Indian Securities Market

A REVIEW

Volume IV 2001

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List of Abbreviations

ABC	Additional Base Capital
ACLF	Additional Collateralised Lending Facility
ADRs	American Depository Receipts
AIFIs	All India Financial Institutions
ALBM	Automated Lending and Borrowing Mechanism
ALBRS	Automated Lending and Borrowing under Rolling Settlement
AMC	Asset Management Company
AMFI	Association of Mutual Funds in India
ASC	Accounting Standards Committee
ATM	At-the-money
ATSs	Alternative Trading Systems
AVM	Additional Volatility Margin
B2B	Business-to-business
BIFR	Board for Industrial and Financial Reconstruction
BIS	Bank for International Settlements
BLESS	Borrowing and Lending Securities Scheme
BMC	Base Minimum Capital
BSE	The Stock Exchange, Mumbai
CBDT	Central Board of Direct Taxes
CC	Clearing Corporation
CCI	Clearing Corporation of India Ltd.
CDs	Certificates of Deposits
CDSL	Central Depository Services (India) Ltd.
CFM	Carry Forward Margin
CFRS	Carry Forward under Rolling Settlement
CH	Clearing House
CIMC	Collective Investment Management Company
CISs	Collective Investment Schemes
CIVs	Collective Investment Vehicles
CLF	Collateralised Lending Facility
CM	Clearing Member
CM Segment	Capital Market Segment of NSE
CMIE	Centre for Monitoring Indian Economy
CNS	Continuous Net Settlement
CP	Custodial Participant
CPs	Commercial Papers
CRAs	Credit Rating Agencies
CRISIL	The Credit Rating Information Services of India Ltd.
CRR	Cash Reserve Ratio
CSD	Collateral Security Deposit
CSE	Calcutta Stock Exchange
DCA	Department of Company Affairs
DEA	Department of Economic Affairs
DFIs	Development Financial Institutions
DIP	Disclosure and Investor Protection
DNS	Deferred Net Settlement
DPs	Depository Participants
D*v*P	Delivery versus Payment
ECNs	Electronic Communication Networks
EDGAR	Electronic Data Gathering, Analysis and Retrieval
EFT	Electronic Fund Transfer
ELSS	Equity-linked Saving Schemes

ETFs	Exchange Traded Funds
F&O	Futures and Options
FCCBs	Foreign Currency Convertible Bonds
FDI	Foreign Direct Investment
FDRs	Fixed Deposit Receipts
FDs	Fixed Deposits
FIBV	International Federation of Stock Exchanges
FIIs	Foreign Institutional Investors
FIMMDA	Fixed Income Money Markets and Derivatives Association
FIs	Financial Institutions
FRAs	Forward Rate Agreements
FVCIs	Foreign Venture Capital Investors
GDP	Gross Domestic Product
GDRs	Global Depository Receipts
GDS	Gross Domestic Savings
GNP	Gross National Product
GOI	Government of India
G-Sec	Government Securities
i-BEX	ICICI Securities Bond Index
ICAI	Institute of Chartered Accountants of India
ICICI	Industrial Credit and Investment Corporation of India
ICSE	Inter-connected Stock Exchange of India Ltd.
IDBI	Industrial Development Bank of India
IFC	International Finance Corporation
IFSD	Interest Free Security Deposit
IIM	Indian Institute of Management
IISL	India Index Services and Products Ltd.
IOSCO	International Organisation of Securities Commissions
IPF	Investor Protection Fund
IPOs	Initial Public Offers
IRDA	Insurance Regulatory and Development Authority
IRS	Interest Rate Swap
ISIN	International Securities Identification Number
ISSA	International Securities Services Association
IT	Information Technology
ITM	In-the-money
LAF	Liquidity Adjustment Facility
LIC	Life Insurance Corporation of India
MCFS	Modified Carry Forward System
MFs	Mutual Funds
MFSS	Mutual Fund Service System
MIBID	Mumbai Inter-bank Bid Rate
MIBOR	Mumbai Inter-bank Offer Rate
MMMF	Money Market Mutual Fund
MOU	Memorandum of Understanding
MTM	Mark-to-market
NASDAQ	National Association of Securities Dealers Automated Quotation System
NAV	Net Asset Value
NBFCs	Non-banking Financial Companies
NCAER	National Council for Applied Economic Research
NCDs	Non-convertible Debentures
NCFM	NSE's Certification in Financial Markets
NDS	Negotiated Dealing Screen
NEAT	National Exchange for Automated Trading
NGOs	Non-government Organisations

NIBIS	NSE's Internet-based Information System
NPAs	Non-performing Assets
NRIs	Non-resident Indians
NSCCL	National Securities Clearing Corporation of India Ltd.
NSDL	National Securities Depository Ltd.
NSE	National Stock Exchange of India Ltd.
OCBs	Overseas Corporate Bodies
OECLOB	Open Electronic Consolidated Limit Order Book
ORS	Order Routing System
OTC	Over-the-counter
OTCEI	Over the Counter Exchange of India Ltd.
OTM	Out-of-the-money
P/E	Price-earning Ratio
PAN	Permanent Account Number
PCM	Professional Clearing Member
PDAI	Primary Dealers Association of India
PDO	Public Debt Office
PDs	Primary Dealers
PRI	Principal Return Index
PRISM	Parallel Risk Management System
PSUs	Public Sector Undertakings
PTCs	Pass-through Certificates
PV	Present Value
QIBs	Qualified Institutional Buyers
RBI	Reserve Bank of India
ROC	Registrar of Companies
RTGS	Real Time Gross Settlement
S&P	Standard & Poor's
SAT	Securities Appellate Tribunal
SBI	State Bank of India
SBTS	Screen-based Trading System
SCRA	Securities Contracts (Regulation) Act, 1956
SCRR	Securities Contracts (Regulation) Rules, 1957
SDs	Satellite Dealers
SEBI	Securities and Exchange Board of India
SGF	Settlement Guarantee Fund
SGL	Subsidiary General Ledger
SGX-DT	The Singapore Exchange Derivatives Trading Ltd.
SLR	Statutory Liquidity Ratio
SPAN	Standard Portfolio Analysis of Risk
SPV	Special Purpose Vehicle
SROs	Self-regulatory Organisations
STP	Straight Through Processing
STRIPS	Separate Trading of Registered Interest and Principal of Securities
SUS 99	Special Unit Scheme 99
T-Bills	Treasury Bills
TDS	Tax Deduction at Source
TM	Trading Member
TRI	Total Return Index
UTI	Unit Trust of India
VaR	Value at Risk
VCFs	Venture Capital Funds
VCUs	Venture Capital Undertakings
VSAT	Very Small Apperture Terminal
WAP	Wireless Application Protocol

WDM	Wholesale Debt Market Segment of NSE
YTM	Yield to Maturity
ZCYC	Zero Coupon Yield Curve

Conventions

— indicates data are not available or not applicable.
'Million' is equal to ten lakh.
'Billion' is equal to a thousand million or one hundred crore.

1. Securities Market in India — An Overview

Introduction

This publication reviews reforms and other market developments in the securities market in India during 2000–01 and April–June 2001, which further refined the market micro-structure, modernised the operations and broadened the investment choices for the investors. The period also witnessed unprecedented volumes and aberrant market activity. These reforms, other market developments and ongoing policy debates have been discussed in detail in the following chapters. This chapter reviews stock market developments during 1990s. These developments in the securities market, which support corporate initiatives, finance the exploitation of new ideas and facilitate management of financial risks, hold out necessary impetus for growth, development and strength of the emerging market economy of India.

Products and Participants

Transfer of resources from those with idle resources to others who have a pressing need for them is perhaps most efficiently achieved through the securities markets. Stated formally, securities markets provide channels for allocation of savings to investments and thereby decouple these two activities. As a result, the savers and investors are not constrained by their individual abilities, but by the economy's abilities to invest and save respectively, which inevitably enhances savings and investment in the economy.

Savings are linked to investments by a variety of intermediaries through a range of complex financial products called 'securities', which is defined in the Securities Contracts (Regulation) Act, 1956 (SCRA) to include shares, bonds, scrips, debentures, stocks or other marketable securities of like nature in or of any incorporated company or body corporate, government securities, derivatives of securities, units of collective investment scheme, interest and rights in securities, or any other instruments so declared by the Central Government. There are a set of economic units who demand securities in lieu of funds and others who supply securities for funds. This demand for and supply of securities and funds determine, under competitive market conditions in both goods and securities markets, the prices of securities which reflect the present value of future prospects of the issuer, adjusted for risks and also prices of funds.

It is not that the users and suppliers of funds meet each other and exchange funds for securities. It is difficult to accomplish such a double coincidence of wants. The amount of funds supplied by the supplier may not be the amount needed by the user. Similarly, the risk, liquidity and maturity characteristics of the securities issued by the issuer may not match preference of the supplier. In such cases, they incur substantial search costs to find each other. Search costs are minimised by the intermediaries who match and bring the suppliers and users of funds together. These intermediaries may act as agents to match the needs of users and suppliers of funds for a commission, help suppliers and users in creation and sale of securities for a fee or buy the securities issued by users and in turn,

sell their own securities to suppliers to book profit. It is, thus, a misnomer that securities market disintermediates by establishing a direct relationship between the savers and the users of funds. The market does not work in a vacuum; it requires services of a large variety of intermediaries. The disintermediation in the securities market is in fact an intermediation with a difference; it is a risk-less intermediation, where the ultimate risks are borne by the savers and not the intermediaries. A large variety and number of intermediaries provide intermediation services in the Indian securities market as may be seen from Table 1.1.

Table 1.1. Market Participants in Securities Market

	Number as on	
Market Participants	March 31, 2000	March 31, 2001
Securities Appellate Tribunal	1	1
Regulators*	4	4
Depositories	2	2
Stock Exchanges		
With Equities Trading	23	23
With Debt Market Segment	1	1
With Derivative Trading	2	2
Listed Securities	9,871	9,922
Brokers	9,192	9,782
Foreign Brokers	38	38
Corporate Brokers	3,316	3,808
Sub-brokers	5,675	9,957
FIIs	506	527
Portfolio Managers	23	40
Custodians	14	14
Share Transfer Agents	242	186
Primary Dealers	15	15
Merchant Bankers	186	233
Bankers to an Issue	68	69
Debenture Trustees	38	37
Underwriters	42	56
Venture Capital Funds	22	35
Foreign Venture Capital Investors	0	1
Mutual Funds	38	39
Collective Investment Schemes	0	4

* DCA, DEA, RBI & SEBI.

The securities market, thus, has essentially three categories of participants, namely the issuers of securities, investors in securities and the intermediaries and two categories of products, namely the services of the intermediaries and the securities. The issuers and investors are the consumers of services rendered by the intermediaries, while the investors are consumers of securities issued by issuers. In pursuit of providing a product to meet the needs of each investor and issuer, the intermediaries churn out more and more complicated products. They educate and guide them in their dealings and bring them together. Those who receive funds in exchange for securities and those who receive securities in exchange for funds often need the reassurance that it is safe to do so. This reassurance is provided by the law and by custom, often enforced by the regulator. The regulator develops fair market practices and regulates the conduct of issuers of securities and the intermediaries so as to protect the interests of suppliers of funds. The regulator ensures a high standard of service from intermediaries and supply of quality securities and non-manipulated demand for them in the market.

Market Segments

The securities market has two interdependent and inseparable segments, the new issues (primary) market and the stock (secondary) market. The primary market provides the channel for sale of new securities while the secondary market deals in securities previously issued. The price signals, which subsume all information about the issuer and his business including associated risk, generated in the secondary market help the primary market in allocation of funds. The issuers of securities issue (create and sell) new securities in the primary market to raise funds for investment and/or to discharge some obligation. They do so either through public issues or private placement. It is a public issue if anybody and everybody can subscribe for the securities. If the issue is made to select people, it is called private placement. In terms of the Companies Act, 1956, an issue becomes public if it results in allotment to more than 50 persons. This means an issue resulting in allotment to less than 50 persons is private placement. There are two major types of issuers who issue securities. The corporate entities issue mainly debt and equity instruments (shares, debentures, *etc.*), while the governments (Central and State Governments) issue debt securities (dated securities and treasury bills).

The secondary market enables participants who hold securities to adjust their holdings in response to changes in their assessment of risk and return. They also sell securities for cash to meet their liquidity needs. The secondary market has further two components, namely the over-the-counter (OTC) market and the exchange-traded market. OTC is different from the market place provided by the Over The Counter Exchange of India Limited (OTCEI). OTC markets are essentially informal markets where trades are negotiated. Most of the trades in government securities are in the OTC market. All the spot trades where securities are traded for immediate delivery and payment take place in the OTC market. The exchanges do not provide facility for spot trades in a strict sense. Closest to spot market is the cash market where settlement takes place after some time. Trades taking place over a trading cycle (a day under rolling settlement or five days under account period settlement) are settled together after a certain time. All the 23 stock exchanges in the country provide facilities for trading of equities. About 400 major securities are traded under rolling settlement. Trades executed on the leading exchange (National Stock Exchange of India Limited (NSE)) are cleared and settled by a clearing corporation, which provides novation and settlement guarantee. Over 99% of the trades settled by delivery are settled in demat form. NSE also provides a formal trading platform for trading of a wide range of debt securities including government securities. A variant of secondary market is the forward market, where securities are traded for future delivery and payment. Pure forward is outside the formal market. The versions of forward in formal market are futures and options. In futures market, standardised securities are traded for future delivery and settlement. These futures can be on a basket of securities like an index or an individual security. In case of options, securities are traded for conditional future delivery. There are two types of options — a put option permits the owner to sell a security to the writer of options at a predetermined price while a call option permits the owner to purchase a security from the writer of the option at a predetermined price. These options can also be on individual stocks or basket of stocks like index. Two exchanges, namely NSE and the Stock Exchange, Mumbai (BSE), provide trading of derivatives of securities.

A Profile

The past decade in many ways has been remarkable for securities market in India. It has grown exponentially as measured in terms of amount raised from the market, number of

stock exchanges and other intermediaries, the number of listed stocks, market capitalisation, trading volumes and turnover on stock exchanges, and investor population. Along with this growth, the profiles of the investors, issuers and intermediaries have changed significantly. The market has witnessed fundamental institutional changes resulting in drastic reduction in transaction costs and significant improvements in efficiency, transparency and safety.

International Scenario

Reforms in the securities market, particularly the establishment and empowerment of SEBI, market-determined allocation of resources, screen-based nation-wide trading, dematerialisation and electronic transfer of securities, rolling settlement and ban on deferral products, sophisticated risk management and derivatives trading, have greatly improved the regulatory framework and efficiency of trading and settlement. Indian market is now comparable to many developed markets in terms of a number of qualitative parameters.

As may be seen from Table 1.2, there are very few countries, which have higher turnover ratio than India. Market capitalisation as a percentage of GNP compares favourably even with advanced countries and is much better than emerging markets. India has highest number of companies listed on stock exchanges. NSE stood fifth and sixth in terms of number of transactions and the quantity of securities traded, respectively, among the stock exchanges in the world in 2000. At the end of 2000, the Standard & Poor's (S&P) ranked India as 23rd in terms of market capitalisation, and 14th in terms of total value traded in stock exchanges. 131 Indian stocks, which accounted for 59.2% market capitalisation and 65.8% of total value traded, had a 6.5% weight in International Finance Corporation (IFC) Global Composite Index of emerging market stocks. In the case of IFC Investable Composite Indices, which include emerging market stocks that are determined by the IFC to be legally and practically available to foreign portfolio investors, India's share was only 2.7% with 84 stocks.

Table 1.2. International Comparison: end December 2000

Particulars	USA	UK	Japan	Germany	Singapore	Hongkong	China	India*
No. of listed Companies	7,524	1,904	2,561	1,022	418	779	1,086	9,922
Market Capitalisation ($ bn.)	15,104	2,577	3,157	1,270	153	623	581	166
Market Capitalisation Ratio (%)	358.8	130.7	66.4	50.8	95.9	228.8	73.6	54.5
Turnover ($ bn.)	31,862	1,835	2,694	1,069	91	378	722	621
Turnover Ratio (%)	200.8	66.6	69.9	79.1	52.1	61.3	158.3	374.7

* Estimated for the financial year ending March 2001.
Source: S&P Emerging Stock Markets Factbook 2001.

