

## **Money, Credit and Prices (Part 1 of 2)**

3.1 During 1998-99, monetary policy faced the difficult challenge of balancing the considerations that ensure adequate flow of credit to the productive sectors and contain adverse inflation expectations, while stabilising the foreign exchange market. The year was marked by some episodes warranting prompt and pro-active monetary policy intervention. During the first and the middle of the second quarters, maintenance of exchange market stability, in the face of the contagion emanating from the South-East Asian crisis, weighed heavily as an important concern of monetary policy. This challenge was addressed by measures that stemmed speculative tendencies and reduced undue arbitrage opportunities in the exchange and money markets. From September 1998, improvement in the external position and easing of exchange market pressure facilitated a gradual shift in emphasis to relaxing monetary conditions. However, with the inflation rate remaining relatively high for a prolonged period and peaking during the third quarter, essentially due to supply shortages in respect of a few primary articles, the need for a carefully crafted approach to monetary and credit policy assumed significance. With the abatement of inflationary pressures towards the fourth quarter and the prospects for the year ending with a significantly comfortable price situation looking bright, the monetary policy initiatives were channelled towards improving the liquidity situation with a view to lowering the interest rates and stimulating economic activities.

3.2 The flexibility in monetary management in addressing the challenges of growth, inflation and exchange market developments was, to a large extent, influenced by the evolving fiscal situation during the year. During 1998-99, the fiscal deficit of the Central Government as per the Union Budget for 1999-2000, exceeded the target set for the year by 0.8 percentage points of GDP, necessitating additional funding requirement from the market exceeding Rs.14,500 crore. In spite of market borrowings of such a high order, the leeway for monetary policy during the year was made possible by slowdown in private domestic and external demand conditions, which helped to keep the pressure on prices at a manageable level.

3.3 Had the inflationary pressures in the economy persisted throughout the year and built up inflation expectations, the flexibility of monetary policy to address the price situation, in the face of a large increase in the fiscal deficit, would have been severely constrained. However, with inflation primarily driven by temporary supply shortages which reversed considerably during the last quarter of the year, the debt management objectives dictated a somewhat different strategy by which the Reserve Bank could balance the objective of funding a higher order of fiscal deficit from the market with the need to maintain reasonable interest rates or money supply. Thus, the technique of private placement of government securities with the Reserve Bank and the subsequent sale of these securities through open market operations, when liquidity situation so allowed, was actively pursued in 1998-99. As a result, the yield on medium-term government securities of 5-year maturity rose by only 7 basis points in 1998-99, while that on 10-year securities declined by 9 basis points. While the Reserve Bank's subscription to government dated securities increased by a large amount of Rs.38,205 crore, of which Rs.30,000 crore alone were on account of private placement, a subsequent sale operation through the open market window combined with repo transactions, helped to bring down the growth in net RBI credit to Centre from Rs.12,914 crore in 1997-98 to Rs.11,800 crore in 1998-99 when the government accounts were finally closed. At the same time, the Reserve Bank stepped up its line of credit to banks and

commercial sector, respectively, by 86.9 per cent (Rs.6,165 crore) and 49.4 per cent (Rs.4,040 crore) during the year, which not only helped to create a conducive environment for promoting growth but also provided liquidity support, *albeit* indirectly, to the market and paved the way for the success of open market operations. Such a work-out on the domestic credit side, notwithstanding the substantial accretion of Rs.15,183 crore (adjusted for revaluation) to the net foreign assets of the Reserve Bank, restricted the growth of primary liquidity in the system to 14.6 per cent in 1998-99 (13.2 per cent in 1997-98).

## MONETARY SURVEY

3.4 Broad money ( $M_3$ ) increased by 18.4 per cent (Rs.1,50,873 crore) during 1998-99, which was higher than 18.0 per cent (Rs.1,25,320 crore) during 1997-98 ([Table 3.1](#), Chart III.1 and Appendix [Table III.1](#)). This growth reflected the increase in currency with the public by 16.4 per cent and in aggregate deposits of the order of 18.9 per cent. Aggregate deposits included inflows of Rs.17,945 crore on account of Resurgent India Bonds (RIBs) which accrued to the banking system under time deposits in August 1998. These flows are, however, needed to be excluded from the money supply, if the monetary survey should be based on the residency criterion as recommended by the Working Group on Money Supply (WGMS): Analytics and Methodology of Compilation (Chairman: Dr. Y.V. Reddy). In other words, residents' holding of domestic money balances alone would be included in money supply under such an approach.

3.5 The residency of an economic entity essentially relates to the country in which it has a centre of economic interest. Holding of banking sector deposits either in the form of rupee or foreign currency deposits by these entities has domestic monetary implications, as these deposits constitute a part of their transaction and portfolio demand for money. On the other hand, non-resident deposit flows (such as FCNR(B) deposits and RIBs), which are primarily related to balance of payments considerations, are not motivated by the desire of the non-residents to hold domestic monetary assets. These should, therefore, be excluded from money supply aggregates. Preliminary empirical evidence suggests that broad money, thus recommended by the WGMS (referred to here as  $NM_3$  for purposes of clarity), performs better in terms of information efficiency in respect of the goal variable of inflation than the existing broad money ( $M_3$ ) aggregate. Net of RIBs,  $M_3$  increased by 16.2 per cent (Rs.1,32,928 crore) during 1998-99 which was close to the target of 15.0-15.5 per cent projected for the year as a whole in the April 1998 monetary and credit policy statement. It needs to be recognised that the projected  $M_3$  growth rate in April 1998 did not take into account RIB inflows, since the Union Budget for 1998-99 which mooted the idea of mobilising funds from abroad through the issuance of RIBs, was prepared subsequent to the April 1998 monetary policy announcement.

**Table 3.1: Variations in Monetary Aggregates**

	(Per cent)		
Item	1998-99	1997-98	April-June

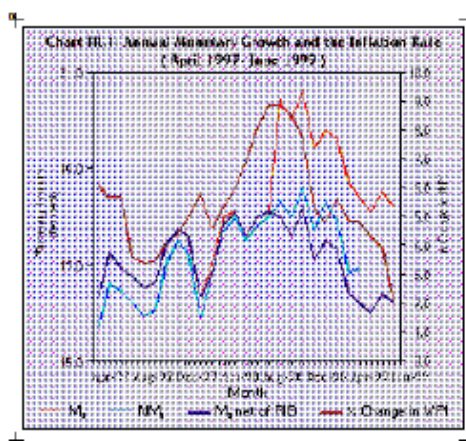
		1999- 1998-99		
		2000		
1	2	3	4	5
I. Reserve Money	14.6	13.2	2.7 <sup>#</sup>	1.1 <sup>#</sup>
II. Narrow Money (M <sub>1</sub> )	15.1	11.3	2.2	2.9
III. Broad Money (M <sub>3</sub> ) \$	18.4	18.0	4.0	4.1
III.1 (Net of RIBs)M <sub>3</sub>	16.2			
III.2 NM <sub>3</sub>	16.9	17.7		
IV. Components of Broad Money				
a) Currency with the Public	16.4	10.2	9.3	8.6
b) Aggregate Deposits (i+ii) \$	18.9	19.9	2.7	3.0
i) Demand Deposits	13.8	12.7	-7.6 <sup>*</sup>	-4.7
ii) Time Deposits \$	19.9 <sup>*</sup>	21.5 <sup>*</sup>	4.8	4.7 <sup>*</sup>
iii) Time Deposits (net of RIBs)	16.7			
V. Sources of Broad Money				
a) Net Bank Credit to the Government (i+ii)	17.1	14.5	6.4	9.1
i) Net Reserve Bank Credit to the Government	12.9	8.8	2.2	11.2
of which : to Centre	8.8	10.7	5.6	11.3
ii) Other Banks' Credit to the Government	20.0	18.9	9.2	7.6
b) Bank Credit to Commercial Sector	13.2	15.1	-0.2	-1.0
i) Scheduled Commercial Banks' Non-food Credit	13.0	15.1	-2.3	-3.1
c) Net Foreign Exchange Assets of the Banking Sector	19.0	30.9	3.4	2.8
i) Net of RIBs	6.0			
<b>Memo Items : Monthly Average Growth Rate</b>				
1. M <sub>3</sub>	19.1	17.1		
2. M <sub>3</sub> (net of RIBs)	17.6			
3. NM <sub>3</sub>	17.9	16.7		

# Pertain to June 25, 1999 and June 26, 1998.

\$ Includes Resurgent India Bonds (RIBs) of Rs.17,945 crore since August 28, 1998.

\* Revised in line with the new accounting standards and consistent with the methodology suggested by the Working Group on Money Supply : Analytics and Methodology of Compilation (June 1998). The revision is in respect of pension and provident funds with commercial banks which are classified as other demand and time liabilities and includes those banks which have reported such changes so far.

