

Monetary developments

Money market management and central bank money requirements

At the beginning of December, as part of a coordinated reduction in interest rates by the national central banks participating in EMU, the Bundesbank reduced the interest rate on its securities repurchase agreements from 3.3 % to 3.0 % and concluded all fixed rate tenders that were offered thereafter up to the end of 1998 at that rate. The Bundesbank left the discount and lombard rates at 2 ½ % and 4 ½ %, respectively. Later in the course of December, Italy, too, reduced its key money market rate to 3 %; that meant that the necessary convergence of money-market-relevant central bank interest rates in EMU had been achieved and that the starting level of the corresponding ECB interest rate had been all but fixed.

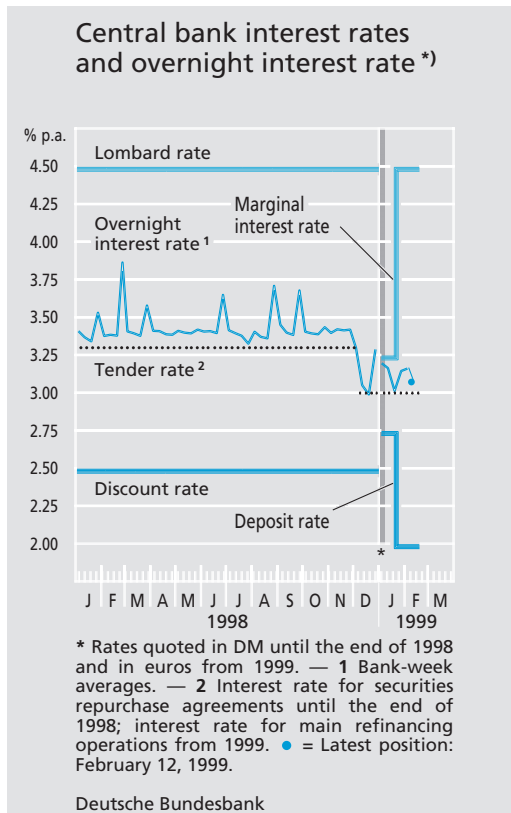
Following a coordinated reduction in interest rates in Europe ...

On December 22, the ECB Governing Council, responsible for monetary policy decisions since the beginning of 1999, formally set the interest rate at 3 % for the Eurosystem's first main refinancing operation settled on January 7 and reiterated its intention to leave the main refinancing rate at that level for the foreseeable future. Since then all main refinancing operations have been tendered at the unchanged fixed rate. To stabilise market expectations, the terms of each upcoming open market operation have always been announced in advance following the biweekly meetings of the ECB Governing Council.

... assumption of monetary policy responsibility by the Eurosystem

Furthermore, on December 22 the ECB Governing Council set an asymmetrical interest rate corridor around the 3 % mark. The interest rate on the marginal lending

Interest rate corridor for the overnight money market ...



facility was set at 4 ½ %, which corresponds to the Bundesbank's lombard rate. The lower bound of the corridor was defined by the 2 % interest rate on the deposit facility. Moreover, the ECB Governing Council agreed to apply a corridor which was narrowed to 50 basis points (from 2¾ % to 3¼ %) for the first three weeks of Stage Three to make it easier for market participants to adjust to the new money market environment in the euro area and to contain the volatility of the money market rates at the beginning of Stage Three. The limited duration of this measure showed clearly that market participants were forced to adjust rapidly to the new conditions governing monetary policy and that nothing was to hamper the development of an efficient uniform money market in the euro area. In actual fact, cross-border arbitrage

... narrowed temporarily at the beginning of Stage Three

possibilities were quickly exploited in the euro money market, and the short-term interest rate differentials across participating countries narrowed rapidly. Against that background, the ECB Governing Council repealed the interim arrangements with effect from January 22.

Overnight money, which was quoted at the upper bound of the interest rate corridor during the first few days of the year, gradually went down to the tender rate during the second week of January. After the interest rate corridor was widened, the overnight rate stabilised at roughly 10 to 15 basis points above the main refinancing rate, subject to fluctuations that were only minor in nature.