The stock markets worldwide have grown in size as well as depth over last one decade. Tables 1.3 and 1.4 present select indicators for major markets. As can be observed from Table 1.3, the turnover on all markets taken together has grown nearly nine times from US$ 5.5 trillion in 1990 to US$ 47.9 trillion in 2000. The turnover in developed markets has, however, grown more sharply than that in emerging markets. It is significant to note that US alone accounted for two third of worldwide turnover in 2000. US doubled its share in total turnover between 1990 and 2000. Despite having a large number of companies listed on its stock exchanges, India accounted for a meagre 1.1% in total turnover in 2000. The market capitalisation of all listed companies taken together on all markets increased by 245% from US$ 9.4 trillion as at end-1990 to US$ 32.3 trillion as at

end-2000. The share of US in worldwide market capitalisation increased from 38.5% as at end-1995 to 46.8% as at end-2000. Indian listed companies accounted for 0.5% of total market capitalisation.

Table 1.3. Market Capitalisation and Turnover for Major Markets

(US$ million)

	Market Capitalisation (end of period)			Turnover		
Country/Region	1990	1995	2000	1990	1995	2000
Developed Markets	8,795,239	15,877,402	29,520,707	4,616,473	9,180,430	43,817,893
Australia	108,879	245,218	372,794	40,113	98,654	226,325
Japan	2,917,679	3,667,292	3,157,222	1,602,388	1,231,552	2,693,856
UK	848,866	1,407,737	2,576,992	278,740	510,131	1,835,278
USA	3,059,434	6,857,622	15,104,037	1,751,252	5,108,591	31,862,485
All Emerging Markets	604,420	1,910,685	2,739,726	898,233	1,046,287	4,051,905
China	—	42,055	580,991	—	49,774	721,538
India	38,567	127,199	148,064	21,918	21,962	509,812
Indonesia	8,081	66,585	26,834	3,992	14,403	14,311
Korea	110,594	181,955	171,587	75,949	185,197	1,067,669
Malaysia	48,611	222,729	116,935	10,871	76,822	58,500
Philippines	5,927	58,859	51,554	1,216	14,727	8,196
Taiwan	100,710	187,206	247,602	715,005	383,099	983,491
World Total	9,399,659	17,788,087	32,260,433	5,514,706	10,226,717	47,869,886
US as % of World	32.55	38.55	46.82	31.76	49.95	66.56
India as % of World	0.41	0.72	0.46	0.40	0.21	1.06

Source: S&P Emerging Stock Markets Factbook 2001.

Table 1.4. Select Stock Market Indicators

	Market Capitalisation % of GDP		Turnover Ratio (%)		Listed Domestic Companies	
Markets	1990	1999	1990	2000	1990	2000
High Income	55.3	138.7	49.3	94.0	17,064	24,741
Middle Income	21.2	41.1	78.3	81.6	4,914	16,539
Low & Middle Income	19.9	39.8	70.8	87.6	8,360	24,871
East Asia & Pacific	21.3	52.4	117.2	139.4	1,443	3,754
Europe & Central Asia	2.1	24.6	—	46.6	110	8,968
Latin America & Caribbean	7.7	29.7	29.7	20.8	1,748	1,938
Middle East & N. Africa	27.8	33.9	—	32.5	817	1,874
South Asia	10.8	34.0	53.9	128.3	3,231	7,199
Sub-Saharan Africa	52.0	121.0	—	23.0	1,011	1,138
Low Income	9.8	31.7	90.8	53.8	3,446	8,332
India	12.2	41.3	65.9	133.6	2,435	5,937
World	50.7	119.0	48.3	87.6	25,424	49,612

Source: World Development Indicators 2000, World Bank.

There has also been an increase in market capitalisation as per cent of GDP in all major country groups as is evident from Table 1.4. The increase has, however, not been uniform across countries. As expected, the market capitalisation as per cent of GDP was the highest at 138.7% for high-income countries as at end-1999 and lowest for low-income countries at 31.7%. Market capitalisation as per cent of GDP for India stood at 41.3% as at end-1999. The turnover ratio, which is a measure of liquidity, was lower for low-income countries at 53.8% in 2000 as compared to 94% for high-income countries. The corresponding figure for India was 133.6%. The total number of listed companies stood at 24,741 for high-income countries, 16,539 for middle-income countries and 8,332 for

low-income countries as at end-2000. The number of listed companies in India was 5,937 as at end-2000. It may, however, be noted that these figures differ from the similar figures presented in this and other chapters, as the coverage of international publications differs from one another.

Dependence on Securities Market

Corporate Sector

The securities market in India is now a far more important source of finance compared to the traditional financial intermediaries for the corporate sector. It is poised to dominate the future of corporate finance in India, thanks to reforms in the securities market. The 1990s witnessed emergence of the securities market as a major source of finance for trade and industry. A growing number of companies are accessing the securities market rather than depending on loans from financial institutions (FIs)/banks. The corporate sector is increasingly depending on external sources for meeting its funding requirements. There appears to be growing preference for direct financing (equity and debt) to indirect financing (bank loan) within the external sources. According to CMIE data (Table 1.5), external sources accounted for about 77% of funds raised during 1993–94. This declined to about 65% during 1999–00. The share of capital market-based instruments in resources raised externally increased to 53.4% in 1993–94, but declined thereafter to 31.8% by 1999–00. The Nifty companies (companies included in the S&P CNX Nifty Index) broadly followed the same funding pattern. This indicates that the reliance of corporate sector on securities market has gone up substantially following reforms in the financial sector, in particular, in securities market.

Shareholding Pattern: The listing agreements have been amended recently requiring the companies to disclose shareholding pattern on a quarterly basis. Table 1.6 presents sector-wise shareholding pattern of 536 companies listed on NSE. It is observed that on an average the promoters hold nearly 50% of total shares. Though the non-promoter holding is more than 50%, Indian public held only 17.5% and the public float (holding by foreign institutional investors, mutual funds, Indian public) is at best 27%. There is not much difference in the shareholding pattern of companies in different sectors. Strangely, 62% of shares in companies in media and entertainment sector are held by private corporate bodies though the requirement of public offer was relaxed to 10% for them. The promoter holding is not strikingly high in respect of companies in the information technology (IT) and telecom sectors where similar relaxation was granted. The table reveals the preference of different kinds of investors for companies in different sectors.

Governments

Along with increase in fiscal deficits of the governments, the dependence on market borrowings to finance fiscal deficits has increased over the years. During the year 1990–91, the State Governments and the Central Government financed nearly 14% and 18%, respectively, of their fiscal deficit by market borrowing. In percentage terms, dependence of the State Governments on market borrowing did not increase much during the decade 1991–2001. In case of Central Government, it increased to 70% by 2000–01. The Central Government and the State Governments together borrowed Rs. 86,667 crore from market during 2000–01 against Rs. 10,557 crore in 1990–91 (Table 1.7).

Table 1.5. Sources of Funds for Corporate Sector

(In per cent)

Sources	Corporate Sector										Nifty Companies
	1990–91	1991–92	1992–93	1993–94	1994–95	1995–96	1996–97	1997–98	1998–99	1999–00	1999–00
Internal Sources	30.9	24.9	24.3	22.6	25.4	28.3	25.8	27.8	30.2	35.3	36.23
Retained Profits	8.2	7.0	5.4	10.3	14.4	15.8	7.9	6.7	−2.4	2.7	16.33
Depreciation	22.7	17.9	18.9	12.2	11.0	12.5	17.9	21.1	32.6	32.6	19.90
External Sources	69.1	75.1	75.7	77.4	74.6	71.7	74.2	72.2	69.8	64.7	63.77
Capital Market	10.7	14.4	25.3	41.3	33.8	15.3	15.1	20.8	15.8	20.6	12.89
Bank/Institutional Borrowing	33.7	26.5	32.7	13.8	21.8	31.6	40.2	31.8	22.4	11.1	10.66
Current Liabilities & Provisions	24.6	34.2	17.7	22.3	19.0	24.8	18.8	19.6	31.6	33.0	40.22

Source: Economic Intelligence Service — Corporate Sector, CMIE, various issues.

Table 1.6. Shareholding Pattern of Companies Listed on NSE at the end of June 2001

(In per cent)

Sectors	Non-Promoters' Holding							Promoters' Holding		
	Institutional Investors			Non-Institutional Investors						
	FIs	FIIs	MFs	Indian Public	NRIs/ OCBs	Private Corporate Bodies	Others	Indian Promoters	Foreign Promoters	Persons acting in Concert
Finance	18.30	5.62	3.24	18.51	0.67	4.38	10.76	38.21	0.02	0.30
FMCG	4.09	0.18	5.08	33.76	2.14	4.85	0.80	45.95	0.00	3.16
Infrastructure	15.77	2.61	6.15	19.83	3.01	9.19	1.44	33.57	4.24	4.20
IT	1.27	14.53	6.97	16.21	2.67	7.76	5.82	39.84	4.29	0.62
Manufacturing	8.08	2.39	6.03	16.71	2.29	3.94	0.93	53.68	3.81	2.15
Media & Entertainment	0.29	1.90	1.10	26.49	0.43	62.02	0.06	5.23	2.47	0.00
Petrochemical	5.37	3.73	6.29	15.43	0.49	2.30	10.85	42.21	0.37	12.97
Pharmaceuticals	8.71	4.45	7.66	20.40	1.97	5.19	3.52	34.49	7.24	6.37
Services	5.84	3.47	3.42	22.44	1.12	4.64	2.87	48.51	3.54	4.15
Telecomunication	9.85	13.71	7.84	5.55	1.67	3.47	3.32	36.62	17.69	0.26
Miscellaneous	7.53	6.97	3.84	15.26	2.05	2.21	2.00	41.45	17.94	0.76
All Companies	7.99	4.61	4.83	17.53	1.46	10.82	4.39	39.65	5.39	3.32

Savings of Household Sector

According to RBI data (Table 1.8), household sector accounted for 88% of gross domestic savings (GDS) during 1999–00; 53% of their savings were in financial assets. They invested 37% of financial savings in deposits, 35% in insurance/provident funds, 11% on small savings, and 7.5% in securities, including government securities and units of mutual funds (MFs) during 1999–00. Thus, the fixed income bearing instruments are the most preferred assets of the household sector. Their share in total financial savings of the household sector witnessed an increasing trend in the recent past and is estimated at 83.6% in 1999–00. In contrast, the share of financial savings of the household sector in securities (shares, debentures, public sector bonds and units of the Unit Trust of India (UTI) and other MFs and government securities) is estimated to have gone down from 22.9% in 1991–92 to 4.1% in 1997–98, which increased marginally to 7.5% in 1999–00.

Though there was a major shift in the savings pattern of the household sector from physical assets to financial assets and, within financial assets, from bank deposits to securities, the trend got reversed in the recent past due to high real interest rates, prolonged subdued conditions in the secondary market, lack of confidence by the issuers in the success of issue process as well as of investors in the credibility of the issuers and the systems and poor performance of MFs. The portfolio of household sector remains heavily weighted in favour of physical assets and fixed income bearing instruments. The trend has somewhat reversed during 1999–00, which witnessed increasing interest of households in MFs and secondary market.

Disenchantment of Investors

The disenchantment of household sector with securities is confirmed by the SEBI–NCAER survey (June 2000), which found that only 2.8% of investment of all households were in securities (1.4% in equity shares, 1.3% in MFs and 0.4% in debentures), while the remaining 97% in non-securities, indicating low priority of investor for securities. Despite the expansion of the securities market, a very small percentage of household savings is channelised into the securities market. What is of further worry is the intention revealed in the survey that majority of existing shareholders are unlikely to invest in the securities market in the next year. 56% of urban and 72% of rural households are unlikely to make fresh investments in equity shares. This indicates a lack of confidence by the investors in the securities market.

The Society for Capital Market Research and Development conducted a country-wide poll of household heads during April–June 2001 to understand their concern about stock market. The percentage distribution of respondents by type of concern was as follows: too much price manipulation — 31.7%, too much volatility — 30%, fraudulent promoters and managements — 17.4%, too much insider trading — 10.8%, lack of brokers reliability — 8.7% and others — 1.5%. According to the third all-India investors survey by the Society (January 2001), 79.4% of respondents (retail investors in bond and shares of private sector companies) revealed 'no' or 'low' confidence in company management, 63.8% in company auditors, 67.7% in credit rating agencies, 78.3% in brokers and 86.8% in sub-brokers. These suggest radical reforms in corporate governance to revive investor confidence in the securities market.

Investor Population

The Society for Capital Market Research and Development carries out periodical surveys of household investors to estimate the number of investors. Their first survey carried out in 1990 placed the total number of shareowners at 90–100 lakh. Their second survey

Table 1.7. Financing of Gross Fiscal Deficit of Governments

(In per cent)

	Central Government				State Governments		
Year	Market Borrowings	T-Bills	Other Liabilities	External Finances	Market Borrowings	Loan from Central Govt.	Others
1990–91	17.9	25.4	49.5	7.1	13.6	53.1	33.3
1991–92	20.7	18.9	45.5	14.9	17.5	49.6	32.9
1992–93	9.2	30.6	47.0	13.2	16.8	42.7	40.5
1993–94	48.0	18.2	25.4	8.4	17.6	46.3	36.1
1994–95	35.2	1.7	56.9	6.2	14.7	53.3	32.0
1995–96	54.9	16.3	28.3	0.5	18.7	47.1	34.2
1996–97	30.0	19.7	45.8	4.5	17.5	47.1	35.4
1997–98	36.5	−1.0	63.3	1.2	16.5	53.6	30.0
1998–99	60.9	−0.2	37.6	1.7	14.1	41.8	44.1
1999–00	67.1	0.8	30.9	1.1	13.9	36.0	50.1
2000–01	68.6	0.0	31.4	0.0	13.3	33.8	53.0

Source: RBI

Table 1.8. Savings of Household Sector in Financial Assets

(In per cent)

Financial Assets	1990–91	1991–92	1992–93	1993–94	1994–95	1995–96	1996–97	1997–98	1998–99	1999–00
Currency	10.6	12.0	8.2	12.2	10.9	13.4	8.6	7.4	10.0	8.9
Fixed income investments	74.9	65.1	74.6	73.9	77.0	78.9	84.4	88.5	86.1	83.6
Deposits	33.3	28.9	42.5	42.6	45.5	42.1	48.2	47.5	41.9	37.1
Insurance/Provident/Pension Funds	28.4	28.6	27.2	25.4	22.5	29.4	29.2	29.8	31.9	35.2
Small Savings	13.2	7.6	4.9	5.9	9.0	7.4	7.0	11.2	12.3	11.3
Securities Market	14.4	22.9	17.2	14.0	12.1	7.8	6.9	4.5	4.1	7.5
Mutual Funds	9.1	16.4	8.6	5.5	3.8	0.5	2.7	1.4	1.9	5.2
Government Securities	0.2	−0.4	0	0.4	0.1	0.4	0.4	1.6	0.6	0.9
Other Securities	5.1	6.9	8.6	8.1	8.2	6.9	3.8	1.5	1.6	1.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: RBI.

estimated the number of shareowners at around 140–150 lakh as of mid-1993. Their latest survey estimates the number of shareowners at around 2 crore as at end-1997, after which it remained stagnant upto the end of 1990s. The bulk of increase in number of investors took place during 1991–94 and tapered off thereafter. 49% of the shareowners as at end-2000 had, for the first time, entered the market before end-1990, 44% entered during 1991–94, 6.3% during 1995–96 and 0.8% since 1997. The survey attributes such tapering off to persistent depression in the share market and investors' bad experience with many unscrupulous company promoters and managements.

According to the SEBI–NCAER survey of Indian investors conducted in early 1999, an estimated 12.8 million, or 7.6%, of all Indian households representing 19 million individuals had directly invested in equity shares and/or debentures as at the end of financial year 1998–99. The investor households increased at a compound growth rate of 22%, between 1985–86 and 1998–99. There was a sharper rise in investor households between 1991–92 and 1998–99 than between 1985–86 and 1991–92. About 35% of investor households became investors in equity shares prior to 1991, while 47% of the investors entered the market between 1991–95 and 17% after 1995. More than 156 million, or 92%, of all Indian households were non-investor households who did not have any investments in equity/debentures. Low per capita income, apprehension of loss of capital, and economic insecurity, which are all inter-related factors, significantly influenced the investment attitude of the households. The lack of awareness about securities market and absence of a dependable infrastructure and distribution network coupled with aversion to risk inhibited non-investor households from investing in the securities market.

