reserves. They stood at USD 5,885.6m<sup>1</sup> on the last day of 2002, whereas they were USD 8,191.1m on the last day of 2003.

**Table 2.2 International Reserves**  
end of period, in million USD

Year	Month	Total reserves
2002	December	5,885.61
2003	January	5,948.67
	February	6,429.28
	March	6,207.82
	April	6,523.85
	May	7,003.26
	June	6,771.95
	July	6,663.22
	August	6,623.84
	September	7,058.28
	October	7,236.78
	November	7,859.78
	December	8,191.06
Change Dec. 2003 – Dec. 2002		2,305.45

Source: CNB.

The main factors contributing to the growth in total international reserves in 2003, at the year-end exchange rate, were:

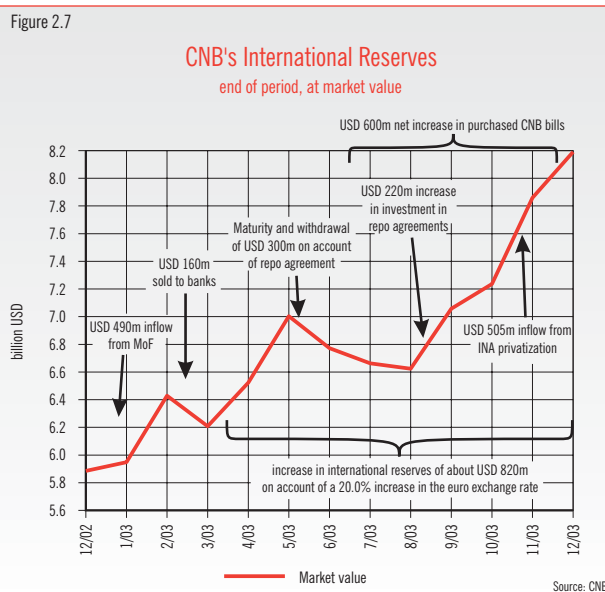
<sup>1</sup> At market value.

□ on the inflow side:

- 1) USD 1,517m inflow to the MoF account, which to a large extent derived from:
  - a) the issuance of bonds denominated in euros and Japanese yens,
  - b) the privatisation of INA, and
  - c) the second tranche of SAL.
- 2) The unrealised foreign currency translation gains of USD 825m, which were the result of a 20% increase in the value of the euro against the US dollar. The value of one euro equalled 1.0488 US dollars on 31 December 2002, or 1.2612 US dollars on 31 December 2003. This was the largest fall in the US dollar value against the euro (i.e. ECU) in the last sixteen years. As international reserves are expressed in dollars and predominately maintained in euros, any increase in the value of the euro against the US dollar results in the increase of the dollar value of international reserves. Concurrently, any increase in the value of the kuna against the US dollar is reflected in the decrease of the kuna value of international reserves maintained in US dollars in the Monetary Authorities Accounts, i.e. the unrealised foreign currency translation losses are recognised in the Income Account. These exchange rate differences are also known as the *unrealised exchange differences*. In contrast, the *realised exchange differences* are confirmed in the market (gain or loss).
- 3) USD 604m from subscribed CNB bills.
- 4) USD 427m from increase in the volume of concluded repo agreements. Pursuant to the repo agreement, securities held in the foreign exchange portfolios are lent, while deposits are obtained (collateral) and invested at a higher interest rate. Interest premium is the result of this transaction.
- 5) USD 139m earned on invested (net) international reserves of the CNB. Net international reserves are those reserve assets which are actively managed by the CNB. Funds of subscribed foreign currency CNB bills, allocated foreign exchange reserve requirements and funds of the MoF are invested in their original currencies and in accordance with original maturity in order to protect the CNB from incurring currency risk and interest rate risk. Interest earned on these investments is transferred to banks and to the MoF.
- 6) USD 106m purchased from banks at auctions.

□ on the outflow side:

- 1) USD 644m outflow from the MoF account for the settlement of different external payments.
- 2) USD 548m sold to banks at auctions held in January, February, March, November and December 2003.
- 3) USD 107m sold to the MoF for the settlement of additional payments.



**Table 2.3** Total CNB Turnover on the Foreign Exchange Market, 1 January – 31 December 2003  
in million, at the exchange rate applicable on the intervention date

	Purchase (1)		Sale (2)		Net (1 – 2)	
	USD	HRK	USD	HRK	USD	HRK
Auction	104.86	646.43	484.44	3,345.71	-379.58	-2,699.29
Ministry of Finance	662.39	4,379.97	102.78	715.47	559.61	3,664.50
Total	767.26	5,026.39	587.22	4,061.18	180.04	965.22

Source: CNB.

The CNB intervened in the domestic foreign exchange market by buying from and selling foreign exchange to:

1. Ministry of Finance of the Republic of Croatia, and
2. domestic banks at auctions.

Foreign exchange sales by the CNB intensified in 2003 in comparison with 2002, both in terms of the number of auctions held and in the volume of foreign exchange sold. Foreign exchange inflows generated by the MoF in 2003 were predominantly sold to the CNB and thus contributed to the reduced purchases of foreign exchange by banks. Accordingly, banks purchased foreign exchange from the CNB more frequently in 2003 than in 2002, in order to meet the prescribed level of the minimum foreign exchange liquidity and to match the legal persons' demand for foreign exchange needed for the settlement of payments related to their increased imports.

