7 Debt Market

MARKET PROFILE

Contrary to the experience in advanced economies where market size and volumes in debt market are several times larger than those in equity markets, development of debt market in India has not been as noticeable as in the case of equity market. While the ratio of market capitalisation of the equity market to GDP is around 40%, the ratio of outstanding debts to GDP is estimated at about 30% during the 1990's. The turnover ratio in equity market is nearly two as against less than 0.5 in debt market. Data covering various dimensions of debt market are even scanty for any meaningful comparison and analysis. Development of debt market has been engaging the minds of the policy makers and market participants alike for a long time. A host of reforms undertaken in this decade has resulted in a marked change in the nature of instruments offered, a wider investor base and in progressive movement towards market determined interest rates. The situation remains, however, largely unchanged in terms of market design and liquidity as may be seen from Tables No.9 and 10 of Chapter 1.

The three main segments in the debt market in India are markets for government securities, PSU bonds and corporate securities. Each of these segments has its own set of peculiarities in terms of procedure, practices and regulatory structure. The market for government securities is the oldest and most dominant in terms of outstanding securities, trading volume and number of participants. It sets benchmarks for the whole financial market and is used by RBI as an instrument of monetary policy. The instruments in this segment are fixed coupon bonds, commonly referred to as dated securities, treasury bills, floating rate bonds, zero coupon bonds and inflation index bonds. Dated securities used to be of 2-30 years tenor, which got reduced over years with a maximum of 20 years now. 14-day, 91-day, 182-day and 364-day treasury bills, which are the second largest component of sovereign debt, are issued regularly. The majority of gilts is held by banks, insurance companies and financial institutions in order to meet statutory requirements and only a small part of the outstanding stock finds its way into the market for trading. A large number of banks and other institutions trade these securities informally on the telephone and report trades on the wholesale debt market segment of NSE. Liquidity, however, continues to be thin even with the move over to screen based trading on NSE. The issues by government sponsored institutions like Development Financial Institutions as well as the infrastructure-relates bodies and the PSUs, who make regular forays into the market to raise medium-term funds (1-7 years), constitute the second segment. The gradual withdrawal of budgetary support to PSUs by the government since 1991 has compelled them to look at the bond market for mobilising resources. The preferred mode of issue has been private placement, barring an occasional public issue. Banks, financial institutions and other corporates have been the major subscribers to these issues. The tax-free bonds, which constitute over 50 % of the outstanding PSU bonds, have become extremely popular with institutional players. The PSU Bonds are traded on the NSE's WDM market segment as well as on other exchanges. The market for corporate debt securities has been in vogue since early 1980s. The major part of the corporate debt is privately placed with

tenors of 1-7 years. These are traded on the stock exchanges including the equity segment of the NSE.

The players in the debt market are: the Government for financing its ever rising revenue deficit, the RBI for implementing its monetary policy and raising funds on behalf of the Governments, the Industry for acquiring assets at minimal cost, the bank and institutions having responsibility to manage portfolio / comply with statutory requirements, and lastly, the individual investors wanting an investment outlet for savings offering a post tax rate of return greater than the inflation rate with easy liquidity and low risk. The matrix of issuers, investors and instruments in the debt market and their maturities are given in Table No. 1.

The total outstanding debt in all three segments as on 31st March 1999 is estimated at Rs.4853 billion. Government securities accounted for over 72% of the outstanding amount with Rs.3518 billion, PSU bonds Rs.300 billion, FI bonds Rs.300 billion, corporate debt Rs.400 billion and another Rs.335 billion in money market instruments. The number of transactions in the secondary market continues to be small relative to the size of the outstanding debt and the size of the participants. The market is restricted to a limited number of participants like banks and financial institutions. There is a marked absence of the kind of participants who make for an active market by alternating between lending and borrowing or employing different trading strategies as a consequence of their often divergent views on the market. Over 90% of trades are on account of government securities and treasury bills and trades in corporate debt and PSU bonds are insignificant. The data on outstanding debt and trading volume, as presented in the Table No. 2 and Figure No. 1

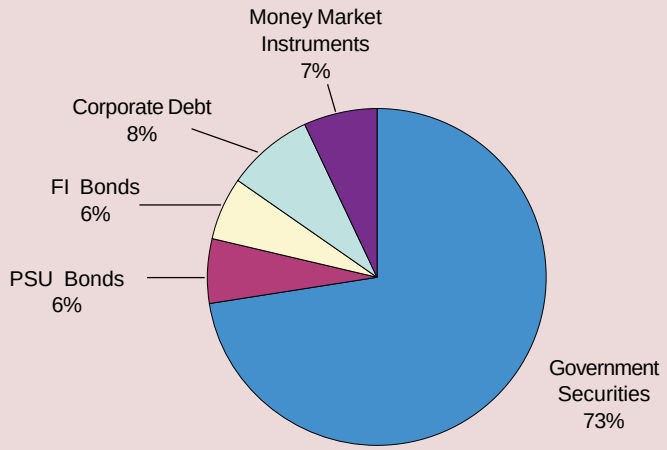
Table No. 1: Participants and Products in the Debt Market

Issuer	Instrument	Issuance Maturity	Investor
Central Government	Dated Securities	>1 year	Banks, LIC/GIC, UTI, RBI, Provident Funds, Mutual Funds, NBFCs,
Central Government	T-Bills	14/91/182/364 days	Banks, RBI, Provident Funds, *NBFCs*
State Government	Dated Securities	>1year	Banks, Insurance Companies, Provident Funds
PSUs	PSU Bond / Structured Obligation	> 1 year	Banks, LIC/GIC, UTI, MFs, Corporates, Trusts, Provident Funds
Corporates	Debentures	> 1 year	Banks, MFs, Corporates, LIC/GIC, FIs
Corporates	Commercial papers	3 months to 1 year	Banks, MFs, FIs
Banks	Certificates of Deposits	3 months to 1 year	Banks, Corporates
Financial Institutions	FI Bonds	> 1 year	Banks, Insurance Companies, MFs, Retail Investors

Table No. 2 : Profile of Debt Market during 1998-99

Instruments	Outstanding Amount (In Rs. Bn)	Turnover (In Rs. Mn)
Call Money	100	100000/Day
14 Days Treasury Bills	2	10/Week
91 Days Treasury Bills	15	500/Day
364 Days Treasury Bills	98	1000/Day
Commercial Papers	45	10/Week
Certificate of Deposit	75	Nil
Dated Securities	2752	5000/Day
State Government Securities	575	10/Day
Government Guaranteed Loans	191	Nil
PSU Bonds	300	100/Day
F I Bonds	300	250/Day
Debentures	400	10/Day
Total	**4853**	

Figure 1: Outstanding Debt Instruments as on 31st March, 1999



indicate the overwhelming dominance of the government securities in the debt market.

POLICY DEVELOPMENTS

With a view developing and deepening debt market, particularly government securities market, and optimising cost-maturity structure of government borrowings, a number of significant policy measures were undertaken during 1998-99 and in the recent past. The developments during **1998-99** include :

- notifying the amounts in respect of all treasury bills and excluding non-competitive bids outside the notified amount to provide certainty to the amounts acceptable from competitive bidders,
- permitting FIIs with equity funds to invest in government dated securities and treasury bills, both in the primary and the secondary markets, within their debt ceiling of 30%,
- allowing NSDL, SHCIL and NSCCL to open SGL accounts with RBI in order to facilitate custodial and depository services for FIIs in government dated securities,
- allowing satellite dealers (SDs) to issue commercial papers to have access to short-term borrowings,
- approving seven (including 3 in 1999-2000) new Primary Dealers (PDs), taking total number of PDs to 13 with a view to widening and deepening the government securities market and retailing government securities,
- providing liquidity support to PDs against the holdings of securities in SGL accounts to enable them to make markets and minimise volatility in prices,
- accepting private placement of government securities by RBI and offloading them in the market when conditions are favourable with a view to maintain stable interest rates,
- allowing banks to freely buy and sell government securities on an outright basis and retail them to non-bank clients without any restriction on the period between the sale and purchase,
- extending special liquidity support for dedicated gilt funds,
- issuing long term paper with a maturity of 20 years, expanding the maturity horizon beyond

the usual tenure of 10 years, in view of bunching of redemption liabilities in the medium term, and

- abolishing stamp duty on transfer of debt instruments in a depository to modernise and deepen debt market.

The developments during **1999-2000** include:

- obtaining minimum bidding commitment from each PD for auctions of treasury bills so that they together absorb 100% of notified amount and offering an enhanced underwriting option to PDs for the entire notified amount with a view to increase depth and liquidity in government securities market,
- conducting first ever price based auction (coupon is pre-determined, bidders quote the price) of government dated securities, resulting in more efficient pricing,
- issuing guidelines on interest rate swaps and forward rate agreements to enable banks and all India financial institutions to hedge interest rate risks and ensure orderly development of derivatives market,
- appointing a "Technical Advisory Committee on Money and Government Securities Market" to advise the RBI on an ongoing basis on the developments in the money and government securities market,
- mandating trades in corporate debt securities to be executed on the basis of price and order matching mechanism of the stock exchanges as in case of equities, and
- notifying regulations for regulating the Credit Rating Agencies (CRAs). The Regulations cover rating of securities only and not rating of fixed deposits, foreign exchange, country ratings, real estates etc. CRAs can be promoted by public financial institutions, scheduled commercial banks, foreign banks operating in India, foreign credit rating agencies recognized in the country of their incorporation, having at least five years experience in rating, or any company or a body corporate having continuous net worth of minimum Rs. 100 crore for the previous five years. CRAs would be required to have a minimum net worth of Rs.5 crore. A CRA can not rate a security issued by its promoter. No Chairman, Director or Employee of the promoters shall be Chairman, Director or Employee of CRA or its rating committee. A CRA can not rate securities issued by any borrower, subsidiary, an associate promoter of CRA, if there are common Chairman, Directors and Employees between the CRA or its rating committee and these entities. A CRA can not rate a security issued by its associate or subsidiary if the CRA or its rating committee has a Chairman, Director or Employee who is also a Chairman, Director or Employee of any such entity. For all public and rights issues of debt securities of issue size greater than or equal to Rs. 100 crore, two ratings from different CRAs would be required. CRAs would have to carry out periodic reviews of the ratings given during the lifetime of the rated instrument. For ensuring that corporates provide correct/ adequate information to CRAs, a clause would be incorporated in the listing agreement of the stock exchanges requiring the companies to co-operate with the rating agencies in giving correct and adequate information. Issuers coming out with a public/rights issue of debt securities would be required to incorporate an undertaking in the offer documents promising necessary co-operation with the

rating agency in providing true and adequate information. An obligation has been cast on the issuer to disclose in the offer documents all the ratings it has got during the previous 3 years for any of its listed securities, at the time of accessing market through a rated security.

PRIMARY MARKET

Governments and corporate sector access market through debt issues. They collectively raised a total of Rs. 1,52,221 crore from primary market during 1998-99. About 70% of this was raised by Governments, while the balance by the corporate sector through public and private issues.

Corporate Securities

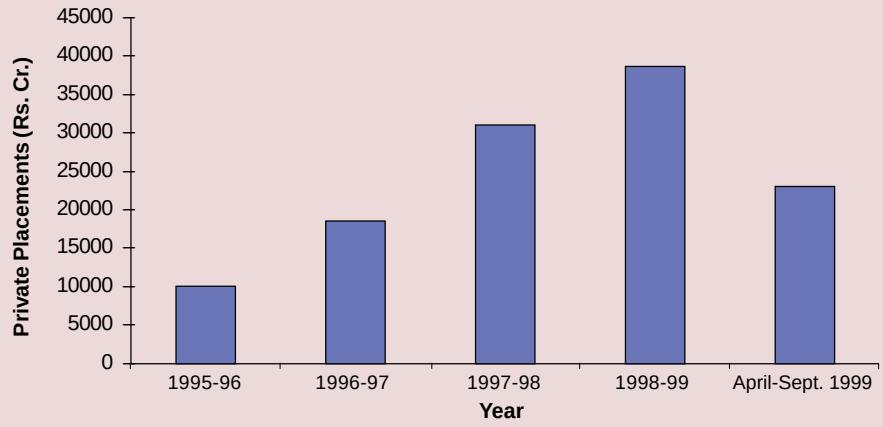
Resources mobilised in the corporate debt market in the last few years are presented in Table No.3. It is observed that there is a preference for raising resources in the primary market through debt instruments and that private placement of debt has emerged as the major route for raising resources. The share of debt in total collection has been increasing consistently over the years and it was 99% in 1998-99. Private placements account for about 90% of total debt mobilisation from securities market. About Rs. 1,25,000 crore has been raised through private placement of debt during last four and half years since April, 1995. The growth of market for private placement of debt has been

Table No. 3: Resources Raised in the Corporate Debt Market *(Amount in Rs. Crore)*

Year	Public Issues	Private Placements	Total Debt (1+2)	Private Placement (%) (3/4*100)	Total Resource Mobilisation in the Primary Market	Share of debt (%) (4/6*100)
1	2	3	4	5	6	7
1995-96	2940	10035	12975	77	21857	59
1996-97	6977	18391	25368	72	30039	84
1997-98	1929	30983	32913	94	34045	97
1998-99	7407	38748	46154	84	46658	99
April-Sept.1999	2526	22949	25475	90	26349	97

Source: Prime Database

Figure 2: Private Placement, 1995-99



presented in Figure 2.

Increasing removal of shackles on institutional investments and deregulation of the economy drive growth of this segment. There are several inherent advantages for tapping private placement route for raising resources. While it is cost and time effective method of raising funds and can be structured to meet the needs of the entrepreneurs, it does not require detailed compliance with formalities as required in public or rights issues.

The primary debt market witnessed heavy activity during 1998-99. A total of 205 issuers raised Rs. 38,748 crore through 445 privately placed issues in 1998-99. This represented a 25% rise over the funds raised through the same route in the preceding year which witnessed 251 issues for Rs. 30, 983 crore. A total of 135 issuers raised Rs. 22,949 crore through 331 privately placed issues during April-September 1999.

Debt raisings through public issues reveals rising trend during last few years. Total amount raised through public issues increased to 60% in 1996-97, 63% in 1997-98 and 94% in 1998-99. Its share during April-September, 1999 has reduced to 74%. Public sector dominates public debt issues. There was no debt issue from private sector during 1997-98 and 1998-99.

Public Sector units and DFIs are most active in mobilising funds from the primary market. They accounted for 74% of the total private placement market in debt instruments during April – Sept 1999 against 81% in 1998-99 and 75% in 1997-98. All India financial institutions led with a 48% share, followed by state level undertakings with a 24% share during 1998-99. However April-September 1999 witnessed reversal of trend. State level undertakings led with a 36% share followed by private sector with a 26% share. The break up of funds raised by various categories of issuers is given in Table No.4 and Figures 3 and 4.

Sectoral distribution shows that the financial services sector continues to dominate the private placement market, raising 54% in 1998-99 and 29% in the first half of 1999-2000. Power sector accounted for 18% and 19% respectively during the same period. Sectoral distribution of the debt private placements is presented in Table No.5.

54% of the mobilisation through private placement of debt during 1998-99 was in the interest range of 14% to 15%. While the tax free bonds had coupon rates of 10% to 10.75%, in the taxable category the rates ranged between 10% and 19.5%. The public sector debts were issued at relatively lower coupon rates in the range of 10.4% to 16%, while private sector debts at higher rates of 10% to 19.5%. The

Table No. 4: Issuer-wise Distribution of Private Placement of Debt

Issuer	1998 - 99		April - Sept. 1999	
	Issue Amount (Rs. Crore)	% of Issue Amount	Issue Amount (Rs. Crore)	% of Issue Amount
All India Financial Institutions /Banks	18614	*48.0*	*4091*	*17.8*
State Financial Institutions	314	*0.8*	*679*	*3.0*
Public Sector Undertakings	3110	*8.0*	*3775*	*16.5*
State Level Undertakings	9479	*24.5*	*8359*	*36.4*
Private Sector	7231	*18.7*	*6044*	*26.3*
TOTAL	**38,748**	***100***	***22949***	***100***

Source: Prime Annual Report

Figure 3: Issuer-wise Distribution of Private Placement of Debt Issues, 1998-99

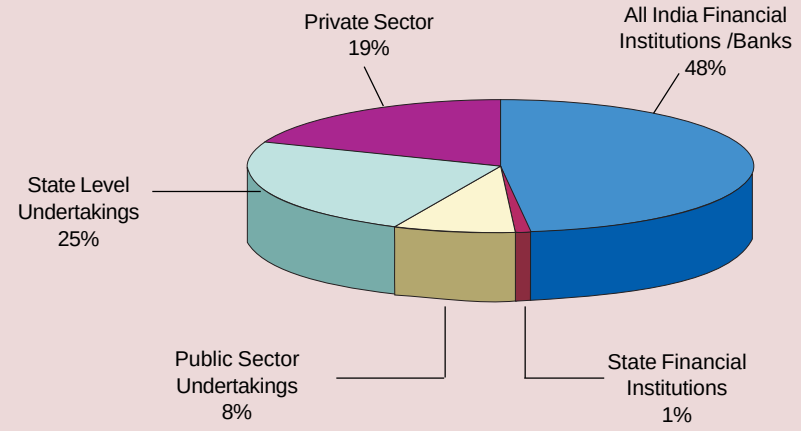


Figure 4: Issuer-wise Distribution of Private Placement of Debt Issues, April-September, 1999

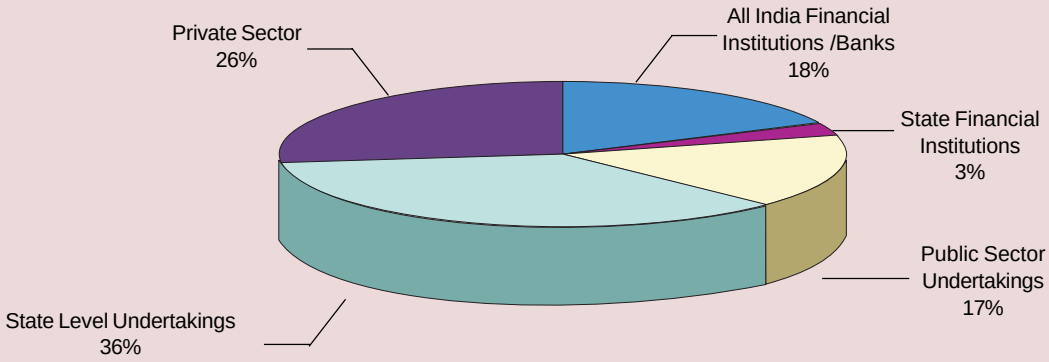


Table No. 5: Sectoral Distribution of Debt Private Placement *(In Percentage)*

Sector	1995-96	1996-97	1997-98	1998-99	Apr-Sept 1999
Financial	63	52	50	54	29
Power	8	15	12	18	19
Water Resources	4	2	7	8	12
Telecommunications	13	11	4	3	5
Others	12	20	25	17	35

Source : Prime Database

tenor ranged from 1 to 20 years.

Government Securities

The primary issues of the Central Government have increased ten-fold during the decade of 1990's from Rs. 8,989 crore in 1990-91 to Rs. 93,953 crore in 1998-99. The issues by state governments increased by about five times from Rs. 2,569 crore to Rs. 12,114 crore during the same period. The gross borrowings of the Central Government and State Governments increased by about 57% in 1998-99 over 1997-98.

The primary debt market was active with RBI mopping up funds on behalf of the government actively during 1998-99. The gross market borrowing amounted to Rs. 93,953 crore, including 364-day treasury bills of Rs. 10,200 crore. After meeting repayment liabilities of Rs. 14,803 crore, and redemption of 364-day treasury bills of Rs. 16,247 crore, net market borrowing was Rs. 62,903 crore for the year 1998-99. The borrowings of governments are presented in Table No. 6. Twenty-five State Governments collectively raised Rs. 12,114 crore during 1998-99 as against Rs. 7,749 crore in the preceding year. The net borrowings amounted Rs. 10,700 crore after meeting repayment liabilities of Rs. 1,414 crore. The Central Government has completed most of its budgeted borrowing programme in the first eight months of the current fiscal 1999-2000. It has mobilised a sum of Rs. 82,130 crore, including Rs. 8500 crore in the form of 364-day treasury bills. Annexure-I presents details of issues of government securities since 1997-98.

Coupon Rates

RBI initially absorbed private placement of government securities and released them in the market when interest rates softened. This resulted in fairly stable interest rates during 1998-99 despite huge borrowings and in issue of government securities at interest rates varying between 11.10% to 12.60% during 1998-99 against the range of 10.85% to 13.05% during the preceding year. The coupons across maturities went down signifying lower interest rates. The weighted average interest rate on government dated securities declined from 12.01% in 1997-98 to 11.86% during 1998-99, as may be seen from Table No.7. Though the weighted average interest rate on state government securities also declined proportionately during the year, it remained higher than that on central government securities. The decline in weighted average interest rate by 15 basis points is quite modest despite a prevailing low level of inflation during 1998-99. Table No.8 presents the coupon range for government securities issued in the fiscal 1998-99

Table No. 6: Market Borrowing of Governments *(In Rs. Crore)*

Security	Gross			Repayment			Net		
	1997-98	1998-99	1998-2000 (BE)	1997-98	1998-99	1998-2000 (BE)	1997-98	1998-99	1998-2000 (BE)
Central Government	59637	93953	84014	19143	31050	26553	40494	62903	57461
Dated securities	43390	83753	73630 (A)	10902	14803	16353	32488	68950	-
364D T-Bills	16247	10200	8500 (A)	8241	16247	10200	8006	-6047	-
State Government	7749	12114	12267	557	1414	1301	7193	10700	10966
Total	**67386**	**106067**	**96281**	**19700**	**32464**	**27854**	**47687**	**73603**	**68427**

A : Actuals ***Source : RBI Annual Report and Report on Currency & Finance, 1998-99***

Table No. 7: Borrowings of Governments and Weighted Average Interest Rates					
Fiscal Year	Central Government			State Government	
	Gross Amount	Interest Rate (%)	Range (%)	Gross Amount	Interest Rate (%)
1980-81	2871	7.03	5.98-7.50	333	6.75
1990-91	8989	11.41	10.50-11.50	2569	11.50
1991-92	8919	11.78	10.50-12.50	3364	11.82
1992-93	13885	12.46	12.00-12.75	3805	13.00
1993-94	50388	12.63	12.00-13.40	4145	13.50
1994-95	38108	11.91	11.00-12.71	5123	12.50
1995-96	40509	13.75	13.25-14.00	6274	14.00
1996-97	36152	13.69	13.40-13.85	6536	13.83
1997-98	59637	12.01	10.85-13.05	7749	12.82
1998-99	93953	11.86	11.10-12.60	12114	12.35
Source : RBI Annual Report and Report on Currency & Finance, 1998-99					

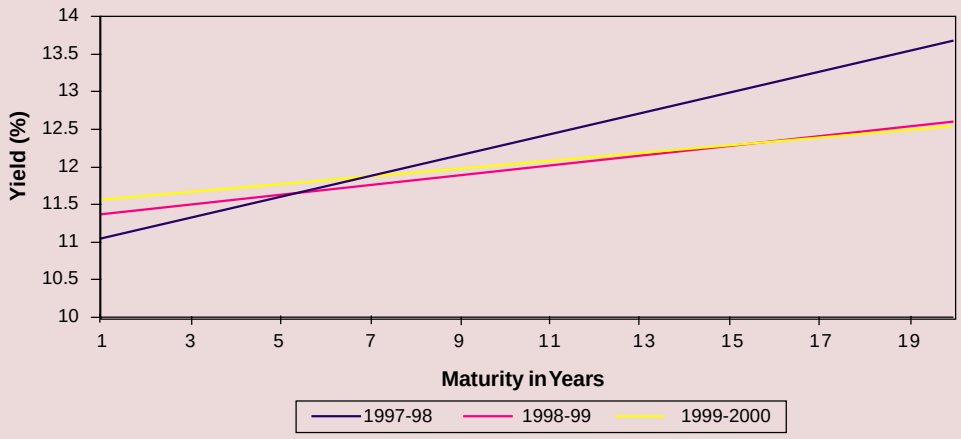
Table No. 8: Coupon in Government Securities Issued since 1997-98				
Instrument	Tenor	Coupon Rate Range (%)		
		1997-98	1998-99	1999-2000
Treasury bills (cut-off)	14 day	4.94-7.30	5.47-9.39	7.30-8.87
	91 day	5.72-7.33	7.17-10.0	8.37-9.46
	182 day	-	-	9.29-9.93
	364 Day	7.98-9.42	7.97-10.72	9.95-10.67
Government Securities (Coupon)	2 yr	-	11.40	-
	3 yr	12.14	11.47-11.55	-
	4 yr	10.85	11.68	-
	5 yr	11.15-12.69	11.10-11.78	-
	6 yr	11.57-11.83	11.50- 11.98	11.19-11.98
	7 yr	12.59	-	11.68
	8 yr	11.19	11.75	11.90
	9 yr	-	11.90	-
	10 yr	12.15-13.05	12.00-12.25	11.99
	11 yr	-	12.29	12.29-12.32
	12 yr	-	12.25-12.32	12.32
	15 yr	-	12.40	11.83-12.40
	17 yr	-	-	12.30
	20 yr	-	12.60	12.60
State Government securities	10 yr	12.30-13.05	12.15-12.50	-
	11 yr	-	12.25-12.50	-

and 1999-2000. Figure 5 presents primary market yield of government dated securities in recent years.