An estimated 15 million, or nearly 9%, of all households representing at least 23 million unit holders had invested in units of mutual funds. Total investible resources of mutual funds account for about 23% of market capitalisation compared to more than 50% in developed countries. The mutual funds have not yet become an attractive investment avenue for the low and middle-income groups.

Distribution of Investors

According to SEBI–NCAER survey, of the 48 million urban households, an estimated 8.8 million households, or 18%, representing approximately 13 million urban investors owned equity shares and/or debentures. Of the 121 million rural households, only about 4 million households, or 3%, representing nearly 6 million rural investors owned these instruments. The rural investor households have increased at a compound growth rate of 30% compared to 19% for urban investor households. The Society for Capital Market Research and Development estimates that 15% of urban households and only 0.5–1.0% of semi-urban and rural households own shares. 4% of all households own shares.

An indirect, but very authentic source of information about distribution of investors is the database of beneficial accounts with the depositories. By February 2001, there were 3.5 million beneficial accounts with the National Securities Depository Limited (NSDL). The state-wise distribution of beneficial accounts with NSDL is presented in Table 1.9. As expected Maharastra and Gujarat account for about 50% of total beneficial accounts.

Investor Behaviour

According to the SEBI–NCAER survey, safety and liquidity are the primary considerations that determine the choice of an asset. Ranked by an ascending order of risk perception, bank fixed deposits were considered very safe, *i.e.*, least risky, followed by gold, units of UTI-US-64, UTI- other schemes, fixed deposits of non-government companies, MFs, equity shares and debentures. Debentures were perceived to be as risky as equity. About 65%

Table 1.9. Distribution of Beneficial Accounts with NSDL at the end of Feb 2001

Sl. No.	State/Union Territory	Beneficial Accounts	
		Number	% to total
1.	Andhra Pradesh	162,370	5.39
2.	Assam	4,879	0.16
3.	Bihar	13,550	0.45
4.	Chattisgarh	17,766	0.59
5.	Delhi	279,501	9.28
6.	Goa	9,938	0.33
7.	Gujarat	598,111	19.86
8.	Haryana	32,521	1.08
9.	Himachal Pradesh	2,250	0.07
10.	Jammu & Kashmir	1,951	0.06
11.	Jharkhand	7,227	0.24
12.	Karnataka	189,153	6.28
13.	Kerala	67,402	2.24
14.	Madhya Pradesh	54,501	1.81
15.	Maharashtra	906,244	30.10
16.	Orissa	10,437	0.35
17.	Punjab	34,725	1.15
18.	Rajasthan	66,056	2.19
19.	Tamil Nadu	196,760	6.53
20.	Uttaranchal	9,033	0.30
21.	Uttar Pradesh	141,222	4.69
22.	West Bengal	195,958	6.51
23.	Others	9,636	0.32
Total		3,011,191	100.00

Source: NSDL.

of all households and 76% of investor households consider bank fixed deposits as very safe. 30% of all households and 37% of investor households regard gold as very safe. About 26% of all households and 32% of investor households consider investment in equity as risky. Table 1.10 presents distribution of investor households in terms of their risk perception of different instruments.

The distribution of investments of all households into different financial instruments corresponds to their risk perception, *i.e.*, higher proportion of households invest in instruments with a lower risk perception. For example, 76% of all households invested in fixed deposits, while 65% of all households consider fixed deposits to be very safe. It is clear from Table 1.11 that fixed deposits with banks, post office, government and non-government undertakings, non-banking financial companies (NBFCs) and term lending institutions are the most preferred choice of investors. About three-fourth of households own a fixed deposit. 45% of the households have invested in fixed deposits with banks and post offices, 17% each in fixed deposits with government undertakings and non-government undertakings, 7% in NBFCs and 2% in term-lending institutions. The second preference is the recurring deposits of banks and post offices, where 45% of households have invested. Life Insurance Corporation of India (LIC) policy is another preferred investment instrument for 39% of households, while 27% of households have invested in small savings instruments. This brings out the importance of distribution network. Banks and post offices have wide network of branches and are in a better position to garner a large chunk of savings of households.

About 80% of equity investor households were the first generation investors. Majority of equity owning households have inadequate diversification of portfolio. About 23% of the households have invested in one company, 38% in two companies, while only

Table 1.10. Distribution of Risk Perception in Various Instruments

(In per cent)

	All Households					Investor Households				
Instruments	Very Safe	Resasonably Safe	Somewhat Safe	Risky	No Opinion	Very Safe	Resasonably Safe	Somewhat Safe	Risky	No Opinion
UTI– US-64	10.62	9.97	11.97	11.18	56.25	25.39	25.98	10.76	8.07	29.80
UTI– Other Schemes	7.07	11.12	8.59	12.78	60.44	17.18	24.92	15.31	11.89	30.70
Public Sector MFs	4.15	9.44	9.34	16.42	60.65	11.92	20.67	15.83	16.79	34.79
Private Sector MFs	1.84	5.72	9.58	21.78	61.09	4.71	12.34	18.19	26.13	28.64
FDs– Banks	64.91	15.00	2.83	3.60	13.67	76.49	15.19	2.41	1.81	4.10
FDs– Non-Govt. Cos.	6.15	11.84	12.95	28.32	40.75	13.46	20.28	21.25	25.92	19.09
FDs– NBFCs	2.71	8.68	10.74	30.37	47.52	8.44	13.81	17.64	32.95	27.17
Equity Shares	2.06	6.91	8.06	25.53	57.44	10.22	23.97	18.69	31.78	15.33
Convertible Debentures	2.07	4.85	6.67	20.81	65.60	7.83	14.37	19.99	23.55	34.26
NCDs	1.24	4.22	7.34	20.69	66.52	5.55	11.96	20.11	26.07	36.31
Chit Fund	2.43	4.99	6.87	27.38	58.34	4.54	9.89	12.95	35.20	37.43
Gold	30.07	19.23	7.04	13.00	30.66	36.54	25.97	11.50	11.94	14.05

Source: SEBI-NCAER Survey of Indian Investors, June 2000.

Table 1.11. Distribution of Households by Instruments

(In per cent)

Instruments	All India	Urban	Rural
UTI Schemes	8.45	19.52	4.05
Other MFs	5.45	12.02	2.84
Fixed Deposits	76.23	83.89	73.18
Bonds	6.21	11.56	4.08
Provident Fund	20.92	40.24	13.24
Life Insurance	39.21	57.31	32.01
Chit Funds	5.94	9.51	4.52
Post Office RDs	44.73	40.77	46.3
Small Savings	27.46	35.98	24.07
Preference Shares	2.63	6.59	1.06
Others	8.75	11.85	7.52

Source: SEBI-NCAER Survey of Indian Investors, June 2000.

about 5% in more than five companies. These data indicate lack of experience in stock market operations. Out of 12.1 million equity investor households, 84% have invested in equity shares through the primary market, and 63% have bought equity shares in the secondary market. It has been estimated that 16% of equity investor households have invested only through the secondary market, 37% have invested only through the primary market, and 47% have invested through both the primary and secondary markets. Difficulties faced by households in investing through secondary market — lack of easy access to the market, inadequacy of the market infrastructure, problems in locating the right intermediary, lack of guidance and advice — inhibited the households from investing in the secondary market. The number of broker-related problems is higher than the number of issuer-related problems.

Primary Market

A total of Rs. 2,06,601 crore were raised by the government and corporate sector during 2000–01 as against Rs. 1,85,786 crore during the preceding year. Government raised about 62% of the total resources, with Central Government alone raising nearly Rs. 1,15,183 crore.

Corporate Securities

Average annual capital mobilisation from the primary market, which used to be about Rs. 70 crore in the 1960s and about Rs. 90 crore in the 1970s, increased manifold during the 1980s, with the amount raised in 1990–91 being Rs. 4,312 crore. It received a further boost during the 1990s with the capital raised by non-government public companies rising sharply to Rs. 26,417 crore in 1994–95. The capital raised, which used to be less than 1% of GDS in the 1970s, increased to about 13% in 1992–93. In real terms, the capital raised increased 4 times between 1990–91 and 1994–95. During 1994–95, the amount raised through new issues of securities from the securities market accounted for about four-fifth of the disbursements by FIs. The trend in the public issues market is presented in Table 1.12.

The market, however, appears to have dried up since 1995–96 due to interplay of demand and supply-side forces. In real terms, the amount raised by non-government public companies during 2000–01 is about 53% of the amount raised a decade back in 1990–91. Many investors who were lured into the market during 1992–94 seem to be

Table 1.12. Resources Mobilised through Public Issues

(Amount in Rs. crore)

Year	Resources Raised by non-Government Companies	% of GDS	% of Disbursements by FIs	Index in Real Terms	Mobilisation by Mutual Funds
1990–91	4,312	3.32	33.66	100.00	7,508
1991–92	6,193	4.38	38.08	126.27	11,253
1992–93	19,803	12.76	85.54	366.88	13,021
1993–94	19,330	9.98	74.85	330.51	11,243
1994–95	26,417	10.48	78.69	401.50	11,275
1995–96	16,075	5.34	41.59	226.04	−5,833
1996–97	10,410	3.28	24.40	139.93	−2,037
1997–98	3,138	0.84	5.84	40.40	4,064
1998–99	5,013	1.27	8.89	60.64	3,611
1999–00	5,153	1.11	7.62	60.63	19,953
2000–01	4,949	1.01	6.86	52.94	13,339

adopting a very cautious approach because of their frustration with some of the issuers and intermediaries associated with the securities market. They have not completely withdrawn from the market, but are looking for quality issues, the availability of which has declined due to stricter eligibility criteria for public issues imposed by SEBI and the general slowdown in the economic activity. Simultaneously, issuers have shifted focus to other avenues for raising resources like private placement where compliance is much less. Available data (Table 1.13), although scanty, indicate that private placement has become a preferred means of raising resources by the corporate sector.

There is a preference for raising resources in the primary market through private placement of debt instruments. Private placements accounted for about 91% of total resources mobilised through domestic issues by the corporate sector during 2000–01. Rapid dismantling of shackles on institutional investments and deregulation of the economy are driving growth of this segment. There are several inherent advantages of relying on 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. It is believed in some circles that private placement has crowded out public issues. However, to prevent public issues from being passed on as private placement, the Companies (Amendment) Act, 2001 made offer of securities to more than 50 persons a public issue.

As may be seen from Table 1.13, Indian market is getting integrated with the global market, though in a limited way, through Euro issues. Since 1992, when they were permitted access, Indian companies have raised about Rs. 31,000 crore through American Depository Receipts (ADRs)/Global Depository Receipts (GDRs). By the end of June 2001, 514 FIIs were registered with SEBI. They had net cumulative investments over of US$ 14 billion by the end of June 2001. Their operations influence the market as they do delivery-based business and their knowledge of market is considered superior.

The market is getting institutionalised as investors prefer MFs as their investment vehicle, thanks to evolution of a regulatory framework for MFs, tax concessions offered by government and preference of investors for passive investing. The net collections by MFs picked up during this decade and increased to Rs. 19,953 crore during 1999–00. This declined to Rs. 13,339 crore during 2000–01, which may be attributed to increase in rate of tax on income distributed by debt-oriented MFs and lacklustre secondary market.

Starting with an asset base of Rs. 25 crore in 1964, the industry has grown exponentially to Rs. 97,953 crore at the end of June 2001. The investible resources of the MFs accounted for about 15% of market capitalisation as at the end of June 2001. The number of households owning units of MFs exceeds the number of households owning equity and debentures. At the end of financial year 1988–99, according to the SEBI–NCAER Survey of Indian Investors (2000), 23 million unit holders had invested in units of MFs, while 19 million individual investors invested in equity and or debentures.

Government Securities

The primary issues of the Central Government have increased thirteen-fold during the decade of 1990s from Rs. 8,989 crore in 1990–91 to Rs. 1,15,183 crore in 2000–01. The issues by State Governments increased by about five times from Rs. 2,569 crore to Rs. 13,300 crore during the same period. The gross market borrowings of Central Government amounted to Rs. 1,15,183 crore, including 364-day treasury bills of Rs. 15,000 crore. After meeting repayment liabilities of Rs. 28,396 crore, and redemption of 364-day treasury bills of Rs. 13,000 crore, net market borrowing was Rs. 73,787 crore for the year 2000–01. During April–June 2001, the Central Government made gross and net borrowings of Rs. 51,250 crore and Rs. 43,932 crore, respectively, against budget estimate of Rs. 1,18,852 crore and Rs. 77,353 crore for the full year. The State Governments collectively raised Rs. 13,300 crore during 2000–01 as against Rs. 13,706 crore in the preceding year. The net borrowings amounted Rs. 12,880 crore after meeting repayment liabilities of Rs. 420 crore.

Along with growth of the market, the investor base has become very wide. In addition to banks and insurance companies, corporates and individual investors are investing in government securities. With dismantling of control regime, and gradual lowering of the Statutory Liquidity ratio (SLR) and Cash Reserve Ratio (CRR), government is borrowing at near–market rates. The coupons across maturities went down recently signifying lower interest rates. The weighted average cost of its borrowing at one stage increased to 13.75% in 1995–96, which declined to 10.95% in 2000–01. The maturity structure of government debt is also changing. In view of bunching of redemption liabilities in the medium term, securities with higher maturities were issued during 2000–01. About 53% of primary issues were raised through securities with maturities above 10 years. As a result the weighted average maturity of dated securities increased to 10.64 years from 7.71 years in 1998–99 and 6.6 years in 1997–98.

Secondary Market

Corporate Securities

Selected indicators in the secondary market are presented in Table 1.14. The number of stock exchanges increased from 11 in 1990 to 23 now. All the exchanges are fully computerised and offer 100% on-line trading. 9,922 companies were available for trading on stock exchanges at the end of March 2001. The trading platform of the stock exchanges was accessible to 9,792 members from over 400 cities on the same date.

The market capitalisation grew ten fold between 1990–91 and 1999–00. It increased by 221% during 1991–92 and by 107% during 1999–00. All India market capitalisation is estimated at Rs. 7,68,863 crore at the end of March 2001. The market capitalisation ratio, which indicates the size of the market, increased sharply to 57.4% in 1991–92 following spurt in share prices. The ratio increased to 85% by March 2000. It, however, declined to 55% at the end of March 2001.

Table 1.13. Resource Mobilisation from the Primary Market

(Rs. crore)

Issuers/Issues	1990–91	1991–92	1992–93	1993–94	1994–95	1995–96	1996–97	1997–98	1998–99	1999–00	2000–01
Corporate Securities	14,219	16,366	23,537	44,498	48,084	36,689	37,147	42,125	60,192	72,450	78,119
Domestic Issues	14,219	16,366	23,286	37,044	41,974	36,193	33,872	37,738	59,044	68,963	73,922
Non-Govt. Public Ltd. Cos.	4,312	6,193	19,803	19,330	26,417	16,075	10,410	3,138	5,013	5,153	4,949
PSU Bonds	5,663	5,710	1,062	5,586	3,070	2,292	3,394	2,982	—	—	—
Govt. Cos.	—	—	430	819	888	1,000	650	43	—	—	—
Banks & FIs	—	—	356	3,843	425	3,465	4,352	1,476	4,352	2,551	1,472
Private Placement	4,244	4,463	1,635	7,466	11,174	13,361	15,066	30,099	49,679	61,259	67,500
Euro Issues	—	—	702	7,898	6,743	1,297	5,594	4,009	1,148	3,487	4,197
Government Securities	11,558	12,284	17,690	54,533	43,231	46,783	42,688	67,386	106,067	113,336	126,833
Central Government	8,989	8,919	13,885	50,388	38,108	40,509	36,152	59,637	93,953	99,630	115,183
State Governments	2,569	3,364	3,805	4,145	5,123	6,274	6,536	7,749	12,114	13,706	13,300
Total	25,777	28,650	41,227	99,031	91,315	83,472	79,835	109,511	166,259	185,786	206,601

Table 1.14. Secondary Market - Selected Indicators

(Amount in Rs. crore)

	Capital Market Segment of Stock Exchanges								Turnover of Govt. Securities		
At the end of Financial Year	No. of Brokers	No. of Listed Companies	S&P CNX Nifty	Sensex	Market Capitalisation	Market Capitalisation Ratio (%)	Turnover	Turnover Ratio (%)	On WDM segment of NSE	On SGL	Derivatives segment of Exchanges
1990–91	—	6,229	366.45	1167.97	110,279	20.6	—	—	—	—	—
1991–92	—	6,480	1261.65	4285.00	354,106	57.4	—	—	—	—	—
1992–93	—	6,925	660.51	2280.52	228,780	32.4	—	—	—	—	—
1993–94	—	7,811	1177.11	3778.99	400,077	45.6	203,703	50.9	—	—	—
1994–95	6,711	9,077	990.24	3260.96	473,349	45.6	162,905	34.4	5,660	50,569	—
1995–96	8,476	9,100	985.30	3366.61	572,257	47.0	227,368	39.7	9,988	127,179	—
1996–97	8,867	9,890	968.85	3360.89	488,332	34.6	646,116	132.3	38,308	122,941	—
1997–98	9,005	9,833	1116.65	3892.75	589,816	37.7	908,681	154.1	103,585	185,708	—
1998–99	9,069	9,877	1078.05	3739.96	574,064	34.1	1,023,382	178.3	95,280	227,228	—
1999–00	9,192	9,871	1528.45	5001.28	1,192,630	84.7	2,067,031	173.3	293,887	539,232	—
2000–01	9,792	9,922	1148.20	3604.38	768,863	54.5	2,880,990	374.7	414,095	698,121	3,918

Note: Turnover figures are for the respective financial year.
— Not Available.
Source: Report on Currency and Finance, 1998–99 (for data in respect of Capital Market Segment of stock exchanges upto 1998–99).