**Note :** Data are provisional.



3.6 From the components' side,  $M_3$  growth reflected a sharp expansion in the currency with the public (16.4 per cent) as against an expansion of 10.2 per cent in 1997-98. Most of this increase was concentrated in the last quarter of 1998-99. As a result, the share of the currency expansion in the incremental  $M_3$  (net of RIBs) stood higher at 17.9 per cent in 1998-99 than that of 10.8 per cent in 1997-98. The high growth of currency in 1998-99 could be attributed to factors such as the sharp turn-around in agricultural growth giving a boost to rural demand and a higher rate of increase in the prices of primary articles and consumer items requiring larger holding of cash balances for transaction purposes. On the other hand, aggregate deposits with the banking sector (including RIB inflows) decelerated to 18.9 per cent from 19.9 per cent in 1997-98. In particular, the slowdown in deposit accretion was pronounced in the last quarter of the year. In general, it reflected the overall slowdown in non-agricultural incomes and the impact of softening of deposit rates.

3.7 Given the volatility in the intra-year variation in money supply with a spike generally appearing towards the close of the financial year, the March-end figures of money supply may not actually reflect the true state of monetary conditions during the year. Moreover, the year-end position of money supply is also sensitive to the number of intervening days between the last reporting Friday and the last working day of March. Thus, a proper assessment of monetary conditions needs to be based on the average year-on-year growth in money supply. The average year-on-year  $M_3$  growth (including RIB inflows) works out to 19.1 per cent in 1998-99 (17.1 per cent in 1997-98). On the other hand, net of RIBs, the average  $M_3$  growth rate would work out to 17.6 per cent in 1998-99, which would nonetheless be higher than the point-to-point increase of 16.2 per cent. This order of expansion of  $M_3$  (net of RIBs) would, however, be in line with the long-term average growth of 17.5 per cent, suggesting that the average liquidity situation in the economy was better than that indicated by the year-end growth in  $M_3$  (net of RIBs) of 16.2 per cent.

#### *Domestic Credit*

3.8 An important aspect of monetary growth in the past few years has been the increasing concentration on domestic credit as its source, giving rise to significant implications in the pursuit of the objectives of monetary policy *viz.*, growth and inflation control. The April 1998 monetary and credit policy statement had emphasised the need to ensure availability of sufficient credit to the productive sectors of the economy at affordable rates of interest in view of the slowdown in industrial production, barring unexpected developments on the price front or in the foreign exchange market. During 1998-99, net domestic credit expanded by 14.9 per cent (Rs.1,13,608 crore) accounting for 75.3 per cent of the total increase in M<sub>3</sub> (85.5 per cent of the increase in M<sub>3</sub>, net of RIBs). The distribution of the increase in domestic credit between the government and the commercial sector was, however, uneven. Net bank credit to government increased by 17.1 per cent (Rs.56,554 crore) in 1998-99 against 14.5 per cent (Rs.41,977 crore) in 1997-98, primarily due to a large growth of 19.4 per cent in scheduled commercial banks' investments in government securities as against 17.7 per cent in 1997-98.

3.9 The expansion of bank credit to commercial sector by 13.2 per cent (Rs.57,054 crore) against 15.1 per cent (Rs.57,002 crore) in 1997-98 reflected, among others, the deceleration in economic activity and decline in export demand. Moreover, this deceleration reflected the decline of Rs.639 crore in scheduled commercial banks' advances to the petroleum sector during 1998-99 as against the increase of Rs.2,781 crore in 1997-98. Non-food credit off-take of scheduled commercial banks was sluggish, particularly so in the last quarter of 1998-99 (Rs.29,840 crore or 73.8 per cent of the total for the year) as against that in the comparable quarter of 1997-98 (Rs.32,508 crore or 79.7 per cent of the total). Scheduled commercial banks' incremental investments in capital and money market instruments, however, continued to record a higher increase of Rs.16,672 crore in 1998-99 than that of Rs.13,053 crore in 1997-98 ([Table 3.8](#)).

#### *Reserve Money*

3.10 During 1998-99, reserve money increased by Rs.32,969 crore (14.6 per cent) as compared with the increase of Rs.26,416 crore (13.2 per cent) during 1997-98 ([Table 3.1](#) and Appendix [Table III.2](#)). The net RBI credit to the Centre increased by Rs.11,800 crore (8.8 per cent) in 1998-99, from Rs.12,914 crore (10.7 per cent) during 1997-98 ([Table 3.2](#)). The moderation in the Centre's monetised deficit in the face of the substantial gross subscription to fresh securities (Rs.38,205 crore at face value) was facilitated by large-scale open market operations (Rs.26,348 crore, including Rs.19,266 crore to commercial banks) especially in the second half of the year. The net RBI credit to State governments increased by Rs.5,579 crore as against the decline of Rs.1,936 crore in 1997-98. While this may be seen in the context of the increase in States' WMA limits effective March 1, 1999 and the year-end release of VDIS funds to States in 1997-98 which had given rise to a lower base of outstanding credit as on March 31, 1998, it nevertheless reflects the weakening of state finances. The RBI credit to the commercial sector, however, increased sharply by Rs.4,040 crore reflecting substantial liquidity support to primary dealers. Scheduled commercial banks' refinance utilisation increased by Rs.5,419 crore during 1998-99 as money market rates ruled higher than export credit refinance rates since August 21, 1998. The large RBI support given to banks and the commercial sector enabled the success of open market operations. The net foreign assets (NFA) of Reserve Bank increased by Rs.15,183 crore

(adjusted for revaluation) as compared with an accretion of Rs.13,643 crore (adjusted for revaluation) during 1997-98 mainly on account of net RIB inflows (Rs.15,421 crore) and miscellaneous receipts partly offset by net sales to authorised dealers (Rs.7,445 crore).

3.11 The intra-year movements in reserve money during the year provide a picture of the evolution in monetary management, striving to balance the objectives of debt management, liquidity growth, interest rate, inflation expectations and exchange market stability (Table 3.3 and Chart III.2). The Reserve Bank's ability to reduce interest rates was somewhat constrained by the Government's large market borrowing programme, on the one hand, and the generally unfavourable external environment, especially in the first half of the year, on the other. Thus, while the need to hasten economic recovery required that interest rates are so placed as to encourage investments, they had to be maintained at levels that would prevent domestic liquidity from spilling over to the foreign exchange market.

3.12 The reserve money movements in the first half of fiscal 1998-99 were largely governed by developments in the foreign exchange market. With the turnaround in capital inflows beginning March 1998 which resulted in an accretion of Rs.7,938 crore (adjusted for revaluation) to the Reserve Bank's net foreign assets in March 1998, some of the monetary policy measures initiated in the second half of 1997-98 following the South-East Asian crisis were partially rolled back. These included the reduction in reserve requirements by 25 basis points each in two phases effective March 28 and April 11, 1998 to 10.25 per cent and 10.0 per cent, respectively, the gradual scaling down of the Bank Rate by two percentage points to 9.0 per cent effective April 29, 1998 and the reduction in fixed repos rate by four percentage points to 5.0 per cent effective June 15, 1998 and the enhancement of export refinance credit limits. The easy liquidity conditions helped not only the Government's borrowing programme but also allowed the Reserve Bank to divest its own net domestic assets through repos which averaged Rs.9,133 crore during April 1998.

**Table 3.2 : Variations in Net Reserve Bank Credit to the Central Government**

Item	1998-99	1997-98	1996-97	(Rupees crore)		
				First Quarter		
				Up to June 25, 1999	Up to June 26, 1998	(up to June 19, 1998)
1	2	3	4	5	6	7
<b>Net Reserve Bank Credit to the Centre (1+2+3+4-5)</b>	<b>11,800</b>	<b>12,914</b>	<b>1,934</b>	<b>8,492</b>	<b>14,654</b>	<b>15,162</b>
1. Loans and Advances	1,042	2,000		2,755	5,077	4,953
2. Treasury Bills held by the Reserve Bank	148	-44,026	10,086	163	-29	-4
2.1 <i>Ad hoc</i> Treasury Bills		-33,738	4,631			
2.2 Discounted Treasury Bills		-9,464	7,126			
2.3 Auction Treasury Bills	148	-824	-1,671	163	-29	-4
3. Reserve Bank's holdings of Dated Securities @	10,817	55,666	-8,607	2,699	6,916	7,514
3.1 Central Government Securities \$	10,817	24,843	-8,620	2,699	6,916	7,514
4. Reserve Bank's holdings of Rupee Coins	42	-118	28	49	63	71

5. Central Government Deposits	248	608	-428	-2,826	-2,628	-2,629
<b>Memo Items</b>						
1. Market Borrowings of Dated Securities by the Centre *#	83,753	43,390	27,911	37,000	35,030	35,030
2. Reserve Bank's subscription to fresh dated securities *	38,205	13,028	3,698	21,000	14,000	14,000
3. Repos (-) / R. Repos (+) *	395	2,442	-1,424	-175	-6,690	-6,174
4. Open Market Sales*	26,348	7,614	10,464	18,562	262	261

\* At face value. # Excludes Treasury Bills.