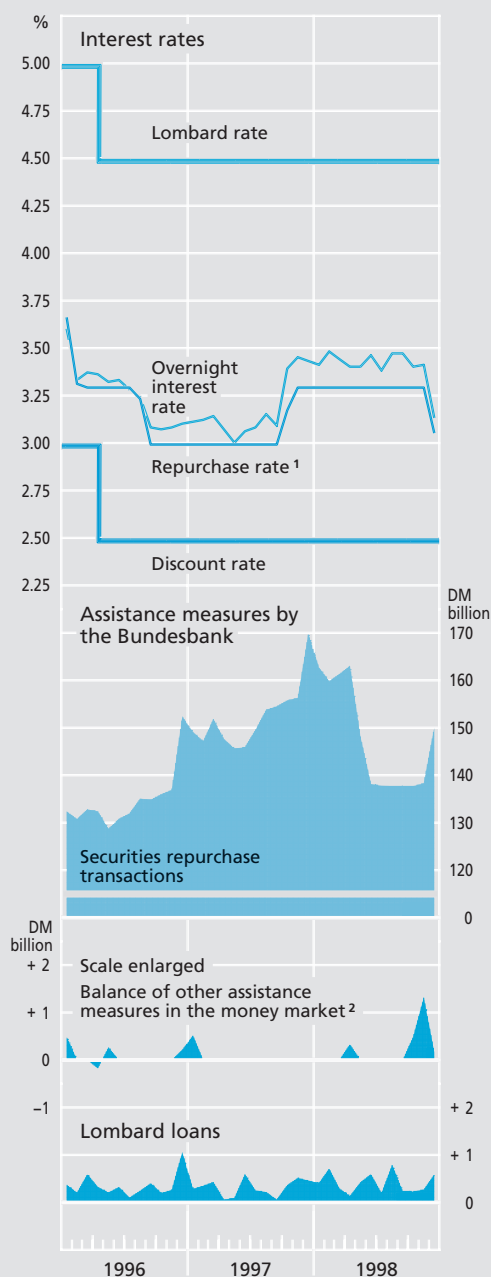
Overnight interest rate stabilised

Time deposit rates in the money market fell at the turn of the year. Immediately after European central banks decided to lower interest rates at the beginning of December, the time deposit rates in the EMU countries dropped distinctly; in Germany, they fell by around 20 basis points along the entire maturity spectrum. At the beginning of January the time deposit rates were all at a uniform level of around 3¼ %; as of late the yield curve in the euro money market, under the impression of expectations that interest rates might be lowered and of the falling yields in the European capital markets, showed a slightly inverse pattern, with the price for one-year funds being quoted at 3 %.

Time deposit rates tended to fall

At the end of the year the Bundesbank's ongoing money market management was aimed at offsetting the sharp changes

Operating variables in the money market until the end of 1998

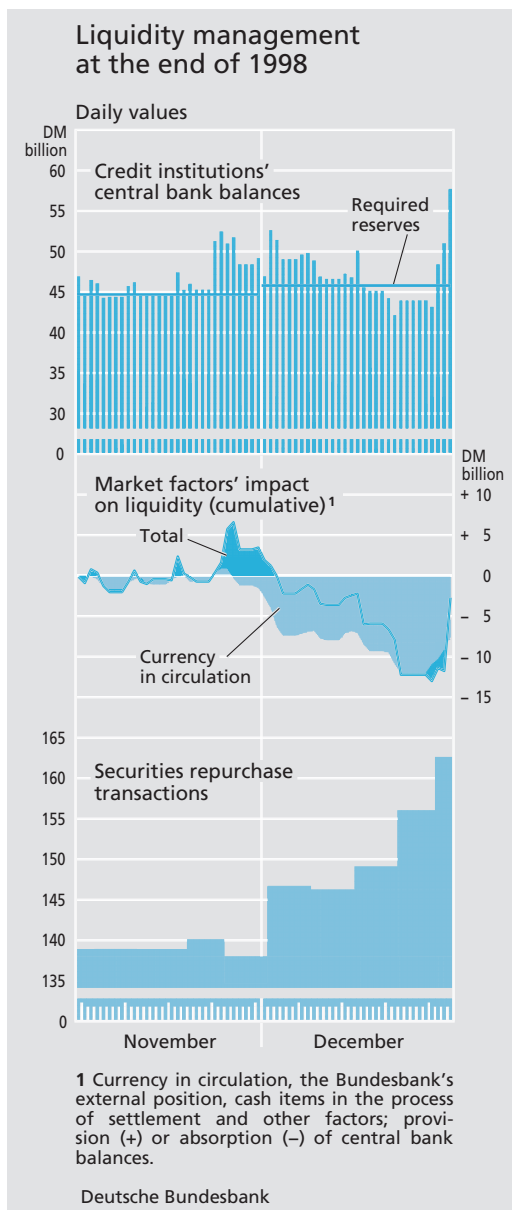


¹ Average monthly interest rate for securities repurchase transactions with two-week maturities, uniform allotment rate (fixed-rate tenders) or marginal allotment rate (variable-rate tenders). —
² Quick tenders, foreign exchange swap and repurchase transactions and short-term Treasury bill sales.