The trading volumes on exchanges have been witnessing phenomenal growth during the 1990s. The average daily turnover grew from about Rs. 150 crore in 1990 to Rs. 12,000 crore in 2000–01, peaking at over Rs. 20,000 crore. The turnover increased by 184% during 1996–97, 102% during 1999–00 and by 39% during 2000–01. One-sided turnover on all stock exchanges exceeded Rs. 10,00,000 crore during 1998–99, Rs. 20,00,000 crore during 1999–00 and approached Rs. 30,00,000 crore during 2000–01. The turnover ratio, which reflects the volume of trading in relation to the size of the market, has been increasing by leaps and bounds after the advent of screen-based trading system by NSE. The turnover ratio for the year 2000–01 increased to 375, which is one of the highest in the world and is likely to exceed 400 during 2001–02.

The relative importance of various stock exchanges in the market has undergone dramatic change during this decade. The increase in turnover took place mostly at the large exchanges and it was partly at the cost of small exchanges that failed to keep pace with the changes. NSE is the market leader with over 53% of total turnover (volumes on all segments) in 2000–01. Top 6 stock exchanges accounted for 99% of turnover, while the rest 17 exchange for less than 1% during 2000–01 (Table 1.15). About a dozen exchanges reported nil turnover during 2000–01.

Table 1.15. Growth and Distribution of Turnover on Stock Exchanges

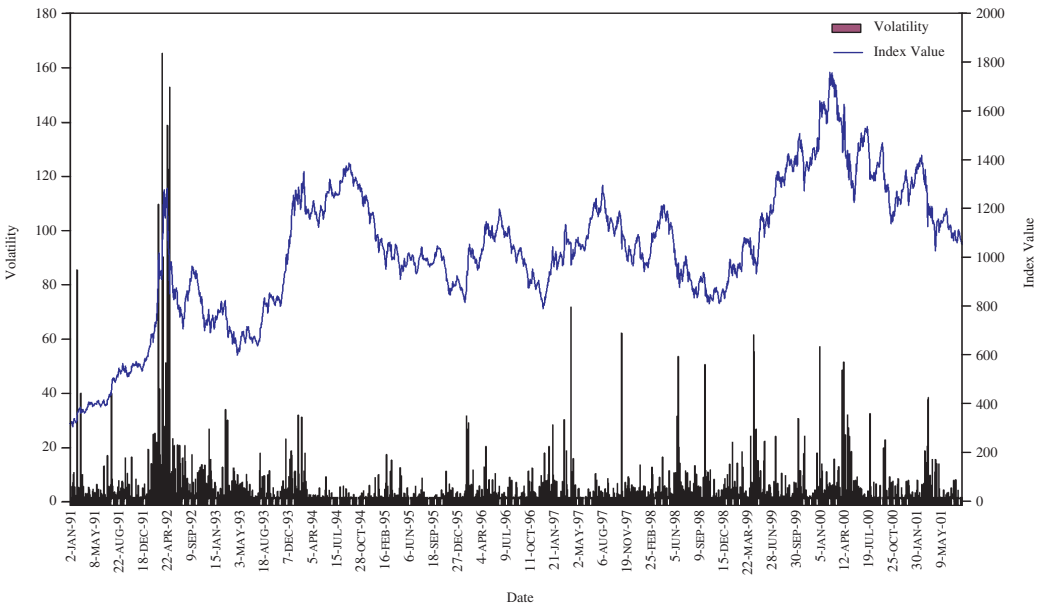
(Rs. crore)

Stock Exchanges	1994–95	1995–96	1996–97	1997–98	1998–99	1999–00	2000–01
1. NSE	8,509	80,009	336,782	481,197	519,852	1,143,268	1,770,458
2. Mumbai	67,748	50,064	124,284	207,383	311,999	685,028	1,001,619
3. Calcutta	52,872	62,128	105,664	178,778	171,780	357,166	355,035
4. Delhi	9,083	10,076	48,631	67,840	51,759	93,289	83,871
5. Ahmedabad	5,651	8,786	20,533	30,771	29,734	37,566	54,035
6. Uttar Pradesh	7,823	2,373	16,070	15,390	18,627	24,048	24,747
7. Ludhiana	2,488	4,849	5,274	8,315	5,978	7,741	9,732
8. Pune	3,672	7,071	9,903	8,624	7,453	6,087	6,171
9. Bangalore	712	890	4,398	8,636	6,779	11,147	6,033
10. Hyderabad	1,375	1,285	480	1,860	1,276	1,237	978
11. ICSE	—	—	—	—	1	545	233
12. Cochin	597	1,803	1,401	1,783	773	0	187
13. OCTEI	365	218	221	125	142	3,588	126
14. Madras	3,033	1,594	2,315	1,228	370	250	109
15. Madhya Pradesh	118	204	12	1	1	10	2
16. Magadh	797	1,629	2,755	323	0	8	2
17. Vadodara	1,621	1,259	4,268	4,576	1,749	159	1
18. Gauhati	285	619	484	20	30	0	0
19. Bhubaneshwar	143	226	231	202	77	70	0
20. Coimbatore	1,310	2,503	2,398	2,136	395	39	0
21. Jaipur	879	1,047	1,519	431	65	2	0
22. Mangalore	62	39	373	308	11	0	0
23. SKSE	545	564	398	17	0	0	0
Total	169,686	239,236	688,394	1,019,944	1,128,851	2,371,247	3,313,338

Note: Turnover means total value of transactions of securities in all market segments of an Exchange.

The movement of the S&P CNX Nifty, the most widely used indicator of the market, is presented in Chart 1.1. In the very first year of liberalisation, *i.e.*, 1991–92, it recorded a growth of 267%, followed by sharp decline of 47% in the next year as certain irregularities in securities transactions were noticed. The market picked up next year thanks to increased inflow of foreign funds, and increased investor interest. Thereafter, the market remained subdued. The index recorded a decline of 3.5% during 1998–99 under the pressure of economic sanctions following detonation of nuclear device, continuing woes

Chart 1.1. Movement of S&P CNX Nifty and its Volatility since 1991



of east Asian financial markets, volatility of Indian currency and worries about financial health of UTI's US-64 scheme. The Union Budget of 1999 brought cheers to the market. The market moved on a roller coaster ride, but a distinct rising trend emerged due to all-round positive perception about strength of the Government and also its commitment towards second generation reforms, improved macro-economic parameters, and better corporate results. The S&P CNX Nifty firmed up during 1999–00 by 42%, which was nearly four times the average return offered on bank deposits. The trend got reversed during 2000–01, which witnessed large sell-offs in new economy stocks in global markets and deceleration in the growth of the domestic economy. This brought down Nifty from a high of 1636.95 in April 2000 to a low of 1108.20 in October 2000. The market looked up in November–January in anticipation of a good budget. However it did not last long as the market received shocking news about imminent payment crisis on certain exchanges, large scale manipulations in stock prices and revelation of large scale corruption in the procurement of defence equipments. The Nifty closed at 1148.20 at the end of March 2001 recording a fall of about 25% during 2000–01. The trend precipitated further with withdrawal of deferral products and suspension of repurchase facility under the UTI's US-64 scheme. During April–June 2001, the Nifty recorded a decline of 4%.

Government Securities

The aggregate turnover in Central and State Government securities, including treasury bills, increased 12 times between 1994–95 and 2000–01. During 2000–01, it reached a level of Rs. 6,98,121 crore, recording about 30% growth over Rs. 5,39,232 crore in the previous year. The turnover in government securities during April–June 2001 amounted to Rs. 3,35,331 crore as compared to Rs. 1,28,355 crore during the corresponding period of previous year. Such growing turnover reflects further deepening of the market (Table 1.14). The bulk of transactions during 2000–01 were on outright basis. The outright transactions amounted to Rs. 5,72,145 crore, accounting for 82% of total turnover. The

share of outright transactions in government securities increased from 23.2% in 1995–96 to 82% in 2000–01, and stood at 80.9% in April–June 2001. The share of repo transactions declined correspondingly from 76.8% in 1995–96 to 18.1% in 2000–01.

The share of Wholesale Debt Market (WDM) segment of NSE in total turnover for government securities increased from 54.5% in 1999–00 to 59.3% in 2000–01, and improved further to 62.7% during April–June 2001. As compared to the increase in overall turnover of government securities by 29.5%, the same on WDM grew by 40.9% during 2000–01. Share of WDM in transactions of dated securities increased from 58.4% in 1999–00 to 63% in 2000–01 and further to 64.7% during April–June 2001. Its share in transactions of treasury bills increased from 20.2% in 1999–00 to 30.1% in 2000–01, and further to 35.4% during April–June 2001. Share of WDM in outright and repo transactions was 72.4% and 1.3% respectively during 2000–01, and 76.9% and nil during April–June 2001.

Government debt, which constitutes about three-fourth 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 increasing over the years. It was 76% during 1997–98, which increased to 80% in 1998–99 and further to 89.9% in 1999–00. 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.

Derivatives Market

Trading in derivatives of securities commenced in June 2000 with the enactment of enabling legislation in early 2000. Derivatives are formally defined to include: (a) a security derived from a debt instrument, share, loan, whether secured or unsecured, risk instrument or contract for differences or any other form of security, and (b) a contract which derives its value from the prices, or index of prices, or underlying securities. Derivatives are legal and valid only if such contracts are traded on a recognised stock exchange, thus precluding OTC derivatives.

Derivatives trading commenced in India in June 2000 after SEBI granted the approval to this effect in May 2001. SEBI permitted the derivative segment of two stock exchanges, *i.e.*, NSE and BSE, and their clearing house/corporation to commence trading and settlement in approved derivative contracts. To begin with, SEBI approved trading in index futures contracts based on S&P CNX Nifty Index and BSE-30 (Sensex) Index. This was followed by approval for trading in options based on these two indices and options on individual securities. The trading in index options commenced in June 2001 and trading in options on individual securities would commence in July 2001.

The monthly turnover in derivatives market rose from Rs. 91 crore in June 2000 to Rs. 824 crore in June 2001. A total of 1.6 lakh contracts with a total turnover of Rs. 3,918 crore were traded during June 2000 to March 2001. April–June 2001 reported a turnover of Rs. 1,387 crore. With introduction of stock options from July 2001 and ban on deferral products in the cash market, the derivative volumes are expected to pick up fast.

Regulatory Framework

The four main legislations governing the securities market are: (a) the SEBI Act, 1992 which establishes SEBI to protect investors and develop and regulate securities market; (b) the Companies Act, 1956, which sets out the code of conduct for the corporate sector in relation to issue, allotment and transfer of securities, and disclosures to be made

in public issues; (c) the Securities Contracts (Regulation) Act, 1956, which provides for regulation of transactions in securities through control over stock exchanges; and (d) the Depositories Act, 1996 which provides for electronic maintenance and transfer of ownership of demat securities.

Legislations

Capital Issues (Control) Act, 1947: The Act had its origin during the war in 1943 when the objective was to channelise resources to support the war effort. It was retained with some modifications as a means of controlling the raising of capital by companies and to ensure that national resources were channelled into proper lines, *i.e.*, for desirable purposes to serve goals and priorities of the government, and to protect the interests of investors. Under the Act, any firm wishing to issue securities had to obtain approval from the Central Government, which also determined the amount, type and price of the issue. As a part of the liberalisation process, the Act was repealed in 1992 paving way for market-determined allocation of resources.

SEBI ***Act, 1992:*** The SEBI Act, 1992 was enacted to empower SEBI with statutory powers for (a) protecting the interests of investors in securities, (b) promoting the development of the securities market, and (c) regulating the securities market. Its regulatory jurisdiction extends over corporates in the issuance of capital and transfer of securities, in addition to all intermediaries and persons associated with securities market. It can conduct enquiries, audits and inspection of all concerned and adjudicate offences under the Act. It has powers to register and regulate all market intermediaries and to penalise them in case of violations of the provisions of the Act, Rules and Regulations made thereunder. SEBI has full autonomy and authority to regulate and develop an orderly securities market.

Securities Contracts (Regulation) Act, 1956: It provides for direct and indirect control of virtually all aspects of securities trading and the running of stock exchanges and aims to prevent undesirable transactions in securities. It gives Central Government regulatory jurisdiction over (a) stock exchanges, through a process of recognition and continued supervision, (b) contracts in securities, and (c) listing of securities on stock exchanges. As a condition of recognition, a stock exchange complies with conditions prescribed by Central Government. Organised trading activity in securities takes place on a specified recognised stock exchange. The stock exchanges determine their own listing regulations, which have to conform with the minimum listing criteria set out in the Rules.

Depositories Act, 1996: The Depositories Act, 1996 provides for the establishment of depositories in securities with the objective of ensuring free transferability of securities with speed, accuracy and security by (a) making securities of public limited companies freely transferable subject to certain exceptions; (b) dematerialising the securities in the depository mode; and (c) providing for maintenance of ownership records in a book entry form. In order to streamline the settlement process, the Act envisages transfer of ownership of securities electronically by book entry without making the securities move from person to person. The Act has made the securities of all public limited companies freely transferable, restricting the company's right to use discretion in effecting the transfer of securities, and the transfer deed and other procedural requirements under the Companies Act have been dispensed with.

Companies Act, 1956: It deals with issue, allotment and transfer of securities and various aspects relating to company management. It provides for standards of disclosure

in public issues of capital, particularly in the fields of company management and projects, information about other listed companies under the same management, and management perception of risk factors. It also regulates underwriting, the use of premium and discounts on issues, rights and bonus issues, payment of interest and dividends, supply of annual report and other information.

Rules and Regulations

The Government have framed rules under the SCRA, SEBI Act and the Depositories Act. SEBI has framed regulations under the SEBI Act and the Depositories Act for registration and regulation of all market intermediaries, and for prevention of unfair trade practices, insider trading, *etc.* Under these Acts, Government and SEBI issue notifications, guidelines, and circulars, which need to be complied with by market participants. The self-regulatory organisations (SROs) like stock exchanges have also laid down their rules of game.

Regulators

The absence of conditions of perfect competition in the securities market makes the role of regulator extremely important. The regulator ensures that the market participants behave in a desired manner so that securities market continue to be a major source of finance for corporates and government and the interest of investors are protected.

The responsibility for regulating the securities market is shared by Department of Economic Affairs (DEA), Department of Company Affairs (DCA), Reserve Bank of India (RBI) and SEBI. The activities of these agencies are co-ordinated by a High Level Committee on Capital Markets. The orders of SEBI under the securities laws are appellable before a Securities Appellate Tribunal (SAT).