Maturity Structure

In view of bunching of redemption liabilities in the medium term, long term securities with maturities of 11, 12, 15 and 20 years were issued during 1998-99. These aggregated Rs. 11,324 crore or 13.5 % of total primary issues during the year. As a result the weighted average maturity of dated securities increased to 7.71 years from 6.6 years in 1997-98 and 5.5 years in 1996-97. During April-November

Figure 5: Primary Market Yield of Central Government Securities



1999, only one fifth of dated securities has been issued for maturities less than 10 years as against 87% in 1998-99. The weighted average of maturities of dated securities during April-November has been nearly 13 years. In view of increasing tenor of securities, the structure of outstanding debt has undergone change. The share of outstanding debt maturing in five years decreased to 35% on 31st March 1999 as against 45% on 31st March 1997. It would reduce drastically during 1999-2000. The maturity structure of outstanding government securities in this decade is presented in Table No.9.

Table No. 9: Maturity Structure of Outstanding Central Government Securities (%)

31st March	< 5 years	5 -10 years	> 10 years
1991	8.6	5.6	85.8
1992	7.4	16.8	75.5
1993	8.0	14.2	77.8
1994	21.4	22.3	56.3
1995	25.3	27.4	47.3
1996	38.4	30.3	31.3
1997	45.2	29.0	25.8
1998	41.0	40.8	18.2
1999	35.1	48.3	16.6

Source : Report on Currency and Finance, 1997-98 and Annual Report, 1998-99

SECONDARY MARKET

The aggregate turnover in central and state government dated securities including treasury bills through SGL transactions during 1998-99 reached a level of Rs. 2,27,228 crore, recording a 22% growth over Rs. 1,85,708 crore in the previous year. The average annual growth in turnover has been as high as 55% for the period 1994-95 and 1998-99. Such growing turnover reflects increasing deepening of the market. The monthly turnover ranged between Rs.10,767 crore and Rs.32,747 crore with an average of an Rs. 18,936 crore. The share of outright transactions in government securities increased from 23% in 1995-96 to 76.4% in 1996-97 and to 86.8% in 1997-98 and it reduced marginally to 83% in 1998-99 to increase to 86 % in April-December 1999. The share of repo transactions declined correspondingly from 76.8% in 1995-96 to 17.5% in 1998-99, as may be seen from Table No. 10. The details of trades of government securities since April 1997 are presented in Annexure-II.

Government debt, which constitutes about 70% of the total outstanding debt, has the highest level of liquidity amongst the fixed income instruments in the secondary market. The share of dated securities in total turnover of government securities has been

Table No. 10 : Secondary Market Transactions in Government Securities					
Year	Total SGL Turnover (Rs. Cr.)	Shares in Total SGL Turnover (%)			
		Outright	Repo	Dated Securities	T-Bills
1994-95	50569	42.1	57.9	52.9	47.1
1995-96	127179	23.2	76.8	87.2	12.8
1996-97	122942	76.4	23.6	69.9	30.1
1997-98	185709	86.8	13.2	75.8	24.2
1998-99	227228	82.5	17.5	80.4	19.6
April - Dec 99	365316	85.8	14.2	90.4	9.6

increasing over the years. It was 76% during 1997-98, which increased to 80% in 1998-99 and further to 90% in April-December 1999. Two way quotes are available for the active gilt securities from the primary dealers. Though many trades in the gilts take place through telephone, a larger chunk of trades get routed through NSE brokers.

The share of Wholesale Debt Market (WDM) in the turnover for dated securities and treasury bills decreased from 56% in 1997-98 to 42% in 1998-99. This happened because the overall turnover of government securities registered a growth of 22% during 1998-99, while the same on WDM declined by 8%. However, the share of WDM in total turnover of government securities improved to 54% in April-December 1999. WDM's share in transactions of dated securities increased from 32% in 1996-97 to 60% in 1997-98 and then declined to 46% in 1998-99. Its share in transactions of treasury bills, which went up from 30% in 1996-97 to 42% in 1997-98, declined to 24% in 1998-99. The share of dated securities increased sharply to 58% and that of treasury bills reduced to 20% during April-December 1999. Share of WDM in repo transactions was 2.5% while that in outright transactions was 65% during April-December 1999. The share of WDM in total SGL turnover is presented in Table No.11.

Corporate debt securities are traded on the BSE as well as on the WDM and CM segments of the NSE. The turnover on the BSE is negligible with a monthly average of Rs. 12.55 crore during 1998-99. It has reduced further during the current year with a trade of Rs. 90 crore during April-December 1999.

NEAT-WDM Trading System

Only trading mechanism available in the debt market was the telephone market before June 1994 when

Table No. 11 : Secondary Market Transactions in Government Securities *(Turnover in Rs. Crore)*									
Year	Turnover of Government Securities			Turnover of Dated Securities			Turnover of T-Bills Securities		
	On SGL	On WDM	Share of WDM (%)	On SGL	On WDM	Share of WDM (%)	On SGL	On WDM	Share of WDM (%)
1994-95	50569	5660	11.19	26776	3026	11.30	23794	2634	11.07
1995-96	127179	9988	7.85	110852	7728	6.97	16327	2260	13.84
1996-97	122942	38309	31.16	85915	27352	31.84	37028	10957	29.59
1997-98	185709	103586	55.78	140700	84720	60.21	45009	18866	41.92
1998-99	227228	95280	41.93	182716	84574	46.29	44511	10706	24.05
April-Dec. 1999	365316	198009	54.20	330289	191082	57.85	35027	6928	19.78

NSE launched WDM segment. This provides the only formal platform for trading of a wide range of debt securities. The trading system, known as NEAT (National Exchange for Automated Trading) is a fully automated screen based trading system that enables members across the country to trade simultaneously with enormous ease and efficiency. The trading system is an order driven system which matches best buy and sell orders on a price-time priority. The identity of the buyer and seller are completely protected on the system.

Entities on NEAT-WDM Segment

The debt market in India is of wholesale nature and is characterised by a large trade size and a few large investors. The principal investors are the Banks, Institutions and other large investors like Mutual Funds. As the routing of both funds and securities through the brokers was considered to be the main cause for the securities scam, NSE has designed the trading and settlement system in such a way that brokers are involved merely in order execution in respect of their client's orders. NSE has therefore created an entity called ***Participant*** as distinct from ***Trading Members.***

Trading Members, who meet the admission criteria for membership of the WDM segment, can place orders and execute trades on the system on their own or on behalf of the clients. On admission, they gain the right to trade on the WDM system. Trading Membership on the WDM is open to corporates, subsidiaries of Banks and Financial Institutions, satellite dealers and primary dealers who have a minimum networth of Rs. 2 crore and comply with other eligibility criteria. **Participants** take direct settlement responsibility for the trades executed on the WDM on their behalf by an NSE trading member. They consist of large investors such as banks and institutions that are not members of the NSE and therefore cannot directly transact, but effect transactions through the WDM members.

Counter party exposure limits

Participants are required to register with the exchange and are provided connectivity to the Exchange by which they can view the market on-line through a screen. Since the trades in the WDM are settled directly between the participants and they take an exposure to the settlement risk attached to any unknown counterparty due to the on-line, anonymous trading system, NEAT-WDM system provides a facility whereby all participants can set up their counter-party exposure limits against all probable counterparties to contain the settlement risks. This enables the trading member/participant to reduce/ minimise the counterparty risk associated with the counterparty to the trade. Participants and Trading members can set exposure limits against all probable counterparties with respect to Buy, Sell, Buy + Sell or Buy - Sell transactions using the online facilities of the exchange.

Apart from setting counterparty limits and viewing the market on-line, the participants can also confirm the settlement details to the exchange using their online communication network. Thus, the exchange has facilitated trading by banks on its trading system and has provided facilities for controlling their exposure to other market participants. Thus, NSE has done away with the sole dependence of the market participants on telephone market to trade and has instead taken the exchange floor to the investor's doorstep.

Order Book on WDM Segment

The Normal Order Book of the exchange enables the Trading Members to enter Buy/Sell orders for securities available for trading. These orders could be on their own account or on account of the Participants. The trading system provides flexibility to add a variety of quantity and price related

conditions to suit the specific needs of the investors. All orders entering the system are time stamped and are allotted a distinctive order number. Thereafter, the system scans the order books to check if any existing order could match with the incoming order. If a compatible order is found, such order is matched with the incoming order and a trade takes place. Otherwise, the incoming order is stored in the order book to match against future incoming orders. Matching takes place on a price-time priority basis, with the best order getting executed first. While matching compatible orders into trades, system takes care of the counterparty limits set by the participants against each other. Thus, the system takes care of the risk of trading with an unknown party emanating from the anonymous on-line trading.

Apart from the Normal order book, the segment provides a facility, called the Negotiated Trade Order book, by which deals negotiated or structured outside the exchange are exposed to the market through NEAT system. This facility enables negotiated deals to be made transparent for price information to the market.

Advantages of NEAT-WDM System

As explained above, the NEAT system is a comprehensive trading system to substitute the telephone market, giving in the process the advantages of an efficient price discovery mechanism and a transparent and risk-free trading. However, the market participants have not yet graduated to the advanced trading mechanism and continue to trade outside the automated trading system, which is neither transparent nor provides an efficient price discovery mechanism. Although, the deals struck outside the trading system through intermediaries are reported to the exchange as negotiated trades and are disseminated to the market through the NEAT system, the market is yet to reap the real advantages of the on-line, automated and transparent debt market.

WDM segment provides trading facilities for a variety of debt instruments. Initially, Government securities, Treasury Bills and Bonds issued by Public Sector Undertakings were made available for trading. This range has been widened to include non traditional instruments like Floating Rate Bonds, Zero Coupon Bonds, Index bonds, Commercial Papers, Certificates of Deposit, Corporate Debentures, State Government loans, SLR and Non-SLR Bonds issued by Financial Institutions, Units of Mutual Funds and securitised debt. Interestingly, many new instruments such as floating rate bonds, institutional certificates of deposit etc. have registered first time activity in the market through the exchange.

The trades on the WDM segment could be either Outright trades or REPO transactions with a flexibility for varying days of settlement (T+0 to T+5) and Repo periods (3 to 14 days). For every order it is necessary to specify the number of settlement days and the trade type (Repo or Non-Repo), and in the event of a Repo trade, the Repo term. Order matching is carried out only between orders, which carry the same conditions with respect to settlement days, trade type and repo period, if any.

WDM Clearing and Settlement

At present, trades are settled gross, on a trade for trade basis, i.e. each transaction is settled individually between the constituents/participants on a bilateral basis and netting of transactions is not allowed. The exchange monitors settlement of these trades on day to day basis, wherein participants confirm all trades and settlement thereof and also provide complete settlement details to the exchange through an on-line,

interactive data communication system. Disputes and differences arising from settlement of trades, if any, are referred to arbitration under the exchange bye-laws.

This is clearly not the best settlement solution as the efficiencies in the electronic trading system are not matched with similar advantages and efficiencies in the settlement system. In fact, many of the problems that arose during the 1992 securities scam related to the non-settlement of transactions done in the telephone market. It is for this reason that NSE had originally envisaged a clearing and settlement framework wherein the RBI may take up an on-line connectivity to the NEAT system. This would have enabled RBI to obtain the trade details on an on-going basis. This would have automated the settlement process obviating the need for submission of the physical SGL forms for settlement purposes as explained hereunder.

As and when trades are concluded/reported on the system, the information is disseminated to the whole market. At the same time, this information can be made available to the RBI system also, which RBI can use for its monitoring and surveillance of the market. Such a system would enable the desired focus on the market, viz. security specific or participant specific monitoring etc. The information being given to the whole market may be processed/ refined further for this purpose and provided to RBI on-line. This information would be useful to RBI to intervene in the market or plan new floatations or fine-tune the exact issue size and/or yield of the already announced issues. On the clearing and settlement front, RBI can monitor the funds and securities positions of all market participants. It may also decide to take up on-line gross settlement as and when any trade takes place. This would bring the trading and DVP settlement (Delivery Versus Payment) together without any manual intervention - neither at participants nor at RBI's end. Thus, the proposed on-line connectivity to RBI would not only enable the market surveillance but also automate and speed up the clearing and settlement process, thereby guarding against the repetition of the pre-1992 irregularities.

While the above framework would take care of the settlement of trades entered into by participants who hold Current/SGL accounts with RBI, the remaining trades would use the constituent SGL facility offered by NSCCL. This could be extended to handle settlements for SGL holders also in due course to bring all debt market transactions under a common settlement mechanism. This would integrate the current physical segment of the Gilts market with its SGL counterpart and thereby extend the benefit of instant DVP to all market participants - big or small.

Working of WDM

The turnover on the WDM segment has been increasing by leaps and bounds. The number of trades per day increased from 5 in 1994-95 to 51 in 1998-

Table No. 12 : Business Growth on WDM

	Jun 94 – Mar 95	1995 – 96	1996 - 97	1997 – 98	1998 - 99	Apr - Dec 1999
No. of Active Securities	183	304	524	719	1071	843
Avg. No. of Trades per day	5	10	27	57	51	140
Avg. Daily Turnover (Rs. Cr.)	30	41	145	377	337	904
Turnover (Rs. Cr.)	6781	11868	42278	111263	105469	205287
Avg. Trade Size (Rs. Cr.)	6.64	3.97	5.42	6.61	6.55	6.47

99 and to 140 in April-December 1999. Similarly average daily turnover increased from Rs. 30 crore to Rs. 904 crore during the same period. The turnover increased from Rs. 6,781 crore in 1994-95 to Rs. 1,05,469 crore in 1998-99. April-December 1999 witnessed a turnover of Rs. 2,05,287 crore. The business growth on the WDM is presented in Table No.11 and also in Annexure – III.

The market remained buoyant though turnover declined marginally from Rs. 1,11,263 crore during 1997-98 to Rs. 1,05,469 crore in 1998-99. The average daily turnover registered a decline from Rs. 377 crore 1997-98 to Rs. 337 crore in 1998-99. Consequent on reduction in Bank rate, CRR and Repo rate, activity increased significantly in the last quarter and daily turnover soared to Rs. 661 crore in March 1999. On an average, 1,341 trades were transacted per month during the year with March 1999 recording 2,218 trades. The monthly turnover shows an erratic trend. The turnover of Rs. 13,036 crore in April 1998 declined to Rs. 5,475 crore in September 1998 before rising to Rs. 8,454 crore in November 1998 and further to Rs. 10,023 crore in January 1999. There was, however, a sharp fall in turnover to Rs. 7,110 crore in February 1999. In March 1999, the turnover more than doubled to Rs. 15,206 crore. The number of trades, however, showed less fluctuation during the same period. The average daily turnover which was as high as Rs. 593 crore in April 1998 declined to Rs. 211 crore in September 1998 before rising to Rs.352 crore in November 1998. It stood at Rs. 418 crore in January 1999 but decreased to Rs. 296 crore in February 1999 to increase to Rs. 661 crore in March 1999.

The market is booming during the current fiscal. Average daily turnover has reached Rs. 1,305 crore during December 1999 which recorded a total turnover of Rs. 30,923 crore with 4,797 trades. The details of trade in the WDM segment since June 1994 have been presented in Figure 6 and 7.

Retail Trades

Table No. 13 reveals that though the number of retail trades (trade value of less than Rs. 1 crore) has been increasing, its share in turnover has declined from 1.75% in 1995-96 to 0.29% in 1998-99 and further to 0.08% during April-December, 1999. The efforts made by policy makers to broaden the investor base by retailing government securities do not seem to be yielding desired result. The average size of a WDM trade, which had dropped to Rs. 3.97 crore in the year 1995-96 from Rs. 6.64 crore in the preceding year, went up to Rs. 5.42 crore in 1996-97 and to Rs. 6.55 crore in 1998-99. Such large average size of size of trades only proves wholesale nature of the market. The size distribution of trades is presented in Figure 8.

Securities Profile

Though the turnover of government securities on WDM reduced marginally during 1998-99, its share in total turnover increased to 80% compared to 76% in the previous year. The share of treasury bill reduced drastically from 17% to 10%. During April-December 1999, government securities witnessed heavy trading and its share increased to 93% whereas the contribution of the treasury bills and PSU bonds dipped further to 3.4% and 0.5% respectively. The share of government dated securities in turnover increased to 95% while that of treasury bills declined to 1.7% in November 1999. The share of dated securities has been continuously rising, while that of treasury bills and PSU bonds has been declining.

Table No. 13: Retail Trades on NSE's WDM Segment						
	Jun' 94 - Mar' 95	**95-96**	**96-97**	**97-98**	**98-99**	**April-Dec, 1999**
No. of Retail Trades	168	1115	1061	1390	1522	752
Avg. No. of Retail Trades per month	19	93	88	116	127	63
Avg. Trade Size (Rs. Lakh)	18.21	18.58	18.90	20.76	20.22	23.11
Share of Retail Trades in Total Trade (%)	16	37	14	8	9.45	2.37
Share in Turnover (%)	0.45	1.75	0.47	0.26	0.29	0.08

Figure 6: Growth of Business on WDM Segment

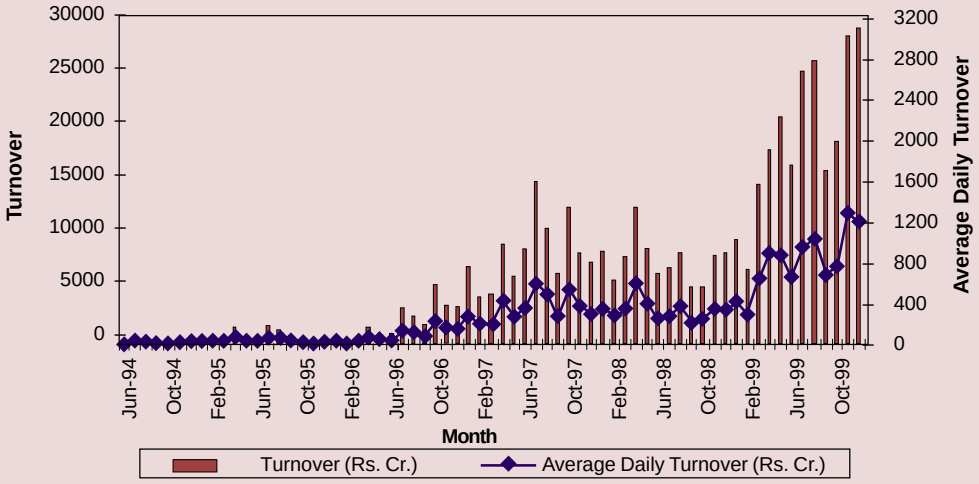


Figure 7: Characteristics of Trade on WDM

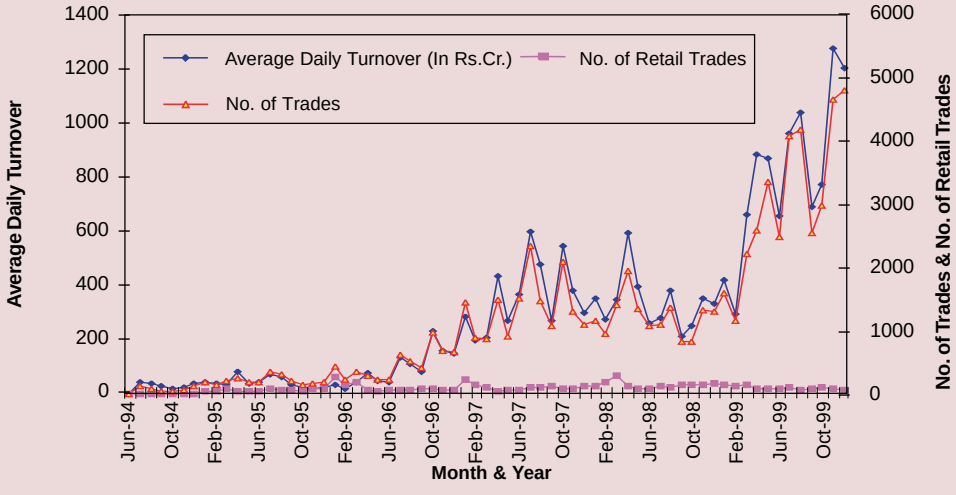
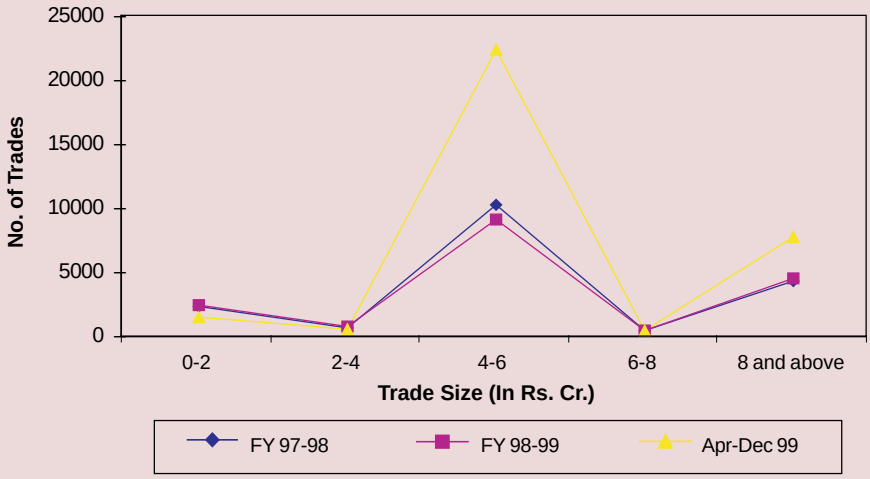


Figure 8: Size Distribution of WDM Trades



Long term government securities dominated the market during 1998-99. For instance, in April 1998, 88% of trade occurred in government securities whereas treasury bills accounted for 9% only. However, share of government securities declined to 73% in July 1998 and share of treasury bills increased to 16%. The government securities recovered to higher share at 87% while that of treasury bills went down to 7% by March 1999. Though there were large variations from month to month, the trade shifted to government securities revealing the interest of the investors to hold on long-term assets. The trading in PSU Bonds witnessed a lackluster trend with a turnover of Rs. 1729 crore in 1998-99 as against Rs. 2522 crore in 1997-98. PSU bonds did not attract much attention also during April-December 1999 bringing down its share in total trade to 0.5%. Figures 9 and 10 present security-wise distribution of trades in 1998-99 and April - December 1999.

The number of scrips listed on the WDM reduced to 386 in 1998-99 from 418 in 1997-98, while the number of active scrips, both under listed and permitted category, increased from 719 to 1071 during the said period. This indicates a significant improvement in market depth. The number of active securities during the April – December 1999 was 843. The improvement in trend is presented in Figure 11.

The share of top 10 securities in the total turnover witnessed a declining trend over the years. This is a healthy trend indicating contribution by a larger basket of securities to total turnover. The share of the top 10 securities in turnover declined from 69% in 1995-96 to 42% in 1998-99. During April-December 1999 contribution of top 10 securities increased to 57% indicating that trading is getting concentrated in a few securities. The extent of concentration of trades in a few scrips is presented in Table No. 14. Top 50 scrips accounted for over 90% of turnover in April - December 1999.

Participants Profile

Indian banks, primary dealers and foreign banks are the major players in the WDM. Indian banks continue to be market leaders with about 45% of total trades. The shares of Foreign Banks and Indian banks remained steady during 1998-99 as compared to the previous year accounting for 23% and 43% of the turnover. The primary dealers contributed 15% of total turnover in 1998-99 against 12% in 1997-98.