@ Includes Special Securities 1997 worth Rs.50,818 crore created on conversion of *ad hoc* and tap Treasury Bills outstanding as on March 31, 1997.

\$ Includes special securities worth Rs.20,000 crore converted into marketable securities.

Parenthetic figures provide percentage variations over previous year.

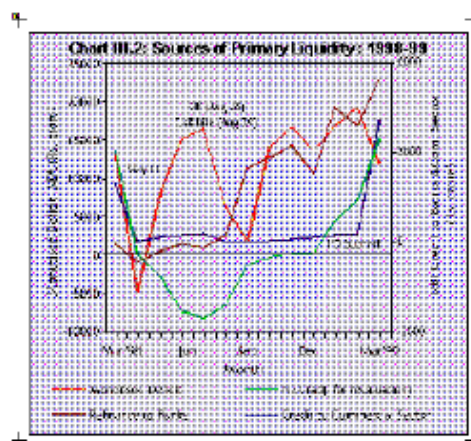
**Table 3.3 : Quarterly Variations in Reserve Money**

Item	(Rupees crore)						
	April - June 25, 1999	April - June 26, 1998	January - March, 1999	October - December, 1998	July - September, 1998	April - June 19, 1998	1998-99
1	2	3	4	5	6	7	8=4+5+6+7
<b>Reserve Money</b> (C.1+C.2+C.3=S.1+S.2+S.3+S.4+S.5-S.6)	<b>6,986</b>	<b>2,406</b>	<b>21,497</b>	<b>12,793</b>	<b>- 4,738</b>	<b>3,417</b>	<b>32,969</b>
<b>Components</b>							
C.1. Currency in Circulation	12,801	10,064	8,209	10,933	- 7,338	12,988	24,791
C.2. Bankers' Deposits with the RBI	- 6,915	- 8,183	13,466	1,583	3,220	- 10,372	7,898
C.3. Other Deposits with the RBI	1,101	525	- 178	277	- 620	802	281
<b>Sources</b>							
S.1 Net Reserve Bank Credit to the Government (S.1.1+S.1.2)	4,166	14,926	3,278	12,842	- 13,922	15,182	17,379
S.1.1 Net Reserve Bank Credit to the Centre	8,492	14,654	- 1,863	11,807	- 13,306	15,162	11,800
S.1.2 Net RBI Credit to State Governments	- 4,326	272	5,141	1,036	- 617	20	5,579
S.2. RBI's Claims on Banks	- 242	- 1,446	4,055	316	2,936	- 1,142	6,165
S.3. RBI's Credit to Commercial Sector	515	229	3,878	166	- 258	254	4,040
S.4. RBI's Net Foreign Exchange Assets	5,823	- 198	11,582	2,431	8,386	- 336	22,063
S.5. Government's Currency Liabilities to the Public	0	130	141	108	115	130	494
S.6. RBI's Net Non-Monetary Liabilities	3,276	11,235	1,438	3,070	1,995	10,671	17,173

**Note :** Data are provisional.

3.13 The situation began to change in May and June 1998 with the first bout of pressures in the foreign exchange markets, which resulted in a sharp decline of Rs.6,597 crore in the RBI's NFA (adjusted for revaluation) between April 24 and June 19, 1998 mainly on account of net sales to authorised dealers to meet the supply-demand gap. On June 11, 1998 the Reserve Bank announced its intention of readiness to meet any mismatch between supply of and demand for foreign currency and to ease the resultant pressures on the domestic interest rates, especially in the face of the large Central Government borrowing programme, by accepting private placements of securities when bids were unreasonably high and then releasing them to the

market as and when reasonable conditions prevailed. The foreign exchange market again experienced volatility in August 1998 necessitating further net sales of foreign currency by the Reserve Bank to ensure orderly conditions in the market. In response to these developments, the Reserve Bank hiked the fixed repo rate to 8.0 per cent on August 21, 1998 and raised reserve requirements by one percentage point effective August 29, 1998. The hike in the fixed repo rate which typically provides a floor to call rates pushed the money market rates over and above the Bank's export refinance rate which had been reduced to 7.0 per cent effective August 6, 1998 for a limited period (up to March 31, 1999). Consequently, banks' refinance draws climbed to Rs.4,590 crore on August 21, 1998 itself and thereafter emerged as a substantial source of monetisation as money market rates continued to exceed 7.0 per cent during a large part of the year. The accretion of Rs.15,505 crore to the RBI's NFA on account of RIB proceeds between August 14, 1998 and September 25, 1998 was, however, by and large, neutralised by reductions of i) Rs.9,442 crore in the Centre's monetised deficit reflecting open market operations (including repos which averaged Rs.6,322 crore in September 1998) and ii) Rs.6,780 crore (adjusted for revaluation) in the RBI's NFA (net of RIBs) due to net sales to authorised dealers. The Centre's monetised deficit during this period followed an inverted U-curve climbing up from the surplus of Rs.4,740 crore as on April 24, 1998 to the historic peak of Rs.21,789 crore on July 10, 1998 and thereafter sliding down to Rs.1,857 crore as on September 25, 1998 with improvement in money market conditions.



3.14 Liquidity conditions eased in the second half of the year. The increase in the Centre's monetised deficit in the latter half of 1998-99 was restricted to Rs.9,943 crore as additional gross subscription to fresh securities (Rs.20,000 crore) was partly offset by large-scale open market operations (Rs.11,437 crore at face value, of which Rs.6,726 crore to commercial banks) in the last quarter of the year. The latter, in turn, was rendered possible partly as a result of substantial liquidity support to PDs beginning December 25, 1998. Reflecting the turnaround in capital inflows in March 1999, the RBI's NFA also increased substantially by Rs.8,008 crore (net of revaluation).

3.15 With the return of orderly conditions in the foreign exchange market, the Reserve Bank announced the reduction in reserve requirements by 50 basis points to 10.5 per cent effective



March 13, 1999, as well as the scaling down of the Bank Rate by one percentage point to 8.0 per cent and the fixed repo rate by two percentage points to 6 per cent effective March 2, 1999.

### **Trends during the First Quarter: 1999-2000**

3.16 Liquidity conditions continued to rule easy in 1999-2000 (up to June 18), with  $M_3$  increasing by Rs.38,553 crore (4.0 per cent) as compared with Rs.33,610 crore or 4.1 per cent during the comparable quarter of 1998-99. Currency with the public expanded by Rs.15,760 crore or 9.3 per cent, while aggregate deposits recorded an accretion of Rs.21,492 crore or 2.7 per cent. Net bank credit to the government increased by Rs.24,953 crore or 6.4 per cent (Rs.30,062 crore or 9.1 per cent last year) mainly on account of the Centre's monetised deficit (Rs.8,205 crore) and scheduled commercial banks' incremental investments in government securities (Rs.20,469 crore). Bank credit to commercial sector declined by Rs.1,088 crore (0.2 per cent) as against a decline of Rs.4,439 crore (1.0 per cent) during the corresponding quarter of the previous year.

#### **Box III.1 Transmission of Monetary Policy**

In the economic literature, there seems to be near-unanimity that monetary policy is a powerful policy instrument for stabilising output and prices in the short-run, while long-run output neutrality of money is beyond doubt. But the successful design and implementation of monetary policy necessitates an accurate assessment of timing and effects of monetary policy on the economy, requiring an understanding of mechanisms through which monetary policy affects the economy.

There are at least four distinct monetary transmission channels in the literature that are of concern to policy makers. They are : (a) the quantum channel, especially relating to money supply and credit, (b) interest rate channel, (c) the exchange rate channel and (d) the asset prices channel. Monetary policy impulses under the quantum channel work through the balance sheet of the central bank to the quantum of credit expansion by the commercial banks to changes in money supply, prices and output. On the other hand, interest rate, exchange rate and asset price channels operate through changes in the relative prices of a whole array of domestic and foreign financial assets and real assets, which bring about changes in the household wealth position, consumption, investment and, therefore, the overall activity in the economy.

There exists a great deal of controversy in the literature regarding importance of the four channels of monetary policy and the dominant channel that should be kept in view by the central bank while setting its monetary policy. Whatever be the dominant channel, it is certain that monetary policy can trigger changes in all the four directions. In a typically developed market economy, short-run interest rate changes by central banks affect the entire spectrum of yields depending on the market expectations regarding the future persistence of such shocks and the degree of integration between various segments of the financial sector. This drives investment and consumption demand in the first stage of propagation depending on the degree of their interest rate elasticities. Interest rate changes bring about changes in the demand for money and hence relative asset prices, giving rise to substitution among financial and real assets and

between assets and spending. Capital market reacts to monetary policy changes through the asset price channel. A positive monetary shock increases the demand for equities and bonds, raising their prices and reducing capital cost to firms in relation to replacement cost. Asset price changes also generate a wealth effect in the balance sheet of households and influence their net worth and consumption. Given a flexible exchange rate structure, the exchange market reacts to current and anticipated changes in monetary policy, which affect trade and capital flows and ultimately output and the price level. Given the fact that credit markets are not usually perfect, monetary policy changes affect credit availability conditions in certain sectors and produce balance sheet effects for firms, determining their credit worthiness. This could be a significant route of transmission especially in economies with weak initial financial conditions and high market exposure of firms. It has been observed that the interest rate channel is more significant than other channels for plant and equipment investment while asset prices, mainly equity prices, exert a strong impact on private wealth position and consumption demand. The credit route is found to be more significant in the housing market segment and construction sector.