Most of the powers under the SCRA are exercisable by DEA, while a few others by SEBI. The powers of the DEA under the SCRA are also con-currently exercised by SEBI. The powers in respect of the contracts for sale and purchase of securities, gold-related securities, money market securities and securities derived from these securities and ready forward contracts in debt securities are exercised concurrently by RBI. The SEBI Act and the Depositories Act are mostly administered by SEBI. The rules under the securities laws are framed by government and regulations by SEBI. All these are administered by SEBI. The powers under the Companies Act relating to issue and transfer of securities and non-payment of dividend are administered by SEBI in case of listed public companies and public companies proposing to get their securities listed. The SROs ensure compliance with their own rules as well as with the rules relevant for them under the securities laws.

Reforms in 1990s

The period since April 2000 witnessed several reforms in the securities market. The so far neglected debt market caught the attention of policy makers. Efforts were made to strengthen and modernise legislative framework through a Government Securities Act, abolish stamp duty on transfer of dematerialised debt securities to promote dematerialisation and mandate dematerialisation of debt securities, set up a clearing corporation to undertake clearing and settlement of transactions in government securities, mandate trading of government securities through order-driven screen-based system to impart efficiency and transparency to trading, set up an electronic negotiated dealing system to facilitate transparent electronic bidding in auctions and dealings in

government securities, introduce a comprehensive legislation for securitisation, promote the issuance of STRIPS, zero coupon bonds, deep discount bond and the like, put in place the electronic fund transfer and real time gross settlement (RTGS) systems to ensure smooth and quick movement of funds, and entrust RBI with responsibility to regulate contracts in government securities, derivatives on government securities and ready forward contracts in debt securities. Trading in government securities commenced on a second exchange, BSE. The trading in derivatives of securities was flagged off on two exchanges and the three-decade old ban on forward trading of securities was withdrawn. An array of derivative products was introduced during the period. Trading of futures based on an Indian index, S&P CNX Nifty, commenced on an overseas exchange. The trading platform reached the personal computers (PCs) in the homes of investors through the internet and the hand-held devices of mobile investors through the Wireless Application Protocal (WAP). In view of the extreme volatility and alleged price manipulation in the securities market in the first quarter of 2001, the authorities proposed to improve the institutional mechanism and trading practices, which included corporatisation and demutualisation of stock exchanges, extension of rolling settlement to about 400 most active securities, strengthening of the provisions in the SEBI Act to ensure investor protection. All deferral products were banned in the cash market. The competence of SEBI to collect fees from market participants was upheld by the Supreme Court of India. The market became a turf of certified professionals because of regulatory compulsions and/or initiatives of the industry.

Corporate Securities Market

With the objectives of improving market efficiency, enhancing transparency, preventing unfair trade practices and bringing the Indian market upto international standards, a package of reforms consisting of measures to liberalise, regulate and develop the securities market was introduced. The practice of allocation of resources among different competing entities as well as its terms by a central authority was discontinued. The secondary market overcame the geographical barriers by moving to screen-based trading. Trades enjoyed counter-party guarantee. Physical security certificates almost disappeared. The settlement period shortened to one week and is approaching to one day. The following paragraphs discuss the principal reform measures undertaken since 1992.

SEBI Act, 1992: It created a regulator (SEBI), empowered it adequately and assigned it with the responsibility for (a) protecting the interests of investors in securities, (b) promoting the development of the securities market, and (c) regulating the securities market. Its regulatory jurisdiction extends over corporates in the issuance of capital and transfer of securities, in addition to all intermediaries and persons associated with securities market. All market intermediaries are registered and regulated by SEBI. They are also required to appoint a compliance officer who is responsible for monitoring compliance with securities laws and for redressal of investor grievances. The courts have upheld the powers of SEBI to impose monetary penalties and to levy fees from market intermediaries.

Enactment of SEBI Act is the first attempt towards integrated regulation of the securities market. SEBI was given full authority and jurisdiction over the securities market under the Act, and was given concurrent/delegated powers for various provisions under the Companies Act and the SCRA. Many provisions in the Companies Act having a bearing on securities market are administered by SEBI. The Depositories Act, 1996 is also administered by SEBI. A high-level committee on capital markets has been set up to ensure co-ordination among the regulatory agencies in capital markets.

DIP Guidelines: Major part of the liberalisation process was the repeal of the Capital Issues (Control) Act, 1947 in May 1992. With this, Government's control over issue of capital, pricing of the issues, fixing of premia and rates of interest on debentures *etc.* ceased and the market was allowed to allocate resources to competing uses. In the interest of investors, SEBI issued Disclosure and Investor Protection (DIP) guidelines. The guidelines contain a substantial body of requirements for issuers/intermediaries, the broad intention being to ensure that all concerned observe high standards of integrity and fair dealing, comply with all the requirements with due skill, diligence and care, and disclose the truth, whole truth and nothing but truth. The guidelines aim to secure fuller disclosure of relevant information about the issuer and the nature of the securities to be issued so that investors can take informed decisions. For example, issuers are required to disclose any material 'risk factors' and give justification for pricing in their prospectus. The guidelines cast a responsibility on the lead managers to issue a due diligence certificate, stating that they have examined the prospectus, they find it in order and that it brings out all the facts and does not contain anything wrong or misleading. Issuers are now required to comply with the guidelines and then access the market. The companies can access the market only if they fulfil minimum eligibility norms such as track record of distributable profits and net worth. In case they do not do so, they can access the market only through book building with minimum offer of 60% to qualified institutional buyers (QIBs). The norms for continued disclosure by listed companies also improved availability of information. The information technology helped in easy dissemination of information about listed companies and market intermediaries. Equity research and analysis and credit rating improved the quality of information about issues.

Screen Based Trading: The trading on stock exchanges in India used to take place through open outcry without use of information technology for immediate matching or recording of trades. This was time consuming and inefficient. This imposed limits on trading volumes and efficiency. In order to provide efficiency, liquidity and transparency, NSE introduced a nation-wide on-line fully automated screen-based trading system (SBTS) where a member can punch into the computer quantities of securities and the prices at which he likes to transact and the transaction is executed as soon as it finds a matching sale or buy order from a counter party. SBTS electronically matches orders on a strict price/time priority and hence cuts down on time, cost and risk of error, as well as on fraud resulting in improved operational efficiency. It allows faster incorporation of price sensitive information into prevailing prices, thus increasing the informational efficiency of markets. It enables market participants to see the full market on real-time basis, making the market transparent. It allows a large number of participants, irrespective of their geographical locations, to trade with one another simultaneously, improving the depth and liquidity of the market. It provides full anonymity by accepting orders, big or small, from members without revealing their identity, thus providing equal access to everybody. It also provides a perfect audit trail, which helps to resolve disputes by logging in the trade execution process in entirety. This sucked liquidity from other exchanges and in the very first year of its operation, NSE became the leading stock exchange in the country, impacting the fortunes of other exchanges and forcing them to adopt SBTS also. Today India can boast that almost 100% trading takes place through electronic order matching.

Technology was used to carry the trading platform to the premises of brokers. NSE carried the trading platform further to the PCs in the residences of investors through the internet and to hand-held devices through WAP for convenience of mobile investors. This made a huge difference in terms of equal access to investors in a geographically vast country like India.

Trading Cycle: The trades accumulated over a trading cycle and at the end of the cycle, these were clubbed together, and positions were netted out and payment of cash and delivery of securities settled the balance. This trading cycle varied from 14 days for specified securities to 30 days for others and settlement took another fortnight. Often this cycle was not adhered to. Many things could happen between entering into a trade and its performance providing incentives for either of the parties to go back on its promise. This had on several occasions led to defaults and risks in settlement. In order to reduce large open positions, the trading cycle was reduced over a period of time to a week. The exchanges, however, continued to have different weekly trading cycles, which enabled shifting of positions from one exchange to another. It has now been made mandatory for all exchanges to follow a uniform weekly trading cycle. In respect of about 400 major securities, which are traded and settled under rolling settlement, the trading cycle has been reduced to a day and transactions in these securities are settled after 5 days from the trade date w.e.f. July 2001. The balance securities are traded and settled under uniform weekly settlement cycle. These would also be traded under rolling settlement from January 2001. The market also had a variety of deferral products like modified carry forward system, which encouraged leveraged trading by enabling postponement of settlement. The deferral products have been banned. The market has moved close to spot/cash market.

Derivatives Trading: To assist market participants to manage risks through hedging, speculation and arbitrage, SCRA was amended in 1995 to lift the ban on options in securities. However, trading in derivatives did not take off, as there was no suitable legal and regulatory framework to govern these trades. Besides, it needed a lot of preparatory work — the underlying cash markets strengthened with the assistance of the automation of trading and of the settlement system; the exchanges developed adequate infrastructure, and the information systems required to implement trading discipline in derivative instruments. The SCRA was amended further in December 1999 to expand the definition of securities to include derivatives so that the whole regulatory framework governing trading of securities could apply to trading of derivatives also. A three-decade old ban on forward trading, which had lost its relevance and was hindering introduction of derivatives trading, was withdrawn. Derivative trading took off in June 2000 on two exchanges. The market presently offers index futures, index options and stock options and would soon offer stock futures.

Demutualisation: Historically, brokers owned, controlled and managed stock exchanges. In case of disputes, the self often got precedence over regulations leading inevitably to conflict of interest. On realisation of this, the regulators focussed on reducing dominance of members in the management of stock exchanges and advised them to reconstitute their governing councils to provide for at least 50% non-broker representation. This did not materially alter the situation. In face of extreme volatility in the securities market, Government proposed in March 2001 to corporatise the stock exchanges by which ownership, management and trading membership would be segregated from one another. A few exchanges have already initiated demutualisation process.

NSE, however, adopted a pure demutualised governance structure, where ownership, management and trading are with three different sets of people. This completely eliminated any conflict of interest and helped NSE to aggressively pursue policies and practices within a public interest (market efficiency and investor interest) framework.

Depositories Act: Settlement system on Indian stock exchanges gave rise to settlement risk, due to the time that elapsed before trades are settled. Trades were settled by physical movement of paper. This had two aspects. First, the settlement of trade in stock exchanges by delivery of shares by the seller and payment by the purchaser. The stock exchange aggregated trades over a period of time to carry out net settlement through the physical delivery of securities. The process of physically moving the securities from the seller to the ultimate buyer through the seller's broker and buyer's broker took time with the risk of delay somewhere along the chain. The second aspect related to transfer of shares in favour of the purchaser by the company. The system of transfer of ownership was grossly inefficient as every transfer involved physical movement of paper securities to the issuer for registration, with the change of ownership being evidenced by an endorsement on the security certificate. In many cases the process of transfer took much longer than the two months stipulated in the Companies Act, and a significant proportion of transactions ended up as bad delivery due to faulty compliance of paper work. Theft, forgery, mutilation of certificates and other irregularities were rampant, and in addition the issuer had the right to refuse the transfer of a security. All this added to costs, and delays in settlement, restricted liquidity and made investor grievance redressal time consuming and at times intractable.

To obviate these problems, the Depositories Act, 1996 was passed to provide for the establishment of depositories in securities with the objective of ensuring free transferability of securities with speed, accuracy and security by (a) making securities of public limited companies freely transferable subject to certain exceptions; (b) dematerialising the securities in the depository mode; and (c) providing for maintenance of ownership records in a book entry form. In order to streamline both the stages of settlement process, the Act envisages transfer of ownership of securities electronically by book entry without making the securities move from person to person. The Act has made the securities of all public limited companies freely transferable, restricting the company's right to use discretion in effecting the transfer of securities, and the transfer deed and other procedural requirements under the Companies Act have been dispensed with. Two depositories, *viz.*, NSDL and CDSL, have come up to provide instantaneous electronic transfer of securities. At the end of June 2001, 39,948 million securities worth Rs. 3,265 billion have been dematerialised with NSDL. The market capitalisation of the companies that have joined NSDL has reached Rs. 5,398 billion at the end of June 2001. 202 depository participants are rendering depository services at 2,639 locations all over the country serving 4 million investors who have opened beneficial accounts with NSDL. The securities of 3,154 companies are available for demat trading. Demat settlement accounts for over 99% of turnover settled by delivery. This has almost eliminated the bad deliveries and associated problems.

To prevent physical certificates from sneaking into circulation, it has been mandatory for all new initial public offers (IPOs) to be compulsorily traded in dematerialised form. The admission to a depository for dematerialisation of securities has been made a prerequisite for making a public or rights issue or an offer for sale. The investors would have the option of either subscribing to securities in physical form or dematerialised form. It has also been made compulsory for public listed companies making IPO of any security for Rs. 10 crore or more to do the same only in dematerialised form.

Risk Management: Market integrity is the essence of any financial market. To pre-empt market failures and protect investors, the regulator/exchanges have put in place a comprehensive risk management system, which is constantly monitored and upgraded. The risk management process encompasses capital adequacy of members, adequate margin requirements, limits on exposure and turnover, indemnity insurance,

on-line position monitoring and automatic disablement, *etc.* They also administer an efficient market surveillance system to curb excessive volatility, detect and prevent price manipulations. Exchanges have set up trade/settlement guarantee funds for meeting shortages arising out of non-fulfillment/partial fulfillment of funds obligations by the members in a settlement, even before declaring the concerned member a defaulter.

The fact that an anonymous electronic order book ushered in by the NSE does not allow members to assess credit risk of the counter-party necessitated some innovation in this area. To effectively address this issue, NSE introduced the concept of a novation, and set up the first clearing corporation, *viz.*, National Securities Clearing Corporation Ltd. (NSCCL), which commenced operations in April 1996. The NSCCL assumes the counter-party risk of each member and guarantees financial settlement. Counter-party risk is guaranteed through a fine-tuned risk management system and an innovative method of on-line position monitoring and automatic disablement. A large Settlement Guarantee Fund, which stood at Rs. 2,916 crore at NSSCL as on March 31, 2001, provides the cushion for any residual risk. As a consequence, despite the fact that daily traded volume is as high as Rs. 20,000 crore on occasions for the whole market, credit risk no longer poses any problems in the market place. The market has now full confidence that settlements will take place in time and will be completed irrespective of default by isolated trading members. In fact such confidence is driving volumes on exchanges.

Traditionally, brokerage firms in India have been proprietory or partnership concerns with unlimited liabilities. This restricted the amount of capital that such firms can raise. The growing volume of transactions made it imperative for such firms to be well capitalised and professional. The necessary legal changes were effected to open up the membership of stock exchanges to corporates with limited liability, so that brokerage firms may be able to raise capital and retain earnings. In order to boost the process of corporatisation, capital gains tax payable on the difference between the cost of the individual's initial acquisition of membership and the market value of that membership on the date of transfer to the corporate entity was waived. In response, an increasing number of brokerage firms are reorganising themselves into corporate entities. At the end of March 2001, 3,808 brokers out of 9,782 were corporate bodies.

Investor Protection: SEBI Act establishes SEBI with the primary objective of protecting the interests of investors in securities and empowers it to achieve this objective. SEBI specifies the matters to be disclosed and the standards of disclosure required for the protection of investors in respect of issuers and issues directions to all intermediaries and other persons associated with the securities market in the interest of investors or of orderly development of the securities market.

DEA, DCA, SEBI and exchanges have set up investor grievance cells for redressal of investor grievance. The exchanges maintain investor protection funds to take care of investor claims, which may arise out of non-settlement of obligations by a trading member for trades executed on the exchange. DCA has also set up an investor education and protection fund for the promotion of investors' awareness and protection of interest of investors. All these agencies and investor associations are organising investor education and awareness programmes. Government is considering the report of N. L. Mitra committee, which has, among others, recommended that there should be a specific Act for protecting investors' interest. This Act should modify and amend and consolidate laws and practice for the purpose of protecting investor's interest in corporate investments.

Globalisation: Indian securities market is getting increasingly integrated with the rest of the world. Indian companies have been permitted to raise resources from abroad

through issue of ADRs, GDRs, foreign currency convertible bonds (FCCBs), and overseas convertible bodies (OCBs). ADRs/GDRs have two-way fungibility. Indian companies are permitted to list their securities on foreign stock exchanges by sponsoring ADR/GDR issues against block shareholding. NRIs and OCBS are allowed to invest in Indian companies. Foreign institutional investors (FIIs) have been permitted to invest in all types of securities, including government securities. The investments by FIIs enjoy full capital account convertibility. They can invest in a company under portfolio investment route upto 24% of the paid up capital of the company. This can be increased to 49% with the approval of the shareholders. Indian stock exchanges have been permitted to set up trading terminals abroad. The trading platform of Indian exchanges is now accessed through the internet from anywhere in the world. MFs have been permitted to set up off-shore funds to invest in equities of other countries. They can also invest in ADRs/GDRs of Indian companies.