Figure 9: Security-wise Distribution of Trades in WDM, 1998-99

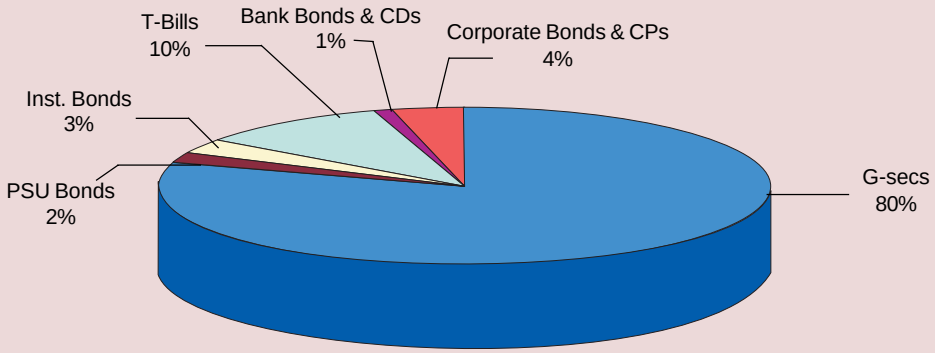


Figure 10: Security-wise Distribution of Trades in WDM, April-December 1999

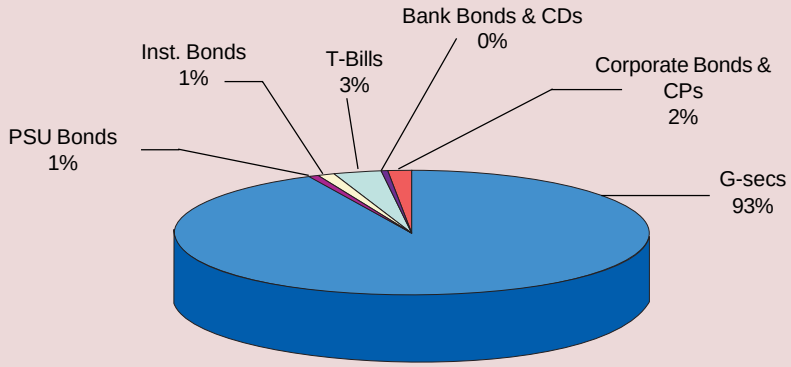


Figure 11: Active Securities on the WDM Segment

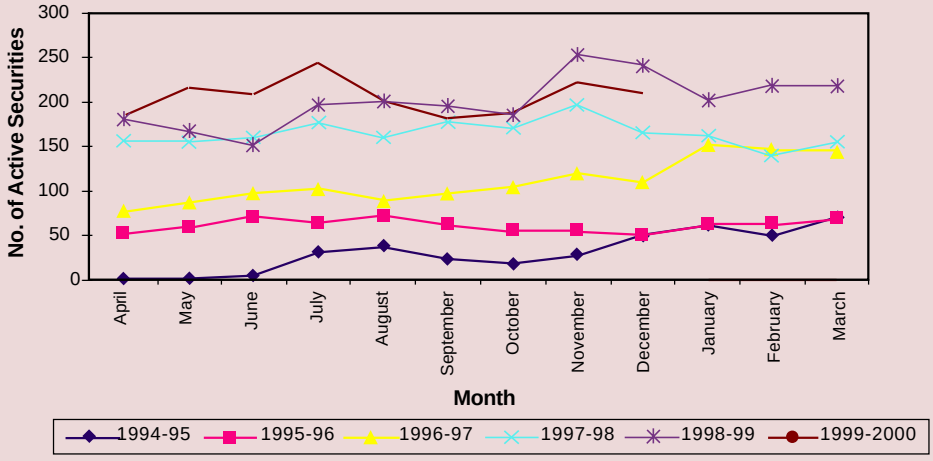


Table No. 14: Security wise Distribution of Turnover *(Turnover in Rs. Cr.)*								
Securities	**1996-97**		**1997-98**		**1998-99**		**April-Dec, 1999**	
	Turnover	**% of Turnover**	**Turnover**	**% of Turnover**	**Turnover**	**% of Turnover**	**Turnover**	**% of Turnover**
G-secs	27352	64.7	84720	76.2	84574	80.2	191082	93.1
PSU Bonds	1969	4.6	2522	2.2	1729	1.6	980	0.5
Inst. Bonds	800	1.9	1527	1.5	3278	3.1	2389	1.2
T-Bills	10958	25.9	18866	16.9	10706	10.2	6928	3.4
Bank Bonds & CDs	503	1.1	1185	1.1	861	0.8	603	0.3
Corporate Bonds & CPs	696	1.6	2428	2.2	4228	4.0	3280	1.6
Others	-	-	16	-	92	0.1	26	-
Total	**42278**	**100**	**111264**	**100**	**105469**	**100**	**205287**	**100**

As regards relative participation of players during April-December, 1999 in the WDM, it is observed that share of Indian banks reduced gradually from 49% in April to 41% in December 1999. A noticeable feature which has emerged during the year is the increase in share of trade by primary dealers from 11% in April 1999 to 20% in December indicating success of PDs as market makers. The share of foreign banks has reduced to 14.6%. The FIs and Mutual Funds contribute about 5% of trade.

Security wise and participant wise distribution of turnover in WDM is presented in Annexure IV. Participant-wise distribution of trades on WDM is indicated in Table No. 15 and Figure 12.

Figure 13 shows growth in the number of active trading members and participants. The number of players in the market has increased over the period. The number of active trading members increased from 23 in September 1994 to 47 in March 1999, while the number of active participants increased from 20 to 78 during the same period.

The number of active participants increased from 71 in March 1998 to 78 in March 1999. However, the number of active trading members went down marginally from 50 to 47 during the same period. The number of active members during April-December 1999 rose to 50 whereas the number of active participants witnessed a marginal rise to 84.

Contributions of top 10 trading members/participants to the total turnover are shown in the Table No. 17. The contribution of the top 10 participants declined over the last few years indicating that trading is getting diffused among more participants. In contrast the share of top 10 trading members has not seen much change during this period.

Table No. 15: Share of Top "N" Securities in Turnover in WDM Segment *(In Percentages)*					
Year	**Top 5**	**Top 10**	**Top 25**	**Top 50**	**Top 100**
1994-95	42.84	61.05	80.46	89.81	97.16
1995-96	57.59	69.46	79.60	86.58	93.24
1996-97	32.93	48.02	65.65	78.32	90.17
1997-98	30.65	46.92	71.25	85.00	92.15
1998-99	26.81	41.89	64.30	78.24	86.66
April-Dec 1999	38.63	57.47	81.56	90.23	95.54

Figure 12: Participant-wise Distribution of Trades, April-December 1999

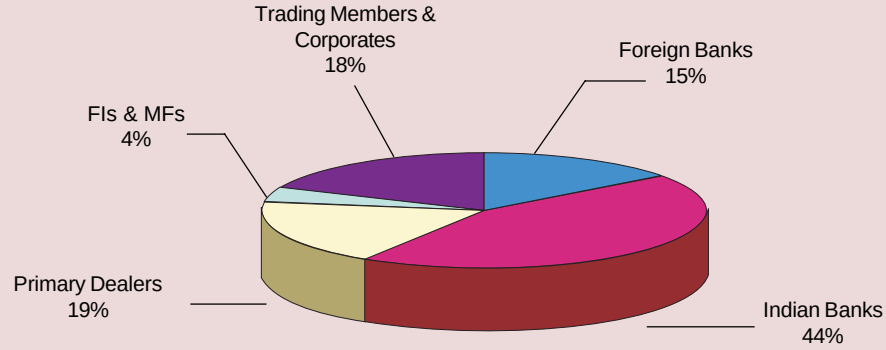


Figure 13: Active Trading Members / Participants on WDM Segment

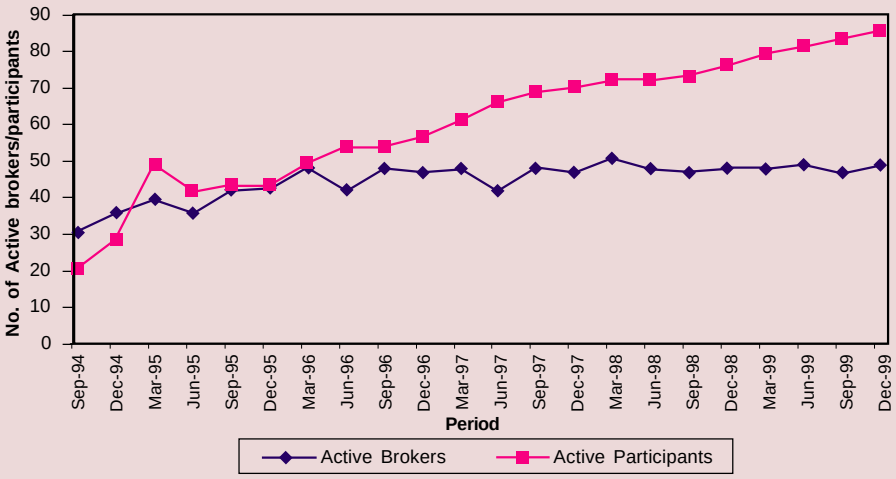


Table No. 16: Participant-wise Distribution of Turnover

Participants	Percentage Share in Turnover			
	1996-97	1997-98	1998-99	April-Dec 1999
Foreign Banks	37.13	22.65	22.83	14.59
Indian Banks	30.01	41.24	42.62	44.42
Primary Dealers	16.00	12.06	14.64	18.54
FIs & MFs	3.01	3.83	4.57	4.11
Trading Members & Corporates	13.85	20.22	15.84	18.34
Total	**100**	**100**	**100**	**100**

Market Capitalisation

During the year 1998-99, market capitalisation grew by 20%. Total market capitalisation of the securities available on WDM stood at Rs. 4,80,022 crore at the end of December 1999, registering a growth of 17% over March 1999 level. The relative shares of different securities in market capitalisation remained almost unchanged during 1998-99 and first nine months of the current fiscal year. As expected, government securities accounted for 63% of total market capitalisation at the end of March 1999. The

Table No. 17: Share of Top "N" Participants in Turnover				
Category	**1996-97**	**1997-98**	**1998-99**	**Apr – Dec 99**
Contribution of top 10 trading members to turnover (%)	51	48	51	53
Contribution of top 10 participants to turnover (%)	45	39	38	29

composition of market capitalisation of various securities on WDM in the recent past is presented in Table No. 18 and Figure 14. The growth of market capitalisation is presented in Annexure – V.

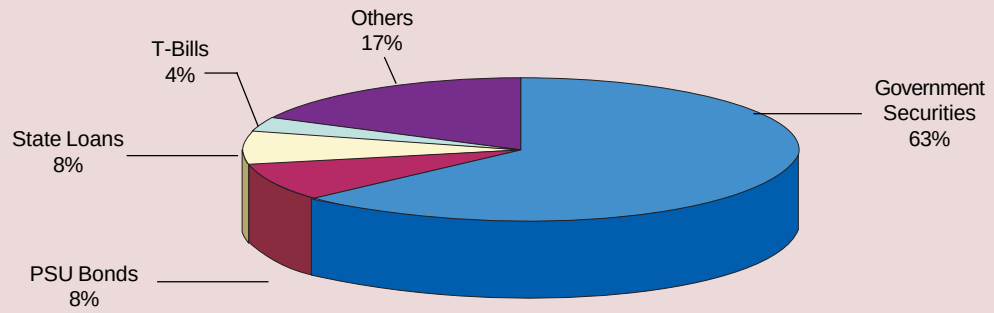
Yield Movements

Government Securities

Figure 15 presents the trend in the yields of government securities. The last financial year saw stability in the yields, with marginal increase in the yields across all maturities. However, the trend was somewhat reversed in the last quarter, specifically in March 1999 when RBI revised the price list and also announced lowering of bank rates thereby signaling reduction in yields for long term maturities. This had the desired effect and the yields

Table No. 18: Market Capitalisation of WDM Segment						
Security	**At the end March 1998**		**At the end of March 1999**		**At the end of December 1999**	
	Market Cap (Rs. Crore)	**% to Total**	**Market Cap (Rs. Crore)**	**% to Total**	**Market Cap (Rs. Crore)**	**% to Total**
Government Security	**196290**	57.20	260002	63.19	303635	63.25
PSU Bonds	**35323**	10.29	34994	8.50	39462	8.22
State Loans	**23989**	6.99	30516	7.42	37132	7.74
T-Bills	**17497**	5.10	11292	2.74	17676	3.68
Other	**70091**	20.42	74666	18.15	82117	17.11
Total	**343190**	**100**	**411470**	**100**	**480022**	**100**

Figure 14: Market Capitalisation of WDM at the end of December 1999



for 5-10 years maturity fell by 60-180 basis points. Sharper decline in yield was noticed in securities maturing in 4-5 years. Yield for short-term maturities, which responded directly to the fluctuations in the call rates, increased by around 100 basis points in the last quarter of the financial year.

Treasury Bills

Yields on Treasury Bills closely tracked the movements in the call money market. The liquidity conditions were quite easy during the first and second quarter of 1998-99 as a result of which there was a softening of weighted yields across all maturities. The yields in the third and fourth quarter, however, witnessed an increase of about 200 basis points for maturity below three months and an increase of 80 -100 basis points for maturity above three months. The yeild movement on treasury bills is presented in Figure 16.

PSU Bonds

The yield curve for both taxable (Figure 17) and tax-free PSU bonds (Figure 18) remained stable for maturities between 3-7 years at around 14.60% and

Figure 15: Yields on Government Securities

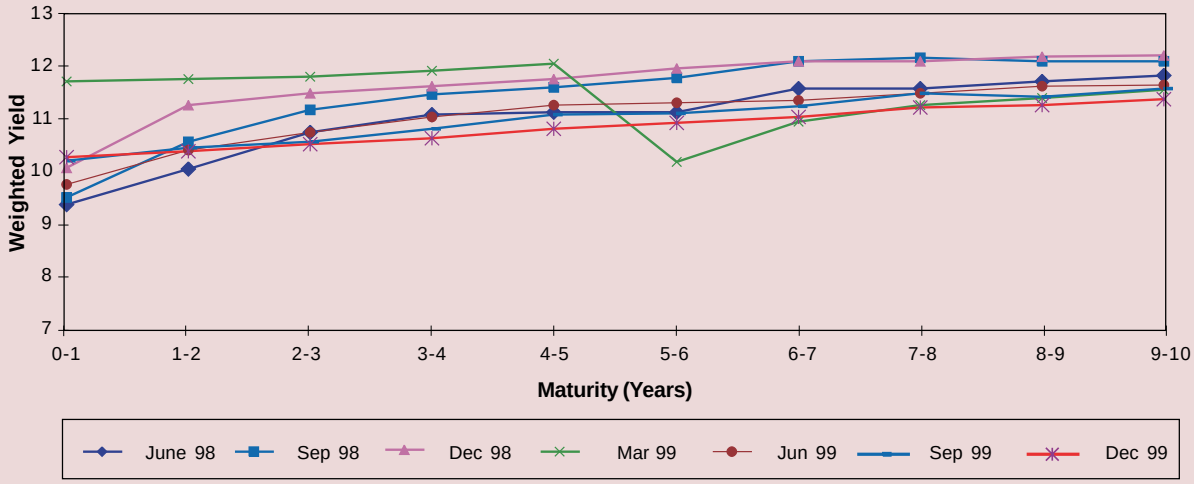


Figure 16: Yields on Treasury Bills

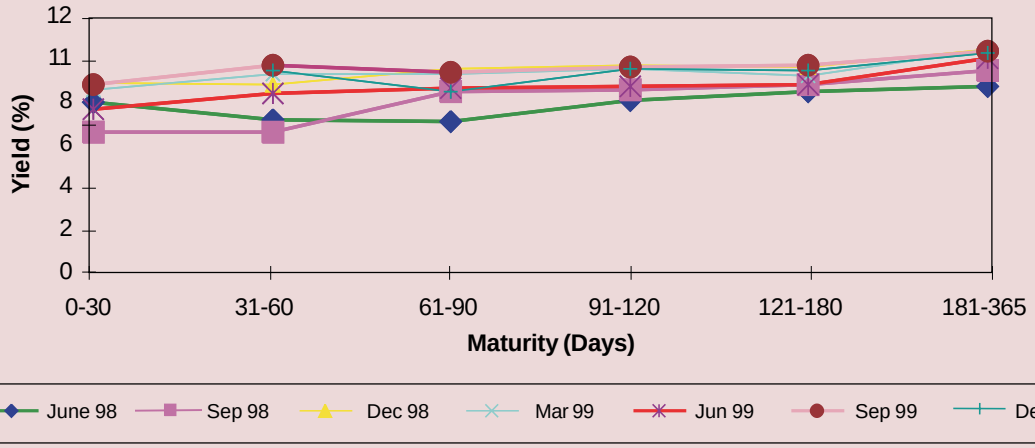


Figure 17: Yields on PSU Taxable Bonds

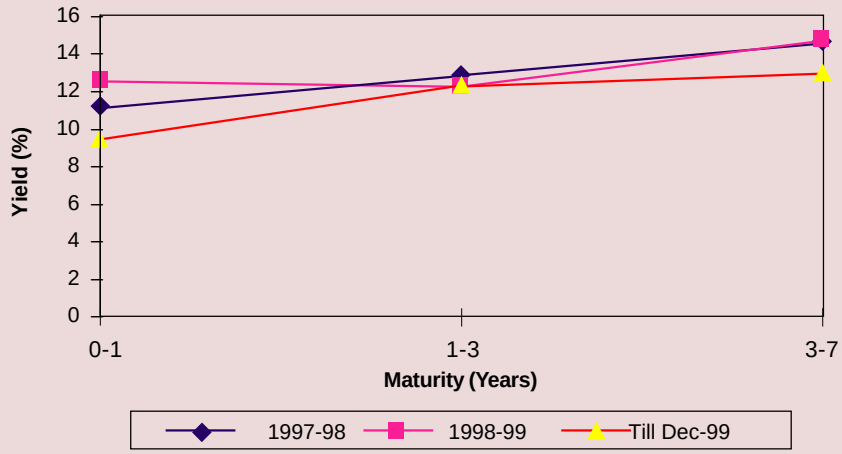
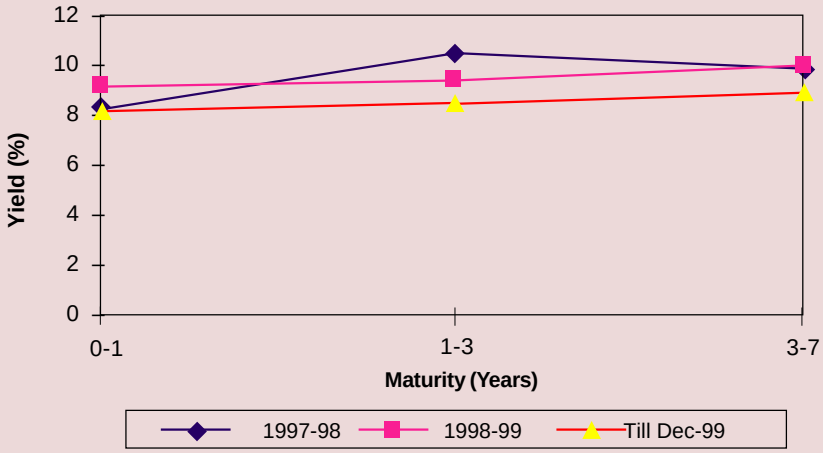


Figure 18: Yields on PSU Tax-free Bonds



10.05% respectively. Yields of both the taxable and tax-free bonds with shorter maturity (between 0-1 years) went up by 80-130 basis points toeing the trend of all short-term instruments.

BENCHMARK RATE: MIBID/MIBOR

In its tradition of innovation, NSE developed and launched the NSE Mumbai Inter-bank Bid Rate (MIBID) and the NSE Mumbai Inter-bank Offer Rate (MIBOR) for the overnight money market on June 15, 1998. The success of the overnight MIBID/MIBOR encouraged the Exchange to develop benchmark rates for the term money market and launch the 14-day MIBID/MIBOR on November 10, 1998 and the 1 month and 3 months on December 1, 1998.

NSE MIBID/MIBOR are based on rates polled by NSE from a representative panel of 32 banks/ institutions. These include Banks (ABN AMRO Bank N.V., American Express Bank Ltd., ANZ Grindlays Ltd., Bank of America, Bank of Baroda, Bank of India, Canara Bank, Central Bank of India, CitiBank N.A., Deutsche Bank AG, Global Trust Bank Ltd., HDFC Bank Ltd., HSBC, ICICI Banking Corporation Ltd., IDBI Bank Ltd., Indian Overseas Bank, IndusInd Bank Limited, Punjab National Bank,

Standard Chartered Bank, State Bank of India, Times Bank Ltd, Union Bank of India), Institutions ((ICICI, IDBI, LIC, UTI), and Primary Dealers (DFHI, Gilt Securities Trading Corporation Ltd., ICICI Securities & Finance Company Ltd., PNB Gilts Ltd., SBI Gilts Ltd., STCI). Currently, quotes are polled and processed daily by the Exchange at 0940 (IST) for overnight rate and at 11.30 (IST) for the 14 day, 1 month and 3 month rates. The rates polled are then processed using the Bootstrap method to arrive at an efficient estimate of the reference rates.

The NSE MIBID/MIBOR along with the respective standard deviations are disseminated to the market at 0950 (IST) for overnight rate and at 1200 (IST) for 14 day, 1 month and 3 month rates. The rates are broadcast on the WDM trading system immediately on release and flow to contributors and users through E-mail and Fax-on-Demand. The daily rates as well as the historical data are also available on the NSE MIBID/MIBOR page, which can be accessed from the home page of the NSE website (http://www.nse-india.com/marketlist/mibor.htm). In addition, leading information vendors like Reuters Knight Ridder, Bloomberg and PTI carry these rates on a daily basis. The rates are also carried by all the leading financial dailies including Economic Times, Financial Express, Business Standard and Business Line. These rates since their launch are presented in Annexure VI.

Bankers, issuers and investors are using the NSE MIBID/MIBOR extensively. Banks have been active in devising tailor made products to suit the customer needs and have also linked term deposit rate to the overnight NSE, MIBID/MIBOR. Issuers use these to price instruments on the basis of daily interest rate movement and hedge against adversities. These provide a comfort zone against any unexpected volatile market movements having an impact on the financial commitments of the issuer in respect of its debt. The transparency resulting from dissemination of MIBID/MIBOR has helped the issuers to obtain finer rates by issuing bonds linked to MIBOR. This is also helping the market participants to assess the market sentiments and the probable rate one is likely to encounter in the market. The function of forecasting has become more meaningful as the information comes from a source, which is not only reliable but has no vested interest of its own in the market movements.

As stated earlier, NSE commenced the dissemination of the MIBID/MIBOR reference rates for the overnight call money market on June 15, 1998. NSE calculated reference rates for 14-day, 30-day and 90-day interest rates from September 7, 1998 onwards, but did not disseminate them. Dissemination of the 14-day rate commenced on November 10, 1998, and the 30-day and 90-day rates on December 1, 1998. These events are valuable natural experiments which helped to observe the impact of improved transparency on market liquidity. The reference rates observed by NSE for days before dissemination reveals market quality without transparency.

In a recent paper, "A Natural Experiment in Market Transparency", by Susan Thomas, et al have examined the impact of these natural experiments. At the simplest, the bid-ask spread - the best measure of market liquidity - dropped by 19.9 basis points (14-day), 11.8 basis points (30-day) and 21.5 basis points (90-day) in the days after transparency as compared with the days before. After controlling for fluctuations in the spread owing to external factors, the spread dropped by 22.8 basis points (14-day), 13.6 basis points (30-day) and 22 basis points (90-day) with extremely high levels of statistical significance. In all three cases, the spreads stood at 80 to 90 basis points before the reference rates became publicly available, which

helps suggest that these reductions are quite substantial in economic terms.

NSE plans to increase the frequency of compiling the overnight NSE MIBID/MIBOR to three times a day so as to capture the market sentiment more frequently and eventually make it an on-line, real time process. NSE also proposes to compile the end-of-day volume-weighted average to arrive at one reliable number, which can summarise the market sentiment for the whole day. The NSE aims to develop a term money rate, which would serve as a good benchmark for introducing trading in derivative instruments.

NEW DEVELOPMENTS IN WDM

The NEAT-WDM trading system introduced a few new functionalities for the benefits of the trading members and participants. These included :

I. Yield calculator

A new facility ' Yield Calculator' has been added to the trading system. The facility provides the user to compute the yield for any security and for any given settlement date. All that the user has to do is to enter the desired Security description, Settlement days, Settlement date and Price and the YTM for the given security at the expected price is flashed on the screen. The user also has the option of getting the corresponding price for a given yield.

II. Interactive Report Download

The trading members have been provided with a facility whereby they can request for report download till the end of the trading hours the next day. That is, members can request for reports anytime after the reports are generated by the system but before the processing commences at the end of the next trading day.

III. Top Securities traded today

A new screen 'Top Securities Traded Today' has been incorporated wherein information of actively traded securities for the current trading day is provided. The screen includes information for Non Repo and Repo trades, with the corresponding traded value, number of trades, high price, low price and the last traded price. The screen also displays the total order value, total trade value and total number of trades for the market.