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in the banks' liquidity requirements as simultaneously as possible by the weekly conclusion of regular securities repurchase transactions at two weeks' maturity. The Bundesbank needed to take particular account of the rather unsteady trend in currency in circulation which is typical of the season. Currency in circulation rose sharply up to the Christmas holidays and then went back down markedly. The other market factors, too, such as the cash items in the process of settlement in the central bank system and the Bundesbank's external position, showed major changes. Moreover, the Bundesbank took into account the minimum reserve requirement, which had increased distinctly for seasonal reasons. In addition, when the volume of the repurchase agreements was fixed, the reduction of bill-based financing by credit institutions, having accelerated during the course of December, needed to be taken into account. Owing to the closing of the rediscount window on January 14, 1999, the purchase of bills of exchange redeemable abroad had already ended as of the end of November, and following December 23 the purchase of bills of exchange was terminated completely. Like other central banks participating in the Eurosystem, the Bundesbank agreed to let the open market transactions which had been concluded during Stage Two mature in the first half of January. Moreover, by concluding the last two repurchase agreements on roughly the same scale in December, the Bundesbank contributed to the fact that the total maturing funds of refinancing agreements of the national central banks dating back to Stage

*Money market
management
by the
Bundesbank
in December*



Two were similarly high on the first two main tender dates of the Eurosystem – as had been aimed for. In December the Bundesbank did not take recourse to very short-term fine-tuning operations. On balance, at the end of the year German credit institutions had relatively high central bank balances, which enabled them to enter the Eurosystem's first reserve maintenance period in a sufficiently liquid fash-

ion – influenced also by increased recourse to lombard lending as part of banks' concluding minimum reserve operations.

The trend in the key liquidity factors in December 1998 is given in detail by the table on page 20. For seasonal reasons, the central bank money stock (cash held by non-banks and minimum reserves on domestic liabilities at current reserve rates) rose sharply during this month, yet this increase remained well below past increases – much like the preceding year. This is primarily due to the sluggish growth in currency in circulation which, following seasonal adjustment, even went down perceptibly. By contrast, the required reserves went up significantly.

Rise in central bank money requirements at the end of the year

On balance, credit institutions' current transactions with the Bundesbank were slightly expansionary in December. This resulted exclusively from the change in its external position, which generated inflows of funds to the credit institutions to the tune of DM 4.7 billion on a monthly average. Comprehensive withdrawals of their Deutsche Mark balances at the Bundesbank by foreign monetary authorities at the end of November were a key factor behind these inflows. They contrasted with commercial transactions, in particular, made by the Bundesbank in December, during which foreign exchange that had entered from outside the market was sold. "Other factors", by contrast, squeezed banks' liquidity more tightly (amounting to DM 4.1 billion). For one thing, the decline in bank liquidity reflected current entries in the Bundesbank's profit and loss account and the replenishment of cash balances by credit institutions

Current transactions in December

Factors determining bank liquidity *

DM billion;
calculated on the basis of daily averages of the months

Item	1998		
	Nov.	Dec.	Nov. to Dec.
I. Provision (+) or absorption (-) of central bank balances by			
1. Change in central bank money (increase: -)	-0.7	- 7.3	- 8.0
Currency in circulation	(-0.2)	(- 6.3)	(- 6.6)
Minimum reserves on domestic liabilities	(-0.5)	(- 0.9)	(- 1.4)
Memo item			
Change in seasonally adjusted central bank money	(+ 0.4)	(- 1.7)	(- 1.3)
2. Change in the Bundesbank's external position ¹	+ 1.5	+ 4.7	+ 6.2
3. Other factors	- 1.5	- 4.1	- 5.6
Total	-0.7	- 6.7	- 7.3
II. Lasting provision (+) or absorption (-) of funds	-0.8	- 4.3	- 5.1
1. Change in refinancing facilities	(+ 0.0)	(+ 0.0)	(+ 0.0)
2. Recourse to unused refinancing facilities (reduction: +)	(-0.8)	(- 4.3)	(- 5.1)
III. Change in the short-term liquidity gap (I plus II; increase: -)	- 1.5	-10.9	-12.4
IV. Meeting of remaining deficit (+) or absorption of surplus (-) by			
1. Securities repurchase transactions	+ 0.6	+ 11.8	+ 12.4
2. Quick tenders	-0.5	-	- 0.5
3. Foreign exchange swap transactions	+ 1.3	- 1.2	+ 0.2
4. Lombard loans	+ 0.0	+ 0.3	+ 0.4
Memo items ²			
Unused refinancing facilities	4.4	8.7	8.7
Securities repurchase transactions	138.3	150.1	150.1
Balance of very short-term assistance measures ³	1.3	0.2	0.2
Lombard loans	0.3	0.6	0.6

* For longer-term trends see pages 12*/13* in the Statistical Section of this Report. — 1 Excluding foreign exchange swap transactions. — 2 Levels (in the current month or in the last month of the period). — 3 Quick tenders, foreign exchange swap and repurchase transactions and sales of short-term Treasury bills.

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which is typical of the season. For another, the large shortfall was a result of the rise in the negative float in the Bundesbank system, likewise typical of the season, and the sharp increase in reserves required on foreign liabilities, changes in which are included here in the condensed form of the liquidity analysis.