Government Securities Market

The government securities market has witnessed significant transformation in the 1990s. With giving up of the responsibility of allocating resources from securities market, government stopped expropriating seigniorage and started borrowing at near-market rates. Government securities are now sold at market-related coupon rates through a system of auctions instead of earlier practice of issue of securities at very low rates just to reduce the cost of borrowing of the government. Major reforms initiated in the primary market for government securities include auction system for primary issuance of treasury bills and Central Government dated securities, a system of primary dealers (PDs) and satellite dealers (SDs) to widen investor base and promote retail participation, issuance of securities across maturities to develop a yield curve from short to long end and provide benchmarks for rest of the debt market, innovative instruments like, zero coupon bonds, floating rate and index linked bonds, availability of full range (14-day, 91-day, 182-day and 382-day) of treasury bills, *etc.* The reforms in the secondary market include, Delivery *versus* Payment (D*v*P) system for settling scripless Subsidiary General Ledger (SGL) transactions to reduce settlement risks, SGL-II account with RBI to enable financial intermediaries to open custody (Constituent SGL) accounts and facilitate retail transactions in scripless mode, enforcement of a trade-for-trade regime, settlement period of T+0 or T+1 for all transactions undertaken directly between SGL participants and up to T+5 days for transactions routed through NSE brokers, routing transactions through brokers of NSE, OTCEI and BSE, repos in all government securities with settlement through SGL, liquidity support to PDs to enable them to support primary market and undertake market making, special fund facility for security settlement, *etc.* Other measures include abolition of tax deduction at source (TDS) on government securities and stamp duty on transfer of demat debt securities. The government securities market also benefited from emergence of liquidity arrangement through the Liquidity Adjustment Facility (LAF); expansion of the repo markets; complete stoppage of automatic monetisation of deficits; and emergence of self regulatory bodies, such as, the Primary Dealers Association of India (PDAI) and the Fixed Income Money Markets and Derivatives Association (FIMMDA). During the 1990s, a number of bench mark indices like MIBID/MIBOR, I-Bex, Zero Coupon Yield Curve (ZCYC) have developed. The major reforms planned include strengthening and modernising legislative framework through a Government Securities Act, setting up a debt clearing corporation to undertake clearing and settlement of transactions in government securities, and switching over to order-driven screen-based trading in government securities on the stock exchanges to

impart efficiency and transparency. These are in various stages of implementation and are expected to make Indian debt market more vibrant and liquid.

Research in Securities Market

In order to deepen the understanding and knowledge about Indian capital market, and to assist in policy-making, SEBI has been promoting high quality research in capital market. It has set up an in-house research department, which brings out working papers on a regular basis. In collaboration with NCAER, SEBI brought out a 'Survey of Indian Investors', which estimates investor population in India and their investment preferences. SEBI has also tied up with reputed national and international academic and research institutions for conducting research studies/projects on various issues related to the capital market. In order to improve market efficiency further and to set international benchmarks in the securities industry, NSE administers a scheme called the NSE Research Initiative with a view to develop an information base and better insight into the working of securities market in India. The objective of this initiative is to foster research, which can support and facilitate (a) stock exchanges to better design market micro-structure, (b) participants to frame their strategies in the market place, (c) regulators to frame regulations, (d) policy makers to formulate policies, and (e) expand the horizon of knowledge. The Initiative has received tremendous response. The Society for Capital Market Research and Development has been doing field surveys to facilitate understanding of the market.

Testing and Certification

The intermediaries, of all shapes and sizes, who package and sell securities, compete with one another for the chance to handle investors/issuers' money. The quality of their services determines the shape and health of the securities market. The development of capability of the intermediaries for providing professional services has been left, by and large, to market forces. In developed markets and in some of the developing markets, this is ensured through a system of testing and certification of persons joining market intermediaries in the securities market. This sort of arrangement ensures that a person dealing with financial products has a minimum standard of knowledge about them, market and regulations so as to assist the customers in their dealings. This allows market participants and intermediaries to build their own tailored staff development strategies and improves career prospectus of certified professionals, while maintaining and enhancing the confidence of the investors in the market.

A testing and certification mechanism that has become extremely popular and is sought after by the candidates as well as employers is an unique on-line testing and certification programme called National Stock Exchange's Certification in Financial Markets (NCFM). It is an on-line fully automated nation-wide testing and certification system where the entire process from generation of question paper, invigilation, testing, assessing, scores reporting and certifying is fully automated — there is absolutely no scope for human intervention. It allows tremendous flexibility in terms of testing centres, dates and timing and provides easy accessibility and convenience to candidates as he can be tested at any time and from any location. It tests practical knowledge and skills, that are required to operate in financial markets, in a very secure and unbiased manner, and certifies personnel who have a proper understanding of the market and business and skills to service different constituents of the market.

It aims to develop capability in a niche area like depository operations or derivatives trading where the person intends to render service. Accordingly it offers a

comprehensive range of modules covering many different areas of financial services. It offers, inter alia, eight securities market-related modules. About 15,000 personnel have been certified in these modules.

The above reforms have come in stages. As some deficiency is noted or some malpractice surfaces in the working of the market, the authorities initiate further reforms and corrective steps. As such, the process of reform in the securities market is far from complete. At the same time the reforms undertaken so far have aimed to improve operational and informational efficiency in the market by enabling the participants to carry out transactions in a cost effective manner and providing them with full, relevant and accurate information in time. A number of checks and balances have been built up to protect investors, enhance their confidence and avoid systemic failure of the market. Stability of the system as a whole has been protected by allowing for contestability of the market and imposing entry criteria for issuers and intermediaries. Financial integrity of the market is ensured by prudential controls on intermediaries.

Assessment of Reforms

The securities market is growing exponentially. The number of investors and issuers has increased many times. A wide range of instruments are available. The market structure and design has undergone a sea change. The extensive reforms introduced over the last few years have enhanced the integrity, transparency and efficiency of the operations of the securities market. The spreads have dropped by a factor of 10 and volumes have risen hundred fold in respect of many shares.

Volumes and Efficiency

The growth of the market in terms of volumes issued, traded, and settled, as may be seen from Tables 1.12, 1.13 and 1.14, indicate huge success of the reforms. The improvements in regulatory framework, market micro-structure and competitive environment reduced costs of transactions as may be seen from Table 1.16A. It has reduced from >4.75% in 1994 to 0.6% in 1999. The counter party risk has disappeared. The post-trade operational efficiency, in terms of settlement, safekeeping and operational risk, has also improved drastically, as may be seen from Table 1.16B.

The reforms have transformed market practices, sharply lowered transaction costs and improved market efficiency in equity market. The advances in institutional arrangements in equity market since 1994, as analysed by Prof. Ajay Shah in an international journal, is presented in Table 1.17. The reforms have, however, not yet yielded a liquid and efficient debt market. The debt market has seen only two major changes, namely, the size of the market has increased thanks to increasing fiscal deficit and trade-for-trade settlement takes place through a computerised SGL. The changes in the market design in both debt and equity markets between 1994 and 2001 are presented in Table 1.18.

At the same time the market is still plagued by high volatility and price manipulations. The 1990s witnessed a series of episodes which included Harshad (1992), M. S. Shoes (1991), Sesa Goa (1995), Rupangi Impex and Magan Industries Limited (1995), CRB (1997), BPL & Videocon (1998), Ketan (2001). Of the 68 cases taken up by SEBI for investigation during 2000–01, 47 related to price manipulation and price rigging. A High-to-Low ratio of 2-3 during a year is observed in a large number of securities, including index scrips, indicating that the share prices rise to more than double or fall to less than half during a year. Such high fluctuations point at divergence of prices from its fundamentals.

Table 1.16A. Reduction of Transaction Costs

Transaction Cost	1994	1999	Global Best
Trading (%)			
Fees	2.50	0.25	0.25
Impact Cost	0.75	0.25	0.20
Clearing			
Counter Party Risk	Present	Nil	Nil
Settlement (%)			
Paper work	0.75	0.10	0.00
Bad Delivery	0.50	0.00	0.00
Stamp Duty	0.25	0.00	0.00
Total (%)	> 4.75	0.60	0.45

Source: SEBI.

Table 1.16B. Settlement Efficiency

(Scores out of 100)

Benchmark	1994	1999	2000
Settlement	8.30	41.90	59.64
Safekeeping	71.80	78.10	81.86
Operational Risk	28.00	43.60	51.44

Source: S&P Emerging Stock Markets Factbook 2001.

IOSCO Principles

Reforms in the securities market, particularly establishment and empowerment of SEBI, screen-based nation-wide trading, dematerialisation and electronic transfer of securities have greatly improved the regulatory framework and efficiency of trading and settlement. However, the markets fall short of International Organisation of Securities Commissions (IOSCO) standards, which are international benchmarks for soundness of securities regulations, as may be seen from Table 1.19. Further, there is a wide disparity in the level of compliance by different market segments as well as different market participants. While some are fully compliant, others are in various stages of compliance.

The key areas where substantial improvements are needed to fully comply with IOSCO principles are: greater clarity and improvement of SEBI's authority and powers (principles 1, 3 and 9); SRO's ability to regulate their members (principle 6); bringing UTI under SEBI's regulation (principles 18, 19 and 20); improved professional standards for licensing brokers and sub-brokers (principles 21 to 24); and improvement of risk management in clearance and settlement, in particular, under application of rolling settlement (principles 29 and 30).

Table 1.17. Changes in India's Equity Market

	Criticism as of 1994	Status as of 2000
1.	The markets are illiquid.	From the late 1995 onward, market liquidity has been quite strong. Transactions for Rs.4 million ($95,000) of the S&P CNX Nifty index take place at a one-way market impact cost of 0.2%. The major, most liquid stocks allow transactions on NSE of Rs. 100 million ($2.4 million) with market impact cost under 1%.

Continued

	Criticism as of 1994	Status as of 2000
2.	There are fragile clearing systems, which collapse into payments crises every now and then.	Trades through NSCCL, a modern futures clearing corporation, are free of credit risk. NSCCL has not failed on pay-outs from inception, *i.e.*, June 1996 onwards. However, systemic breakdowns on other exchanges do take place (*e.g.*, BSE in June 1998).
3, 4.	The settlement procedures have major problems including delays and back office costs involved in dealing with physical paper, and a thriving business in counterfeiting share certificates.	NSDL, a modern depository based on dematerialisation, commenced operations in December 1996. For stocks accounting for 80% of the market capitalisation of India, over 75% of settlements are now completed electronically.
5.	The markets suffer from the rampant insider trading and market manipulation, with little effective regulation.	Little has been done on insider trading. There are now certain checks on market manipulation, such as price limits and capital adequacy requirements. Major stocks are highly liquid, which has greatly increased the cost of manipulative activities, but the enforcement and punishment of manipulative activities (*e.g.*, those seen in BSE crisis of June 1998) is weak.
6.	The equity market suffers from bizarre forms of leveraged trading (badla) on the cash market.	Badla is absent on the largest market, the NSE, but persists on the BSE, although NSE continues to use futures-style settlement instead of rolling settlement. A conversion to rolling settlement may take place soon (since commenced).
7.	The brokerage industry is a cartel with high brokerage fees.	The rise of NSE has led to 1,000 new brokerage firms coming into the business. This has led to a sharp fall in brokerage rates. NSE has an open entry policy. Any firm that puts up adequate collateral can become a brokerage firm.
8.	Securities lending is absent.	A stock lending facility began in early 1999 at NSCCL.
9.	India lacks formal derivatives markets that can be used for hedging and speculation.	The dollar rupee forward market can be used by foreign investors for currency hedging. An index futures market could commence operations soon (since commenced).

Source: Changing Liquidity in the Indian Equity Market, Emerging Markets Quarterly, Summer 2000.

Table 1.18. Elements of Market Design in India's Securities Market, 1994 and 2001

Sl. No.	Feature	Equity Market		Debt Market	
		1994	2001	1994	2001
1.	Product Standardisation	Adequate standardisation.	Unchanged. Many new products added.	Adequate standardisation.	Unchanged. New Products added.
2.	Aggregation and revelation order flow	Fragmented market through geographical distance and through phone market. Order flow unobserved.	Order flow observed on nationwide exchanges(s). Fragmentation across exchanges and phone market persists, to a smaller extent.	Fragmented market through geographical distance and through phone market. Order flow unobserved.	Unchanged. A large portion of trades are reported at WDM of NSE. A screen based negotiated dealing system is under development.

Continued

Sl. No.	Feature	Equity Market		Debt Market	
		1994	2001	1994	2001
3.	Intermediaries	Broker dealers, fraught with agency problems, Oligopolistic pricing.	Brokers, with much reduced agency problems. Competitive pricing. A certified accreditable and qualified intermediary network available.	Broker/dealers, fraught with agency problems.	Unchanged.
4.	Anonymity	Absent.	Complete.	Absent.	Unchanged.
5.	Counterparty risk	Present.	Absent on NSE.	Present.	Unchanged. A Clearing Corporation is being set up.
6.	Settlement	Purely paper.	Mostly demat.	Purely paper.	Purely through depository (SGL).
7.	Derivatives Trading	Absent.	Available.	Absent.	Limited availability.

Table 1.19. Status of Implementation of IOSCO Standards

	Principles	Status of Implementation
A.	**Principles relating to the Regulator**	
1.	The responsibilities of the regulator should be clear and objectively stated.	This has been achieved to a large extent through the SEBI Act 1992, which established SEBI and clothed it with responsibilities to protect the interest of investors and to promote the development of and to regulate the securities market. SEBI administers the Depositories Act, 1996. SEBI also exercises powers relating to securities market under the SCRA and the Companies Act con-currently with central government. The regulator and its staff enjoy legal protection for their bonafide acts in discharge of their functions and powers. The High Level Committee on Capital Markets co-ordinates securities market regulations. However, greater clarity in SEBI's regulatory authority and responsibilities is desirable. Fragmentation of the regulatory authority and responsibilities among Registrar of Companies (ROC), DEA, RBI and SEBI create confusion among the regulated.
2.	The regulator should be operationally independent and accountable in the exercise of its functions and powers.	SEBI is an autonomous body established under the SEBI Act, 1992. It has been vested with authority to discipline market participants and develop markets without any recourse to government. In the matters of policy only, government can issue directions to SEBI. In cases of grave emergencies or in public interest, SEBI can be superceded by the Central Government. The regulations framed by SEBI are laid before Parliament. SEBI is accountable to Parliament through Central Government. There is a system of judicial review of the decisions of SEBI.

Continued

	Principles	Status of Implementation
3.	The regulator should have adequate powers, proper resources and the capacity to perform its function and exercise its powers.	SEBI has powers of licensing, supervision, inspection, investigation and enforcement and to issue directions, impose monetary penalty, suspend/cancel certificates of registration, *etc.* Its powers to levey fees on intermediaries have been upheld by the Supreme Court. There is a need to suitably improve its authority and powers, and augment its resources and capacity in order to enable it to fulfil its mandate of investor protection. The stock exchanges may be authorised to bring in the listed companies into the purview of arbitration through listing agreement.
4.	The regulator should adopt clear and consistent regulatory processes.	In the formulation of policy, SEBI consults public and the regulated. The regulations framed by SEBI are published in the Gazette of India and also laid before each House of the Parliament.
5.	The staff of the regulator should observe the highest professional standards, including appropriate standards of confidentiality.	A code of conduct has been specified in the service regulations of SEBI. The staff members are required to undertake and declare fidelity and secrecy in terms of the regulations. The employees of stock exchanges follow a code of ethics.
B.	**Principles of Self-Regulation**	
6.	The regulatory regime should make appropriate use of SROs that exercise some direct oversight responsibility for the respective areas of competence to the extent appropriate to the size and complexity of the markets.	Under the SEBI Act, there is a provision for promotion and regulation of SROs. The law permits plurality of structures, models, styles, *etc.* of SROs. However, these have not developed appreciably. There are a few associations of market intermediaries like, AMFI, AMBI, who exactly do not regulate, though promote the activities of their members. The stock exchanges are empowered to make bye-laws, rules and regulations for their members and for regulating the conduct of respective members. The current ownership and governance structure of many stock exchanges does not seem adequate to deal with conflict of interest objectively. A few exchanges, on line with international trend, are working on to demutualise to avoid conflict of interest. The regulator needs to ensure that no conflict of interest arises in stock exchange.
7.	SROs should be subject to the oversight of the regulator and should observe standards of fairness and confidentiality when exercising powers and delegated responsibilities.	The SROs are under the direct oversight of SEBI, which periodically issues guidelines and directions to ensure safety, integrity and improvement of the market. SEBI also approves and amends the rules of SROs and inspects them to ensure that the rules are adhered to.
C.	**Principles for the Enforcement of Securities Regulation**	
8.	The regulator should have comprehensive inspection, investigation and surveillance powers.	SEBI has powers to require the provision of information, or to carry out inspections to ensure compliance with prescribed standards.
9.	The regulator should have comprehensive enforcement powers.	SEBI has power of inspection, investigation and enforcement and to issue directions, impose monetary penalty, suspend/cancel certificates of registration *etc.* It also has powers to obtain data, information, documents, statements and record from persons involved or having access to information relevant to enquiry. Action is taken on the basis of the report of the investigation and/or of the enquiry of adjudication officer.