IV. Constituent SGL Account

Earlier, SGL facility was available to all investors of debt securities. This was later restricted to large investors. RBI allows large banks and financial institutions to hold their investments in government securities and treasury bills in the electronic book-entry form. Such institutions can settle their trades for securities held in SGL through a DVP mechanism ensuring movement of funds and securities simultaneously. Other investors are required to hold their investments in physical form. RBI, however, gives an option to such investors to hold their securities in electronic form by opening a Constituent SGL account with any bank authorised for this purpose and thus avail of the DVP settlement.

NSCCL has been permitted by RBI to open SGL account to offer Constituent SGL facility at Mumbai, Delhi, Kolkotta and Ahmedabad. NSCCL proposes to offer constituent SGL facility to a wide range of investors, including retail investors. The initial response of the PF trusts and other retail investors to this facility has been good. NSCCL presently handles de-materialization, re-materialization, buy/sell, corporate actions like interest payment, redemptions, conversions and primary auctions for its constituents. Settlements on behalf of NSCCL constituents both at RBI and Intra-NSCCL level are also being handled. Currently, all settlements are

handled at Mumbai and shall be extended to other centres in due course.

V. Debt Settlement Compensation Fund

All trades in WDM segment are settled bilaterally between participants. Thus every investor takes a credit risk on the counterparty. The risk of counterparty default forces every investor to monitor exposure against every counterparty. As a result, the institutional players do not transact with retail participants, including PFs. To address this problem, NSCCL has initiated steps to setup a common clearing and settlement framework for its SGL constituents. This endeavor will help the market to have uniform settlement procedures and provide DVP type settlement even to retail investors who may not have a direct account with RBI. Further, NSCCL has drawn a scheme to financially compensate a Clearing Member in case of default by the counterparty. The compensation will be based on the highest traded price of the security during the relevant period and a penalty cost to be computed on a per day basis for the period. For this purpose, a fund called Debt Settlement Compensation Fund is proposed to be created. Initially, all retail trades, i.e. trades upto a trade value of Rs 1 crore and executed in the continuous market of the WDM segment will be covered under the scheme.

The scheme will not only protect the interests of the contracting parties in case of default by one of the counterparties, it will also promote on-line price discovery in the debt market. It will also help in improving the settlement discipline and standardisation in settlement procedures for the debt market.

NSE'S AGENDA FOR FUTURE

The Debt committee of the NSE considers important issues relating to development of the debt market. Some of the issues considered by the Debt Committee are discussed in the next few paragraphs.

I. Standard delivery terms for PSU bonds

Issues by PSUs comprise a significant proportion of the debt issue in the market. The trading volume in PSU bonds was only Rs. 1729 crore in 1998-99 while its market capitalisation was Rs. 34994 crore at the end of March, 1999.

The committee studied the reasons for low level of activity in PSU bonds and found that the main factors responsible for these are: lack of standard rules, guidelines and market practices for settlement of trades, place of delivery, conditions of certificates, kinds of endorsement, instruments of payment, time limit to deliver, etc.

The committee therefore initiated a move to lay down certain 'Standard Norms for Settlement of Bonds' to bring about greater transparency and liquidity to this market. A set of rules and standard practices were defined to form the standard delivery terms in respect of Place of Delivery, Time of Delivery, Endorsement and Transfer, Delivery of Documents by Seller, Delivery of Documents, Payment by Buyer, type of remittance, instrument etc.

NSE is working towards finalising these norms for creating a healthy secondary market in PSU securities. The committee felt that the long-term solution to problems in settlement of trades in bonds is dematerialisation of PSU and corporate bonds.

II. Repos – Scope and standardisation

A Repurchase agreement, commonly known as a Repo or a ready forward agreement, is a combination of a spot and a forward transaction. Repo market is a very vibrant in developed countries. In India, Repos have remained an over-

the-counter product, which is customised for specific buyer and seller. The total volume of repos on NSE was only Rs. 1318 crore during April-December, 1999.

The traditional method of trading in repo in India in a non-transparent telephone market is vulnerable to ethical lapses. Since repos are done directly between two parties, other market players do not get to know the market sentiment. Besides, the repo market has been traditionally illiquid, mainly due to entry barriers and the fragmentation of liquidity across a variety of products.

The main reason for the slow growth of the repo market have been : Credit risk apprehensions, Limited participation, Non–standardisation and Lack of clear understanding of the legal, regulatory and accounting framework. Besides, the recent securities scam and the various court judgements have put a spanner in the wheels of the repo market, thereby increasing the resistance of the investors to trade in repos.

The Debt Committee of the NSE discussed the various aspects of the Repo and suggested a framework of standardised Repo contracts to promote trading and settlement of Repos in India. The proposal covers :

- Standardisation of contracts - Liquidity gets consolidated if the market players trade in a few well-defined contracts.
- Screen-based trading will impart liquidity as all the trades and the entire order books are publicly visible to all the market players. Transparency would improve the process of price discovery. This new system would be fundamentally different from the current negotiated market.
- By providing Settlement guarantee and interposing NSCCL between the buyer and seller, NSCCL will remove settlement risk. This would significantly change credit risk apprehensions associated in dealing with an unknown counterparty. This would expand market liquidity by attracting more participants and trades in the repo market.
- Flexibility for the party liable to deliver securities to substitute securities of similar nature and maturity at the time of delivery.
- Standard accounting and valuation practices : The uniform treatment by all market participants would ensure standardised accounting and valuation practices to be followed for securities, which are bought or sold under outright transactions and securities acquired or sold under Repo.

When such a proposal is implemented it would help the regulatory authorities in a number of ways:

- monitor the market, fine tune and implement the monetary policy more effectively;
- the regulator can also trade in complete anonymity and conduct open market operations more effectively, and
- being an exchange traded product this would provide complete audit trail to the regulator.

The committee felt that the standardised Repo Contract will add significantly higher liquidity to the market. The committee has also decided to work towards standardisation of the accounting and valuation practices relating to Repos.

III. Treasury Bill Futures

The debt market in India does not provide any scope for hedging through derivatives. As NSE has already received an in-principle approval from the regulatory authorities for its plans to introduce equity

based derivative products, the committee explored the possibility of introducing derivative products based on Gilts and, in particular, in T-bills.

In a futures contract, the seller of the contract is normally expected to deliver securities to the buyer of the contract on the expiration date. However since a futures contract is essentially a hedging mechanism traded in a stock exchange, the delivery of the underlying instruments may not necessarily be required on expiration of the contract and the net obligations of the contract could as well be settled in cash.

The volatility in the exchange rates and the resultant fluctuation in the call money as seen in the Indian market in the recent past increases the need for some kind of hedging mechanism for the debt markets.

The committee felt that the T-bill futures would be useful as :

- Ø The screen based trading environment would provide complete anonymity in trading.
- Ø Enable regulatory authorities to conduct open market operations and price future issues in the market.
- Ø Risk management

The committee also highlighted the following advantages to the RBI :

- Ø This would spur liquidity in the underlying cash market in treasury bills.
- Ø Exchange-traded instrument would provide a complete audit trail. The RBI can get data, on a real time basis, about the open positions in all futures contracts.
- Ø The data available would help to price and size the securities auction.
- Ø The growth of the treasury bill futures market would diminish the liquidity premium that is built into interest rates for treasury bills, and it would make treasury bills and short term government instruments an attractive investment option.

Trading in futures could be extended to other long-term government securities, in due course, based on the experience gained in T-bill futures.

In order to provide a more vibrant and healthy debt market, a proposal has been made to RBI for introducing T-bill futures as an effective hedging mechanism in the debt market

IV. Forward Rate Agreements (FRAs)

FRA is widely used in the money markets, particularly foreign exchange markets, to hedge interest rate exposures. A forward rate agreement is an agreement between two parties wherein one party agrees to lend notionally to another party for an agreed period commencing at a future date at an agreed rate. Under the FRA, the principal amount is not paid or received, only the difference between the interest rate as agreed in the FRA and the actual interest rate prevailing on the date of commencement of the notional transaction is settled.

FRA contract serves as an essential tool to split the price risk from the liquidity risk. The Debt Committee discussed a proposal for the exchange traded FRAs. The issues like wagering contract, coverage of the contract as security under the SCRA were identified which need further examination.

The key to establishing a liquid FRA market is availability of a benchmark rate. NSE has already developed a benchmark rate based on a polling technique. This would serve as a first step towards developing a liquid FRA market in India. RBI issued guidelines in July 1999 on interest rate swaps and forward rate agreements to enable banks and all India financial institutions to hedge interest rate risks

and ensure orderly development of derivatives market.

As the FRA product is widely used to hedge exposure in foreign exchange market, the proposal, when implemented, will help in greater integration of the foreign exchange and the domestic money markets.

V. Rationalisation of Stamp Duty on Debt Securities

Stamp duty is one of the significant components of the transaction cost. Currently the stamp duty is attracted by almost all types of debt instruments and is payable in two stages, viz. on the issue of contract note evidencing purchase or sale of a security and on transfer of the instrument. The stamp duty structure is different for different classes of debt instruments. The rates also differ across various states creating artificial distortion in the yields and trading of debt securities.

As debentures are generally secured against specific property, both movable and immovable, which many a times is dispersed all over the country, the market follows different practices to levy stamps at the time of issue and creation of charge. The usual basis are location of the registered office, situation of the property, place where board meetings are held etc.

The committee felt a need for reduction and rationalisation of the stamp duty for the development of the debt market and made the following recommendations :

- The upper limits of stamp duty payable in Maharashtra for contract notes for government securities and T-bills should be brought down to the levels prevalent in other states. This cap should also be extended to other debt securities.
- The exemption on payment of stamp duty on transfer of shares available in a depository should also be extended to any debt instrument in a depository.
- The collection of Stamp duty be effectively administered by levying duty at the time of issue of debt instrument itself and abolish it on trading or transfer of ownership. This would simplify tax administration and also reduce cost of tax collection.

The committee felt that rationalisation of stamp duty would promote secondary market trading in debt instruments. Trading in an automated stock exchange provides a complete audit trail of the transactions, which ensures better compliance and collection of stamp duties. Hence rationalisation of stamp duty would be beneficial in terms of both revenue generation and development of the market.

A set of recommendations was forwarded to the RBI, the National Institute of Public Finance and Policy and the Government of Maharashtra. The Government of Maharashtra has since brought down the stamp duty payable on issue of contract notes for debentures and other marketable debt securities and has made it on par with other government securities.

VI. Short Selling and Netting of Government Securities

One of the main contributing factors for high level of activity and liquidity in the equity segment of the securities market is the facility of 'shorting'. This enables investors and market players to take a different view of the market at different points of time in response to changing information base of the market.

In the equity segment short selling is generally permitted, though Institutional Investors such Mutual Funds and FIIs are not allowed to do so. All stock

exchanges obtain member-wise, scrip-wise short sale position at the end of each trading day. This ensures daily monitoring of outstanding position of each trading member.

Short selling is permitted in the foreign exchange market also, wherein Banks report the net positions daily to the RBI. The RBI has outlined appropriate risk containment measures for short selling in foreign exchange markets.

Current RBI guidelines do not allow Banks to go short in securities. Although these guidelines do not specifically apply to the non-bank participants, a general market practice has developed whereby no short selling takes place in the debt market.

The short selling of government securities is permitted in developed markets such as the U.S and the U.K. The advantages of permitting short selling of government securities in India would be largely to impart liquidity to the market, as :

- It allows heterogeneous positions to develop in the market. Currently when interest rates rise, there is no liquidity in the market. If short positions exist, there will be interest to take profit, thereby leading to an active market even in rising rate scenario.
- Most market players currently are averse to investing in government securities beyond the mandatory requirement since it is not possible to hedge the interest rate risk. If short sales are allowed, market players will be willing to take up much bigger positions.
- Distribution of Govt. securities is at present seriously hampered by not being able to sell the specified security when the demand arises. Effectively, the ability to distribute is hampered by the amount of stock, which in turn is hampered by not being able to hedge the interest rate risk. Hence short selling will address these problems.
- Currently primary dealers are making market and providing two-way quotes in select government securities. However, the spreads are wide as they may not have the required government securities in their stock and short selling is not permitted.

It will smoothen interest rate volatility especially in a bear market. Currently one witnesses unwarranted secondary market price increases in government securities, at times defying fundamentals. This is largely due to limited supply from market makers, traders and other investors like banks who continue to hold securities in their investment portfolios. Such adverse price movements have a negative impact on investor confidence.

Currently the market players deal in big lot sizes. They are reluctant to sell small lots in govt. securities as they would be left with odd lots. Such problems could be averted as market makers can sell small lots to retail investors and then cover the risk by shorting the same security or similar duration securities in market lot size. This would boost the retailing of government securities.

- It helps in progressive development of debt market and improves market infrastructure. It increases market depth by increasing the number of players and encouraging larger capital inflows.

- Once the short selling is permitted, the market will be ready for launch of advanced products such as options and futures in government securities.

There is a misplaced fear that short selling, if permitted in the debt market, would result in recurrence of the securities scam related malpractice. However, these fears appear to be unfounded in today's scenario as :

- RBI has laid down detailed guidelines for banks in securities trading and valuation separately.
- NSE has developed on-line trading/ surveillance systems which enables it to monitor broker positions for each individual trade. Besides, a comprehensive surveillance mechanism provides information on brokers and security wise trades. A complete audit trail of activities is also available which provides reliable monitoring facility of the exchange activities.
- The investment department of banks complies with various risk management parameters and is well equipped in terms of human resources, skills and technological infrastructure to monitor the 'long' and 'short' positions in their operation of securities transactions.

By introducing broker-wise, dealer-wise and security-wise limits, the system could be further strengthened. Besides, it is felt that the regulatory bodies could work out an appropriate structure or framework in consultation with NSE to have in place proper safeguards in order to monitor short selling in government securities. In this connection, the committee suggested that :

- A sale transaction entered on the system would be identified upfront whether it is a short position or sale backed by sufficient balance in the SGL.
- The exchange could identify sale and short sale transactions and send the data to the regulators.
- This facility would not be extended to physical securities.
- Overall limits could be placed for all participants to prevent unhealthy speculation.

As every short position (Balance on Settlement) is also a long position (of some other participant), trading with forward settlement can be easily introduced. This will create a market for short-term interest rates. The forward trading with the above safeguards will also activate and revive the Repo desk of the major market players.

ISSUES IN THE DEBT MARKET

While activity on the debt market has increased manifold in the last few years, the market is in a nascent stage of development with turnover still a very small proportion of its likely potential. There are several factors ranging from policy to procedural issues inhibiting the development of the debt market. Some of the important issues in this context are :

I. Screen Based Trading

Despite increase in number of participants, the debt market is yet to graduate from a "negotiated deal" telephone market. The markets world over are switching from telephone trading to screen-based technology which brings in increased transparency, increased competition and efficient price discovery,

improves efficiency of execution of trade and reduces costs for the players. The market would gain substantially in liquidity and efficiency if the trading framework of equity market is replicated in the debt market also. That is, four key principles - anonymity, price time priority, nation wide market and settlement guarantee – apply to trading of debt instruments. The players share a common platform to buy or sell securities. Absence of any requirement to go through a common platform like stock exchange induces some of the players to enter into non-transparent deals through the telephonic market. If these participants are required to go through a screen based trading on stock exchanges where an efficient and transparent price discovery mechanism is available with complete audit trail of activities, a liquid and vibrant secondary market for debt will be a reality. SEBI has taken the initiative in this regard by prohibiting 'negotiated deals' in respect of listed corporate debt securities and prescribing that all such trades would be executed on the basis of price and order matching mechanism of stock exchanges as in case of equities. Similar prescription is needed in respect of all other debt instruments.

II. Clearing and Settlement

Nation-wide Clearing and Settlement: RBI provides a 'Statutory General Ledger' account facility to large banks and Financial Institutions to hold their investments in Government Securities and treasury Bills in Book-entry form. As all investors do not have access to the SGL facilities, they are allowed to hold securities in physical form or they may open an account with a Constituent SGL account with any entity authorised by the RBI for this purpose. The RBI operates these accounts through various PDOs in each city. As the PDOs in various locations are not linked, investors can only execute transaction with other investors holding accounts with the same PDO. Absence of a nation-wide clearing and settlement facility for investors has prevented the flow of orders from all regions into a single order book, thereby reducing liquidity. The buyer ends up paying a liquidity premium for each transaction. It is imperative that each investor can hold and settle transaction on a nation-wide basis irrespective of the location of its account. Nation-wide clearing and settlement is the primary requirement for creation of a retail order flow.

Single clearing Agency: There is need for a single clearing agency that will co-ordinate with the different securities settlers for both securities as well as funds ensuring DVP. Euroclear and Cedel governed by BIS provide settlement for over 14,000 odd market participants across Europe and also across other countries, even for the OTC trades. Similarly Government Securities Settlement Corporation of US provides for settlement of transactions in the US markets. This facility is necessary for growth of trading in debt securities.

Standardised clearing and settlement practices: Transparent and efficient clearing and settlement are prerequisites for any securities market. In spite of nation-wide network of banks, there are several difficulties encountered by the participants in respect of inter-city trades and settlement in government papers. Treasury Bills can be settled only at Mumbai whereas in case of government securities, the requests from the seller to transfer his securities balance to buyer's account at other centres is not accepted. Transferring money between debt instruments is also difficult as different settlement periods and practices are followed for government securities,

PSU Bonds and corporate debt papers. A clearing corporation, which provides for nation-wide clearing and settlement of debt securities with standardised procedures, practices and settlement cycles is a must.

Management of Risk and Settlement Guarantee: The introduction of retail and wholesale players into a common market and the facility of repos for all players across various instruments would introduce an element of risk to the market. This risk can be best managed by a central entity, which undertakes the clearing and settlement of such transactions and is able to monitor the market and its participants. The Clearing Corporation can use various risk containment measures such as capital adequacy, exposure monitoring, mark-to-market and margins to manage the risk and thereby offer settlement guarantee. With a settlement guarantee mechanism in place, market participants will be able to plan their fund flows and security requirements in a more efficient way.

Intra-day Netting: The method of settlement, i.e. trade for trade stipulated by the RBI, forbids intra-day netting, yields enhanced transactions cost and restricts liqudity. The liquidity can be enhanced if the players are allowed to continuously take two way positions, which can be squared off and settled net at the end of day. A market player would be able to provide a continuous two way quote only if it were to be allowed to sell short and to cover it later.

III. Repo Transactions

Repos are not legally permissible as these violate the Government Notification of June 1969, issued under the SCRA, which banned all types of forward trading. However, in order to impart liquidity in the market for government securities, certain specified entities have been permitted to undertake repo transactions in specified government securities by amendments to 1969 Notification. Specific entity as well as specific security needs approval of RBI as well as of Central Government. As a result a large number of potential users are denied participation. Securities other than government securities do not have this facility. The mechanism does not permit players to go short. There is no standard documentation/master agreement governing repo transaction. There is no clearing house to take counterparty risk for repos. The regulatory view is blurred in view of pronouncements of the Special Court and the Supreme Court. As a result, the market is neither deep nor liquid.

The lack of adequate risk management procedures and settlement guarantee were some of the reasons for restricting the entry of the market participants. With the advent of the Clearing Corporation these no longer hold good. The repo facility can be provided to all market participants. Further, repos in securities other than notified government securities and Treasury bills can be allowed provided such securities are held and the transactions are settled in dematerialised form. If repos are allowed across all debt instruments amongst all participants, it will give tremendous opportunities to all market participants to invest surplus funds or securities temporarily. The facility of repos across all players will lead to better perception of interest rates in the economy for the short as well as the long term. Market forecasting of interest rate would also induce investors to take a contrarian view of the market to generate liquidity in the secondary market.

On the one hand there is a notification, which prohibits forward trading and on the other, some form of forward trading (carry forward/ready forward) is prevalent. This is an anomalous situation, which needs to be corrected. Further in the changed financial environment, the relevance of the 1969 notification has vastly reduced, particularly when derivatives trading and repo facilities for public sector bonds and privately placed debentures are being contemplated. The repeal of the June 1969 notification is desirable not only for overcoming the anomaly existing at present but also as a measure of market reform to make way for the introduction of derivatives.

IV. Stamp Duty on Transfer of Debt Instruments

With a view to modernising debt market and introducing paperless trading in this segment also, the Finance Minister in his Budget Speech dated 27th February 1999 announced abolition of stamp duty on transfer of debt instruments within the depository mode. In order to operationalise this proposal, the Finance Act, 1999 added the following clause in Section 8A of the Indian Stamp Act :

"(f) transfer of beneficial ownership of debentures, such debentures being debentures of a company formed and registered under the Companies Act, 1956 or a body corporate established by a Central Act, dealt with by a depository shall not be liable to duty under Article 27 of Schedule I of this Act."

The dematerialisation of debt instruments did not take off and Government's dream did not materialise because it exempted stamp duty only on transfer of beneficial ownership within a depository. It did not exempt stamp duty on transfer of registered ownership of debt instruments from a person to a depository or from a depository to a beneficial owner. Further, it inadvertently exempted stamp duty on transfer of debentures only, while Government intended to exempt all debt instruments. What is, in fact, required is exemption of stamp duty in respect of transfer of debt instruments at par with shares.

V. Funding of Intermediaries

Traditionally brokers are the main intermediary in the securities market. They do not come forward to provide continuous two-way positions in the market due to absence of any funding mechanism for them. The laws permit a broker to obtain working capital loan of only Rs. 50 lakh against the securities. PDs and SDs, who are the new entrants in the market with similar function of distribution and broad basing the investor base for debt securities, have recourse to the call money market as well as repo market to meet their temporary funds requirement. Brokers should, therefore, be provided financial support by encouraging banks to set up lines of credit in favour of them against their holding of government securities and other highly rated debt papers. This will not only finance the inventory of the Government and other eligible debt paper but the inventory so built up shall serve the purpose of collateral for the credit so availed. Alternatively, these brokers should also be allowed to participate in the Repo market.

VI. Private Placement

The convenience of structuring of the issues to match the needs of issuers with those of investors coupled with savings in terms of time and cost has contributed to rapid growth of market for private placement. Government Report of the Informal

Group on Primary Market stresses the need for keeping this route alive since it helps to raise resources quickly and inexpensively. It is, however, believed in certain circles that public issues are being passed off in the garb of private placement to avoid compliance with stringent entry and disclosure norms associated with public issues. This requires subjecting private placement to apropriate regulatory discipline. It could be specified that private placements resulting in allotments to more than a specified number of people, say 50 or 100, would be deemed as public issues and be subject to usual disclosure norms of SEBI. In the alternative, the participation in private placement could be restricted to only knowledgeable investors like qualified institutional investors and high networth individuals. These could also be traded among qualified instituional investors on OTCEI.

VII. Asset Based Securitisation

Securitisation of assets is a structured process whereby designated pools of loans or other receivables are packaged, underwritten and sold in the form of financial instruments. A typical securitisation process involves sale/transfer of the receivables from an organisation (the owner of assets) to an independent entity (trustee) or a special purpose vehicle (SPV), which, in turn, issues the financial instruments to investors. It offers an effective and relatively quick and less costly alternative funding source.

Narasimham Committee Report (II) has observed that there is scope to hive off NPA portfolio from FI books through securitisation. Securitisation would enable FIs facing resource constraints to focus on their core competencies of funding infrastructure products through gestation stage and subsequently securitising them, rather than funding them till maturity. FIs, who have reached prudential limits in various sectors, can continue to lend to these sectors if their portfolios can be securitised.

The market for securitisation has not appreciably developed in India because of lack of legal clarity and conducive regulatory environment. A host of legislation need to be amended before securitisation can really take off. These include Transfer of Property Act, Indian Stamps Act, Income Tax Act, Securities Contracts (Regulation) Act, Registration Act etc. This could be one of the priority areas for government to boost infrastructure funding.