On balance, banks recorded outflows of funds totalling DM 6.7 billion in December due to the rise in central bank money and current transactions. Moreover, the aforementioned utilisation of the rediscount quotas, which was reduced by DM 4.3 billion, also had a highly contractionary effect. In the final month of the year, therefore, the short-term liquidity gap rose by DM 10.9 billion. This need for funds was covered by increasing the volume of securities repurchase agreements to DM 150.1 billion. Credit institutions' recourse to lombard loans remained at a monthly average of DM 0.6 billion.

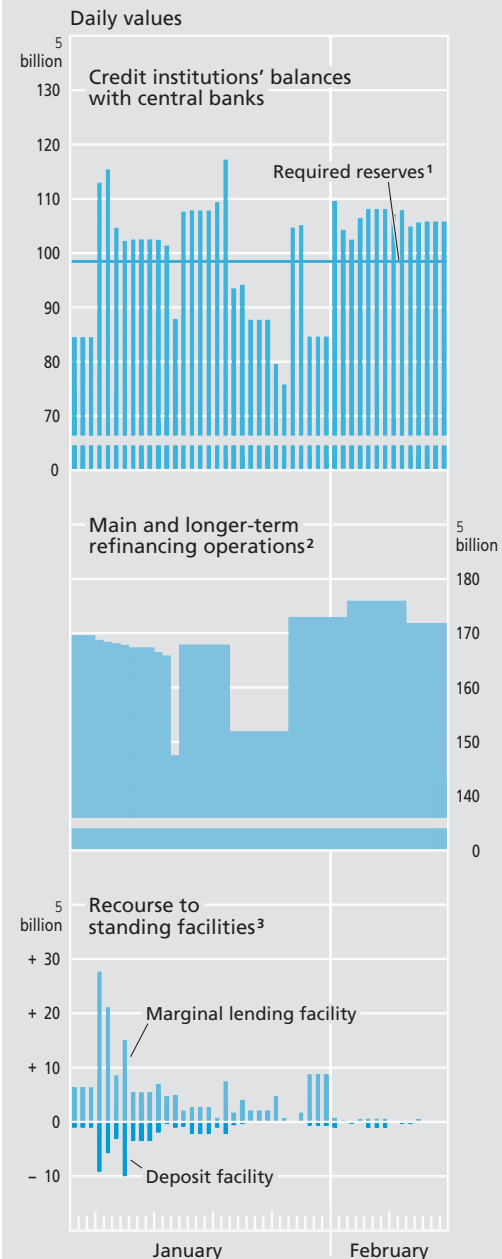
Short-term liquidity gap

When Stage Three of EMU began on January 1, 1999, responsibility for monetary policy was transferred to the Eurosystem. It alone takes decisions on the employment of the liquidity policy instruments. The allocation of central bank money for open market transactions (to be determined by the ECB Executive Board) is based on the applicable monetary policy guidelines adopted by the ECB Governing Council and on estimates of the liquidity requirements of the entire euro area, which are an aggregation of national liquidity forecasts made by each individual participating central bank. The idea behind the provision of funds by the Eurosystem was to make the funds needed for fulfilling the minimum

Money market management to be conducted by the Eurosystem from January

reserve requirements available to the credit institutions early on during the first maintenance period (January 1 to February 23, 1999) by the use of main refinancing operations. In addition to the estimated trends in factors determining market liquidity (e.g. currency in circulation or transactions on public authorities' central bank accounts), the Eurosystem needed to take account of the refinancing operations that had begun during Stage Two and that reached maturity during the first half of January. Furthermore, the ECB Governing Council decided to set the overall volume of longer-term refinancing operations for the first three months of 1999 at € 45 billion. This amount was allocated by Dutch auction in the longer-term variable-rate tenders on January 13 and credited on January 14. These operations contrasted with simultaneously maturing funds totalling around € 25 billion resulting mainly from maturing bill-based loans of the Bundesbank. Recourse to the Eurosystem's standing facilities was relatively high in the first few days of January 1998. This owed both to temporary problems encountered during the conversion to the ESCB payment system (TARGET) and to the initially narrower interest rate corridor which held down the opportunity costs of drawing on these facilities. From the second half of January recourse to both the marginal lending facility and the deposit facility decreased noticeably.

Liquidity movements in the Eurosystem at the beginning of 1999



1 Provisional reserve requirements for the first reserve maintenance period of the Eurosystem (between January 1 and February 23, 1999). — **2** Including refinancing operations dating from Stage Two which reached maturity in January. — **3** Increase (+) in central bank balances by drawing on the marginal lending facility or decrease (-) by drawing on the deposit facility. — Latest position: February 14, 1999.