In any economy, the smooth working of the transmission mechanism requires the presence of certain initial conditions. For instance, there should be a well developed financial market, a diversified household portfolio which is reasonably sensitive to interest rate changes, the flexibility of real economy to respond quickly to monetary policy signals, minimum distortions in the operation of price mechanism and a well behaved credit market with the least imperfections. These conditions may not, however, be adequately present in all economies and less so in developing economies.

In India, the transmission channels of monetary policy have come under the influence of several changes taking place in the economy in recent years. Gradual liberalisation of the financial markets from administrative controls, increasing use of interest sensitive funds, steady diffusion of financial innovations, growing sensitivity of consumption and investment to interest rate changes, increasing exposure of corporate and financial sectors' balance sheets to market and growing trade and financial integration between the domestic and international markets have imparted complexity to the transmission process. While the monetary system in India is still evolving and the various inter-sectoral linkages in the economy are undergoing changes after the recent large-scale deregulation of industrial, financial and trade sectors, the emerging evidences on transmission channel suggest that the rate channels are gradually gaining importance over the quantum channel. The econometric evidence produced by the recent Working Group on Money Supply: Analytics and Methodology of Compilation (Chairman : Dr. Y.V. Reddy) indicated that output response to expansionary policy operating through the interest rate was found to be stronger and more persistent than that of the credit channel. Similarly, the impact of an expansionary monetary policy on inflation was found to be stronger through interest rates than the exchange rate, given the relatively low level of openness of the economy at this stage.

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3.17 Reserve money increased by Rs.6,986 crore (2.7 per cent) during the first quarter of 1999-2000 (up to June 25) as compared with the increase of Rs.2,406 crore (1.1 per cent) during the corresponding period of the previous year ([Table 3.3](#) and Appendix [Table III.2](#)). Net RBI credit to the Centre increased by Rs.8,492 crore (5.8 per cent) during this period which was substantially lower than Rs.14,654 crore (11.0 per cent) recorded in the corresponding period of 1998-99. Both scheduled commercial banks' refinance utilisation as well as liquidity support to primary dealers increased by Rs.856 crore and Rs.535 crore, respectively. The RBI's NFA increased by Rs.4,189 crore (adjusted for revaluation) in sharp contrast to the decline of Rs.7,846 crore (adjusted for revaluation) during the corresponding period of last year.

3.18 The Reserve Bank ensured adequate availability of liquidity during the first quarter of 1999-2000. A number of factors contributed to relative easiness in the liquidity conditions in the first quarter. First, substantial capital inflows emerged as a major source of liquidity, especially till end-May 1999. Second, the lendable resources of scheduled commercial banks were augmented by Rs.3,250 crore as a result of the 0.5 per cent CRR cut effective May 8, 1999. Third, the Reserve Bank continued to provide substantial support *via* export credit refinance to scheduled commercial banks and liquidity support to PDs. Fourth, the Reserve Bank pursued its strategy of accepting private placements of government securities and combining it with active open market operations in order to modulate liquidity conditions, on the one hand, and contain the monetary impact of Central Government borrowing, on the other. Thus while the Reserve Bank's subscription to government securities amounted to Rs.21,000 crore in 1998-99 (till June 25), open market sales amounted to Rs.18,562 crore (at face value, of which Rs.7,119 crore to commercial banks).

### **Developments in Monetary Framework**

3.19 In the recent past, several issues have cropped up regarding the effectiveness of monetary

management in the economy. These issues concern the recent structural changes in the economy and their impact on the monetary transmission mechanism as well as changes in the instruments and targets of monetary policy in the wake of financial sector reforms.

3.20 Monetary policy has come under the influence of growing openness of the economy and the increasing significance of market related reforms during the past few years, which have contributed to increased sensitivity of economic activity to movements in interest rates and the exchange market conditions. These developments have had considerable importance for the operating procedures of monetary policy as well as the targets to be pursued. For example, growing sensitivity of money demand to interest rate changes has implied certain changes in the relationship between money, prices and output. Similarly, the monetary authority's control over monetary aggregates have been influenced by factors like capital inflows, exchange rate and evidences of financial innovations.

3.21 One of the major challenges of monetary policy has been in the area of transmission channel of policy ([Box III.1](#)). Besides, identification of lags in monetary policy has become critical for effective conduct of policy ([Box III.2](#)). The channels through which monetary policy works its way through to the real economy are complex and change over time, especially when new instruments emerge and as financial markets evolve and structural changes affect the interaction between the monetary and real variables. The inter-temporal response of economic activity to monetary changes would depend on the transmission lags which are subject to shocks stemming from the real economy as well as the financial system.

### **Box III.2** **Lags in Monetary Policy**

One of the most contentious issues in the monetary policy literature, ever since the outstanding empirical work of Milton Friedman, is the time lag in the transmission of monetary impulse to economic activity. On the one hand, the proponents of counter-cyclical school argue that monetary policy can be altered quickly and used to fine-tune the economic environment, there are many, on the other hand, who argue that the effects occur only after a lag which is both long and variable. As such, monetary policy should not be formulated with instantaneous or very short-term horizons and while formulating monetary policy one must look ahead, accounting for the transmission lag period. For a forward-looking monetary policy to take pre-emptive action, there is thus a need to identify the lag for an economy by making reasonable forecasts of the response of real sector to policy changes. It has been argued that even if policy makers can accurately forecast the lag, it may be so variable that an active counter-cyclical monetary policy may amplify the cycles it seeks to ameliorate (Friedman, 1961). On the contrary, there are others, who argue that lags of monetary policy could, in fact, be shorter imparting to it sufficient flexibility to be of use as an effective counter-cyclical policy. However, despite substantial empirical work in this area, the issue still remains unresolved.

Delays or lags at every stage of the response of an isolated policy action on economic activity could usefully be analysed as a distributed lag in the sense that the effect begins to impact at a low key, rise to a crescendo and not disappear fully for a considerable period of time. As such

the lag can be looked at as a weighted average interval between the action and its effects. The effects may change the sign after a time. The original effects may also set up forces that can produce not merely a reversal but also an overshooting.

Lags can be divided in two stages: an inside lag which is the time taken to undertake a policy action and an outside lag which relates to the time span of the effects of the policy action on the economy. The inside lag can be divided further to recognition lag, decision lag and the action lag. While the recognition lag is the period that elapses between the occurrence of the disturbance and its recognition by the policy makers, the decision lag is the delay between the recognition of the need and the actual policy decision. Action lag is the lag between the policy decision and its implementation.

The view that monetary policy lags can be long places emphasis on the lag in the investment function (Tanner, 1979). However, according to the offsetting lag hypothesis (Tucker, 1966), long distributed lags in the investment response can exist without causing comparable lags in the response of the aggregate demand to changes in money supply. Lags in the money demand function can act to counter the investment lags. It is argued that if the demand for money responds to interest rates with a distributed lag, a change in the money supply will temporarily force the interest rate out of its new equilibrium level in order to equilibrate the market for money balances. This initial exaggerated interest rate response causes a correspondingly exaggerated effect on the components of aggregate demand and hence, national income. Hence substantial lags in the money demand function can partially or wholly negate the investment lag. The conclusion to be drawn from this analysis, in so far as monetary policy is concerned, is that aggregate demand may react rapidly to monetary policy inspite of a long distributed lag in the product market. The demand effect is determined by the elasticity of the demand to interest rate in the short-run. However, a substantial movement in interest rates may not be necessary if there is an accelerator relationship in the investment demand equation, and/or monetary policy directly affects the goods and services market *via* the wealth effect (Smith, 1972).

In the case of Indian economy, monetary policy lags are influenced by several factors such as the time lag between the change in the central bank's policy instrument and the change in the whole maturity spectrum of market interest rates, the degree and the time lag of response of consumption and investment magnitudes to changes in market interest rates and the elasticity of demand for financial assets to interest rate changes.

In order to collect some preliminary evidence on monetary policy lags in the Indian economy, two sets of VAR model have been estimated. While the VAR with broad money ( $M_3$ ), prices (WPI) and industrial output (IIP) exemplifies the effectiveness of the conventional quantity channel, the VAR with  $M_3$ , WPI and yield on treasury security (RY) captures the interest rate channel of monetary transmission process. The expected price-output effect in the two channels is that a rise in money leads to a rise in prices and output as per the quantity channel, while a decline in interest rate leads to a rise in prices and increase in output as per the rate channel. The VAR was run on the growth rates of the relevant variables by smoothing them through the Hodrick- Prescott filter which makes the series stationary. The VAR model was estimated in unrestricted form and lags have been identified through the generalised impulse response function.