In 2003, the CNB intervened nine times in the foreign exchange market. USD 379.58m (net) was sold to banks as a result of which a total of HRK 2.70bn was withdrawn from the foreign exchange market (sterilised). In the reporting period, a total of USD 662.39m was purchased from the MoF, while USD 102.78m was sold, with the net trading result of USD 559.61m. Net purchases of foreign exchange in the Croatian market created HRK 965.21m.

Investments in international reserves are analysed by the type of instrument, credit risk and currency structure.

The CNB invests international reserves funds in the following instruments:

1. debt securities with fixed and variable interest rates,
2. central bank instruments and instruments of international financial institutions,
3. repurchase agreements (repo and reverse repo agreements),
4. deposits of commercial banks with a long history of investment grading at least A+,
5. certificates of deposit, and
6. cash in vault.

Exposure to credit risk is monitored with respect to the credit rating of countries in which the CNB's international reserves are invested; the rating may range between AAA and AA-. On 31 December 2003, as much as 84.07% of the total international reserves was invested in countries with an AAA rating.

The currency structure of international reserves of the Croatian National Bank is adjusted to the currency structure of the external debt of the Republic of Croatia for the year ahead, and to the currency structure of imports of goods and services in the previous year. The currency structure of the CNB's net reserves is very stable, with the euro and the dollar accounting for 70% and 30% respectively. Exchange rate fluctuations between individual foreign currencies and vis-à-vis the kuna result in the fluctuation of international reserves denominated in the euro and the US dollar. Due to a substantial weakening of the US dollar against the euro and the kuna in 2003, the kuna value of international reserves denominated in US dollars fell in 2003 and brought an operating deficit which, in accordance with the new international standards, was recognized in the Income Statement. The negative net effect of HRK 621,072 thousand was recorded in 2003 (see Note 6 – Net Foreign Exchange Losses and Note 31 – Foreign Exchange Risk). On the other hand, the strengthening of the euro against the US dollar brought about a substantial increase in the dollar value of international reserves.

**Table 2.4** Currency Structure of Total International Reserves

at the exchange rate applicable at the end of period

Currency	Total reserves		Share	
	In million USD	o/w: CNB bills and RR	31 December 2003	31 December 2002
EUR	5,743.47	1,079.53	70.34	71.54
USD	2,421.48	815.81	29.65	28.42
XDR	0.82	–	0.01	0.04
Other currencies	0.02	–	0.00	0.00
Total	8,165.80	1,895.34	100.00	100.00

Source: CNB.

Realised income and yields on the euro and dollar portfolios, actively managed by the CNB, are shown in Table 2.5. The analyses presented in this Table excludes foreign cash, funds invested on the basis of subscribed foreign currency CNB bills, funds invested on the basis of allocated foreign exchange reserve requirements and funds of the Ministry of Finance.<sup>2</sup>

**Table 2.5** Realised Income and Average Yields on the CNB's Foreign Exchange Portfolios

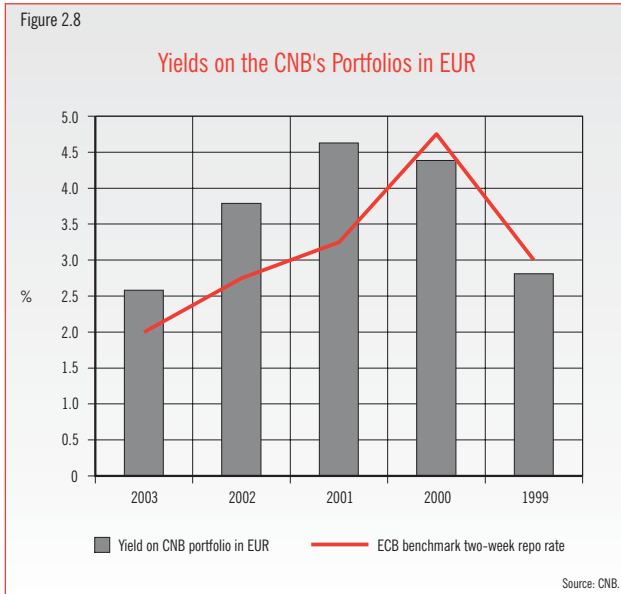
at market value, in million EUR and USD and %

CNB portfolios	Realized income	Average amount invested	Annual yield rate				
			2003	2002	2001	2000	1999
EUR	84.17	3,258.88	2.58	3.79	4.63	4.38	2.81
USD	16.86	1,203.87	1.40	2.38	4.72	6.56	5.02

Source: CNB.

In 2003, the average yield on the euro portfolio was 2.58%, while the average yield on the dollar portfolio was 1.40%. Continuously lower yields on the CNB's

<sup>2</sup> Interest earned on funds from subscribed foreign currency CNB bills and from allocated foreign exchange reserve requirements is transferred to banks and is therefore excluded from this analysis. Interest earned on MoF funds is transferred to the said ministry and is also excluded from this analysis.



foreign exchange portfolios reflect the cuts in interest rates in the dollar and euro markets in recent years and relatively short average duration of portfolios.

In the first half of 2003, the Fed cut its benchmark overnight rate by 0.25%, or from 1.25% to 1.00%. In the same period, the ECB decreased twice its benchmark two-week repo rate, from 2.75% to 2.00%.