ANNEXURE - I

Issues of Central Government Dated Securities : 1997 - 2000

Issues in 1997-98				Issues in 1998-99				Issues in 1999 – 2000			
Date of issue	Maturity (Yrs)	Coupon (%)	Issue Amount (Rs. Cr.)	Date of issue	Maturity (Yrs)	Coupon (%)	Issue Amount (Rs. Cr.)	Date of issue	Maturity (Yrs)	Coupon (%)	Issue Amount (Rs. Cr.)
April 22, 1997	10	13.05	3000	April 7, 1998	5	11.10	4000	April 6, 1999	10	11.99	3000
April 23, 1997	10	13.05	5000	April 16, 1998	8	11.75	4000	April 7, 1999	15	12.40	3000
May 10, 1997	5	12.69	3000	April 24, 1998	8	11.75	5000	April 9,1999	7	11.68	3000
May 29, 1997	3	12.14	3000	May 2,1998	10	12.00	4000	April 13, 1999	20	12.60	4000
June 18, 1997	7	12.59	2000	May 9,2004	6	11.50	4000	April 23, 1999	15	12.40	5000
June 25, 1997	7	12.59	4685	May 28, 1998	9	11.90	4000	May 11, 1999	6	11.19	3000
July 17, 1997	6	11.83	3000	June 4, 1998	10	12.00	5000	May 11, 1999	12	12.32	2000
July 29, 1997	4	10.85	5000	June 19, 1998	6	11.75	1646	May 20,1999	20	12.60	4000
August 12, 1997	8	11.19	3000	June 19, 1998	10	12.10	3385	June 3, 1999	6	11.98	3000
September 1, 1997	5	11.15	5000	July 2, 1998	3	11.55	2500	June 3, 1999	10	11.99	2000
December 29, 1997	5	6.00	705	July 2, 1998	5	11.75	2000	June 16, 1999	12	12.32	2000
March 25, 1998	6	11.57	4000	July 2, 1998	12	12.25	1000	June 16, 1999	15	12.40	3000
March 25, 1998	10	12.15	2000	July 17, 1998	3	11.55	2899	July 1, 1999	8	11.90	2500
				July 23, 1998	10	12.22	1500	July 2, 1999	17	12.30	2130
				July 23, 1998	6	11.95	2500	July 15, 1999	12	12.32	2500
				August 5, 1998	4	11.68	2500	July 16, 1999	17	12.30	2500
				August 13, 1998	5	11.78	3000	July 29, 1999	17	12.30	2000
				August 20, 1998	15	12.40	1192	August 5, 1999	10	11.99	3000
				September 7, 1998	6	11.98	2000	August 27, 1999	10	11.99	2500
				September 7, 1998	10	12.25	2000	September 28, 1999	11	12.32	2500
				September 28, 2000	2	11.40	3000	October 7, 1999	20	12.60	2000
				October 16, 1998	2	11.40	3000	October 7, 1999	8	11.90	3000
				November 2, 1998	5	11.78	2000	October 22, 1999	11	12.29	3500
				November 2, 1998	6	11.98	3000	November 12, 1999	15	11.83	3500
				November 20, 1998	10	12.25	2000	November 24, 1999	17	12.30	3000
				November 20, 1998	20	12.60	1132	November 24, 1999	7	11.68	2000
				December 2, 1998	10	12.25	2000				
				December 7, 1998	3	11.47	1500				
				January 18, 1998	15	12.40	1500				
				January 18, 1998	20	12.60	1500				
				January 29, 1999	11	12.29	3000				
				January 29, 1999	12	12.32	2000				
Total			**43390**	**Total**			**83753**	**Total**			**73630**

ANNEXURE - II

Secondary Market Transactions in Government Securities

(Rs. Crore)

Period	*SGL Transactions*								*WDM Transactions in Government Securities*							
	Outright Transactions				Repo Transactions				Outright Transactions				Repo Transactions			
	Dated Securities	State Govern-ment Securities	Treasury Bills	Total (2+3+4)	Dated Securities	Treasury Bills	Total (6+7)	Grand Total (5+8)	Dated Securities	State Govern-ment Securities	Treasury Bills	Total (10+11 +12)	Dated Securities	Treasury Bills	Total (14+15)	Grand Total (13+16)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Apr-97	10313	8	4739	15059	1092	205	1297	16356	6584	2	2077	8662	-	5	5	8667
May-97	6700	393	2627	9719	1443	372	1815	11534	4252	213	1142	5607	99	89	188	5795
Jun-97	9838	196	2397	12431	1006	140	1146	13577	6903	191	1238	8332	20	-	20	8352
Jul-97	18495	95	4755	23346	1049	209	1258	24604	13098	59	1604	14762	20	-	20	14782
Aug-97	13236	80	3020	16336	1664	355	2019	18355	9151	88	939	10179	150	-	150	10329
Sep-97	7257	25	3183	10466	1133	196	1329	11794	4523	25	1222	5770	219	16	235	6005
Oct-97	14702	98	3012	17812	604	418	1022	18834	11182	73	1432	12687	-	15	15	12702
Nov-97	8988	129	3403	12520	861	220	1081	13600	6014	129	1379	7522	140	-	140	7662
Dec-97	6671	51	3078	9800	2638	439	3077	12877	4854	38	1417	6309	978	50	1028	7337
Jan-98	5968	52	3567	9588	4244	316	4560	14148	4348	27	1816	6191	1733	311	2044	8234
Feb-98	4350	67	3713	8131	1552	303	1855	9985	2984	28	1654	4666	596	574	1170	5836
Mar-98	12025	153	3705	15883	3527	635	4162	20044	5670	57	1102	6829	270	785	1055	7884
1997-98	**118541**	**1348**	**41201**	**161090**	**20811**	**3807**	**24619**	**185708**	**79564**	**931**	**17021**	**97515**	**4225**	**1845**	**6070**	**103585**
Apr-98	15186	45	3065	18296	1807	70	1877	20173	11289	35	1183	12507	60	0	60	12567
May-98	10913	290	1847	13050	1969	303	2272	15322	7179	153	503	7835	301	10	311	8146
Jun-98	6196	94	2046	8336	2256	176	2432	10767	5141	50	698	5889	529	10	539	6428
Jul-98	10058	8	4041	14107	1495	220	1715	15823	4884	12	1085	5982	398	50	448	6430
Aug-98	16757	125	3492	20374	3215	85	3300	23674	6630	79	527	7237	463	-	463	7699
Sep-98	6677	147	2041	8865	2379	55	2434	11299	3732	42	274	4048	696	15	711	4759
Oct-98	4790	165	4438	9393	1923	35	1958	11350	3133	61	1097	4291	466	-	466	4757
Nov-98	12229	174	7903	20306	1797	20	1817	22123	5038	138	1483	6659	305	-	305	6964
Dec-98	10210	94	3940	14245	3207	78	3285	17529	6027	73	1040	7140	320	-	320	7460
Jan-99	17745	136	2931	20812	5881	93	5974	26786	7987	57	916	8959	408	-	408	9367
Feb-99	10890	149	3329	14369	5188	79	5267	19635	5182	119	816	6118	328	5	333	6451
Mar-99	21447	116	3816	25379	6960	408	7368	32747	12745	41	964	13751	467	30	497	14248
1998-99	**143097**	**1544**	**42890**	**187531**	**38076**	**1621**	**39697**	**227228**	**78969**	**860**	**10586**	**90416**	**4741**	**120**	**4861**	**95276**
Apr-99	28974	29	3241	32244	4275	196	4471	36715	16420	44	1045	17509	295	-	295	17804
May-99	32350	1115	2552	36017	4441	130	4571	40588	19478	658	562	20697	257	-	257	20954
Jun-99	25062	255	2937	28254	3299	139	3438	31692	14732	129	1001	15862	182	-	182	16044
Jul-99	31964	130	3832	35926	5507	356	5863	41789	24180	74	542	24795	155	-	155	24950
Aug-99	39250	450	3910	43611	4507	480	4987	48598	24731	213	1150	26094	98	50	148	26241
Sep-99	20917	294	2447	23658	4908	543	5451	29109	14848	125	762	15735	70	-	70	15805
Oct-99	25656	97	3848	29601	5216	467	5683	35284	18211	43	308	18561	116	-	116	18677
Nov-99	39905	375	2659	42939	5872	659	6530	49469	27598	268	472	28339	10	25	35	28374
Dec-99	36276	209	4730	41215	8957	1902	10859	52074	27980	108	1010	29098	60	-	60	29158
Apr-Dec.1999	**280354**	**2955**	**30155**	**313464**	**46980**	**4872**	**51852**	**365316**	**188177**	**1662**	**6853**	**196691**	**1243**	**75**	**1318**	**198009**

ANNEXURE - III

Business Growth on the WDM Segment

Month & Year	ALL TRADES					RETAIL TRADE		
	No. of Active Scrips	Number of Trades	Avg. Daily Turnover (Rs. Cr.)	Turnover (Rs. Cr.)	Average Trade Size (Rs. Cr.)	Number of Trades	Turnover (Rs. Cr.)	Share in Total Turnover (%)
Jun-94 to Mar-95	**183**	**1021**	**30**	**6781**	**6.64**	**168**	**31**	**0.45**
1995-96	**304**	**2991**	**41**	**11868**	**3.97**	**1115**	**207**	**1.75**
1996-97	**524**	**7804**	**145**	**42278**	**5.42**	**1061**	**201**	**0.47**
Apr-97	155	1488	432	9512	6.39	42	11	0.11
May-97	153	915	270	6484	7.09	68	12	0.18
Jun-97	157	1515	365	9133	6.03	62	12	0.13
Jul-97	174	2347	598	15545	6.62	112	25	0.16
Aug-97	158	1477	480	11040	7.47	95	23	0.21
Sep-97	176	1067	272	6788	6.36	127	29	0.43
Oct-97	168	2081	544	13047	6.27	73	13	0.10
Nov-97	195	1302	382	8779	6.74	89	21	0.24
Dec-97	163	1098	298	7753	7.06	130	32	0.42
Jan-98	159	1168	353	8823	7.55	118	27	0.31
Feb-98	138	948	276	6065	6.39	194	40	0.65
Mar-98	152	1415	346	8293	5.86	280	44	0.53
1997-98	**719**	**16821**	**377**	**111262**	**6.61**	**1390**	**289**	**0.26**
Apr-98	178	1935	593	13036	6.74	122	26	0.20
May-98	164	1350	397	9132	6.76	87	19	0.21
Jun-98	149	1081	261	6788	6.28	75	20	0.30
Jul-98	194	1101	280	7287	6.62	118	24	0.33
Aug-98	197	1371	381	8752	6.38	104	24	0.27
Sep-98	192	835	211	5475	6.56	135	27	0.49
Oct-98	182	820	250	5501	6.71	144	28	0.51
Nov-98	249	1315	352	8454	6.43	148	29	0.34
Dec-98	238	1310	335	8705	6.64	171	33	0.37
Jan-99	199	1589	418	10023	6.31	151	27	0.27
Feb-99	216	1167	296	7110	6.09	117	24	0.33
Mar-99	215	2218	661	15206	6.86	150	27	0.18
1998-99	**1071**	**16092**	**337**	**105469**	**6.55**	**1522**	**308**	**0.29**
Apr-99	182	2595	882	18525	7.14	77	16	0.08
May-99	213	3356	867	21681	8.46	81	22	0.10
Jun-99	206	2478	655	17026	6.87	84	22	0.13
Jul-99	241	4072	961	25944	6.37	111	24	0.09
Aug-99	198	4188	1037	26957	6.44	72	16	0.06
Sep-99	180	2545	689	16524	6.49	78	21	0.13
Oct-99	184	2985	773	19321	6.47	101	22	0.11
Nov-99	220	4665	1273	29285	6.28	87	17	0.06
Dec-99	208	4797	1305	30023	6.26	61	15	0.05
Apr-Dec.1999	**843**	**31681**	**904**	**205286**	**6.47**	**752**	**174**	**0.08**

ANNEXURE - IV

Security-wise and Participant-wise Distribution of WDM Trades

	SECURITY-WISE DISTRIBUTION				PARTICIPANT-WISE DISTRIBUTION				
Month & Year	**Government Securities**	**T-Bills**	**PSU Bonds**	**Others**	**Trading Members**	**FIs/MFs**	**Primary Dealers**	**Indian Banks**	**Foreign Banks**
June94-March95	44.63	38.84	11.17	5.36	59.69	4.58	-	14.16	21.57
1995-96	65.12	19.04	8.39	7.45	26.73	5.51	-	30.07	37.69
1996-97	64.70	25.92	4.66	4.73	13.76	3.01	16.08	30.01	37.13
Apr-97	69.23	21.88	2.75	6.14	23.53	5.76	5.15	36.37	29.19
May-97	70.39	18.98	4.14	6.49	29.74	3.76	6.53	39.83	20.14
Jun-97	77.89	13.56	1.47	7.08	21.61	2.60	12.09	36.79	26.91
Jul-97	84.77	10.32	.	3.76	19.86	3.60	16.77	36.52	23.25
Aug-97	85.05	8.51	2.14	4.30	20.48	5.01	14.04	40.47	20.00
Sep-97	70.23	18.23	4.15	7.39	22.75	3.55	12.78	38.28	22.64
Oct-97	86.27	11.09	1.05	1.59	20.89	1.89	12.35	45.69	19.18
Nov-97	71.57	15.70	4.95	7.78	20.44	5.20	9.37	51.91	13.08
Dec-97	75.73	18.92	2.00	3.26	16.90	3.17	10.54	49.61	19.78
Jan-98	69.00	24.00	3.00	4.00	18.00	6.00	12.00	40.00	24.00
Feb-98	59.00	37.00	2.00	2.00	14.00	2.00	15.00	42.00	27.00
Mar-98	72.00	23.00	1.00	4.00	14.00	2.00	15.00	40.00	29.00
1997-98	**76.14**	**16.96**	**2.27**	**4.63**	**20.22**	**3.84**	**12.06**	**41.24**	**22.65**
Apr-98	88.00	9.00	1.00	2.00	16.00	3.00	15.00	40.00	26.00
May-98	83.00	6.00	1.00	10.00	19.00	4.00	11.00	42.00	24.00
Jun-98	84.00	11.00	1.00	4.00	15.00	3.00	21.00	41.00	20.00
Jul-98	72.65	15.58	2.19	9.58	17.00	2.00	17.00	41.00	23.00
Aug-98	82.00	6.00	2.00	10.00	16.00	3.00	14.00	45.00	21.00
Sep-98	82.00	5.00	3.00	10.00	19.00	3.00	16.00	37.00	24.00
Oct-98	67.00	20.00	2.00	11.00	12.00	3.00	23.00	40.00	22.00
Nov-98	64.83	17.54	0.88	16.75	13.00	6.00	16.00	41.00	25.00
Dec-98	74.00	12.00	3.00	11.00	14.00	7.00	16.00	42.00	20.00
Jan-99	84.00	9.00	2.00	5.00	12.00	7.00	14.00	46.00	21.00
Feb-99	77.55	11.55	1.95	8.95	16.00	7.00	10.00	43.00	24.00
Mar-99	87.16	6.54	1.04	5.27	18.00	5.00	11.00	44.00	22.00
1998-99	**80.19**	**10.15**	**1.64**	**8.02**	**15.84**	**4.57**	**14.64**	**42.12**	**22.83**
Apr-99	90.47	5.64	0.26	3.63	15.00	7.00	11.00	49.00	18.00
May-99	94.06	2.59	0.41	2.94	19.00	4.00	15.00	48.00	15.00
Jun-99	88.35	5.88	0.77	4.99	21.00	5.00	16.00	45.00	13.00
Jul-99	94.08	2.09	0.55	3.28	21.00	3.00	18.00	42.00	16.00
Aug-99	92.89	4.45	0.67	1.99	18.00	2.00	18.00	48.00	15.00
Sep-99	90.28	4.55	0.78	4.39	15.00	5.00	19.00	44.00	17.00
Oct-99	96.67	1.59	0.39	1.35	13.00	5.00	23.00	42.00	17.00
Nov-99	95.19	1.70	0.34	2.78	18.00	3.00	24.00	43.00	12.00
Dec-99	93.75	3.37	0.29	2.59	22.51	4.53	19.70	41.40	11.70
Apr-Dec.1999	**93.08**	**3.38**	**0.48**	**3.07**	**18.34**	**4.11**	**18.54**	**44.41**	**14.59**

ANNEXURE - V

Market Capitalisation of WDM Securities

Months	(Rs. Lakh)						Percentage Share				
	Govt. Sec	PSU Bonds	State Loans	T-Bills	Others	Total	Govt. Sec	PSU Bonds	State Loans	T-bills	Others
Jan-98	19512299	3520593	2384026	1499184	7580164	**34496266**	56.56	10.21	6.91	4.35	21.97
Feb-98	19553203	3514763	2384026	1576184	7242235	**34270411**	57.06	10.26	6.96	4.60	21.13
Mar-98	19629043	3532263	2398924	1749727	7009096	**34319053**	57.20	10.29	6.99	5.10	20.42
Apr-98	20200603	3603254	2595206	1268607	7222336	**34890006**	57.90	10.33	7.44	3.64	20.70
May-98	21311777	3602690	2640215	1347607	7149503	**36051792**	59.11	9.99	7.32	3.74	19.83
Jun-98	21675787	3644161	2636190	1283212	6314292	**35553642**	60.97	10.25	7.41	3.61	17.76
Jul-98	22568851	3844672	2638490	1123292	6208197	**36383502**	62.03	10.57	7.25	3.09	17.06
Aug-98	23309314	3758929	2638986	1332662	6409812	**37449703**	62.24	10.04	7.05	3.56	17.12
Sep-98	24074736	3826005	2607499	1343115	6464501	**38315856**	62.83	9.99	6.81	3.51	16.87
Oct-98	24045387	3853219	2634772	1174671	6531813	**38239862**	62.88	10.08	6.89	3.07	17.08
Nov-98	25016241	4033415	2793097	1285291	6292507	**39420551**	63.46	10.23	7.09	3.26	15.96
Dec-98	25349084	3910206	2818108	1097236	7027983	**40202617**	63.05	9.73	7.01	2.73	17.48
Jan-99	25245203	3877978	2931334	1161903	7357719	**40574137**	62.22	9.56	7.22	2.86	18.13
Feb-99	25829493	3828702	3049105	1044711	7482289	**41234300**	62.64	9.29	7.39	2.53	18.15
Mar-99	26000168	3499359	3051610	1129183	7466650	**41146970**	63.19	8.50	7.42	2.74	18.15
Apr-99	26273727	3570924	3217255	1193268	7749318	**42004492**	62.55	8.50	7.66	2.84	18.45
May-99	26841287	3600277	3379719	1380149	7870541	**43071973**	62.32	8.36	7.85	3.20	18.27
Jun-99	27135598	3626744	3390317	1676299	7892766	**43721724**	62.06	8.30	7.75	3.83	18.05
Jul-99	28177743	3676390	3403888	1751662	7911808	**44921491**	62.73	8.18	7.58	3.90	17.61
Aug-99	29078529	3811366	3490130	1774856	7837573	**45992454**	63.22	8.29	7.59	3.86	17.04
Sep-99	28654848	3826812	3646405	1845693	7880377	**45854135**	62.49	8.35	7.95	4.03	17.19
Oct-99	29449226	3978530	3679981	1816743	7904400	**46828880**	62.89	8.50	7.86	3.88	16.88
Nov-99	30401735	3973990	3693021	1731618	8208396	**48008760**	63.33	8.28	7.69	3.61	17.10
Dec-99	30363541	3946238	3713222	1767562	8211706	**48002269**	63.25	8.22	7.74	3.68	17.11

ANNEXURE - VI

NSE MIBID/MIBOR RATES SINCE INCEPTION

DATE	OVERNIGHT AT 9.40 a.m.				14 DAY AT 11.30 a.m.				1 MONTH RATE AT 11.30 a.m.				3 MONTH RATE AT 11.30 a.m.			
	MIBID		MIBOR		MIBID		MIBOR		MIBID		MIBOR		MIBID		MIBOR	
	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.
15-Jun-98	5.10	0.0297	5.25	0.0312	-	-	-	-	-	-	-	-	-	-	-	-
16-Jun-98	5.01	0.0234	5.14	0.0366	-	-	-	-	-	-	-	-	-	-	-	-
17-Jun-98	5.00	0.0125	5.09	0.0214	-	-	-	-	-	-	-	-	-	-	-	-
18-Jun-98	5.02	0.0254	5.18	0.0258	-	-	-	-	-	-	-	-	-	-	-	-
19-Jun-98	5.03	0.0621	5.18	0.1411	-	-	-	-	-	-	-	-	-	-	-	-
20-Jun-98	8.70	0.1436	8.99	0.0162	-	-	-	-	-	-	-	-	-	-	-	-
22-Jun-98	7.51	0.0980	7.91	0.1432	-	-	-	-	-	-	-	-	-	-	-	-
23-Jun-98	7.73	0.0723	8.04	0.0703	-	-	-	-	-	-	-	-	-	-	-	-
24-Jun-98	7.94	0.0756	8.21	0.0638	-	-	-	-	-	-	-	-	-	-	-	-
25-Jun-98	7.48	0.0452	7.71	0.0646	-	-	-	-	-	-	-	-	-	-	-	-
26-Jun-98	7.52	0.0611	7.75	0.0442	-	-	-	-	-	-	-	-	-	-	-	-
27-Jun-98	7.48	0.0717	7.71	0.0639	-	-	-	-	-	-	-	-	-	-	-	-
29-Jun-98	6.81	0.0725	7.12	0.1106	-	-	-	-	-	-	-	-	-	-	-	-
1-Jul-98	7.62	0.1249	7.89	0.1389	-	-	-	-	-	-	-	-	-	-	-	-
2-Jul-98	8.45	0.0956	8.78	0.0584	-	-	-	-	-	-	-	-	-	-	-	-
3-Jul-98	3.93	0.4045	4.66	0.4599	-	-	-	-	-	-	-	-	-	-	-	-
4-Jul-98	8.54	0.0486	8.81	0.0599	-	-	-	-	-	-	-	-	-	-	-	-
6-Jul-98	5.34	0.0387	5.73	0.0465	-	-	-	-	-	-	-	-	-	-	-	-
8-Jul-98	6.17	0.0381	6.47	0.0415	-	-	-	-	-	-	-	-	-	-	-	-
9-Jul-98	6.24	0.0278	6.53	0.0441	-	-	-	-	-	-	-	-	-	-	-	-
10-Jul-98	6.70	0.0360	6.99	0.0319	-	-	-	-	-	-	-	-	-	-	-	-
11-Jul-98	6.47	0.0383	6.70	0.0276	-	-	-	-	-	-	-	-	-	-	-	-
13-Jul-98	6.04	0.0426	6.26	0.0272	-	-	-	-	-	-	-	-	-	-	-	-
14-Jul-98	5.70	0.0315	5.93	0.0273	-	-	-	-	-	-	-	-	-	-	-	-
15-Jul-98	5.22	0.0188	5.42	0.0226	-	-	-	-	-	-	-	-	-	-	-	-
16-Jul-98	5.01	0.0108	5.12	0.0134	-	-	-	-	-	-	-	-	-	-	-	-
17-Jul-98	4.22	0.0193	4.83	0.0849	-	-	-	-	-	-	-	-	-	-	-	-
18-Jul-98	7.57	0.0644	8.00	0.0542	-	-	-	-	-	-	-	-	-	-	-	-
20-Jul-98	6.97	0.0630	7.28	0.0331	-	-	-	-	-	-	-	-	-	-	-	-
21-Jul-98	6.53	0.0327	6.81	0.0235	-	-	-	-	-	-	-	-	-	-	-	-
22-Jul-98	6.09	0.0258	6.34	0.0384	-	-	-	-	-	-	-	-	-	-	-	-
23-Jul-98	5.60	0.0338	5.86	0.0210	-	-	-	-	-	-	-	-	-	-	-	-
24-Jul-98	5.95	0.0363	6.18	0.0238	-	-	-	-	-	-	-	-	-	-	-	-
25-Jul-98	5.99	0.0284	6.19	0.0196	-	-	-	-	-	-	-	-	-	-	-	-
27-Jul-98	5.60	0.0319	5.82	0.0215	-	-	-	-	-	-	-	-	-	-	-	-
28-Jul-98	6.06	0.0240	6.32	0.0305	-	-	-	-	-	-	-	-	-	-	-	-
29-Jul-98	7.05	0.0412	7.26	0.0356	-	-	-	-	-	-	-	-	-	-	-	-
30-Jul-98	6.38	0.0521	6.70	0.0279	-	-	-	-	-	-	-	-	-	-	-	-
31-Jul-98	3.25	0.2223	4.18	0.1763	-	-	-	-	-	-	-	-	-	-	-	-
1-Aug-98	7.09	0.0596	7.39	0.0421	-	-	-	-	-	-	-	-	-	-	-	-
3-Aug-98	6.39	0.0394	6.66	0.0271	-	-	-	-	-	-	-	-	-	-	-	-
4-Aug-98	6.43	0.0261	6.63	0.0175	-	-	-	-	-	-	-	-	-	-	-	-
5-Aug-98	6.09	0.0220	6.29	0.0147	-	-	-	-	-	-	-	-	-	-	-	-
6-Aug-98	6.34	0.0245	6.61	0.0232	-	-	-	-	-	-	-	-	-	-	-	-
7-Aug-98	6.14	0.0352	6.37	0.0178	-	-	-	-	-	-	-	-	-	-	-	-
8-Aug-98	6.01	0.0163	6.20	0.0116	-	-	-	-	-	-	-	-	-	-	-	-
10-Aug-98	5.94	0.0229	6.10	0.0163	-	-	-	-	-	-	-	-	-	-	-	-
11-Aug-98	5.79	0.0233	5.94	0.0150	-	-	-	-	-	-	-	-	-	-	-	-