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Monetary developments¹

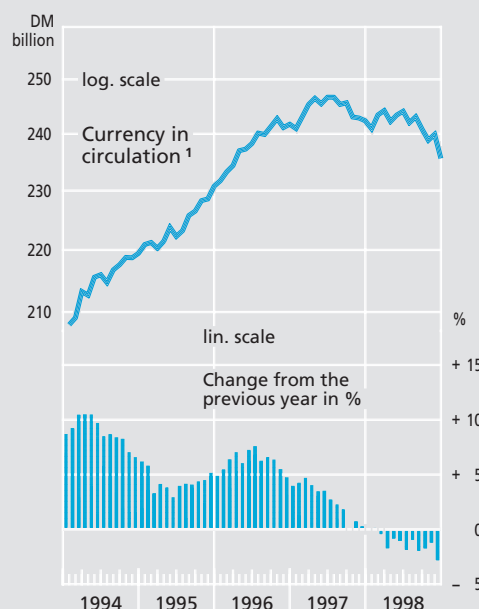
1998 monetary target and 1997-8 monetary targeting achieved

The accelerated pace of monetary expansion which set in during September of last year continued in the fourth quarter of 1998. Especially in the months of October and December the money stock M3² went up sharply. It nevertheless has remained within the limits envisaged by the Bundesbank. In December the money stock M3 exceeded its average level of the fourth quarter of 1997 by a seasonally adjusted annual rate of 5.9%. In the entire fourth quarter of 1998 it was 5.6% higher than in the fourth quarter of 1997. Between the fourth quarter of 1996 and the fourth quarter of 1998 it rose at a seasonally adjusted annual rate of 5.1%. That means both the 1998 monetary target, which envisaged an expansion of the money stock M3 by between 3% and 6% during that period, and the 1997-8 monetary targeting, according to which the money stock M3 was supposed to grow at an annual rate of around 5% in 1997 and 1998, have been achieved.

Determinants of monetary growth

During the reference period, stepped-up lending by banks to the private sector, in particular, had an expansionary impact on monetary growth. But it should be taken into account that the growth in lending during the last two months of the year was attributable to special factors. The fact that a credit institution purchased a large package of shares from the Federal Government in November contributed in great measure to the distinct rise in statistically recorded lending to enterprises and households. In December changes in tax legislation governing investment in eastern Germany which were to take effect

Movement of currency in circulation



¹ End-of-month level; seasonally adjusted; excluding credit institutions' cash balances.

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in January 1999 left their mark. The increase in lending at the end of last year is therefore not to be considered a trend turnaround but instead more of an "outlier" which is likely to be followed by more moderate increases in lending in the next few months.

¹ This is the last time the Deutsche Bundesbank will comment on monetary developments in this form. With the beginning of European monetary union on January 1, 1999, ongoing reporting on movements of the money stock in Germany will be discontinued. Instead, the ECB will regularly report on monetary developments in the euro area through press releases and its Monthly Bulletin. However, the Bundesbank will continue its reporting on the monetary situation in EMU and specific trends in Germany through its reports on the economic outlook. In addition, it will publish figures on monetary developments in the euro area and Germany's contribution to those trends in the statistical section of the Monthly Report.

² Currency in circulation and the sight deposits, time deposits for less than four years and savings deposits at three months' notice held by domestic non-banks – other than the Federal Government – at domestic credit institutions; viewed as a monthly average.

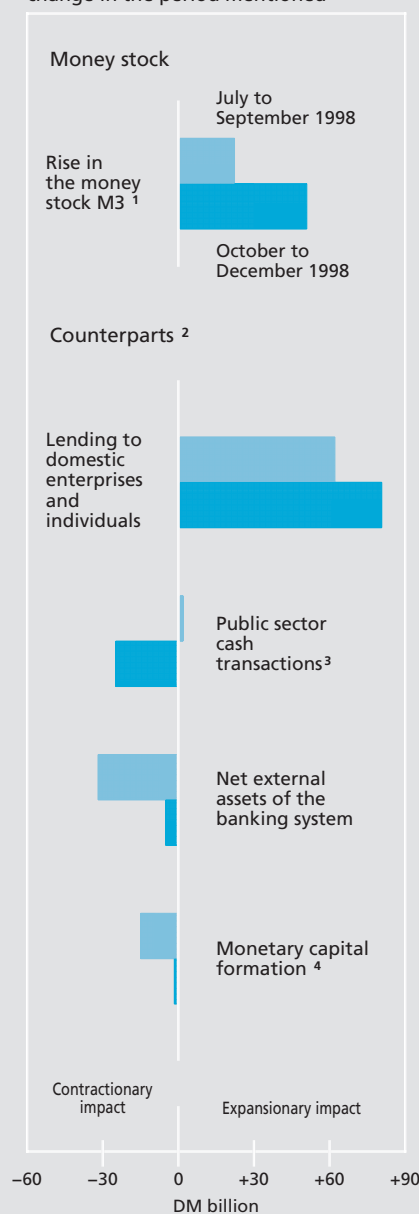
Besides the increased lending to enterprises and individuals, a renewed weakening of monetary capital formation also promoted monetary growth in the fourth quarter of 1998. The fact that the previously high outflows of funds in domestic non-banks' external payments – seasonally adjusted – nearly stopped had a similar impact. The decline in bank borrowing by public authorities, by contrast, put a damper on monetary growth. Domestic non-banks replenished their stocks of money market fund certificates only on a small scale.