An analysis of the generalised impulse response function shows that an increase in broad money results in an increase in price and output over the short horizon. The output effect of money shock reaches its full potential after 5 to 6 months and remains substantial for 15 to 16 months. The price effect in response to a money shock appears marginal in the short-run, as compared to the output effect, but dominates the output effect over the long horizon, after over two years. As regards the rate channel, the impulse response function indicates that an increase in the rate of interest leads to contraction in output and the effect persists for over two and half years. The impact on inflation is, however, somewhat unconventional, as an increase in interest rate increases inflation in the shorter horizon although the impact reverses in the longer horizon (after about 22 months). On the other hand, the negative impact on output appears negligible over a year and then, deepens with a lag of 15-16 months before reaching a maximum at about 21-24 months horizon. These findings are tentative and exploratory, requiring further analysis.

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3.22 Following the recommendations of the Committee to Review the Working of the Monetary System in India (Chairman : Professor Sukhamoy Chakravarty, 1985), in view of the fairly stable demand function for money, the Reserve Bank has been announcing an indicative growth in broad money ( $M_3$ ) since the late 'eighties. This framework envisaged setting a broad money growth in line with the expected growth in output and a tolerable level of inflation. In the absence of price clearing markets and significant innovations in the financial sector, quantitative monetary projections worked well as an intermediate target as revealed by the fairly satisfactory predictive power of broad money over prices and output within a medium to long time horizon. The operating procedure was defined in terms of base money with bank reserves (CRR) being the principal operating instrument.

3.23 The empirical evidence in the Indian context suggests that while money demand is a fairly stable function of income, the rising significance of interest rate seems to have imparted some degree of endogeneity to money supply process. The income velocity of broad money and the M<sub>3</sub> multiplier, which are two critical parameters in the monetary targetting framework, have revealed some fluctuations in recent years, impacted, as they were, by growing financial deepening and greater degree of openness of the economy ([Table 3.4](#)).

3.24 Reflecting these developments, in the more recent years, there has been increasing use of interest rates as an instrument of monetary policy. The possibility of enhancing the use of interest rate as a credible anchor for monetary policy would depend on its increasing importance in the portfolio decisions of the public and the consequent emergence of a rate channel of transmission in the economy ([Box III.3](#)). A multiple indicator approach has also been initiated to provide guidance on the conduct of policy operations during the year.

**Table 3.4 : Select Monetary Ratios**

Year	Broad Money Multiplier (as on March 31)	Income Velocity of Broad Money
1	2	3
1991-92	3.16	2.13
1992-93	3.29	2.05
1993-94	3.11	2.20
1994-95	3.12	2.18
1995-96	3.08	2.20
1996-97P	3.48	2.19
1997-98P	3.63	2.07
1998-99P	3.75	1.95

P Provisional.

#### *Interest Rates*

3.25 During 1998-99, while the overall liquidity conditions in the economy showed a substantial improvement, the yield on government securities in the primary market remained relatively firm. Interest rates at the short-end of the market reflected the evolving liquidity conditions which were influenced by the forex and the money market developments ([Chart III.3](#)). Interest rates on deposits and bank loans, however, showed a general downward trend, responding to the overall slack in aggregate demand, as well as to the monetary policy measures announced during the year ([Chart III.4](#)). The Reserve Bank signalled the need for lowering of interest rates in April 1998 in order to give fillip to investments and to promote industrial recovery as the foreign exchange market exhibited stability. The Bank Rate was reduced, in two stages, by 0.5 percentage point on April 3, 1998 and one percentage point on April 29, 1998, thus bringing it down to 9.0 per cent, the rate prevailing before mid-January 1998, when stringent monetary policy measures were taken to stem the volatility in the forex market. Interest rates linked to the Bank Rate were also revised downwards. Further, the fixed repo rate was reduced in three stages

of one percentage point each to 5.0 per cent by mid-June 1998. The interest rate structure softened in the first quarter of 1998-99 mainly in line with seasonal trends.

### **Box III.3 Interest Rate Targeting**

The adoption of intermediate targets (*e.g.* money supply or interest rates) as monetary policy framework is relevant to the central bank when there is a stable relationship between these targets and its ultimate macroeconomic objectives such as price stability. The intermediate targeting approach is, however, considered to be a second-best solution, when central banks do not have sufficient information on the working of macro-economy which could facilitate targeting of ultimate goals.

The intermediate variable target is used in two phases. In the first phase, the central bank determines the value of the intermediate target that would be consistent with the desired ultimate policy objectives under a variety of *ex ante* assumptions. In the second stage, the central bank tries to achieve the value of the intermediate target by using the instruments at its disposal. The key role of the intermediate target variable is to provide the central bank with a ready rule for processing and acting on new information. Hence, the key attribute of the intermediate target variable is its quick availability at high frequency (preferably daily, even hourly) and not subject to subsequent large revisions. Interest rate rules score over the money growth rule in this respect.

Theoretically, the choice between money supply and interest rate as an intermediate target depends on the nature of the trade-offs involved as originally formulated by Poole (1970). If the interest rate is targeted at a predetermined level, disturbances affecting the portfolio behaviour of individuals are minimised. However, with money supply becoming perfectly elastic at the targeted interest rate, disturbances to spending behaviour cannot be prevented. Hence, if the main source of uncertainty is a shock to the demand for money, an interest rate rule would dominate because velocity shocks do not affect output under such a rule. On the other hand, if the targeted growth in money supply is fixed, interest rates would rise or fall so as to dampen the impact on spending, with adverse implications for the portfolio behaviour of the public. Hence, money supply would be a preferable target over interest rate, if the shocks to real sector of the economy dominate over those to financial sector. In Poole's analysis, the objective was one of stabilising output and not prices, which were assumed to be fixed.

While adopting the non-discretionary monetary policy rule in the mid-1970s, interest rate rule lost to monetary rule in the monetary framework of developed economies which pursued active anti-inflationary policies. In addition, the breakdown of the Bretton Woods system of fixed exchange rates provided the background for the choice of money supply as a nominal anchor during mid-1970s. Setting monetary targets was expected to provide clear signals to the public about the stance of monetary policy, which was supposed to help control inflation and the inflation expectations. By the 1980s the money demand functions in several industrial economies had become unstable, as financial sector innovations and deregulation fostered integration of financial markets and cross-border flows of capital, contributing to significant loss of control by central banks over monetary aggregates.

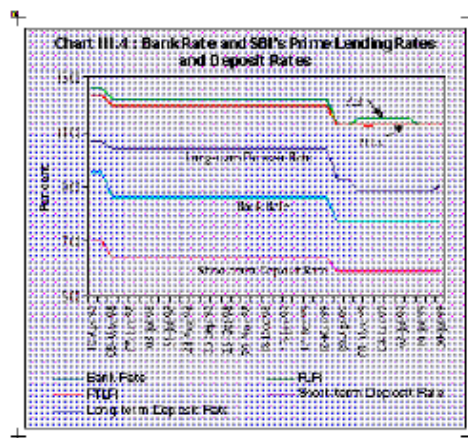
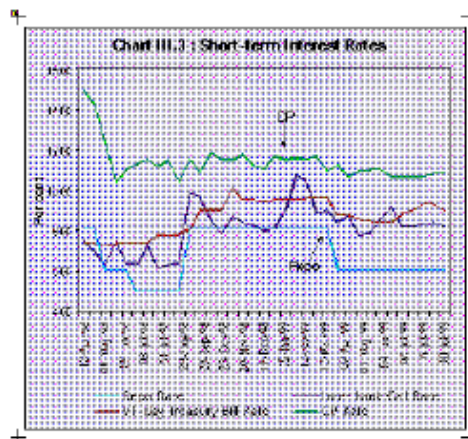


The greater volatility in the demand function for money implies that the interest rate rule is a more preferable option to the money growth rule. Theoretically, with interest rate targeting in place, the price level would be indeterminate, as freeing control over money supply can lead to ever accelerating level of inflation under rational expectations. However, such indeterminacy has been addressed in the literature by specifying an initial level of money stock. The successful implementation of interest rate either as a target or as an instrument of monetary policy depends on certain initial conditions, such as a fair degree of integration among the various segments of financial markets, an accurate idea of the elasticity of response of real magnitudes to interest rate changes, an adequate control over inflation and inflation expectations and a sustainable fiscal policy.