12-Aug-98	6.25	0.0351	6.46	0.0373	-	-	-	-	-	-	-	-	-	-	-	-	-
13-Aug-98	6.93	0.0282	7.13	0.0238	-	-	-	-	-	-	-	-	-	-	-	-	-
14-Aug-98	6.02	0.0608	6.45	0.0742	-	-	-	-	-	-	-	-	-	-	-	-	-
17-Aug-98	6.69	0.0251	6.87	0.0271	-	-	-	-	-	-	-	-	-	-	-	-	-
18-Aug-98	7.80	0.0583	8.15	0.0493	-	-	-	-	-	-	-	-	-	-	-	-	-
19-Aug-98	7.76	0.0383	8.04	0.0276	-	-	-	-	-	-	-	-	-	-	-	-	-
20-Aug-98	8.44	0.0541	8.73	0.0250	-	-	-	-	-	-	-	-	-	-	-	-	-
21-Aug-98	22.45	1.3316	31.34	1.2536	-	-	-	-	-	-	-	-	-	-	-	-	-
24-Aug-98	9.51	0.0759	10.30	0.1233	-	-	-	-	-	-	-	-	-	-	-	-	-
25-Aug-98	7.98	0.0295	8.20	0.0196	-	-	-	-	-	-	-	-	-	-	-	-	-
27-Aug-98	6.92	0.0740	7.51	0.0827	-	-	-	-	-	-	-	-	-	-	-	-	-
28-Aug-98	2.67	0.2645	4.49	0.3006	-	-	-	-	-	-	-	-	-	-	-	-	-
29-Aug-98	11.97	0.5889	16.65	0.9733	-	-	-	-	-	-	-	-	-	-	-	-	-
31-Aug-98	8.59	0.0425	8.88	0.0314	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Sep-98	9.08	0.0499	9.41	0.0352	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Sep-98	9.10	0.0325	9.32	0.0260	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Sep-98	9.07	0.0242	9.28	0.0196	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Sep-98	9.08	0.0260	9.31	0.0202	-	-	-	-	-	-	-	-	-	-	-	-	-
5-Sep-98	9.08	0.0214	9.25	0.0151	-	-	-	-	-	-	-	-	-	-	-	-	-
7-Sep-98	9.00	0.0135	9.21	0.0126	-	-	-	-	-	-	-	-	-	-	-	-	-
8-Sep-98	9.12	0.0305	9.34	0.0212	-	-	-	-	-	-	-	-	-	-	-	-	-
9-Sep-98	8.94	0.0259	9.09	0.0174	-	-	-	-	-	-	-	-	-	-	-	-	-
10-Sep-98	8.62	0.0359	8.91	0.0286	-	-	-	-	-	-	-	-	-	-	-	-	-
11-Sep-98	5.24	0.3224	6.55	0.2676	-	-	-	-	-	-	-	-	-	-	-	-	-
12-Sep-98	10.75	0.1238	12.16	0.2381	-	-	-	-	-	-	-	-	-	-	-	-	-
14-Sep-98	9.10	0.0342	9.30	0.0237	-	-	-	-	-	-	-	-	-	-	-	-	-
15-Sep-98	9.05	0.0169	9.18	0.0151	-	-	-	-	-	-	-	-	-	-	-	-	-
16-Sep-98	9.14	0.0195	9.30	0.0125	-	-	-	-	-	-	-	-	-	-	-	-	-
17-Sep-98	8.07	0.0232	8.29	0.0251	-	-	-	-	-	-	-	-	-	-	-	-	-
18-Sep-98	8.06	0.0180	8.21	0.0084	-	-	-	-	-	-	-	-	-	-	-	-	-
19-Sep-98	7.94	0.0515	8.10	0.0150	-	-	-	-	-	-	-	-	-	-	-	-	-
21-Sep-98	7.97	0.0161	8.09	0.0117	-	-	-	-	-	-	-	-	-	-	-	-	-
22-Sep-98	7.98	0.0154	8.08	0.0088	-	-	-	-	-	-	-	-	-	-	-	-	-
23-Sep-98	7.96	0.0187	8.09	0.0148	-	-	-	-	-	-	-	-	-	-	-	-	-
24-Sep-98	7.97	0.0155	8.06	0.0093	-	-	-	-	-	-	-	-	-	-	-	-	-
25-Sep-98	6.15	0.3566	7.35	0.1444	-	-	-	-	-	-	-	-	-	-	-	-	-
26-Sep-98	8.24	0.0272	8.44	0.0318	-	-	-	-	-	-	-	-	-	-	-	-	-
28-Sep-98	8.05	0.0127	8.23	0.0212	-	-	-	-	-	-	-	-	-	-	-	-	-
29-Sep-98	8.14	0.0241	8.38	0.0309	-	-	-	-	-	-	-	-	-	-	-	-	-
30-Sep-98	8.18	0.0312	8.38	0.0286	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Oct-98	8.08	0.0194	8.21	0.0115	-	-	-	-	-	-	-	-	-	-	-	-	-
5-Oct-98	8.03	0.0073	8.14	0.0108	-	-	-	-	-	-	-	-	-	-	-	-	-
6-Oct-98	7.99	0.1160	8.10	0.0156	-	-	-	-	-	-	-	-	-	-	-	-	-
7-Oct-98	7.98	0.0086	8.06	0.0081	-	-	-	-	-	-	-	-	-	-	-	-	-
8-Oct-98	7.98	0.0108	8.06	0.0112	-	-	-	-	-	-	-	-	-	-	-	-	-
9-Oct-98	5.22	0.1262	6.32	0.1955	-	-	-	-	-	-	-	-	-	-	-	-	-
10-Oct-98	8.10	0.0162	8.26	0.0117	-	-	-	-	-	-	-	-	-	-	-	-	-
12-Oct-98	8.31	0.0291	8.53	0.0259	-	-	-	-	-	-	-	-	-	-	-	-	-
13-Oct-98	9.19	0.0321	9.49	0.0172	-	-	-	-	-	-	-	-	-	-	-	-	-
14-Oct-98	9.18	0.0278	9.42	0.0153	-	-	-	-	-	-	-	-	-	-	-	-	-
15-Oct-98	9.15	0.0197	9.35	0.0172	-	-	-	-	-	-	-	-	-	-	-	-	-
16-Oct-98	9.20	0.0184	9.36	0.0226	-	-	-	-	-	-	-	-	-	-	-	-	-
17-Oct-98	9.10	0.0232	9.30	0.0207	-	-	-	-	-	-	-	-	-	-	-	-	-
20-Oct-98	9.11	0.0179	9.28	0.0150	-	-	-	-	-	-	-	-	-	-	-	-	-
23-Oct-98	6.36	0.1364	6.92	0.1098	-	-	-	-	-	-	-	-	-	-	-	-	-
24-Oct-98	8.78	0.0236	9.04	0.0177	-	-	-	-	-	-	-	-	-	-	-	-	-

26-Oct-98	9.01	0.0110	9.19	0.0113	-	-	-	-	-	-	-	-	-	-	-	-
27-Oct-98	9.01	0.0098	9.17	0.0132	-	-	-	-	-	-	-	-	-	-	-	-
28-Oct-98	8.99	0.0080	9.12	0.0098	-	-	-	-	-	-	-	-	-	-	-	-
29-Oct-98	8.95	0.0125	9.08	0.0096	-	-	-	-	-	-	-	-	-	-	-	-
30-Oct-98	8.63	0.0237	8.81	0.0197	-	-	-	-	-	-	-	-	-	-	-	-
31-Oct-98	8.51	0.0134	8.67	0.0165	-	-	-	-	-	-	-	-	-	-	-	-
2-Nov-98	8.21	0.0188	8.41	0.0172	-	-	-	-	-	-	-	-	-	-	-	-
3-Nov-98	8.02	0.0083	8.10	0.0065	-	-	-	-	-	-	-	-	-	-	-	-
5-Nov-98	7.98	0.0148	8.08	0.0121	-	-	-	-	-	-	-	-	-	-	-	-
6-Nov-98	5.67	0.1995	6.42	0.1623	-	-	-	-	-	-	-	-	-	-	-	-
7-Nov-98	8.13	0.0150	8.27	0.0139	-	-	-	-	-	-	-	-	-	-	-	-
9-Nov-98	8.04	0.0091	8.14	0.0102	-	-	-	-	-	-	-	-	-	-	-	-
10-Nov-98	8.02	0.0107	8.09	0.0099	8.30	0.0430	9.02	0.1113	-	-	-	-	-	-	-	-
11-Nov-98	8.04	0.0079	8.13	0.0097	8.40	0.0540	8.98	0.0718	-	-	-	-	-	-	-	-
12-Nov-98	8.02	0.0065	8.09	0.0059	8.39	0.0601	8.95	0.0614	-	-	-	-	-	-	-	-
13-Nov-98	8.01	0.0094	8.08	0.0075	8.48	0.0498	8.98	0.0535	-	-	-	-	-	-	-	-
14-Nov-98	8.07	0.0108	8.17	0.0135	8.53	0.0748	8.96	0.0782	-	-	-	-	-	-	-	-
16-Nov-98	8.33	0.0287	8.52	0.0271	8.50	0.0697	9.03	0.0634	-	-	-	-	-	-	-	-
17-Nov-98	8.85	0.0249	9.02	0.0137	8.75	0.0516	9.34	0.0526	-	-	-	-	-	-	-	-
18-Nov-98	8.99	0.0196	9.11	0.0127	8.88	0.0506	9.38	0.0412	-	-	-	-	-	-	-	-
19-Nov-98	8.73	0.0130	8.89	0.0160	8.77	0.0452	9.30	0.0461	-	-	-	-	-	-	-	-
20-Nov-98	5.94	0.1356	6.65	0.1187	8.73	0.0630	9.31	0.0714	-	-	-	-	-	-	-	-
21-Nov-98	8.48	0.0156	8.70	0.0181	8.62	0.0555	9.15	0.0553	-	-	-	-	-	-	-	-
23-Nov-98	8.08	0.0141	8.21	0.0123	8.48	0.0674	9.03	0.0555	-	-	-	-	-	-	-	-
24-Nov-98	8.00	0.0067	8.08	0.0061	8.41	0.0623	9.04	0.0781	-	-	-	-	-	-	-	-
25-Nov-98	8.00	0.0089	8.07	0.0067	8.43	0.0418	8.95	0.0491	-	-	-	-	-	-	-	-
26-Nov-98	8.00	0.0053	8.06	0.0064	8.38	0.0413	8.95	0.0567	-	-	-	-	-	-	-	-
27-Nov-98	8.00	0.0057	8.07	0.0057	8.46	0.0512	8.98	0.0714	-	-	-	-	-	-	-	-
28-Nov-98	8.00	0.0016	8.06	0.0053	8.37	0.0692	9.03	0.0756	-	-	-	-	-	-	-	-
30-Nov-98	8.00	0.0038	8.06	0.0042	8.44	0.0647	9.06	0.0814	-	-	-	-	-	-	-	-
1-Dec-98	8.00	0.0051	8.06	0.0064	8.44	0.0508	8.97	0.0386	9.20	0.0826	9.83	0.0684	10.28	0.1126	10.94	0.0843
2-Dec-98	8.00	0.0028	8.06	0.0033	8.44	0.0556	9.02	0.0586	9.01	0.0748	9.74	0.0714	10.12	0.1189	10.96	0.0769
3-Dec-98	8.00	0.0038	8.06	0.0038	8.41	0.0428	8.93	0.0425	9.09	0.0770	9.78	0.0746	10.17	0.1120	10.93	0.0624
4-Dec-98	6.26	0.1562	7.09	0.0888	8.45	0.0435	8.89	0.0512	9.08	0.0864	9.73	0.0757	10.25	0.1157	10.98	0.0694
5-Dec-98	8.03	0.0077	8.11	0.0096	8.47	0.0723	8.92	0.0443	9.12	0.0813	9.76	0.0668	10.21	0.1082	10.89	0.0924
7-Dec-98	8.00	0.0050	8.08	0.0063	8.38	0.0522	8.86	0.0627	9.04	0.0852	9.76	0.0533	10.03	0.1264	10.84	0.0764
8-Dec-98	8.01	0.0042	8.07	0.0047	8.40	0.0470	8.87	0.0563	9.00	0.0800	9.65	0.0657	10.08	0.1194	10.82	0.0748
9-Dec-98	8.00	0.0045	8.06	0.0040	8.41	0.0487	8.90	0.0502	8.96	0.0702	9.67	0.0757	10.05	0.1101	10.87	0.0748
10-Dec-98	8.00	0.0043	8.06	0.0044	8.37	0.0551	8.82	0.0568	8.98	0.0747	9.65	0.0717	10.07	0.1122	10.82	0.0611
11-Dec-98 The NSE-MIBID/MIBOR rates are not being compiled on December 11, 1998 as the Call Money Market was inactive on account of banks' staff agitation.																
12-Dec-98	8.01	0.0062	8.09	0.0056	8.42	0.0553	8.93	0.0456	9.05	0.0840	9.76	0.0802	10.08	0.1100	10.82	0.0609
14-Dec-98	8.21	0.0212	8.35	0.0178	8.55	0.0676	9.05	0.0561	9.17	0.0613	9.86	0.0820	10.23	0.1059	10.94	0.0709
15-Dec-98	8.63	0.0260	8.82	0.0192	8.76	0.0629	9.28	0.0606	9.23	0.0584	9.95	0.0796	10.20	0.1041	11.01	0.0558
16-Dec-98	8.82	0.0188	8.95	0.0080	9.02	0.0525	9.42	0.0553	9.39	0.0738	9.98	0.0668	10.33	0.0772	11.03	0.0384
17-Dec-98	8.23	0.0141	8.41	0.0186	8.68	0.0745	9.22	0.0546	9.22	0.0755	9.83	0.0611	10.21	0.1240	10.94	0.0727
18-Dec-98	5.95	0.0764	6.68	0.0868	8.66	0.0736	9.23	0.0601	9.22	0.0721	9.91	0.0678	10.29	0.0815	11.02	0.0548
19-Dec-98	8.45	0.0223	8.71	0.0257	8.88	0.0884	9.34	0.0607	9.31	0.1014	9.96	0.0867	10.37	0.1387	11.11	0.0763
21-Dec-98	8.90	0.0159	9.11	0.0184	8.93	0.0545	9.43	0.0401	9.49	0.0780	10.13	0.0693	10.41	0.0859	11.14	0.0588
22-Dec-98	9.03	0.0145	9.16	0.0117	9.00	0.0521	9.48	0.0528	9.45	0.0533	10.17	0.0863	10.37	0.0831	11.15	0.0562
23-Dec-98	9.06	0.0128	9.17	0.0101	8.98	0.0558	9.52	0.0523	9.41	0.0708	10.18	0.0895	10.44	0.0839	11.21	0.0831
24-Dec-98	9.14	0.0141	9.25	0.0084	9.07	0.0556	9.58	0.0515	9.51	0.0807	10.28	0.0962	10.51	0.0984	11.23	0.0635
26-Dec-98	9.57	0.0362	9.83	0.0425	9.20	0.0435	9.82	0.0560	9.55	0.0800	10.31	0.0771	10.52	0.0767	11.28	0.0505
28-Dec-98	9.62	0.0485	9.85	0.0208	9.28	0.0848	9.94	0.0657	9.51	0.0753	10.35	0.0953	10.49	0.0738	11.29	0.0703
29-Dec-98	9.16	0.0228	9.32	0.0164	9.14	0.0741	9.72	0.0526	9.45	0.0705	10.18	0.0615	10.45	0.0757	11.21	0.0550
30-Dec-98	8.37	0.0255	8.58	0.0235	8.89	0.0715	9.50	0.0541	9.40	0.0630	10.15	0.0662	10.43	0.0749	11.22	0.0505
31-Dec-98	-	-	-	-	8.87	0.0639	9.45	0.0764	9.45	0.1025	10.24	0.1060	10.43	0.0819	11.28	0.0726

1-Jan-99	6.21	0.1094	7.04	0.0878	8.87	0.0580	9.51	0.0532	9.41	0.0896	10.15	0.0737	10.42	0.0877	11.19	0.0638
2-Jan-99	9.11	0.0305	9.38	0.0210	8.93	0.0813	9.57	0.0579	9.43	0.0816	10.23	0.0797	10.39	0.1007	11.22	0.0578
4-Jan-99	9.07	0.0147	9.26	0.0114	8.93	0.0706	9.54	0.0660	9.42	0.0830	10.16	0.0780	10.41	0.0800	11.19	0.0651
5-Jan-99	8.98	0.0167	9.12	0.0125	8.92	0.0439	9.41	0.0601	9.32	0.0746	9.99	0.0878	10.48	0.0918	11.18	0.0826
6-Jan-99	8.75	0.0199	8.89	0.0151	8.78	0.0541	9.32	0.0791	9.21	0.0680	9.91	0.0704	10.49	0.0795	11.21	0.0686
7-Jan-99	8.75	0.0152	8.88	0.0157	8.90	0.0726	9.45	0.0363	9.31	0.0756	9.97	0.0429	10.42	0.0859	11.20	0.0478
8-Jan-99	9.10	0.0384	9.34	0.0252	8.97	0.0661	9.56	0.0416	9.38	0.0712	10.08	0.0474	10.37	0.0764	11.14	0.0381
9-Jan-99	9.22	0.0240	9.39	0.0160	8.97	0.0729	9.58	0.0548	9.32	0.0644	10.06	0.0649	10.38	0.0725	11.19	0.0733
11-Jan-99	9.29	0.0186	9.47	0.0143	9.01	0.0697	9.59	0.0572	9.46	0.0826	10.16	0.0521	10.43	0.0794	11.17	0.0497
12-Jan-99	-	-	-	-	9.03	0.0407	9.63	0.0704	9.44	0.0817	10.15	0.0763	10.46	0.0908	11.27	0.0859
13-Jan-99	9.79	0.0453	10.01	0.0219	9.32	0.1243	9.91	0.1153	9.65	0.1153	10.32	0.0829	10.50	0.1021	11.27	0.0695
14-Jan-99	13.14	0.6503	19.45	0.6763	9.59	0.1686	11.69	0.6627	9.80	0.1107	10.83	0.2263	10.60	0.1175	11.62	0.1469
15-Jan-99	18.06	0.8938	24.73	0.8127	10.60	0.4577	14.26	0.8852	10.16	0.2168	12.65	0.5646	10.67	0.1508	12.09	0.2245
16-Jan-99	20.23	0.9051	28.07	0.6370	9.61	0.2601	11.76	0.5357	9.74	0.1803	11.23	0.4809	10.52	0.1777	11.65	0.4232
18-Jan-99	8.93	0.0289	9.15	0.0240	9.09	0.0958	9.78	0.1014	9.52	0.1442	10.30	0.1174	10.50	0.1189	11.38	0.1135
19-Jan-99	8.92	0.0180	9.06	0.0120	9.21	0.0970	9.69	0.0946	9.59	0.1074	10.32	0.1076	10.47	0.1371	11.30	0.1073
21-Jan-99	8.90	0.0131	9.04	0.0090	9.06	0.0618	9.66	0.0698	9.52	0.0608	10.27	0.0852	10.50	0.0578	11.39	0.0719
22-Jan-99	8.80	0.0141	8.96	0.0084	9.09	0.0695	9.68	0.0531	9.55	0.0699	10.28	0.0843	10.57	0.0819	11.36	0.0812
23-Jan-99	8.78	0.0106	8.91	0.0132	9.05	0.0682	9.53	0.0586	9.56	0.0767	10.21	0.0549	10.61	0.0821	11.32	0.0699
25-Jan-99	8.77	0.0104	8.89	0.0089	8.99	0.0620	9.50	0.0386	9.50	0.0728	10.18	0.0532	10.65	0.0632	11.37	0.0805
27-Jan-99	8.17	0.0136	8.29	0.0106	8.66	0.0675	9.32	0.0751	9.17	0.0890	9.92	0.0812	10.50	0.0694	11.28	0.0891
28-Jan-99	8.10	0.0095	8.20	0.0079	8.71	0.0467	9.35	0.0716	9.40	0.0698	10.05	0.0628	10.59	0.0645	11.33	0.0834
29-Jan-99	6.62	0.0870	7.26	0.0802	8.66	0.0665	9.31	0.0665	9.27	0.0971	9.96	0.0756	10.50	0.0816	11.24	0.0805
30-Jan-99	8.33	0.0186	8.51	0.0177	8.80	0.0674	9.34	0.0689	9.32	0.0520	10.04	0.0578	10.40	0.0565	11.08	0.0585
1-Feb-99	8.74	0.0180	8.90	0.0116	8.82	0.0709	9.44	0.0671	9.44	0.0783	10.14	0.0482	10.51	0.0635	11.28	0.0741
2-Feb-99	9.10	0.0175	9.25	0.0070	8.93	0.0703	9.54	0.0929	9.46	0.0588	10.18	0.0691	10.52	0.0499	11.34	0.0717
3-Feb-99	9.18	0.0183	9.30	0.0168	9.00	0.0835	9.65	0.0839	9.53	0.1008	10.22	0.1028	10.53	0.0742	11.37	0.0756
4-Feb-99	8.96	0.0111	9.09	0.0103	8.89	0.0644	9.55	0.0573	9.43	0.0606	10.15	0.0659	10.56	0.0599	11.37	0.0670
5-Feb-99	8.87	0.0155	9.00	0.0099	8.85	0.0699	9.45	0.0738	9.38	0.0598	10.08	0.0705	10.59	0.0691	11.38	0.0692
6-Feb-99	8.77	0.0143	8.87	0.0104	8.84	0.0789	9.43	0.0428	9.45	0.0876	10.25	0.0544	10.55	0.0730	11.35	0.0683
8-Feb-99	8.68	0.0184	8.79	0.0162	8.80	0.0715	9.40	0.0570	9.39	0.0631	10.11	0.0563	10.55	0.0711	11.33	0.0860
9-Feb-99	8.63	0.0132	8.75	0.0120	8.79	0.0712	9.39	0.0531	9.34	0.0547	10.07	0.0606	10.62	0.0813	11.33	0.0952
10-Feb-99	8.99	0.0155	9.13	0.0134	8.93	0.0718	9.57	0.0575	9.45	0.0616	10.17	0.0653	10.63	0.0683	11.38	0.0761
11-Feb-99	8.96	0.0102	9.08	0.0127	9.00	0.0784	9.60	0.0648	9.47	0.0719	10.26	0.0576	10.66	0.0786	11.41	0.0912
12-Feb-99	8.01	0.1360	8.86	0.0794	9.09	0.0914	9.76	0.0671	9.47	0.0802	10.23	0.0752	10.61	0.0764	11.47	0.0758
13-Feb-99	9.12	0.0244	9.31	0.0197	9.11	0.0781	9.73	0.0622	9.61	0.0845	10.31	0.0684	10.61	0.1052	11.35	0.0942
15-Feb-99	9.07	0.0154	9.21	0.0109	9.03	0.0728	9.66	0.0406	9.57	0.0943	10.33	0.0837	10.65	0.0990	11.41	0.1012
16-Feb-99	8.99	0.0121	9.10	0.0083	9.01	0.0762	9.62	0.0608	9.57	0.0851	10.29	0.0476	10.65	0.0924	11.42	0.0957
17-Feb-99	8.92	0.0153	9.03	0.0100	9.10	0.0685	9.64	0.0526	9.61	0.0818	10.29	0.0482	10.78	0.0959	11.45	0.0996
18-Feb-99	8.85	0.0156	8.96	0.0097	9.11	0.0510	9.67	0.0594	9.56	0.0631	10.27	0.0505	10.81	0.0771	11.47	0.0867
19-Feb-99	8.85	0.0125	8.93	0.0093	9.08	0.0748	9.73	0.0634	9.67	0.0991	10.35	0.0553	10.78	0.1375	11.57	0.0861
20-Feb-99	9.29	0.0345	9.51	0.0267	9.23	0.0813	9.79	0.0993	9.72	0.1120	10.33	0.0966	10.86	0.0963	11.38	0.1141
22-Feb-99	9.21	0.0195	9.37	0.0232	9.13	0.0897	9.75	0.0862	9.65	0.0951	10.34	0.0643	10.92	0.1032	11.49	0.0849
23-Feb-99	8.91	0.0122	9.02	0.0096	9.15	0.0729	9.79	0.0969	9.74	0.0967	10.46	0.0706	10.96	0.0970	11.59	0.0733
24-Feb-99	8.73	0.0308	8.91	0.0136	9.20	0.0799	9.80	0.0952	9.79	0.1121	10.37	0.0919	10.93	0.0996	11.52	0.0912
27-Feb-99	9.12	0.0213	9.27	0.0090	9.23	0.0842	9.82	0.0932	9.87	0.1091	10.46	0.0799	10.94	0.0908	11.45	0.0971
1-Mar-99	9.06	0.0148	9.19	0.0126	9.14	0.1087	9.73	0.0884	9.67	0.1232	10.36	0.0889	10.90	0.0747	11.47	0.0927
3-Mar-99	7.61	0.0293	7.82	0.0270	7.91	0.1100	8.70	0.0954	8.61	0.1340	9.48	0.1252	10.04	0.0919	10.89	0.1065
4-Mar-99	8.04	0.0112	8.16	0.0099	8.20	0.1335	8.88	0.1036	8.72	0.1543	9.61	0.1165	10.13	0.1199	10.94	0.1046
5-Mar-99	8.05	0.0129	8.19	0.0110	8.23	0.1382	8.94	0.1086	8.75	0.1502	9.69	0.1053	10.10	0.1278	10.96	0.1016
6-Mar-99	8.21	0.0234	8.39	0.0112	8.24	0.1548	8.89	0.1212	8.83	0.1671	9.61	0.1328	10.07	0.0921	10.83	0.1234
8-Mar-99	8.16	0.0246	8.32	0.0153	8.24	0.1367	8.98	0.0994	8.75	0.1652	9.75	0.1128	10.10	0.1297	11.02	0.0899
9-Mar-99	8.19	0.0184	8.32	0.0076	8.17	0.1659	8.96	0.1311	8.86	0.1942	9.75	0.1375	10.06	0.1414	11.01	0.1088
10-Mar-99	8.17	0.0136	8.30	0.0072	8.34	0.1523	9.04	0.1062	8.94	0.1846	9.77	0.1171	10.17	0.1354	10.90	0.1014
11-Mar-99	8.06	0.0142	8.17	0.0098	8.25	0.1288	8.88	0.0998	8.97	0.1810	9.84	0.1259	10.09	0.1433	10.95	0.1026
12-Mar-99	7.56	0.0969	8.04	0.0503	8.25	0.1353	8.92	0.0898	9.04	0.1595	9.92	0.0862	10.12	0.1307	10.97	0.0876