*Components
of the money
stock*

Of the individual (seasonally adjusted) components of the money stock, shorter-term time deposits and sight deposits expanded particularly fast during the fourth quarter of 1998. In December, in particular, they showed exceptionally strong growth. Repatriations of euro-deposits by domestic enterprises at the end of the year in excess of their usual seasonal volume probably contributed to this growth. In addition, investors apparently parked funds in liquid accounts owing to the occasionally increased uncertainty in the financial markets. Moreover, anticipatory effects of the ending of special depreciation facilities in eastern Germany may have led to major inflows of payments in the construction industry at the end of the year. Savings deposits at three months' notice once again showed sharp growth between October and December. By contrast, currency in circulation declined distinctly. Over the entire year of 1998, it went down by slightly less than 3%.

Changes in the money stock and its principal counterparts

DM billion, seasonally adjusted, change in the period mentioned



1 M3 as a monthly average. — 2 The changes in the counterparts as shown reflect their expansionary (+) or contractionary (-) impact on the money stock; end-of-month levels. — 3 Bank lending to public authorities less the deposits of the Federal Government in the banking system. — 4 Monetary capital formation by domestic non-banks at domestic credit institutions.

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Changes in the money stock and its counterparts *

DM billion; change during period

Item	1997		1998	
	Oct. to Dec.	Oct. to Dec.	Oct. to Dec.	Oct. to Dec.
I. Bank lending to domestic non-banks, total ¹	+ 88.3	+ 115.6		
to enterprises and individuals of which	+ 81.9	+ 122.0		
Short-term lending	+ 11.2	+ 22.2		
to public authorities	+ 6.4	- 6.3		
II. Net external assets of credit institutions and the Bundesbank	+ 23.5	+ 14.6		
III. Monetary capital formation at credit institutions from domestic sources, total	+ 33.2	+ 2.3		
of which				
Time deposits for four years and more	+ 14.0	- 2.7		
Savings deposits at more than three months' notice	+ 3.0	+ 4.0		
Bank savings bonds	+ 4.9	- 5.2		
Bank bonds outstanding ²	+ 1.8	+ 0.5		
IV. Deposits of the Federal Government in the banking system ³	± 0.0	+ 0.9		
V. Other factors	- 28.8	- 45.9		
VI. Money stock M3 (Balance: I plus II less III less IV less V)	+ 107.5	+ 172.9		
Currency in circulation	+ 3.5	+ 3.8		
Sight deposits	+ 62.5	+ 106.8		
Time deposits for less than four years	+ 11.0	+ 26.3		
Savings deposits at three months' notice	+ 30.4	+ 36.0		
Memo item				
M3 as a monthly average in the 4th qtr of 1998 compared with the 4th qtr of 1997 in %			.	+ 5.6
in the 4th qtr of 1998 compared with the 4th qtr of 1996 in % ⁴			.	+ 5.1

* The figures for the latest period are to be regarded as provisional. — ¹ Including lending against Treasury bills and against securities. — ² Excluding banks' holdings. — ³ Sight deposits and time deposits for less than four years. — ⁴ Expressed as an annual rate.

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During the reference period domestic non-banks increased their holdings of money market fund certificates slightly (+ DM 1.4 billion). In all of 1998 they purchased DM 10.1 billion (net) worth of such paper, after having reduced their holdings noticeably over the preceding two years (1996: - DM 11.8 billion; 1997: - DM 7.7 billion). The renewed attractiveness of money market fund certificates for investors is probably attributable to an increase in liquidity preference over the last year which was caused by the flattening of the yield curve, the low level of long-term interest rates and the, at times, very pronounced volatility in the capital market. It is likely, though, that this led to a decrease in monetary capital formation rather than to a reduction in monetary growth, as mainly longer-term financial assets and not short-term assets seem to have been shifted to money market fund certificates.

Minor purchases of money market fund certificates

Domestic non-banks reduced their cash holdings in the euro-market somewhat between September and November (no figures are available yet for December). However, this contrasted with the acquisition of a sizeable volume of short-term bank bonds. The money stock M3 extended³, which includes euro-deposits, money market fund certificates held by domestic non-banks and short-term bank bonds, therefore grew sharply during that period. Over the course of the six-month period between June and November,