Since mid-1980s, a number of countries have tended to move in the direction of using interest rates as target of monetary policy. The US, which had adopted the intermediate monetary targeting in the mid-1970s de-emphasised it by early 1980s (also the UK and even earlier Canada), and since 1993, stopped using any monetary target as a guide for conducting monetary policy. Simultaneously, it returned to targeting federal funds rate and since 1994 began announcing a target for federal funds rate to influence market expectations. Like the US, Japan had the interest rate target as its daily operating target while also using monetary aggregate (M2+CDs) as a medium-term intermediate target. Both Japan and Germany have used monetary targeting more successfully than other G-7 countries. Japan's and Germany's experiences clearly show that daily targeting of interest rates and the medium-term targeting of monetary aggregates are not contradictory to each other.

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3.26 When the forex market exhibited a substantial degree of volatility in mid-August 1998, the Reserve Bank moved the repo rate upward by three percentage points and increased the CRR by one percentage point to 11.0 per cent with a view to preventing surplus funds in the domestic money market from spilling over to the foreign exchange market. In the light of substantial improvements in the market conditions, in March 1999, the Reserve Bank announced a package of measures to bring down the level of interest rates in the economy against the backdrop of an enabling environment created by the Union Budget 1999-2000.

3.27 The differential between the minimum and the maximum cut-off yields as well as in the inter-bank call money rates generally reflected two phases of the interest rate policy. The differential for 14-day Treasury Bills for instance, was as high as 392 basis points, the minimum being in the first phase up to mid-August and the maximum being in the second phase, in February 1999 (Table 3.5). The differentials were generally higher at the shorter end of the maturity spectrum. Even after restoration of normalcy in the foreign exchange market, there was a clear firm undertone in the market for securities of short-term maturity during the second phase. When on March 1, 1999, the Reserve Bank's policy stance signalled a downward interest rate regime, the cut-off yields on 14-day, 91-day and 364-day Treasury Bills declined sharply.

3.28 Interest rates in the credit market reflected the trends in the government securities and money markets, with one difference. The rates in credit market moved in line with the funds position which was generally comfortable owing to sluggish growth in demand for credit and a fairly sharp growth in deposits. The signalling impact of a change in the Bank Rate was also felt on the deposit and lending rates in the credit market. Following the reduction in the Bank Rate by 1.5 percentage points in April 1998, major public sector commercial banks reduced their prime lending rates (PLR) and deposit rates in April 1998 (Table 3.6). A further one percentage point reduction in the Bank Rate announced on March 1, 1999 prompted these public sector banks to again reduce their PLR by 0.75-1.0 percentage point to 12.0-12.5 per cent in March 1999 and prime term-lending rate (PTLR) of 3 years and above by 0.9-1.0 percentage point to 12 per cent. However, foreign banks and Indian private sector banks, except two banks, have kept their PLR unchanged. While the PLR range of all public sector banks was at 12.0-14.0 per cent in April 1999, those of foreign banks and private sector banks were substantially higher at 12.0-18.5 per cent and 12.5-16.5 per cent, respectively. Further, the spread of actual rates charged by a majority of banks over and above their PLR was at 4.0 per cent in April 1999. The deposit rates (over one year maturity) of major public sector banks which were at 10.5-12.0 per cent as at end-March 1998 declined to 9.0-11.5 per cent as at end-April 1998 and remained at that level up to February 1999. The reduction in the Bank Rate in March 1999 as well as the surplus lendable resources of the banking sector prompted major public sector banks to reduce deposit rates (over one year maturity) to 8.0-10.5 per cent (Table 3.6).

**Table 3.5 : Interest Rate Structure**

(Per cent)

1	Inter-bank Call	Repo	Cut-off Yields on Treasury Bills and Dated Securities*				
	Money Rate		14-day	91-day	364-day	5-year	10-year
	2	3	4	5	6	7	8
End-March 1998	8.60	8.0	7.30	7.33	7.98	-	12.15
Minimum	6.12	5.0	5.47	7.17	7.98	11.10	12.0
	July 17, 1998	June 15, 1998	June 19, 1998	May 8, 1998	June 19, 1998	April 7, 1998	May 12, 1998
Maximum	10.70	8.0	9.39	10.05	10.72	11.78	12.25
	Jan 15, 1999	Aug 21, 1998	Feb 12, 1999	Oct 23, 1998	Oct 9, 1998	Aug 14, 1998	Sept 7, 1998
End-March 1999	8.71	6.0	7.82	8.75	10.07	-	-

\* In the primary market.

**Table 3.6 : Signalling Impact of Bank Rate on Five Major Public Sector Banks**

(Per cent)

Announcement Date	Bank Rate	PLR	Deposit Rate (up to one year)	Deposit Rate (1-3 years)
1	2	3	4	5

March 18, 1998	10.5	14.0	6.0-12.50	10.5-12.0
April 2, 1998	10.0	13.5-14.0	6.0-10.0	10.0-12.0
April 29, 1998	9.0	12.75-13.0	5.0-9.0	9.0-11.5
March 1, 1999	8.0	12.0-12.5	5.0-8.5	8.0-10.5

*Interest Rates during the First Quarter : 1999-2000*

3.29 Liquidity conditions improved significantly during the first quarter of 1999-2000 compared to the position prevalent in the last quarter of the previous year. Although money market rates softened relative to the last quarter of 1998-99, these were higher than those during the corresponding period of the previous year (Appendix [Table V.1](#)). The call rates breached the ceiling of the informal corridor given by the fixed repo rate (6 per cent) and the refinance rate (8 per cent) during May-June 1999. The hardening of call money rates had a ripple impact on short-term Treasury Bill rates; the cut-off yields on 14-day, 91-day and 364-day Treasury Bills were higher by 172, 118 and 212 basis points, respectively, than those in the corresponding quarter of the previous year. The typical effective discount rate on CP, however, declined by 101 basis points to 10.76 per cent during the first quarter from 11.77 per cent in the corresponding quarter on the previous year, reflecting a falling risk premia on the papers of top-rated corporates. The interest rates on CDs too declined by 274 basis points to 9.94 per cent from 12.68 per cent in the corresponding period of the previous year, partly reflecting the adjustment over the high rates of interest offered by banks during the first quarter of 1998-99. The cut-off yields on dated securities declined sharply as a result of combination of factors such as usual seasonality in liquidity conditions during the first half of the year and the policy of private placement of government securities with the Reserve Bank, mainly the long dated securities. Both the cutoff yields of a 6-year and 10-year dated security auctioned in the first quarter of 1999-2000 were 26 basis points lower than that in the auctions of similar maturity papers in the first quarter of 1998-99. The deposit rates (both short-term and long-term) and the PLRs of major public sector banks which had declined in March 1999 in response to a reduction in the Bank Rate announced on March 1, 1999 remained unchanged up to mid-June 1999. The PLR of some of the banks, however, declined by 50 basis points by end-June 1999 to 12.0 per cent.

### COMMERCIAL BANK SURVEY

3.30 Banking sector trends during 1998-99 were marked by lower order of deposit growth, relatively more sluggish credit expansion and increase in investment in government securities.

3.31 The aggregate deposit growth of the commercial banks fell by 0.5 percentage point to 19.3 per cent in 1998-99 as against the successive increases of 3.3 and 4.4 percentage points during the preceding two years. Excluding the proceeds of Resurgent India Bonds (RIBs) of Rs.17,945 crore which flowed into the banking system during August 1998, the overall deposit growth was 16.3 per cent, as against the monetary policy target of 15.4 per cent, announced in April 1998

(Appendix [Table III.3](#)).

3.32 The intra-year deposit variations show that after exhibiting a trend close to that observed in 1997-98 during the first two quarters of 1998-99, deposit growth (excluding RIBs) decelerated in the third and fourth quarters ([Table 3.7](#)). The sharp deceleration in deposit growth in the fourth quarter of 1998-99 reflects an element of correction over the sharp increase in deposit mobilisation witnessed in the last quarter of 1997-98, when banks had to raise short-term deposits (including certificates of deposits (CDs) which exhibited a sharp increase from Rs.6,607 crore as at end-December 1997 to Rs.14,296 crore as at end-March 1998) at attractive rates of interest. Besides, comfortable liquidity conditions following limited non-food credit off-take and the reported financing of the government's disinvestment programme by the two major public sector oil companies by drawing down their deposit balances with the banking system could have adversely impacted deposit growth in March 1999.

3.33 Excluding RIB deposits, time deposits grew at a slower rate of 16.7 per cent in 1998-99 than that of 21.2 per cent during the previous year, indicating the impact of relatively lower interest rates. The expansion in demand deposits was, however, higher at 14.5 per cent than 13.1 per cent in 1997-98.