13-Mar-99	7.84	0.0342	8.05	0.0300	8.33	0.1533	9.16	0.1285	9.03	0.2025	9.96	0.1409	10.23	0.1478	11.12	0.0930
15-Mar-99	8.94	0.0374	9.21	0.0338	8.57	0.1593	9.48	0.1468	9.25	0.1918	10.21	0.1517	10.23	0.1425	11.10	0.0971
16-Mar-99	10.33	0.0647	10.75	0.0473	9.32	0.2437	10.60	0.1986	9.85	0.2373	10.87	0.1725	10.50	0.1905	11.46	0.1240
17-Mar-99	10.90	0.0472	11.20	0.0338	9.78	0.1856	10.70	0.1874	10.13	0.1377	10.91	0.1071	10.49	0.1444	11.39	0.1013
19-Mar-99	10.20	0.0715	10.64	0.0356	9.44	0.2472	10.57	0.1966	9.88	0.2403	10.80	0.1808	10.58	0.2071	11.52	0.1365
20-Mar-99	9.33	0.0667	9.72	0.0370	8.98	0.1952	9.78	0.2123	9.62	0.2040	10.42	0.1880	10.38	0.1773	11.30	0.1261
22-Mar-99	8.09	0.0310	8.31	0.0205	8.58	0.1934	9.25	0.1719	9.28	0.1874	10.04	0.1551	10.25	0.1205	11.11	0.1228
23-Mar-99	7.54	0.0330	7.77	0.1830	8.42	0.1702	9.10	0.1602	9.23	0.1273	10.18	0.1367	10.24	0.1410	11.19	0.1045
24-Mar-99	7.38	0.0351	7.64	0.0187	8.66	0.1502	9.39	0.1514	9.33	0.1627	10.16	0.1535	10.25	0.1326	11.18	0.1060
26-Mar-99	6.63	0.0740	7.06	0.0447	8.96	0.2018	9.78	0.1858	9.40	0.1687	10.19	0.1451	10.25	0.1633	11.21	0.1158
27-Mar-99	7.90	0.0268	8.10	0.0210	9.06	0.2197	9.90	0.1810	9.39	0.1756	10.28	0.1503	10.39	0.1497	11.20	0.1251
30-Mar-99	8.06	0.0252	8.29	0.0135	9.06	0.2176	9.81	0.1830	9.43	0.1709	10.30	0.1576	10.37	0.1659	11.32	0.1048
31-Mar-99	10.87	0.3162	12.97	0.2728	9.09	0.2078	10.06	0.2363	9.44	0.1642	10.35	0.1437	10.30	0.1714	11.20	0.1247
3-Apr-99	8.11	0.0255	8.31	0.0202	8.39	0.1658	9.24	0.1678	8.95	0.1609	9.88	0.1515	10.08	0.1307	11.06	0.0888
5-Apr-99	7.95	0.0149	8.10	0.0142	8.37	0.1960	9.17	0.1570	8.75	0.1304	9.70	0.1181	10.11	0.1493	10.95	0.0843
6-Apr-99	7.26	0.0429	7.53	0.0276	8.31	0.1933	9.04	0.1637	8.86	0.1536	9.65	0.1343	10.15	0.1680	10.98	0.1230
7-Apr-99	6.04	0.0255	6.32	0.0356	8.06	0.2658	8.93	0.2064	8.63	0.1621	9.56	0.1461	10.04	0.1553	10.93	0.1165
8-Apr-99	6.25	0.0425	6.55	0.0552	7.92	0.1914	8.80	0.1526	8.78	0.1616	9.66	0.1420	10.09	0.1547	10.99	0.1017
9-Apr-99	5.26	0.1460	5.88	0.1164	7.91	0.1869	8.73	0.1579	8.81	0.1590	9.62	0.1322	10.07	0.1496	10.91	0.1209
10-Apr-99	6.82	0.0276	7.06	0.0299	8.08	0.1885	8.87	0.1656	8.56	0.1690	9.47	0.1410	9.91	0.1199	10.77	0.0891
12-Apr-99	7.96	0.0166	8.19	0.0163	8.13	0.1450	8.89	0.1329	8.84	0.1390	9.72	0.1190	10.07	0.1330	10.95	0.1010
13-Apr-99	7.75	0.0186	7.92	0.0170	8.16	0.1342	8.83	0.1104	8.86	0.1371	9.61	0.1236	9.75	0.1170	10.93	0.1283
15-Apr-99	7.82	0.0194	7.94	0.0150	7.96	0.1410	8.78	0.0929	8.64	0.1552	9.48	0.1100	9.98	0.1447	10.82	0.0919
16-Apr-99	7.90	0.0101	8.06	0.0108	8.20	0.1345	8.86	0.1427	8.82	0.1335	9.64	0.1253	9.98	0.1265	10.83	0.1005
19-Apr-99	8.14	0.0219	8.30	0.0197	8.23	0.1296	8.97	0.1252	8.90	0.1468	9.74	0.1216	9.84	0.1082	10.85	0.0890
20-Apr-99	8.04	0.0204	8.18	0.0172	8.31	0.1432	8.92	0.1103	9.01	0.1618	9.71	0.1340	9.97	0.1111	10.87	0.0880
21-Apr-99	8.44	0.0498	8.79	0.0262	8.20	0.1657	8.98	0.1372	8.59	0.1990	9.73	0.1325	9.65	0.0966	10.71	0.0766
22-Apr-99	8.46	0.0354	8.71	0.0112	8.22	0.1560	8.98	0.1347	8.60	0.1554	9.62	0.1140	9.81	0.0978	10.71	0.0728
23-Apr-99	6.50	0.1728	7.22	0.1229	8.48	0.1289	9.07	0.1090	9.00	0.1174	9.71	0.1188	9.85	0.0815	10.50	0.0591
24-Apr-99	8.94	0.0775	9.41	0.0475	8.29	0.1398	9.10	0.1201	8.59	0.1981	9.66	0.1243	9.59	0.1097	10.50	0.0625
26-Apr-99	8.62	0.0324	8.84	0.0214	8.25	0.1676	9.10	0.1164	9.03	0.1563	9.88	0.1216	9.98	0.1133	10.75	0.1020
28-Apr-99	8.41	0.0240	8.60	0.0171	8.40	0.1035	9.08	0.0945	8.98	0.1069	9.59	0.1199	9.84	0.0815	10.70	0.0756
29-Apr-99	8.25	0.0277	8.45	0.0199	8.25	0.1153	9.01	0.1011	8.93	0.0998	9.72	0.0798	9.83	0.0784	10.63	0.0711
3-May-99	8.08	0.0165	8.24	0.0104	8.22	0.1286	8.91	0.1124	8.80	0.1566	9.55	0.1422	9.42	0.1690	10.65	0.1066
4-May-99	8.10	0.0193	8.25	0.0083	8.23	0.1172	8.75	0.1170	8.59	0.1981	9.52	0.1397	9.60	0.1554	10.57	0.1053
5-May-99	8.35	0.0236	8.59	0.0244	8.37	0.1120	9.04	0.0983	8.91	0.1400	9.36	0.2009	9.84	0.1061	10.02	0.2126
6-May-99	9.74	0.0650	10.18	0.0477	8.38	0.1450	9.21	0.1238	8.50	0.2281	9.56	0.2019	9.82	0.1149	10.53	0.1573
7-May-99	8.85	0.1293	9.68	0.1125	8.50	0.1101	9.24	0.0898	8.92	0.0798	9.91	0.0651	9.75	0.0522	10.74	0.1047
8-May-99	8.86	0.0702	9.19	0.0174	8.67	0.0968	9.25	0.0579	9.25	0.1009	9.90	0.0655	10.03	0.1096	10.88	0.1096
10-May-99	8.90	0.0636	9.15	0.0170	8.82	0.0963	9.48	0.0596	9.23	0.0837	9.75	0.0486	9.96	0.0955	10.67	0.0964
11-May-99	9.06	0.0617	9.26	0.0100	8.84	0.0969	9.52	0.0642	9.15	0.0966	9.99	0.0560	9.95	0.0854	10.83	0.1098
12-May-99	10.17	0.0297	10.52	0.0262	9.10	0.1039	9.79	0.1092	9.35	0.1162	10.12	0.0838	9.97	0.1015	10.63	0.0700
13-May-99	9.59	0.0315	9.84	0.0204	8.98	0.1216	9.34	0.1818	9.15	0.1641	9.82	0.1744	10.01	0.1461	10.34	0.1951
14-May-99	9.05	0.0212	9.31	0.0220	8.94	0.1324	9.69	0.0984	9.17	0.1471	10.01	0.1509	9.81	0.1297	10.59	0.1555
15-May-99	10.50	0.0617	11.06	0.0429	9.21	0.1355	9.96	0.0878	9.44	0.1060	10.21	0.0653	10.07	0.0991	10.82	0.1008
17-May-99	9.93	0.0220	10.20	0.0166	9.27	0.1110	10.07	0.0793	9.50	0.1137	10.29	0.0725	10.10	0.1291	10.83	0.1041
18-May-99	9.03	0.0451	9.18	0.0254	9.01	0.0993	9.66	0.1085	9.32	0.1089	10.02	0.0852	10.01	0.1104	10.66	0.0870
19-May-99	7.95	0.0194	8.11	0.0235	8.56	0.1068	9.16	0.1078	9.00	0.0910	9.78	0.0779	9.87	0.0941	10.54	0.0825
20-May-99	7.98	0.0133	8.13	0.0116	8.55	0.0947	9.21	0.0927	8.97	0.0852	9.69	0.0789	9.80	0.1037	10.49	0.0889
21-May-99	7.06	0.0617	7.60	0.0635	8.41	0.1496	9.13	0.1445	8.87	0.0697	9.56	0.0925	9.76	0.0828	10.42	0.1061
22-May-99	8.23	0.0279	8.53	0.0250	8.44	0.1024	9.11	0.0838	8.91	0.0936	9.67	0.0918	9.70	0.1103	10.44	0.0923
24-May-99	8.01	0.0109	8.17	0.0164	8.45	0.0882	9.01	0.0705	8.87	0.0910	9.70	0.0965	9.69	0.1197	10.71	0.0985
25-May-99	8.02	0.0098	8.11	0.0105	8.42	0.0773	9.00	0.0910	8.83	0.0741	9.61	0.0851	9.77	0.0780	10.63	0.0858
26-May-99	8.00	0.0175	8.09	0.0092	8.37	0.0743	8.96	0.0948	8.78	0.0657	9.55	0.0797	9.50	0.0972	10.57	0.0743
27-May-99	8.08	0.0168	8.22	0.0148	8.41	0.0759	9.04	0.0825	8.78	0.0660	9.56	0.0826	9.70	0.0826	10.63	0.0796
28-May-99	8.72	0.0456	9.14	0.0423	8.78	0.1252	9.31	0.1540	9.06	0.0814	9.81	0.1292	9.98	0.0914	10.73	0.1303

29-May-99	8.73	0.0266	8.94	0.0224	8.33	0.1218	9.34	0.1611	9.31	0.2469	9.92	0.2160	9.99	0.2126	10.47	0.1736
31-May-99	8.04	0.0107	8.19	0.0124	8.44	0.1073	8.93	0.1515	9.01	0.0874	9.78	0.1479	9.80	0.0482	10.72	0.1304
1-Jun-99	7.93	0.0128	8.07	0.0088	8.46	0.0941	9.12	0.1230	8.94	0.0926	9.67	0.1263	9.81	0.0518	10.69	0.1217
2-Jun-99	7.63	0.0581	7.93	0.0178	8.31	0.1144	8.90	0.1137	8.95	0.1037	9.72	0.1023	9.75	0.0530	10.66	0.1122
3-Jun-99	7.75	0.0260	7.94	0.0158	8.20	0.0928	8.90	0.0943	8.87	0.1062	9.57	0.1190	9.74	0.1174	9.75	0.1773
4-Jun-99	7.30	0.0877	7.77	0.0436	8.17	0.0891	8.91	0.0649	8.82	0.0998	9.55	0.0999	9.60	0.0653	10.48	0.0997
5-Jun-99	8.30	0.0382	8.59	0.0234	8.21	0.0773	8.89	0.0561	8.45	0.1125	9.58	0.0770	9.67	0.0751	10.48	0.0685
7-Jun-99	7.99	0.0149	8.12	0.0128	8.25	0.0512	8.90	0.0686	8.92	0.1031	9.63	0.0893	9.77	0.0658	10.47	0.0829
8-Jun-99	7.93	0.0122	8.05	0.0091	8.24	0.0493	8.92	0.0678	8.85	0.1036	9.63	0.0842	9.68	0.0498	10.46	0.0890
9-Jun-99	7.93	0.0119	8.04	0.0077	8.25	0.0476	8.86	0.0767	8.87	0.0840	9.63	0.0625	9.67	0.0585	10.47	0.0653
10-Jun-99	7.95	0.0119	8.04	0.0067	8.30	0.0570	8.92	0.0634	8.81	0.0800	9.52	0.0879	9.63	0.0838	10.41	0.1019
11-Jun-99	7.97	0.0087	8.07	0.0073	8.28	0.0691	8.94	0.0573	8.81	0.0635	9.58	0.0762	9.57	0.0439	10.43	0.0911
12-Jun-99	8.21	0.0213	8.41	0.0098	8.35	0.0814	9.04	0.0789	8.88	0.0658	9.60	0.0746	9.62	0.0700	10.45	0.1003
14-Jun-99	8.33	0.0201	8.51	0.0106	8.37	0.0817	9.16	0.0833	9.01	0.0925	9.77	0.0928	9.72	0.0831	10.55	0.1027
15-Jun-99	8.20	0.0178	8.35	0.0132	8.46	0.0923	9.14	0.1086	9.08	0.0948	9.73	0.0900	9.87	0.0842	10.67	0.0641
16-Jun-99	8.03	0.0093	8.14	0.0081	8.51	0.0824	9.21	0.0948	8.98	0.0725	9.82	0.0862	9.79	0.0646	10.64	0.0699
17-Jun-99	8.41	0.0324	8.65	0.0190	8.50	0.0883	9.30	0.0755	9.04	0.0888	9.80	0.0803	9.91	0.0988	10.72	0.0699
18-Jun-99	7.42	0.0685	7.78	0.0427	8.51	0.1151	9.15	0.0928	9.05	0.1028	9.80	0.0756	9.81	0.0951	10.66	0.0771
19-Jun-99	8.42	0.0292	8.63	0.0212	8.59	0.0857	9.23	0.0724	9.08	0.0831	9.88	0.0703	9.75	0.0665	10.58	0.0695
21-Jun-99	8.63	0.0173	8.80	0.0164	8.58	0.0566	9.32	0.0648	9.06	0.0797	9.81	0.0827	9.79	0.0833	10.62	0.0773
22-Jun-99	8.73	0.0248	8.96	0.0123	8.74	0.1001	9.41	0.0687	9.17	0.1104	9.90	0.0879	9.89	0.0872	10.71	0.0912
23-Jun-99	8.81	0.0141	8.99	0.0132	8.60	0.0647	9.28	0.0726	9.05	0.0737	9.83	0.0732	9.78	0.0708	10.65	0.0661
24-Jun-99	8.33	0.0197	8.52	0.0148	8.70	0.1000	9.25	0.0773	9.15	0.1099	9.88	0.0922	9.82	0.0734	10.66	0.0738
25-Jun-99	8.32	0.0124	8.49	0.0121	8.67	0.1012	9.32	0.0844	9.26	0.1089	9.94	0.0885	9.92	0.0923	10.70	0.0890
26-Jun-99	8.12	0.0115	8.25	0.0094	8.52	0.0500	9.19	0.0420	9.13	0.0704	9.82	0.0729	9.87	0.0736	10.62	0.0634
28-Jun-99	8.02	0.0066	8.14	0.0069	8.40	0.0764	9.12	0.0772	9.04	0.0757	9.84	0.0717	9.83	0.0584	10.59	0.0811
29-Jun-99	7.99	0.0104	8.10	0.0066	8.48	0.0816	9.13	0.0815	8.96	0.0672	9.80	0.0689	9.69	0.0463	10.58	0.0727
30-Jun-99	-	-	-	-	8.48	0.0863	9.11	0.0640	9.11	0.1114	9.84	0.0869	9.89	0.1003	10.68	0.0768
1-Jul-99	7.99	0.0217	8.08	0.0064	8.44	0.0600	9.08	0.0586	8.99	0.0907	9.69	0.0746	9.73	0.0722	10.53	0.0640
2-Jul-99	7.51	0.0762	7.94	0.0444	8.49	0.0575	9.12	0.0673	9.09	0.0536	9.77	0.0789	9.80	0.0609	10.60	0.0544
3-Jul-99	8.60	0.0283	8.82	0.0134	8.41	0.0750	9.03	0.0636	9.02	0.0688	9.68	0.0655	9.87	0.1095	10.57	0.0588
5-Jul-99	8.28	0.0213	8.44	0.0182	8.41	0.0613	9.07	0.0583	9.04	0.0749	9.79	0.0772	9.82	0.1022	10.58	0.0690
6-Jul-99	8.17	0.0102	8.30	0.0080	8.38	0.0601	8.96	0.0659	9.02	0.0681	9.79	0.0843	9.79	0.0716	10.59	0.0590
7-Jul-99	8.15	0.0092	8.28	0.0105	8.40	0.0785	8.94	0.0651	8.96	0.0840	9.73	0.0758	9.81	0.0813	10.53	0.0520
8-Jul-99	8.21	0.0069	8.31	0.0119	8.42	0.0571	8.99	0.0535	8.88	0.0439	9.68	0.0646	9.69	0.0411	10.48	0.0523
9-Jul-99	8.23	0.0096	8.34	0.0091	8.40	0.0615	9.02	0.0726	8.91	0.0500	9.62	0.0782	9.70	0.0690	10.46	0.0806
10-Jul-99	8.19	0.0091	8.30	0.0084	8.42	0.0588	8.99	0.0654	8.99	0.0666	9.64	0.0651	9.63	0.0570	10.35	0.0889
12-Jul-99	8.15	0.0107	8.27	0.0070	8.33	0.0557	8.94	0.0631	8.86	0.0469	9.46	0.0609	9.56	0.0662	10.26	0.0800
13-Jul-99	8.26	0.0067	8.38	0.0079	8.37	0.0459	8.95	0.0553	8.87	0.0504	9.46	0.0640	9.57	0.0761	10.27	0.0662
14-Jul-99	8.53	0.0139	8.73	0.0162	8.65	0.0482	9.16	0.0442	9.02	0.0804	9.58	0.0507	9.76	0.1012	10.36	0.0470
15-Jul-99	8.90	0.0161	9.09	0.0234	8.60	0.0795	9.31	0.0710	8.99	0.1107	9.75	0.0898	9.61	0.0732	10.47	0.0613
16-Jul-99	8.93	0.0460	9.24	0.0273	8.70	0.0728	9.26	0.0636	9.02	0.0857	9.73	0.0697	9.59	0.0727	10.38	0.0810
17-Jul-99	9.07	0.0221	9.22	0.0237	8.77	0.0575	9.27	0.0475	9.07	0.0676	9.70	0.0506	9.66	0.0459	10.39	0.0550
19-Jul-99	8.57	0.0136	8.75	0.0118	8.60	0.0516	9.10	0.0624	8.99	0.0626	9.56	0.0571	9.63	0.0804	10.29	0.0626
20-Jul-99	8.15	0.0143	8.29	0.0089	8.51	0.0624	9.03	0.0733	9.00	0.0753	9.52	0.0709	9.67	0.1018	10.29	0.0761
21-Jul-99	8.05	0.0099	8.19	0.0067	8.51	0.0566	9.04	0.0739	8.98	0.0744	9.51	0.0548	9.67	0.0956	10.29	0.0589
22-Jul-99	7.95	0.0089	8.08	0.0058	8.37	0.0680	8.92	0.0393	8.86	0.0782	9.36	0.0429	9.58	0.0976	10.14	0.0655
23-Jul-99	7.95	0.0089	8.06	0.0053	8.33	0.0345	8.88	0.0557	8.77	0.0522	9.42	0.0765	9.44	0.0445	10.20	0.0818
24-Jul-99	7.97	0.0102	8.10	0.0060	8.35	0.0530	8.84	0.0360	8.81	0.0424	9.42	0.0656	9.43	0.0435	10.18	0.0851
26-Jul-99	8.00	0.0063	8.07	0.0054	8.32	0.0449	8.84	0.0387	8.75	0.0575	9.33	0.0616	9.46	0.0545	10.07	0.0660
27-Jul-99	7.94	0.0123	8.05	0.0047	8.30	0.0419	8.79	0.0410	8.71	0.0500	9.27	0.0683	9.45	0.0512	10.07	0.0793
28-Jul-99	7.97	0.0098	8.03	0.0043	8.32	0.0449	8.86	0.0418	8.77	0.0635	9.39	0.0651	9.43	0.0436	10.14	0.0691
29-Jul-99	8.00	0.0076	8.11	0.0062	8.32	0.0438	8.87	0.0363	8.79	0.0698	9.40	0.0603	9.49	0.0488	10.12	0.0601
30-Jul-99	7.75	0.0560	8.01	0.0190	8.32	0.0414	8.85	0.0426	8.81	0.0597	9.37	0.0629	9.43	0.0641	10.06	0.0787
31-Jul-99	8.18	0.0144	8.31	0.0111	8.36	0.0525	8.86	0.0642	8.79	0.0820	9.37	0.0801	9.36	0.0776	10.09	0.1044
2-Aug-99	8.12	0.0109	8.24	0.0073	8.31	0.0415	8.83	0.0299	8.70	0.0524	9.28	0.0598	9.37	0.0687	10.04	0.0757