Continued

	Principles	Status of Implementation
10.	The regulatory system should ensure an effective and credible use of inspection, investigation, surveillance and enforcement powers and implementation of an effective compliance program.	SEBI has established an effective and credible system of investigation, surveillance and enforcement in many areas including risk containment measures, uniform scrip specific price bands, development of stock watch system, suspension of intermediaries, prohibitive orders, *etc.*
D.	**Principles for Co-operation in Regulation**	
11.	The regulator should have authority to share both public and non-public information with domestic and foreign counterparts.	SEBI shares information with the Government of India, RBI and other domestic regulatory bodies on a periodic basis or as and when required. SEBI also shares information with its foreign counterparts.
12.	Regulators should establish information sharing mechanisms that set out when and how they will share both public and non-public information with their domestic and foreign counterparts.	Government, RBI and SEBI have been sharing information regularly depending on need. SEBI has also arrangement to share information with stock market regulators of other countries.
13.	The regulatory system should allow for assistance to be provided to foreign regulators who need to make inquiries in the discharge of their functions and exercise of their powers.	Powers of the regulator to assist foreign regulators or to enter into MOUs or other co-operation arrangements are not explicitly provided in the legislation. However, SEBI has arrangements for sharing of information with regulators overseas.
E.	**Principles for Issuers**	
14.	There should be full, timely and accurate disclosure of financial results and other information which is material to investors' decisions.	Disclosure extends to material having bearing on price of security, people who have significant interest in or who seek control of company, *etc.* Regulations try to achieve sufficiency and accuracy of information. The listing agreement with the stock exchanges requires all the listed companies to publish on an annual basis financial statements audited by an external auditor and unaudited quarterly results.
15.	Holders of securities in a company should be treated in a fair and equitable manner.	They are treated equitably. SEBI Takeover Code and the Companies Act contain provisions for protection of minority shareholders.
16.	Accounting and auditing standards should be of a high and internationally acceptable quality.	Financial statements are prepared and audited in accordance with the provisions of the Companies Act, 1956. There is, however, scope for improving these standards. The companies issuing securities abroad may be required to follow the same standards domestically as they do for issue of securities abroad. The regulator has prescribed corporate governance standards in the listing agreement and has also prescribed a number of accounting standards.
F.	**Principles for Collective Investment Schemes**	
17.	The regulatory system should set standards for the eligibility and the regulation of those who wish to market or operate a collective investment scheme.	Eligibility criteria in terms of networth, track record, internal management procedure have been specified in Regulations for Mutual Funds, Collective Investment Schemes and Venture Capital Funds. The regulations provide for registration and authorisation of scheme, inspection to ensure compliance, investigations and remedial action. UTI, the biggest mutual fund, is a statutory body corporate. Its management and governance structure is different from conventional collective investment schemes.

Continued

	Principles	Status of Implementation
18.	The regulatory system should provide for rules governing the legal form and structure of collective investment schemes and the segregation and protection of client assets.	Structure of collective investment schemes have been specified in respective regulations. The roles and responsibilities of asset management companies have also been clearly specified.
19.	Regulation should require disclosure, as set forth under the principles for issuers, which is necessary to evaluate the suitability of a collective investment scheme for a particular investor and the value of the investor's interest in the scheme.	Disclosure standards including format of offer document have been specified in the respective regulations. These aim to provide investors with sufficient information to know if the scheme is an appropriate investment vehicle for him and provide information on a timely basis in an understandable manner.
20.	Regulation should ensure that there is a proper and disclosed basis for assets valuation and the pricing and the redemption of units in a collective investment scheme.	Specific provisions have been made in respective regulations for asset valuation and pricing of units.
G.	**Principles for Market Intermediaries**	
21.	Regulation should provide for minimum entry standards for market intermediaries. Regulator should ensure that the public have access to relevant information concerning the licensee.	The eligibility criteria have been prescribed for the intermediaries by the regulator as well as SROs, which need to be fulfilled before granting registration. There is a need for phased introduction of testing and certification for people working for market intermediaries. The details such as track record of authorised intermediaries need to be made easily available to investors.
22.	There should be initial and on going capital and prudential requirements for market intermediaries that reflect the risks that the intermediaries undertake.	The entry norms for the intermediaries provide for the capital clause as well as the maintenance of the same on a continuing basis.
23.	Market intermediaries should be required to comply with standards for internal organisations and operational conduct that aim to protect the interest of clients, ensure proper management risk, and under which management of the intermediary accepts primary responsibility for these matters.	Regulations for intermediaries specify a code of conduct, which contains provisions to protect the interest of the clients and ensure proper management of risk. An intermediary is expected to observe high standards of integrity and fair dealing and act with due care and diligence in the best interests of its customers and integrity of the market. Every market intermediary appoints a compliance officer to ensure compliance with the prescribed standards.
24.	There should be a procedure for dealing with the failure of a market intermediary in order to minimise damage and loss to investors and to contain systemic risk. Regulator should ensure that there is proper ongoing supervision with respect to market intermediaries.	There are arrangements like Settlement/Trade Guarantee Funds and the Investor Protection Funds for dealing with the eventuality of failure by market intermediaries. The regulations provide for maintenance and inspection of records to ensure compliance with relevant requirements, investigatory and enforcement remedies, fair and expeditious process leading to discipline, *etc.* SEBI and SROs have developed mechanism for resolution of investor complaints.
H.	**Principles for the Secondary Market**	
25.	The establishment of trading systems including securities exchanges should be subject to regulatory authorisation and oversight.	The trading systems (stock exchanges) are regulated by a process of recognition and continued supervision by Central Government/SEBI under the SCRA. However, the trading systems like B2B, ECN, shareshop are not subject to regulatory authorisation.

Continued

	Principles	Status of Implementation
26.	There should be ongoing regulatory supervision of exchanges and trading systems which should aim to ensure that the integrity is maintained through fair and equitable rules that strike an appropriate balance between the demands of different market participants.	Fair and equitable rules have been framed by stock exchanges, SEBI and Central Government under the SCRA and SEBI Act for supervision of trading system and stock exchanges. The amendments to rules of the trading system are provided or approved by the regulator. Approval of the trading system is withdrawn by the regulator when it is determined that the system is unable to comply with the conditions of approval or with laws/regulations.
27.	Regulation should promote transparency of trading.	It has been mandated that all trades have to be executed only through on-line automated price and order matching mechanism of stock exchanges. The information relating to trading is available to public on real time basis. However, such transparency is completely absent in case of spot transactions and in transactions in debt securities.
28.	Regulation should be designed to detect and deter manipulation and other unfair trading practices.	Regulations have been framed to prevent insider trading, and fraudulent and unfair trade practices. Stock exchanges have been advised to set up surveillance departments which continuously monitor trading and launch inquiry whenever unusual and potentially improper trading occurs. It has been mandatory for all brokers to use unique client code for all clients.
29.	Regulation should aim to ensure the proper management of large exposures, default risk and market disruption.	Limits have been specified on turnover and exposure in relation to the base minimum capital, which a member keeps with exchange/clearing corporation. The exposure of members is monitored on real time basis. Members exceeding the limits are automatically and instantaneously disabled by the trading system. The clearing corporation assumes counter-party risk of each member. In the event of a failure of a trading member to meet settlement obligations, the settlement guarantee fund is used for successful completion of settlement. As clearing corporation guarantees financial settlement, it may have first lien over the assets of insolvent clearing members.
30.	Systems for clearing and settlement of securities transactions should be subject to regulatory oversight, and designed to ensure that they are fair, effective and efficient and that they reduce systemic risk.	The clearing corporation and the settlement guarantee fund guarantee settlement of net obligations of the members, reducing counterparty risk. Rolling settlement in all securities and clear separation of the spot and futures market would improve the efficiency and systemic stability of the equity markets substantially.

G-30 Recommendations

G-30 recommendations relating to securities clearance and settlement systems have been driving the securities market all over the world. These aim at reducing risk, improving efficiency and performing greater standardisation in international settlement. These cover a series of functions including trade matching, trade settlement and central depository activity. As may be seen from Table 1.20 which presents status of Indian securities market in terms of G-30 recommendations, the debt market is far away from these standards.

Table 1.20. Status of Implementation of G30 Recommendations

	Recommendations	Corporate Securities Market	Government Securities Market
1a.	All comparisons of trades between direct market participants (*i.e.*, brokers broker/dealers and other exchange member) should be accomplished by T+0.	It is no more relevant as trades are matched on the screen and matched trade details are linked to settlement system electronically. Hence trade comparison and confirmation are instantaneous.	Trades on stock exchanges are matched on T+0. In case of direct deals, trades are settled on T+0 or T+1. There is no comparison for OTC trades. There is no specific pre-settlement comparison.
1b.	Matched trade details should be linked to the settlement system.		
2.	Indirect market participants (such as institutional investors and other indirect trading counterparties) should achieve positive affirmation of trade details by T+1.	This has been largely achieved except for some FIIs who need T+2 as they operate in different time zones. Regulatory fiat can ensure its compliance.	There is no provision for affirmation of trades by indirect market participants.
3a.	Each country should have in place an effective and fully developed central securities depository, organised and managed to encourage the broadest possible direct and indirect industry participation.	There are in place two depositories which maintain and transfer ownership records in electronic form for the entire range of securities. The securities are held in dematerialised form. The systems are in place for smooth inter-depository transfer of securities. Over 99% of turnover settled by delivery is now being settled in demat form. The last budget has abolished stamp duty on transfer of debt securities. The dematerialisation of debt securities is expected to pick up.	Central bank acts as the central depository for all securities in demat form.
3b.	The range of depository eligible instruments should be as wide as possible.		
3c.	Immobilisation or dematerialisation of financial instruments should be achieved to the utmost extent possible.		
3d.	If several CSDs exist in the same market, they should operate under compatible rules and practices, with the aim of reducing settlement risk and enabling efficient use of funds and available cross-collateral.		
4a.	Each market is encouraged to reduce settlement risk by introducing either Real Time Gross Settlement or	There is a system of netting the obligations of members. However two major innovations are required to improve settlement efficiency and efficiency of fund use. First, the regulations should permit cross margining which takes into account a dealer's/portfolio holder's combined position in the cash and derivative segments and across all exchanges to reduce capital requirement of market constituents. Second, all obligations due for settlement on a day, irrespective of the product, should be netted and settled together to avoid multiple transaction flows.	RTGS and multilateral netting are planned.
4b.	A trade netting system that fully meets the "Lamfalussy-recommendations"		

Continued

	Recommendations	Corporate Securities Market	Government Securities Market
5.	Delivery based payment should be employed as the method of settling all securities transactions. DvP means simultaneous, final, irrevocable and immediately available exchange of securities and cash on a continuous basis through out the day.	Pay-in and pay-out take place on same day. In order for DvP to become a reality, it is necessary that clearing corporation participates in the RBI clearing.	There is DvP for transactions by wholesale participants. There is no DvP at the retail level.
6a.	Payments associated with the settlement of securities transactions should be made consistent across all instruments and markets by adopting the same day funds convention.	The pay-out is in the evening. While funds are credited to the account of the members, they may not be able to use them for other deals on the same day.	Since the settlement is on DvP basis, funds are immediately available.
6b.	Payments associated with the servicing of securities portfolios should be made consistent across all instruments and markets by adopting the same day funds convention.		
7a.	A rolling settlement system should be adopted by all markets.	Though account period settlement is followed for most of the securities, the market is gradually moving towards rolling settlement in phases. Rolling settlement on T+5 basis has been introduced in respect of about 400 major securities.	The participants have flexibility to decide the terms of settlement. Trades are settled by T+3, if desired by participants.
7b.	Final settlement for all trades should occur no later than T+3.		
8a.	Securities lending and borrowing should be encouraged as a method of expediting the settlement of securities transactions.	NSCCL was offering an automated nation-wide lending and borrowing of securities. This has now been banned.	No such formal mechanism is available. Market participants can, however, lend and borrow securities through repos.
8b.	Existing regulatory and taxation barriers that inhibit the practice of lending and borrowing of securities should be removed.	These have been removed. It has been clarified that the lending of securities would not be treated as transfer so as to attract the provisions relating to capital gains under the Income Tax Act.	
9a.	Each country should adopt the standard for securities message developed by the International Organisation of Standardisation (ISO Standard 7775).	Not yet adopted.	These are planned.
9b.	In particular, countries should adopt the ISIN numbering system for securities issues as defined in the ISO Standard 6166.	ISISNs have been issued by SEBI. ISIN numbering system is being used by exchanges and depositories for settlement of securities in demat form.	

Agenda for Future

ISSA Recommendations 2000

In addition to the standards prescribed by IOSCO and G-30, markets are expected to meet the International Securities Services Association (ISSA) Recommendations 2000 over the next five years. These recommendations have replaced G-30 recommendations in the light of changes in key risks in the clearing and settlement. These recommendations are:

1. *Governance:* Securities Systems have a primary responsibility to their users and other stakeholders. They must provide effective low cost processing. Services should be priced equitably.
2. *Technology — Core Processing:* Securities Systems must allow the option of network access on an interactive basis. They should cope with peak capacity without any service degradation, and have sufficient standby capabilities to recover operations in a reasonably short period within each processing day.
3. *Technology — Messaging and Standards:* The industry worldwide must satisfy the need for efficient, fast settlement by full adherence to the International Securities Numbering process (ISO 6166) and uniform usage of ISO 15022 standards for all securities messages. The industry should seek to introduce a global client and counterpart identification methodology (BIC-ISO 9362) to further facilitate straight through processing (STP). Applications and programmes should be structured in such a way as to facilitate open interaction between all parties.
4. *Uniform Market Practices:* Each market must have clear rules assuring investor protection by safe guarding participants from the financial risks of failed settlement and ensuring that listed companies are required to follow sound policies on corporate governance, transfer of economic benefits and shareholder rights.
5. *Reduction of Settlement Risk:* The major risks in securities systems should be mitigated by five key measures, namely:
    - the implementation of real delivery versus payment,
    - the adoption of a trade date plus one settlement cycle in a form that does not increase operational risk,
    - the minimisation of funding and liquidity constraints by enabling stock lending and borrowing, broad-based cross collateralisation, the use of repos and netting as appropriate,
    - the enforcement of scrip-less settlement,
    - the establishment of mandatory trade matching and settlement performance measures.
6. *Market Linkages:* Convergence of securities systems, both within countries and across borders, should be encouraged, where this eliminates operational risk, reduces cost and enhances market efficiency.
7. *Investor Protection:* Investor compliance with the laws and regulations in the home countries of their investments should be part of their regulators' due diligence process. Investors, in turn, should be treated equitably in the home country of their investments especially in respect to their rights to shareholder benefits and concessionary arrangements under double tax agreements.

8. *Legal Infrastructure:* Local laws and regulations should ensure that there is segregation of client assets from the principal assets of their custodian; and no possible claim on client assets in the event of custodian bankruptcy or a similar event. Regulators and markets, to further improve investor protection, should work:

    - to ensure clarity on the applicable law on cross border transactions,
    - to seek international agreement on a legally enforceable definition of finality in a securities transaction,
    - to ensure that local law fully protects the rights of beneficial owners,
    - to strengthen securities laws both to secure the rights of the pledgee and the protection accorded to client assets held in Securities Systems.