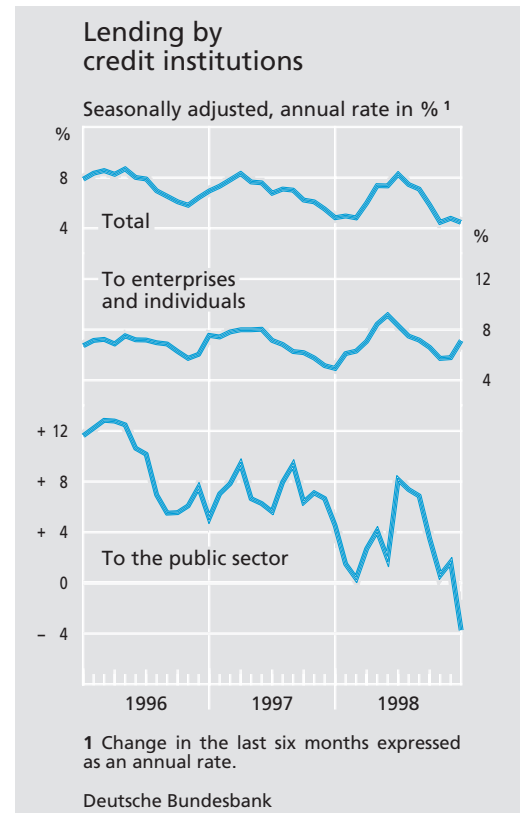
Increased growth in M3 extended

³ Money stock M3, domestic non-banks' deposits with the foreign subsidiaries and foreign branches of German banks and the short-term bank bonds and certificates of domestic and foreign money market funds in the hands of domestic non-banks, less the bank deposits and short-term bank bonds of domestic money market funds; calculated as the average of two end-of-month levels.

M3 and M3 extended expanded at around the same pace, at annual rates of 6 ¼ % and 6 ½ %, respectively.

Lending to the private sector high

As mentioned earlier, banks' lending to enterprises and individuals was very lively in the fourth quarter of 1998. In all, it amounted to DM 122.0 billion, compared with DM 81.9 billion over the same period in the preceding year. Anticipatory effects of the ending of special depreciation facilities in eastern Germany at the end of 1998 were probably the key factor behind the sharp rise. Following the reduction in the special depreciation rates which took effect on January 1, 1997, the depreciation rates were still 40 % for the renovation of older dwellings, 25 % for the construction of rented housing and 20 % for commercial buildings used for non-manufacturing purposes. Those special depreciation facilities were discontinued with effect from January 1, 1999, and were replaced by a system of income-independent investment allowances (of up to 20 % of the amount invested) which placed further restrictions on the type and scope of investment being promoted. Recourse to the previous special depreciation facilities required that the actual payment be made before the end of the year and thus may have distorted credit and monetary growth upwards at the end of the year. Seasonally adjusted and expressed as an annual average, lending to enterprises and individuals rose in the fourth quarter by just under 8 ½ %, following an increase of 6 ½ % in the third quarter. The acceleration of the growth in lending affected both short-term and long-term loans. Lending against securities likewise clearly increased during the



period under review. However, the lion's share of this increase was attributable to the aforementioned purchase of a large package of shares from the government by a credit institution. The inflows of funds generated by that transaction benefited the public authorities and therefore overstate statistically recorded lending to the private sector.

Owing to the aforementioned ending of special depreciation facilities in eastern Germany, direct lending by banks to enterprises and individuals increased in the fourth quarter of 1998, whereas housing loans remained at the level of the two preceding quarters. The private sector's indebtedness to domestic credit institutions (excluding housing loans) rose by a seasonally adjusted annual rate of 9 % between October and December, compared

Lending, by borrower

Movement of major lending rates

% p. a.

Type of credit	as in	Average interest rate ¹	Spread ²
Personal credit lines ³	Nov. 1996	11.30	10.25–12.25
	Jan. 1999	11.22	9.75–12.25
Current account credit			
from DM 1 million to less than DM 5 million	Jan. 1993	12.06	11.00–13.75
	Jan. 1999	7.54	6.00–10.50
Bills discounted	Jan. 1993	10.36	8.95–12.25
	Jan. 1999	5.26	3.50– 8.25
Mortgage loans secured by residential real estate with interest rates locked in for ten years			
	Jan. 1993	8.33	7.98– 9.28
	Jan. 1999	5.11	4.91– 5.61
Long-term fixed-rate loans to enterprises and self-employed persons (excluding housing loans) ³			
from DM 200,000 to less than DM 1 million	Nov. 1996	6.85	5.70– 9.23
	Jan. 1999	5.56	4.45– 7.50
from DM 1 million to less than DM 10 million	Nov. 1996	6.57	5.50– 8.30
	Jan. 1999	5.34	4.39– 6.80

¹ The average rates are calculated as unweighted arithmetic means from the interest rates reported within the spread. — ² The spread is ascertained by eliminating the reports in the top 5% and the bottom 5% of the interest rate range. — ³ First collected for November 1996 for the purposes of the restructured interest rate statistics.

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with a rate of 7½% between July and September. The propensity to contract debt rose particularly sharply in manufacturing and in the sector of energy, water supply and mining. Lending to financial institutions and insurance enterprises and to the services sector (including the professions) slackened somewhat, yet remained at a high level. The transport, storage and communications sector reduced its borrowing.