3-Aug-99	8.03	0.0082	8.15	0.0084	8.27	0.0398	8.77	0.0368	8.69	0.0514	9.29	0.0534	9.37	0.0657	10.00	0.0591
4-Aug-99	8.00	0.0084	8.09	0.0055	8.32	0.0313	8.80	0.0332	8.66	0.0446	9.30	0.0585	9.29	0.0546	10.02	0.0739
5-Aug-99	7.98	0.0067	8.07	0.0049	8.29	0.0367	8.77	0.0338	8.67	0.0493	9.31	0.0596	9.34	0.0545	10.03	0.0738
6-Aug-99	8.15	0.0107	8.36	0.0149	8.30	0.0382	8.85	0.0338	8.73	0.0648	9.36	0.0650	9.38	0.0671	10.08	0.0946
7-Aug-99	9.52	0.0287	9.76	0.0287	8.44	0.0496	9.02	0.0579	8.78	0.0627	9.42	0.0675	9.40	0.0753	10.14	0.0825
9-Aug-99	8.94	0.0174	9.16	0.0164	8.72	0.0886	9.16	0.0771	8.96	0.0750	9.50	0.0694	9.51	0.0800	10.18	0.0835
10-Aug-99	8.93	0.0142	9.10	0.0086	8.71	0.0710	9.24	0.0605	9.00	0.0478	9.59	0.0527	9.61	0.0673	10.26	0.0560
11-Aug-99	9.07	0.0145	9.21	0.0110	8.70	0.0581	9.25	0.0437	9.09	0.0471	9.66	0.0610	9.67	0.0726	10.40	0.0817
12-Aug-99	10.11	0.0583	10.59	0.0729	9.46	0.1888	10.29	0.2083	9.50	0.1023	10.15	0.1285	9.91	0.1263	10.60	0.1234
13-Aug-99	19.35	1.0731	27.03	0.7302	10.03	0.3430	12.01	0.5382	10.06	0.1627	10.87	0.2643	10.37	0.2887	11.03	0.1863
14-Aug-99	10.45	0.1321	11.52	0.1353	9.07	0.1470	9.92	0.1684	9.32	0.1053	10.01	0.1095	9.75	0.1016	10.47	0.1027
16-Aug-99	9.90	0.0303	10.24	0.0337	9.46	0.0772	10.08	0.1111	9.52	0.0835	10.20	0.0961	9.97	0.1154	10.69	0.0747
17-Aug-99	9.85	0.0410	10.04	0.0098	9.42	0.0779	10.10	0.0975	9.56	0.1354	10.35	0.0929	9.85	0.0946	10.64	0.0991
18-Aug-99	9.87	0.0124	10.01	0.0103	9.38	0.1099	10.18	0.0892	9.53	0.0672	10.28	0.0525	9.86	0.0888	10.62	0.0759
19-Aug-99	9.88	0.0135	9.98	0.0092	9.38	0.1280	10.12	0.0825	9.57	0.0724	10.29	0.0472	9.90	0.1141	10.60	0.0647
20-Aug-99	9.91	0.0137	10.04	0.0112	9.58	0.0605	10.19	0.0841	9.60	0.0659	10.39	0.0525	9.83	0.0843	10.58	0.0830
21-Aug-99	9.75	0.1166	9.99	0.0192	9.51	0.0771	10.05	0.1095	9.61	0.0865	10.32	0.0683	10.00	0.1261	10.70	0.0972
23-Aug-99	8.70	0.0212	8.91	0.0163	8.91	0.1202	9.57	0.1189	9.41	0.0939	10.09	0.0881	9.79	0.0988	10.53	0.0897
24-Aug-99	8.05	0.0116	8.19	0.0137	8.88	0.1312	9.35	0.1217	9.24	0.1010	9.82	0.1149	9.72	0.0970	10.41	0.0971
25-Aug-99	7.97	0.0079	8.05	0.0047	8.67	0.1365	9.31	0.1219	9.22	0.0954	9.86	0.1078	9.67	0.0899	10.45	0.0922
26-Aug-99	7.97	0.0104	8.06	0.0060	8.43	0.1026	9.06	0.1015	8.94	0.0848	9.62	0.1063	9.67	0.1061	10.41	0.1093
27-Aug-99	7.37	0.0664	7.83	0.0536	8.50	0.0699	9.18	0.0942	9.05	0.0754	9.72	0.0949	9.68	0.0768	10.47	0.0802
28-Aug-99	8.75	0.0637	9.04	0.0168	8.72	0.0758	9.26	0.0701	9.12	0.0995	9.75	0.0835	9.78	0.0894	10.49	0.0704
30-Aug-99	8.82	0.0094	8.97	0.0098	8.75	0.0826	9.36	0.0626	9.20	0.0900	9.84	0.0709	9.83	0.0795	10.48	0.0657
31-Aug-99	9.93	0.0189	10.09	0.0265	9.24	0.1289	9.83	0.1092	9.46	0.1147	10.11	0.0615	9.86	0.0867	10.57	0.0442
1-Sep-99	10.00	0.0110	10.15	0.0117	9.38	0.1125	10.06	0.1168	9.49	0.1164	10.22	0.0809	9.90	0.0761	10.50	0.0585
2-Sep-99	9.61	0.0185	9.81	0.0191	9.47	0.0876	10.06	0.0965	9.62	0.1123	10.33	0.0700	9.93	0.0789	10.69	0.0438
3-Sep-99	9.99	0.0113	10.19	0.0123	9.64	0.1307	10.31	0.0980	9.73	0.1074	10.44	0.0792	9.93	0.0672	10.70	0.0524
4-Sep-99	10.09	0.0231	10.21	0.0152	9.81	0.1789	10.56	0.0786	9.97	0.1125	10.69	0.0679	10.02	0.0798	10.80	0.0565
6-Sep-99	10.59	0.0411	10.94	0.0332	10.07	0.1090	10.81	0.1480	9.78	0.1088	10.67	0.1126	10.03	0.0863	10.86	0.0623
7-Sep-99	10.60	0.0306	10.87	0.0203	10.04	0.1365	10.71	0.1554	10.17	0.1276	10.80	0.0896	10.14	0.0959	10.95	0.0494
8-Sep-99	11.15	0.0285	11.46	0.0231	10.21	0.0956	10.91	0.1241	10.19	0.0912	10.95	0.0663	10.19	0.0846	11.06	0.0436
9-Sep-99	9.35	0.0354	9.65	0.0246	9.81	0.1313	10.57	0.1479	10.12	0.1244	10.80	0.1084	10.09	0.0848	10.88	0.0388
10-Sep-99	9.91	0.0586	10.30	0.0367	9.81	0.0906	10.36	0.1446	10.03	0.1215	10.61	0.0900	10.03	0.0974	10.78	0.0728
14-Sep-99	10.09	0.0299	10.41	0.0229	9.97	0.0393	10.46	0.1213	10.16	0.0947	10.73	0.0854	10.22	0.0936	10.93	0.0598
15-Sep-99	11.93	0.0691	12.39	0.0537	10.48	0.2054	11.43	0.2115	10.18	0.1366	11.15	0.1505	10.21	0.1258	11.15	0.1252
16-Sep-99	12.37	0.0395	12.64	0.0294	10.49	0.1594	11.53	0.1546	10.23	0.1126	11.15	0.0983	10.20	0.1059	11.07	0.0907
17-Sep-99	11.28	0.0345	11.57	0.0347	10.36	0.1397	11.24	0.1759	10.26	0.1276	11.15	0.0962	10.29	0.1537	11.22	0.0865
18-Sep-99	11.05	0.0249	11.30	0.0244	10.23	0.1517	11.08	0.1689	10.23	0.1000	11.17	0.1243	10.18	0.1167	11.15	0.1030
20-Sep-99	10.80	0.0264	11.06	0.0159	10.21	0.0903	10.89	0.1614	10.14	0.0512	10.94	0.0881	10.19	0.1052	11.11	0.0728
21-Sep-99	9.71	0.0303	9.96	0.0257	9.63	0.1072	10.43	0.1102	9.80	0.0895	10.67	0.1064	10.07	0.0956	10.89	0.0776
22-Sep-99	8.56	0.0373	8.84	0.0342	9.26	0.1399	10.00	0.1498	9.67	0.1110	10.42	0.1184	10.03	0.1215	10.88	0.1217
23-Sep-99	8.00	0.0092	8.12	0.0097	9.15	0.1470	9.87	0.1587	9.59	0.1053	10.36	0.1017	10.02	0.1164	10.82	0.0905
24-Sep-99	7.39	0.0762	7.86	0.0585	9.00	0.1066	9.63	0.1457	9.51	0.1082	10.18	0.1183	9.93	0.1346	10.69	0.0967
25-Sep-99	8.33	0.0259	8.56	0.0232	8.94	0.1144	9.60	0.1309	9.43	0.1253	10.09	0.1112	9.91	0.1017	10.69	0.1185
27-Sep-99	8.51	0.0151	8.71	0.0109	9.06	0.0914	9.60	0.1371	9.55	0.0889	10.13	0.1233	10.07	0.0757	10.71	0.1248
28-Sep-99	8.78	0.0212	8.98	0.0191	9.13	0.0954	9.72	0.1101	9.57	0.0803	10.23	0.0966	10.06	0.0882	10.78	0.1066
29-Sep-99	8.83	0.0139	9.01	0.0159	9.13	0.0902	9.70	0.0970	9.52	0.0753	10.18	0.0928	9.98	0.0733	10.71	0.0981
30-Sep-99	-	-	-	-	9.11	0.0880	9.64	0.1329	9.57	0.0842	10.20	0.1030	10.06	0.0933	10.70	0.0802
1-Oct-99	9.94	0.0389	10.30	0.0444	9.43	0.1337	10.07	0.1374	9.69	0.1161	10.38	0.0997	10.13	0.1023	10.86	0.0625
4-Oct-99	10.14	0.0334	10.37	0.0244	9.75	0.0653	10.39	0.1277	9.86	0.0662	10.60	0.0923	10.10	0.1111	10.95	0.0672
5-Oct-99	11.76	0.0386	12.15	0.0377	10.05	0.1123	10.78	0.1875	10.03	0.0962	10.78	0.1154	10.11	0.1062	10.90	0.0939
6-Oct-99	11.34	0.0376	11.62	0.0285	10.36	0.1215	11.09	0.1837	10.19	0.1215	10.95	0.1183	10.27	0.1170	11.12	0.1033
7-Oct-99	10.31	0.0354	10.56	0.0331	10.05	0.1338	10.73	0.1495	10.24	0.0918	10.92	0.1102	10.29	0.0983	11.13	0.0928
8-Oct-99	10.07	0.0606	10.49	0.0470	10.16	0.1336	10.98	0.1293	10.22	0.0956	10.93	0.1023	10.27	0.0823	10.99	0.0930
9-Oct-99	11.95	0.0470	12.35	0.0325	10.50	0.1285	11.32	0.1282	10.32	0.1239	11.11	0.1039	10.39	0.0957	11.13	0.0998

11-Oct-99	11.78	0.0380	12.02	0.0236	10.46	0.1083	11.39	0.1289	10.27	0.1045	11.13	0.1005	10.31	0.1029	11.17	0.0996
12-Oct-99	11.09	0.0269	11.32	0.0161	10.45	0.1058	11.09	0.1637	10.29	0.1007	10.97	0.1085	10.39	0.1024	11.09	0.1054
13-Oct-99	11.46	0.0373	11.71	0.0335	10.55	0.1644	11.28	0.1983	10.38	0.0886	11.14	0.1545	10.41	0.0815	11.32	0.0974
14-Oct-99	15.13	0.2414	17.41	0.3126	10.94	0.1718	11.57	0.3023	10.54	0.1391	11.35	0.1857	10.59	0.1213	11.43	0.1302
15-Oct-99	12.27	0.0936	13.47	0.1536	11.08	0.1596	12.06	0.2602	10.67	0.1219	11.67	0.1669	10.63	0.1004	11.51	0.0913
16-Oct-99	18.70	0.1894	22.40	0.3708	10.76	0.2564	12.01	0.4136	10.41	0.1361	11.45	0.2243	10.45	0.1384	11.52	0.1519
18-Oct-99	10.26	0.0730	10.85	0.1230	10.30	0.1067	11.11	0.2340	10.32	0.0969	11.09	0.1174	10.60	0.1211	11.30	0.1027
20-Oct-99	10.23	0.0256	10.50	0.0277	10.19	0.0849	11.00	0.2282	10.31	0.0865	11.04	0.1338	10.69	0.0889	11.43	0.1416
21-Oct-99	10.00	0.0154	10.15	0.0184	10.16	0.0819	10.85	0.2149	10.22	0.0690	10.97	0.1400	10.60	0.0700	11.32	0.1309
22-Oct-99	9.19	0.1146	9.77	0.0568	10.08	0.1171	10.80	0.1983	10.32	0.0681	11.01	0.1074	10.68	0.0556	11.40	0.1008
23-Oct-99	9.94	0.0252	10.14	0.0189	10.00	0.1100	10.71	0.2253	10.26	0.0672	10.95	0.1146	10.63	0.0512	11.38	0.1122
25-Oct-99	9.89	0.0172	10.08	0.0127	9.99	0.0829	10.65	0.1683	10.19	0.0759	10.86	0.0855	10.55	0.0545	11.28	0.0908
26-Oct-99	9.90	0.0137	10.03	0.0131	9.97	0.0751	10.61	0.1776	10.21	0.0667	10.90	0.0950	10.59	0.0432	11.29	0.1009
27-Oct-99	8.95	0.0196	9.18	0.0223	9.68	0.1024	10.39	0.1817	9.94	0.0937	10.69	0.0977	10.47	0.0611	11.30	0.0857
28-Oct-99	8.04	0.0122	8.18	0.0138	9.12	0.1561	9.94	0.2202	9.63	0.1292	10.39	0.1242	10.28	0.1238	11.16	0.1090
29-Oct-99	8.00	0.0008	8.09	0.0081	9.03	0.1547	9.72	0.2140	9.71	0.1081	10.30	0.1211	10.35	0.0939	11.02	0.1050
30-Oct-99	8.10	0.0184	8.26	0.0236	8.82	0.1818	9.62	0.2680	9.45	0.1315	10.17	0.1361	10.31	0.1209	11.08	0.1229
1-Nov-99	8.02	0.0092	8.16	0.0103	8.70	0.0886	9.36	0.0838	9.23	0.0976	10.00	0.0895	10.04	0.1046	10.81	0.0961
2-Nov-99	8.01	0.0044	8.11	0.0063	8.56	0.0921	9.24	0.1041	9.18	0.0824	9.86	0.0933	10.00	0.1006	10.75	0.1028
3-Nov-99	8.02	0.0048	8.09	0.0048	8.62	0.0925	9.37	0.0927	9.23	0.0877	9.94	0.0831	10.01	0.0929	10.83	0.0960
4-Nov-99	8.06	0.0107	8.19	0.0124	8.65	0.1178	9.40	0.0974	9.25	0.0471	9.95	0.0724	10.09	0.0877	10.90	0.0986
5-Nov-99	8.09	0.1421	8.82	0.1160	8.70	0.1011	9.37	0.1050	9.17	0.1131	9.85	0.1177	10.03	0.0895	10.81	0.1099
6-Nov-99	8.03	0.0161	8.13	0.0104	8.59	0.1017	9.31	0.1002	9.12	0.1152	9.86	0.1158	9.99	0.1105	10.83	0.1180
8-Nov-99	8.01	0.0049	8.11	0.0063	8.59	0.1020	9.24	0.1159	9.25	0.0674	9.85	0.0925	10.05	0.0977	10.77	0.0992
11-Nov-99	8.01	0.0089	8.11	0.0050	8.63	0.0950	9.23	0.1187	9.16	0.0681	9.80	0.1058	10.02	0.0924	10.72	0.1193
12-Nov-99	8.22	0.0131	8.36	0.0132	8.60	0.1002	9.29	0.1072	9.18	0.0773	9.85	0.0994	10.00	0.0973	10.78	0.0923
13-Nov-99	8.30	0.0125	8.49	0.0117	8.63	0.0926	9.29	0.1058	9.21	0.0722	9.91	0.0858	10.04	0.1036	10.77	0.0951
15-Nov-99	8.23	0.0161	8.35	0.0137	8.55	0.0918	9.19	0.1047	9.11	0.0938	9.80	0.0943	10.05	0.1080	10.80	0.0938
16-Nov-99	8.02	0.0063	8.11	0.0056	8.54	0.0841	9.18	0.0917	9.13	0.0746	9.80	0.0838	10.01	0.0947	10.77	0.0938
17-Nov-99	8.04	0.0094	8.15	0.0079	8.55	0.0836	9.17	0.0889	9.16	0.0805	9.78	0.0842	10.10	0.0899	10.84	0.0813
18-Nov-99	8.15	0.0122	8.28	0.0082	8.48	0.0768	9.12	0.0750	9.15	0.0798	9.81	0.0870	10.10	0.0889	10.86	0.0734
19-Nov-99	7.68	0.0583	8.00	0.0303	8.46	0.0656	9.11	0.0616	9.17	0.0711	9.82	0.0753	10.01	0.0951	10.80	0.0800
20-Nov-99	8.03	0.0110	8.14	0.0090	8.49	0.0790	9.24	0.0628	9.24	0.0593	9.89	0.0614	10.09	0.0739	10.82	0.0774
22-Nov-99	8.05	0.0093	8.16	0.0073	8.52	0.0682	9.17	0.0735	9.16	0.0643	9.82	0.0718	10.04	0.0779	10.76	0.0764
24-Nov-99	8.37	0.0175	8.53	0.0150	8.56	0.0651	9.18	0.0664	9.20	0.0652	9.84	0.0658	10.10	0.0809	10.78	0.0751
25-Nov-99	8.02	0.0075	8.11	0.0069	8.48	0.0620	9.14	0.0804	9.14	0.0421	9.87	0.0618	10.12	0.0853	10.85	0.0734
26-Nov-99	7.99	0.0082	8.08	0.0069	8.41	0.0461	9.00	0.0662	9.13	0.0505	9.79	0.0620	10.07	0.0788	10.71	0.0795
27-Nov-99	7.98	0.0124	8.06	0.0062	8.40	0.0654	9.08	0.0727	9.08	0.0721	9.77	0.0789	10.09	0.0851	10.74	0.0960
29-Nov-99	7.99	0.0067	8.06	0.0047	8.39	0.0578	9.00	0.0685	9.09	0.0799	9.74	0.0889	10.08	0.0916	10.72	0.1055
30-Nov-99	7.95	0.0142	8.04	0.0049	8.40	0.0488	9.02	0.0661	9.08	0.0813	9.75	0.0871	10.05	0.1038	10.70	0.0958
1-Dec-99	7.88	0.0159	8.01	0.0085	8.33	0.0595	8.85	0.0796	9.11	0.1118	9.74	0.0862	10.02	0.0799	10.70	0.0718
2-Dec-99	7.76	0.0227	7.89	0.0119	8.29	0.0550	8.76	0.0912	9.08	0.1045	9.68	0.1243	9.91	0.1091	10.56	0.1187
3-Dec-99	6.44	0.0558	6.95	0.0541	8.28	0.0601	8.85	0.0842	9.19	0.1025	9.78	0.1292	10.00	0.0828	10.69	0.0784
4-Dec-99	7.98	0.0208	8.08	0.0160	8.27	0.0626	8.88	0.0730	9.09	0.0805	9.78	0.1010	9.97	0.0769	10.64	0.0805
6-Dec-99	8.00	0.0025	8.09	0.0078	8.21	0.0741	8.77	0.0924	8.88	0.1119	9.59	0.1049	9.83	0.1115	10.61	0.1007
7-Dec-99	7.88	0.0105	8.00	0.0100	8.13	0.0778	8.77	0.0866	8.85	0.1092	9.59	0.1000	9.70	0.1045	10.51	0.0975
8-Dec-99	7.90	0.0113	8.01	0.0093	8.12	0.0818	8.69	0.0823	8.83	0.1223	9.54	0.1117	9.76	0.1175	10.47	0.1148
9-Dec-99	7.89	0.0100	8.00	0.0077	8.18	0.0732	8.69	0.0789	8.94	0.0941	9.58	0.0870	9.86	0.0935	10.54	0.0850
10-Dec-99	7.90	0.0107	8.00	0.0069	8.13	0.0851	8.78	0.0855	8.93	0.1193	9.68	0.0916	9.73	0.1129	10.42	0.1084
11-Dec-99	7.88	0.0105	7.98	0.0062	8.12	0.0781	8.72	0.0797	8.93	0.1017	9.64	0.1023	9.76	0.0953	10.44	0.0859
13-Dec-99	7.88	0.0119	7.99	0.0074	8.14	0.0783	8.75	0.0751	8.92	0.1187	9.66	0.1079	9.76	0.0913	10.47	0.0705
14-Dec-99	7.88	0.0143	7.99	0.0075	8.13	0.0813	8.74	0.0414	9.02	0.0995	9.66	0.0887	9.73	0.0773	10.40	0.0639
15-Dec-99	7.91	0.0088	7.99	0.0050	8.17	0.0752	8.75	0.0464	8.93	0.0964	9.69	0.0926	9.71	0.0776	10.50	0.0524
16-Dec-99	7.89	0.0086	7.99	0.0166	8.26	0.0838	8.86	0.0692	9.05	0.0935	9.74	0.0838	9.76	0.0833	10.49	0.0656
17-Dec-99	6.22	0.0769	6.69	0.0609	8.28	0.1013	8.92	0.1030	9.01	0.0901	9.78	0.0908	9.68	0.1202	10.42	0.0884
18-Dec-99	7.92	0.0091	8.01	0.0046	8.42	0.1030	9.05	0.1090	9.09	0.0846	9.80	0.0794	9.69	0.0774	10.47	0.0813

20-Dec-99	7.95	0.0072	8.04	0.0058	8.44	0.1096	9.04	0.1008	9.11	0.0672	9.77	0.0823	9.72	0.0801	10.44	0.0768
21-Dec-99	7.94	0.0084	8.03	0.0077	8.45	0.1055	9.02	0.1024	9.11	0.0666	9.86	0.0786	9.75	0.0965	10.53	0.0891
22-Dec-99	7.95	0.0067	8.03	0.0054	8.53	0.1302	9.14	0.1315	9.13	0.0580	9.77	0.0702	9.82	0.0931	10.51	0.0815
23-Dec-99	7.95	0.0053	8.04	0.0045	8.70	0.1746	9.36	0.1861	9.21	0.0778	9.95	0.0698	9.82	0.0953	10.53	0.0694
24-Dec-99	7.95	0.0086	8.03	0.0065	8.72	0.1320	9.26	0.1179	9.14	0.0687	9.85	0.0703	9.77	0.1034	10.61	0.0890
27-Dec-99	7.93	0.0079	8.03	0.0064	8.70	0.1532	9.31	0.1356	9.16	0.0804	9.90	0.0757	9.86	0.0992	10.59	0.0843
28-Dec-99	7.92	0.0053	8.01	0.0045	8.70	0.1445	9.28	0.1334	9.19	0.0627	9.92	0.0672	9.89	0.0733	10.58	0.0760
29-Dec-99	7.92	0.0078	8.01	0.0055	8.57	0.1183	9.28	0.1139	9.11	0.0612	9.92	0.0577	9.87	0.0924	10.68	0.0771
30-Dec-99	7.89	0.0151	8.00	0.0080	8.56	0.1184	9.24	0.1168	9.09	0.0757	9.88	0.0717	9.85	0.1011	10.60	0.0800
31-Dec-99	7.07	0.0944	7.57	0.0514	8.61	0.1377	9.27	0.1465	9.12	0.0987	9.89	0.1038	9.76	0.1105	10.53	0.1025

Remarks

OVERNIGHT : LAUNCHED ON 15-JUN-98 AND WENT PUBLIC ON THE SAME DAY

15 DAY : LAUNCHED ON 3-SEP-98 AND WENT PUBLIC ON 1O-NOV-98 AS 14 DAY

1 MONTH : LAUNCHED ON 3-SEP-98 AND WENT PUBLIC ON 1-DEC-98

3 MONTH : LAUNCHED ON 3-SEP-98 AND WENT PUBLIC ON 1-DEC-98

Date	***The following dates NSE MIBID/MIBOR rates were not compiled***
12-Jan-99	Call Money market was inactive on account of strike being declared by the Forum of bank unions.
20-Jan-99	Holiday on account of Ramzan-ID
26-Jan-99	Holiday on account of Republican Day
25-Feb-99	Call Money Market is inactive on account of strike by the Forum of Bank Unions.
26-Feb-99	Call Money Market is inactive on account of strike by the Forum of Bank Unions.
2-Mar-99	Holiday of Holi
18-Mar-99	Holiday of Gudi Padwa
25-Mar-99	Holiday of Ram Navami
29-Mar-99	Holiday of Mahavir Jayanti and Bakri Id
1-Apr-99	Inactive on account of banks annual book closure
2-Apr-99	Holiday of Good Friday
14-Apr-99	Holiday of Ambedkar Jayanti
17-Apr-99	Holiday of Shivaji Jayanti
27-Apr-99	Holiday of Mohurram
30-Apr-99	Holiday of Buddha Poornima
1-May-99	Holiday of Maharashtra Day
30-Jun-99	No quotes on account of Half Yearly Closure
11-Sep-99	Holiday on account of Election
13-Sep-99	Holiday on account of Ganesh Chaturthi
30-Sep-99	The Overnight NSE-MIBID/MIBOR rates have not being compiled on September 30, 1999, as the Call Money Market is inactive due to Half Yearly Closure of Accounts by banks.
19-Oct-99	Holiday of Dassera
9-Nov-99	Diwali
10-Nov-99	Diwali
23-Nov-99	Guru Nanak Jayanti
25-Dec-99	Christmas