3.34 The conventional non-food bank credit showed a lower order of expansion of Rs.40,428 crore (13.0 per cent) as against an increase of Rs.40,789 crore (15.1 per cent) in the previous year. Investments of commercial banks in commercial paper, public and private sector bonds/debentures/preference shares and equity shares expanded by Rs.16,672 crore (52.9 per cent) in 1998-99 as compared with Rs.13,053 crore (70.6 per cent) in 1997-98. Reflecting these trends, total flow of funds from scheduled commercial banks to the commercial sector grew by Rs.57,100 crore (16.6 per cent) as compared with Rs.53,842 crore (20.8 per cent) during 1997-98 ([Table 3.8](#)), lower than the targeted increase of 19.0 per cent set in the monetary and credit policy for 1998-99. Including the resource flow from co-operative banks and other non-banking sources such as capital issues, global depository receipts, commercial paper and borrowings from financial institutions total non-food resources flow to commercial sector increased to Rs.1,21,296 crore in 1998-99 from Rs.1,17,160 crore in 1997-98. The target expansion in non-food resources in the April 1999 policy has been placed at 18 per cent during 1999-2000 in order to be consistent with an overall money supply growth of 15.5-16 per cent and the estimated real GDP growth of 6-7 per cent.

3.35 Bank credit, which has been maintaining a sluggish growth since the beginning of the current cycle of industrial slowdown, showed further deceleration in 1998-99. Total bank credit grew by 13.8 per cent in 1998-99 as compared with 16.4 per cent in 1997-98, largely mirroring a deceleration in non-food credit to 13.0 per cent from 15.1 per cent in 1997-98. The growth in bank credit during 1998-99 was also lower than the average of 15.8 per cent during the 'nineties (up to 1997-98). A drop of 2.6 percentage points in bank credit during 1998-99 over the previous year largely reflected the subdued credit demand conditions in most part of the financial year.

**Table 3.7 : Quarterly Variations in Major Banking Aggregates : 1997-98 and 1998-99**

Item	(Per cent)									
	Q4		Q3		Q2		Q1		1998-99	1997-98
	1998-99	1997-98	1998-99	1997-98	1998-99	1997-98	1998-99	1997-98		
1	2	3	4	5	6	7	8	9	10	11
1. Aggregate Deposits*	6.3	8.4	1.6	2.2	4.9	5.3	2.4	2.6	16.3	19.8
2. Demand Deposits	19.4	16.8	-3.5	-2.8	5.1	4.1	-5.3	-4.3	14.5	13.1
3. Time Deposits*	4.1	6.8	2.6	3.2	4.9	5.6	4.0	4.2	16.7	21.2
4. Food Credit	5.2	3.8	-0.6	35.1	-4.4	-11.6	34.8	32.6	34.7	64.3
5. Non-food Credit	9.3	11.8	2.5	3.1	4.2	2.0	-3.1	-1.9	13.0	15.1
6. Investments in Government Securities	1.5	1.5	-0.4	1.4	10.1	2.9	7.3	11.0	19.4	17.7

\* Excluding RIBs.

**Table 3.8 : Total Flow of Non-food Resources to Commercial Sector**

Item	(Rupees crore)	
	1998-99P	1997-98P
1	2	3
<b>I. Scheduled Commercial Banks (I.1+I.2)</b>	<b>57,100</b>	<b>53,842</b>
I.1. Non-food Credit	40,428	40,789
I.2. Other Investments (2.1+2.2+2.3)	16,672	13,053
2.1. Commercial Paper (CP)	1,910	1,363
2.2. Bonds/Debentures/Preference Shares Issued by	13,831	11,350
2.2.1 Public Sector Undertakings (PSUs)	5,763	4,159
2.2.2 Private Corporate Sector	8,068	7,191
2.3 Equity Shares issued by PSUs and Private Corporate Sector	931	340
<b>II. Other Banks</b>	<b>7,790</b>	<b>8,817</b>
<b>III. Other Sources</b>		
<b>(III.1+III.2+III.3+III.4+III.5)</b>	<b>56,407</b>	<b>54,501</b>
III.1 Bills rediscounted with Financial Institutions	187	-743
III.2 Capital Issues @ (2.1+2.2)	-2,890	-1,223
2.1 Non-Government Public Companies	-3,672	-4,248
2.1.1 Debentures and Preference Shares	-5,617	-5,215
2.1.2 Equity Shares	1,946	967
2.2 Public Sector Undertakings and Government Companies	782	3,025
III.3 Global Depository Receipts (GDRs) and Foreign Currency Convertible Bonds (FCCBs)	2,105	4,378
III.4 Issue of CP #	1,360	-509
III.5 Borrowings from Financial Institutions ##	55,645	52,597
<b>Total Flow of Non-food Resources (I+II+III)</b>	<b>1,21,296</b>	<b>1,17,160</b>
<b>Memo Items</b>		
1. Loans to Corporates against Shares	20	15
2. Private Placements	49,664	30,099

P Provisional.

- @ Adjusted for banks' investments in shares and debentures.  
# Excluding CPs issued to banks.  
## Excludes bills rediscounted with FIs.

3.36 Gross bank credit of select scheduled commercial banks (50 major banks accounting for over 90 per cent of bank credit of all scheduled commercial banks) increased by Rs.41,729 crore in 1998-99 as compared with an increase of Rs.41,292 crore during 1997-98. However, there was a sharp contraction in increase in advances against fixed deposits (Rs.3,291 crore as compared with Rs.10,310 crore in the previous year), a lower expansion of credit to medium and large industries (Rs.12,986 crore as compared with Rs.14,926 crore in 1997-98) and small scale industries (Rs.4,975 crore as compared with Rs.7,564 crore in the previous year) and decline in loans to NBFCs (Rs.145 crore as against the increase of Rs.1,073 crore in the previous year). This deceleration was, however, off-set by increase in 'other non-priority sector personal loans' (Rs.2,156 crore as against the decline of Rs.2,259 crore in the previous year), non-SSI priority sector advances (Rs.10,129 crore as compared with Rs.7,063 crore in the previous year) and housing loans (Rs.2,347 crore as against Rs.1,284 crore in the previous year) (Appendix [Table III.4](#)).

3.37 The industry-wise distribution of gross bank credit reveals that out of 22 industries for which comparable data are available for both 1997-98 and 1998-99, only eight industries (*viz.*, 'coal', 'other metal and metal products', 'electricity', 'other textiles', 'food processing', 'vegetable oils', 'paper and paper products' and 'gems and jewellery') recorded a higher order of expansion in credit than those in 1997-98 (Appendix [Table III.5](#)). In absolute terms, six industries - 'infrastructure', 'electricity', 'iron and steel', 'cotton textiles', 'other textiles' and 'chemicals' - witnessed sizeable credit expansion, accounting for 65.3 per cent of the total expansion of credit in the industrial sector. On the other hand, seven industries exhibited an absolute decline in credit during 1998-99 (two during 1997-98). The trends in the credit expansion to various industries followed broadly the growth pattern of the respective industries (for details on industrial growth, see Section II and Appendix [Table II.5](#)).

3.38 Notwithstanding the sharp reduction in interest rates on export credit and the refinance rate (by two percentage points) for export credit from the Reserve Bank during August 6, 1998 to March 31, 1999 and the increase in the export credit refinance limit in May 1998, aggregate export credit decelerated to 7.0 per cent (Rs.2,397 crore) during 1998-99 from 14.3 per cent (Rs.4,318 crore) during 1997-98. This reflected the continued poor performance of the export sector for the third year in succession. Further, as a percentage of net bank credit, aggregate export credit declined from 10.6 per cent as at end-March 1998 to 10.1 per cent as at end-March 1999 but increased to 10.3 per cent as at end-June 1999 (Appendix [Table III.6](#)).

3.39 The continued slowdown in non-food credit from the peak attained in 1994-95, and further extension of this trend in 1998-99, could be explained by several demand and institutional factors. As far as the supply side factors are concerned, there has been a general trend towards improving liquidity conditions in the economy during the past two years, which has been aided by the stance of the monetary policy to augment the lendable resources with banks and bring down the level of interest rates. Supply conditions looked evidently better in 1998-99, as the Reserve Bank rolled back the CRR hike of August 1998, increased the access of banks through

its export credit refinance window and reduced its lending rates to the banks and other institutions.

3.40 In the face of improving liquidity conditions in the economy, it is the demand side factors which seem to have played a major role in the deceleration in credit growth. One of the significant demand side factors is the slowdown in industrial activity which could have generated a cycle in credit growth, in sympathy with the industrial output cycle.

3.41 Bank credit and economic growth generally follow a lead-lag feedback mechanism. While a higher credit off-take is a leading indicator of pick-up in economic activity, it also forms a part of the propagation system in which the credit sanctions and effective utilisation depend on the current and expected growth conditions. The relative importance of both these factors in the transmission mechanism seems to be in evidence in the context of the persistent deceleration in industrial output and credit in the recent years. While the correlation between the quarterly growth in the banking sector's non-food credit and in industrial production (based on the IIP) is found to be strong over the period April 1995 to March 1999, evidence points to the greater significance of the industrial growth (with one quarter lag) leading the expansion in non-food credit growth than otherwise.