Consumer credit grew at a seasonally adjusted annual rate of 9½% between October and December, which was much stronger than between July and September (6%). Its growth was concentrated on short-term lending. This is likely to have consisted mainly of bridging loans for payments for housing investment in eastern Germany, which had to

be made by the end of 1998 and which could only then be converted into longer-term (mortgage) loans. By contrast, the granting of housing loans, at an annual rate of 7%, remained at the level of the previous two quarters during the period under review. Here, too, there was a rise in short-term lending.

New lending commitments by banks for medium and long-term loans rose sharply in the fourth quarter in seasonally adjusted terms. Besides the all-time low interest rate level, which had continued its descent, the aforementioned anticipatory effects caused by the ending of the special depreciation facilities in eastern Germany may have encouraged this trend. The volume of commitments outstanding has likewise continued its rise. ⁴

Increase in lending commitments

In line with trends in the capital markets, the effective rates payable on long-term loans continued to fall at the turn of the year and hit new all-time lows. Mortgage loans secured by residential real estate with interest rates locked in for five years cost an average of just over 4½% in January 1999, and just over 5% when locked in for ten years; variable-rate mortgages from banks cost just under 5¾%. The charge for long-term fixed-rate loans to enterprises and self-employed persons averaged 5½% (for amounts of DM 200,000 to less than DM 1 million) and just over 5¼% (for amounts of DM 1 million to less than DM 10 million). The rates for credit lines and current account credits remained largely unchanged. In January, an-

Lending rates

⁴ The statistics on lending commitments have been discontinued with effect from the start of Stage Three of EMU at the beginning of this year.

average of between 10% (for amounts below DM 200,000) and 7½% (for amounts of DM 1 million to less than DM 5 million) were charged for the latter. Since autumn of last year, the interest rates for bills discounted rose by ½ percentage point to 5¼% owing to the discontinuation of the purchasing of bills of exchange by the Bundesbank at the discount rate – i. e. at preferential rates.

Declining public sector demand for lending

Lending by banks to the public sector went down in the fourth quarter. The public sector's indebtedness to the banks went down by a total of DM 6.3 billion, compared with an increase of DM 6.4 billion 12 months earlier. A key factor behind this trend was a marked reduction in lending against securities (– DM 22.4 billion), which was linked primarily to the fact that credit institutions distinctly reduced their securities lending transactions in public paper – as is usual at the end of the year. In addition to an overall improvement in the budget situation, the aforementioned purchase by a credit institution of a package of shares from the Federal Government may have played a role in this.

Seasonally-related inflows of funds in foreign payments

Domestic non-banks' foreign payments, which had previously recorded major outflows of funds, showed inflows of funds again in the fourth quarter of 1998. The net external assets of the banking system, movements in which such transactions are reflected, rose during the period under review by DM 14.6 billion, compared with a decline of DM 20.6 billion in the third quarter and an increase of DM 23.5 billion a year before. However, inflows were consistent with the seasonal pattern. After excluding the pro-

Monetary capital formation, interest rates and volatility in the bond market



1 End-of-month levels, seasonally adjusted; change in the last six months expressed as an annual rate. — 2 Implied volatility of the Bund future, calculated from the price of the respective at-the-money option on the Bund future.

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nounced seasonal influences, foreign payments, when seen in isolation, hardly affected monetary developments in the fourth quarter. Also, inflows were restricted to December. Domestic enterprises evidently withdrew funds from foreign banks at year's end to an extent surpassing the usual end-of-year balance-sheet operations.

*Monetary
capital
formation at
a standstill*

Monetary capital formation by domestic non-banks at credit institutions came to a virtual standstill in the fourth quarter. In addition to the, at times, rather high degree of financial market volatility, the further decline in interest rates at the end of the year may have contributed to hesitancy regarding the investment of longer-term funds. In all, domestic investors invested only DM 2.3 billion worth of longer-term funds at credit institutions between October and December; this is much less than the figure for the corresponding period of 1997 (DM 33.2 billion). After eliminating seasonal influences, domestic non-banks' monetary capital remained virtually unchanged in the fourth quarter, having risen in the third quarter

by an annual rate of 2 %. Specifically, domestic non-banks replenished their stocks of bank bonds by DM 0.5 billion between October and December and their savings deposits at more than three months' notice by DM 4.0 billion. The increase in the latter, though, took place in December and is to be attributed to interest credited⁵ at the end of the year. At the same time, non-banks returned DM 5.2 billion worth of savings bonds and reduced their long-term time deposits by DM 2.7 billion. Banks' capital and reserves, by contrast, rose by DM 5.6 billion.

⁵ Interest credited to all savings deposits (it is not possible to classify them by maturity) amounted to DM 29.7 billion in December 1998.