3.42 Secondly, the depressed capital market may also have played a role in the deceleration in non-food credit during 1998-99. Evidencing a steeper decline in the corporates' resource mobilisation through the equity route, the debt-equity ratio of 807 large public limited companies increased from 56.0 per cent during 1995-96 to 59.3 per cent during 1996-97 and further to 60.0 per cent during 1997-98. The debt-equity ratio might have exhibited a further increase in 1998-99 despite a deceleration in non-food credit as the equity raised by the corporates (new capital issues by non-government public limited companies) continued to remain substantially low at Rs.2,563 crore in 1998-99, as compared with Rs.6,116 crore in 1996-97 and Rs.11,997 crore in 1995-96. A higher order of debt-equity ratio would imply increasing indebtedness of the companies and their conscious decision to reduce credit and other debt exposure particularly during the period of a output slowdown. It could also be prompted by the lending behaviour among banks, which seek stiffer assessment of deteriorating credit worthiness of borrowers when debt accumulation is high as compared to equity.

3.43 Thirdly, some of the institutional factors may also have led to sluggish growth in non-food credit. Among these, the steep decline in the growth of 'advances against fixed deposits' could possibly arise from the fact that banks, till recently, could not charge interest on advances against fixed deposits at rates exceeding the PLR. While the PLR declined during 1998-99, interest rates on existing deposits remained unaltered. Hence, banks tended to be reluctant to lend against fixed deposits during 1998-99. This anomaly has, however, been removed in the monetary and credit policy of April 20, 1999. Now advances against fixed deposits can be made by banks without reference to PLR and banks can charge suitable rates. Another institutional factor behind the low growth in bank credit is the relatively high credit evaluation standard set by the banking system on borrowers with a view to meeting the requirements of stiffer prudential standards.

3.44 The pattern of expansion in non-food credit was highly concentrated in the last quarter of 1998-99. The fortnightly data indicated a high order of concentration of non-food credit



disbursal in the days leading to the quarter-end. For example, the last fortnights of the second and fourth quarter accounted for as much as 50.9 per cent of the total variation in non-food credit during the year. Apart from the quarter-end window dressing, interest application and evergreening of NPAs could have accounted for the seasonality in non-food credit during 1998-99. Following the usual seasonal trend, non-food credit after exhibiting an increase in the first fortnight of 1999-2000 (March 27, 1999-April 9, 1999) turned negative in the second fortnight of April (decline of Rs.4,275 crore).

3.45 About 10 per cent of the increase in bank credit was on account of growth in food credit amounting to Rs.4,331 crore in 1998-99 as compared with Rs.4,889 crore in 1997-98. The increase in food credit reached a peak of Rs.5,216 crore on July 17, 1998 mainly due to procurement of wheat; it declined subsequently towards the end of the wheat procurement season, before picking up again to Rs.4,851 crore on February 26, 1999, attributable mainly to the procurement of rice.

3.46 With the sluggish credit growth and relatively easy liquidity conditions during the large part of the year, banks' investments in government securities increased at a sharp rate of 19.4 per cent (Rs.36,261 crore) in 1998-99 as against 17.7 per cent (Rs.28,067 crore) in 1997-98. The share of banks' incremental investments in government paper to incremental deposits moved up to 31.4 per cent in 1998-99 from 28.4 per cent in 1997-98. The banking system's holding of government securities stood at 33 per cent of its net demand and time liabilities as at end-March 1999, as against the statutory requirement of 25.0 per cent, indicating an excess holding of about Rs.56,000 crore, which is equivalent to the net borrowing budgeted for 1999-2000. As in the previous year, the bulk (93.1 per cent or Rs.33,768 crore) of the commercial banks' investments in government securities took place during the first half of 1998-99.

3.47 Among the major bank groups, the SBI group registered a sharp increase in its share in deposit growth during 1998-99. Correspondingly, there was a fall in the shares of all other major bank groups ([Table 3.9](#)). Even if RIB deposits were to be excluded since they entirely accrued to the State Bank of India, the overall share of the SBI group in deposit growth improved. The public sector banks (SBI group and nationalised banks) accounted for 81.4 per cent of the total increase in deposits in 1998-99 (84.3 per cent including RIBs) as against 75.8 per cent in 1997-98. The SBI group and nationalised banks seem to have benefited from a large rural network in the context of a booming agricultural sector. The impact of improved wages of government employees on bank deposits following the Pay Commission recommendations was reflected in the higher growth of deposits of the public sector banks than those of foreign and private banks. As regards bank advances, while the shares of the State Bank group, RRBs and Indian private banks remained, by and large, unchanged, the increase in the share of nationalised banks by 3.8 percentage points was at the expense of foreign banks by about the same magnitude. Within private banks, however, new private banks off-set the decline in the share of old private banks.

**Table 3.9 : Shares of Major Bank Groups in Incremental Aggregate Deposits and Bank Credit**

(Per cent)

Increase in Aggregate Deposits	Increase in Bank Credit
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Bank Group	1998-99	1997-98	1996-97	1995-96	1998-99	1997-98	1996-97	1995-96
	2	3	4	5	6	7	8	9
1. SBI Group	36.2 (24.5)	24.0	20.2	31.4	24.8	25.1	23.8	33.5
2. Nationalised Banks	48.1 (56.9)	51.8	50.1	47.1	55.5	51.7	31.2	34.5
3. Foreign Banks	1.3 (1.5)	5.6	8.4	6.0	2.4	6.3	17.9	15.8
4. RRBs	3.9 (4.6)	4.1	5.1	5.5	3.0	2.5	5.2	2.6
5. Private Banks	10.6 (12.6)	14.5	16.2	10.1	14.3	14.3	22.0	13.7
of which :								
a) Old Private Banks	5.8 (6.9)	7.3	8.1	3.4	7.0	7.8	10.1	5.9
b) New Private Banks	4.8 (5.7)	7.2	8.0	6.7	7.3	6.5	11.8	7.8
<b>Total</b>	<b>100.0 (100.0)</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Figures in brackets indicate percentage shares (excluding RIBs).

3.48 The nationalised banks, for the second consecutive year, exhibited a sharper increase in their shares in credit expansion. The performance of both foreign banks and old private banks in this regard was discouraging. Considering that the Indian economy exhibited a lower order of growth relatively in both 1997-98 and 1998-99 compared with the performance in the preceding three years, the focus on improving their share in lending by public sector banks is noteworthy. Among the nationalised banks, the ones which improved their shares in credit growth are Syndicate Bank, Andhra Bank, Central Bank of India, Corporation Bank, Punjab and Sind Bank, Punjab National Bank, Allahabad Bank, Indian Overseas Bank, Dena Bank and Indian Bank.

#### *Bank Credit to Priority Sector*

3.49 The aggregate outstanding priority sector advances of public sector banks increased from Rs.91,319 crore as at end-March 1998 to Rs.1,07,200 crore as at end-March 1999. The share of priority sector advances in the net bank credit increased from 41.9 per cent to 43.5 per cent during the same period, exceeding the priority sector target by 3.5 percentage points. The advances of private sector banks increased from Rs.11,614 crore (40.9 per cent of net bank credit) as at end-March 1998 to Rs.14,155 crore (41.4 per cent) as at end-March 1999, 1.4 percentage point higher than their priority sector target. The outstanding advances by foreign banks to the priority sector increased from Rs.6,940 crore (34 per cent of net bank credit) to Rs.8,270 crore (37 per cent) during the same period, five percentage points higher than their priority sector target of 32 per cent. While 68.7 per cent of priority sector advances of foreign banks were directed towards export credit, the bulk of public sector banks' priority sector advances was accounted for by agriculture (37.4 per cent) and small scale industries (39.8 per cent).

#### **Trends during the First Quarter : 1999-2000**

3.50 Aggregate deposits increased by Rs.12,183 crore (1.7 per cent) during the first quarter of 1999-2000 as compared with an increase of Rs.14,220 crore (2.4 per cent) in the corresponding

period of the previous year. Bank credit declined by Rs.2,717 crore (0.7 per cent ) as the rise in food credit by Rs.5,405 crore (32.1 per cent) on account of a substantial increase in wheat procurement was more than off-set by the seasonal decline in non-food credit (Rs.8,122 crore or 2.3 per cent). In the corresponding period of the previous year also the sharp fall in non-food credit (Rs.9,590 crore or 3.1 per cent) had outweighed the increase in food credit (Rs.4,343 crore or 34.8 per cent). Banks' investment in government securities recorded a substantial increase of Rs.20,469 crore (9.2 per cent), higher than the increase in aggregate deposits during the first quarter mainly reflecting the sluggish trend in non-food credit off-take and the increase in the stipulated minimum capital to risk-weighted assets ratio (CRAR) to 9 per cent for the year ending March 31, 2000. In the corresponding period of the previous year, the increase in investments in government securities were comparatively modest at Rs.13,608 crore (7.3 per cent). The higher order of investments during the first quarter was facilitated by the augmentation of lendable resources of the banking system to the tune of Rs.3,250 crore on account of a 0.5 percentage point reduction in the CRR on May 8, 1999 and an increase in the recourse to borrowings from the Reserve Bank (Rs.969 crore).