FIBV Vision

At the end of General Assembly of International Federation of Stock Exchanges (FIBV) held in early October 2000, the leaders in the securities market shared their vision about the future of the securities market. An overwhelming majority (96%) felt that despite globalisation of the market place, national/domestic exchanges would still have a role to play. It was felt by majority (65%) that the merger of exchanges will lead to a system of very few dominant players, thus marginalising small markets. Electronic Communication Networks (ECNs) and Alternative Trading Systems (ATSs) would be victims of their own success, bringing trading costs to an unsustainable level for them. 83% agreed that cross-border merger of exchanges would lead to similar cross-border mergers of clearing organisations and depositories. But majority (66%) disagreed that such merger of exchanges, clearing and settlement organisations would reduce competitive pressures leading to inefficiencies and higher costs. 81% of the leaders shared a view that STP could be achieved more easily if the exchange, clearing and settlement organisation and depository all belong to the same group of companies. Services would surpass trading and listing as the most important source of revenue for exchanges in five years, 51% felt. 62% of leaders shared a vision that more exchanges will be affiliated with technology companies in future. 65% recommended that internet trading should be regulated by the regulator in the jurisdiction where the trade was initiated. 80% felt that International Accounting Standards would over time become the global accounting standards for listed companies. These likely developments have profound implications for Indian securities market.

Securities Market Regulation

The Advisory Group on Securities Market Regulations set up by RBI has recommended certain measures to bring Indian securities markets in line with international standards. The key recommendations of the group are as follows:

(a) SEBI does not have adequate penal powers for enforcing securities regulation. Thus, there is a need to allow SEBI enhanced authority and powers to impose penalty commensurate with the gravity of the violation. There is also a need to streamline the procedures to quickly detect frauds and take appropriate remedial measures. Further, there is a need to enhance SEBI's scope for assisting foreign regulators or to enter into MOUs or other cooperation arrangements with regulators in other countries.

(b) For strengthening cooperation among regulatory authorities, the High Level Committee on Capital Markets comprising the RBI, SEBI, Insurance Regulatory and Development Authority (IRDA) and Finance Ministry should be formalised by giving it a legal status.

(c) For improving the role of stock exchanges as SROs, there is a need to eliminate the conflict of interest by demutualising these exchanges. This will promote fairness and reinforce investor protection. The Association of Mutual Funds in India (AMFI), FIMMDA and PDAI should be developed into full-fledged SROs.

(d) There is a need to shift from institution-specific regulation to market-specific regulation. There is a need to simplify and streamline the legal framework. In this context, consolidating the SCRA and the SEBI Act in line with the recommendations of the Dhanuka Committee will be very helpful.

(e) Even though wider availability of electronic funds transfer (EFT) is very important for switch-over to rolling settlement, the current payment infrastructure can support a faster phasing-in. RBI and SEBI should expedite their scrutiny of the recent recommendations made by the joint task force of IOSCO and Bank for International Settlements (BIS) on securities settlement systems, for early implementation.

(f) The depositories should promote retailing of government securities. The move towards this direction has already been initiated with RBI directing NSDL and CDSL to have a second SGL account for depository participants who in turn can hold in custody government securities on behalf of the final investors. This will facilitate holding of government securities in demat form.

(g) The market should have two clearing corporations in line with the international practice in contrast to the current Indian system of each stock exchange having its own clearing corporation or clearing bank. Such an arrangement would allow the clearing agency to have an overall view of gross exposures of traders across the stock exchanges and would be much better geared to manage risks.

(h) SEBI and RBI should quickly evolve a mechanism, which would seamlessly link the depositories with the payment system through the clearing corporation/clearing agency to ensure DvP.

(i) Bringing the UTI under SEBI's purview as well as the introduction and implementation of international accounting principles across the mutual fund industry will help promote fairness and stability of the sector.

Policy Debates [1]

This section as well as similar sections in the following chapters summarise on-going policy debates in market circles.

Exchange Related

Exchange Governance: Reforms focussed on reducing dominance of trading members in the management of stock exchanges by prescribing composition of governing council and strengthening the position of executive director. Such attempts (composition of governing council and strengthening of position of executive director) made for decades

[1] The views and approaches reflected in the policy debates are not necessarily of the NSE

to improve the working of the exchanges while retaining the basic structure has not yielded any appreciable result. The broker-managed exchanges continue to witness different types of malaise from time to time. The post-mortem of these has generally revealed complicity of elected directors. It has now been realised that there is no alternative to demutualisation. A complete overhaul — not just corporatisation, but also demutualisation — of the exchanges has been announced. This needs to operationalised soon.

Regional Exchanges: There was a time when we needed a large number of exchanges spread across the length and breadth of the country. In the changed on-line environment, while one large exchange could possibly be adequate to meet the demand for securities transactions in India, at least two or three would be essential to ensure competition. Others could explore mergers, alliances or other niche markets, which they can profitably serve. They could also consider providing non-exchange intermediation services.

Business Continuity Plan: NSE has established a disaster back-up site at Pune alongwith its entire infrastructure including the satellite earth station and the high speed optical fibre link with its main site at Mumbai. The site at Pune is a mirror replica of the complete production environment at Mumbai. The transaction data is backed up on near real time basis from the main site to the disaster back-up site through the 2 mbps high-speed link to keep both the sites all the time synchronised with each other. Such business continuity plans need to be replicated by all stock exchanges and depositories to provide uninterrupted service to investors.

Central Listing Agency: A security not found suitable for listing on an exchange gets listed on a different exchange, as they follow different criteria for listing securities. This creates an anomalous situation that a security, which is not found suitable for investors in one locality, is suitable for investors in another locality. It is, therefore, desirable that there is only one central agency, which considers all requests for listing and grants listing permission if it finds a security suitable for investors across the country. A security granted listing permission by the should be available for trading on all exchanges that do not waste resources in terms of duplication of efforts on listing and monitoring compliance. The security is monitored, and suspended and withdrawn from trading centrally by the listing agency. The investors and market participants get all the company-related information, which are mandatorily required to be filed by companies with stock exchanges or any other agency, at one central location preferably a web-site. This is all the more necessary as the exchanges get demutualised and in turn seek listing on exchanges.

Trading Related

Derivatives Trading: The derivatives trading in India has so far been introduced in a fairly limited range of products. Index futures and options are available only on two indices. Stock options have been introduced on a few securities. In order to provide wider option to market participants, new derivative products, such as stock futures, index futures/options on other popular indices, derivatives on exchange rate, interest rate or gold as the underlying could be introduced.

In the absence of a specific provision regarding taxability of income from derivatives, since derivative contracts are essentially cash settled, it is possible that these may be termed as speculative transactions and if so, any loss arising out of these trades will not be eligible for set off against any other income. Since derivatives are essentially hedging

instruments used by the investors to hedge against the potential loss, these must not be considered speculative transactions. These must, however, be taxed as normal business income.

Accounting issues relating to all types of derivatives need to be finalised. All types of market participants like MFs, FIIs should be permitted to trade in all types of derivatives. All securities should be traded only under rolling settlement.

Trading of MF Units: The market for units of MFs have not developed appreciably. The easiest way to develop the market for units of MFs is to consider them to be securities explicitly under the SCRA so that the regulatory framework applicable to trading of securities would also apply to trading of units of MFs and SEBI which has mandate to protect the interest of investors in securities, can protect the interest of holders of units of MFs.

Margin Trading: Margin trading is purchasing securities by borrowing a portion of the transaction value and using the securities in the portfolio as collateral. It is a form leveraged trading in the sense that backed by the collateral, one can buy assets, which are far greater in value than the value of the collateral. It thus leads to an increase in the purchasing/selling power of the participants and hence enables them to magnify their gains if the stock market moves on expected lines. In the absence of any leveraged trading, like MCFS and ALBM/BLESS, margin trading can address the liquidity concerns in the market.

Settlement Related

Clearing Corporation: The anonymous order book does not allow participants to assess the counterparty risk. It is, therefore, necessary that the exchanges use a clearing corporation to provide novation and settlement guarantee. NSCCL provides such novation for all trades executed on NSE. Similar facility should be provided for trades on other exchanges. It is not necessary that each stock exchange must have its own exclusive clearing corporation. It may be better if the stock exchanges use the services of a clearing corporation or a few clearing corporations, as they share the depository services. Such an arrangement allows the clearing corporation to have an overall view of gross exposure position of traders across the stock exchanges and is much better geared to manage the risk. However, to provide for necessary competition, it is essential that there are at least two clearing corporations, just as this has been ensured in the case of depositories.

The clearing corporation ensures financial settlement of trades on the appointed day and time irrespective of default by members to bring in the required funds and/or securities, with the help of a Settlement Guarantee Fund. This has revolutionised the volumes in the secondary market. It is important to keep improving the value of the Settlement Guarantee Fund by adding back all the accruals to the fund, subject to administrative expenses, to retain and build up the faith that the retail and foreign investment have reposed in the settlement mechanism. For this purpose, it is necessary to exempt the income of the Clearing Corporation from the purview of income tax.

As the clearing corporation guarantees financial settlement, it is necessary that it has first lien over the assets of insolvent clearing members.

It is meaningful for a clearing corporation to net all liabilities falling due on any given day for all types of settlement. As long as the clearing corporation is a centralised legal counter-party, risk management would dictate that it nets all obligations *vis-à-vis* each counter-party to itself.

Continuous Net Settlement (CNS): A migration from account period settlement to rolling settlement is inevitable, as was from floor trading to electronic screen trading. SEBI has mandated rolling settlement for about 400 major scrips from July 2001 and for all scrips from January 2001.

In the rolling settlement environment where the obligations are to be performed in a shorter period, there is greater likelihood of non-performance or inadequate performance in terms of delivery on the appointed day and time. CNS offers a facility to a member having a deliverable obligation and going short in delivery of securities on the pre-determined day and time, to make an alternate arrangement of obtaining delivery of securities so as to meet with the obligation on the succeeding settlement. Alternatively, a member may take a counter position on the succeeding trading day to create a receivable obligation in the succeeding settlement. This ensures that the unsettled obligation is added or merged with the settlement obligations of the succeeding day where on account of multilateral netting, there will be benefit of offsetting of deliverable obligations and thereby no settlement obligation on the succeeding day.

Funds Clearing: Settlement of trades requires smooth, preferably instantaneous, movement of securities and funds in accordance with the prescribed schedule of pay-in and pay-out. The securities can now move instantaneously since all the participants have accounts with either of the two depositories, which are connected to each other and are connected to the Exchanges. The movement of funds is not so instantaneous as only a few banks empanelled as clearing banks have the facility to transfer funds electronically. As participants have accounts in different banks at different places, movement of funds among participants invariably requires clearance through RBI's payment system. Further, the funds coming in and the funds going out of a clearing bank for settlement purposes rarely match requiring movement of funds from one clearing bank to another by using the RBI clearing system. This constrains same day pay-in and pay-out as well as funds do not reach the accounts of investors on the pay-out day from the accounts of the trading members. This can be facilitated if the clearing corporation directly participates in the RBI's clearing.

A radical, but enduring solution would be to provide for movement of funds related to securities transactions directly between clearing banks without recourse to RBI subject to prudential checks and balances. As inter-depository transfer of securities does not need to be cleared by any regulator/central depository/any other third entity, inter-bank transfer of funds related to securities transactions need not also be cleared through RBI. The movement of funds and securities would be synchronised if funds move among the clearing banks as securities move among the depositories.

Straight Through Processing (STP): It is necessary to introduce STP to eliminate settlement risks. Under this system, the selling client's DP account is checked as soon as broker gets sale order through the internet for securities balances and, similarly, buying client's bank account is checked for cash balances. Only if this check confirms availability of adequate balances of either stock or cash, the order is routed by the broker's trading terminal for trade execution. The limited availability of EFT and absence of RTGs are constraining NSE's endeavour in this regard.

Margining: In the interest of efficiency of resource use, it is meaningful to take into account a member/client's combined position across products/market segments (like, cash and derivatives markets) and across all exchanges. A clearing corporation should compute and levy a single net margin amount after netting positions of a member/client in different products/segments/exchanges. It should similarly allow a member/client

to take positions in different products/markets/exchanges as long as he does not exceed the permitted aggregate exposure.

VaR-based Margin: Starting with July 2, 2001, the margin requirements for scrips in the compulsory rolling settlement mode would be determined based on a scientific model, i.e. VaR model. The regulation, stated broadly, prescribes a scrip-wise 99% VaR to be computed as equal to 3.5 times the daily volatility of each scrip. Margins for each trading member is arrived at by summing up scrip-wise margins based on scrip-wise VaRs multiplied by their positions in each stock, and this margin would be applicable for transactions to be carried out in the next day. A limitation of this approach is that it treats the risk of a portfolio as equal to the sum of risks of each scrip in the portfolio, thereby ignoring the fact a portfolio is a diverse set of correlated positions. The risk of well-diversified portfolios is expected to be less than that of the sum of the risks of individual parts, and margins based on the latter will be too high for this portfolio, possibly adversely affecting the market activity.

Debt Market

Private Placement: The convenience of structuring of 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. The issues by private placement do not require prospectus, disclosures, or a rating. This route accounted for 91.3% of resources mobilised domestically by corporate sector during 2000–01. This development reflects regulatory arbitrage. If this route is to continue as a major source of resources, this requires to be subjected to regulatory discipline.

Asset Based Securitisation: The market for securitisation has not appreciably developed in India because of lack of legal clarity and conducive regulatory environment. A RBI Working Group has identified various impediments, *viz.*, lack of investor base, capital market infrastructure, regulatory framework, legal provisions, accounting and taxation issues and standardisation and recommended a number of measures for securitisation to take off in the country. The recommendations include rationalisation/reduction of stamp duties, inclusion of securitised instruments in the definition of 'securities' under the SCRA, removal of prohibition on investment in mortgage backed securities by mutual fund schemes, tax neutrality of Special Purpose Vehicle (SPV), *etc.* These recommendations need to be quickly translated into policy and regulations.

Derivatives: Interest Rate Swaps (IRSs)/Forward Rate Arrangements (FRAs) were introduced in June 1999 with a view to further deepening the money market as also to enable banks, PDs and FIs to hedge interest rate risks. However, these have not taken off on account of lack of benchmark rates for longer maturities and larger spreads in bid-offer rates, and the participation in this segment has remained restricted to a few foreign and private sector banks, PDs and all-India financial institutions.

ZCYC: Fixed income instruments, both government securities and corporate paper, constitute sizeable proportion of the investment portfolios of most financial sector entities. The change in the value of these portfolios arising out of shifts in the interest rate structure is of immense concern — both for the purpose of ascertaining the mark-to-market value of the portfolio and in view of concerns related to risk management. This in turn underscores the need for sound, consistent norms for valuation of fixed income instruments. This is provided by the ZCYC, also referred to as the term structure

of interest rates, which depicts the relationship between interest rates in the economy and the term to maturity.

On any particular day, the ZCYC is estimated using the present value (PV) relation. However, unlike in derivation of PVs using Yield-to-Maturity (YTMs), the discount rate used for computing the PV of each cash flow is the interest rate associated with the time to maturity of the given cash flow. Derivation of the entire set of interest rates requires prior specification of an interest rate–maturity relation (the model) that is estimated using market prices and corresponding PVs for all traded securities. Once estimated, the ZCYC can be used to derive the underlying 'fundamental' price of any fixed income instrument, including non-traded instruments, by discounting its cash flows using the interest rate for the associated 'time to cash flow'. Further, with interest rates being a function of maturity alone, cash flows due at the same time are discounted using the same rate even if they were due from two different instruments. The regulatory authorities should recommend use of ZCYC as an alternative to the YTM in setting valuation and risk management systems for fixed income portfolios.

Government Securities Market

In fact, it would be ideal if the existing infrastructure of the equity market for trading, clearing and settlement is used for government securities also. This would not only avoid the wastage of resources on account of re-building the wheel, but also reduce the gestation period. Government securities can trade alongside equities; debt derivatives can trade alongside equity derivatives; and the transactions in government securities can be cleared and settled alongside equity transactions. This would enhance operational efficiency.

Trading: The market would gain substantially in liquidity and efficiency if the trading framework of equity market were 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 government securities. 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. RBI has decided in principle to switch over to order-driven screen-based trading in government securities. A major change in the trading mechanism for debt market would occur when Negotiated Dealing System (NDS) system becomes operational. NDS would facilitate screen-based trading in various instruments like, call money, notice/term money, government securities, including treasury bills, repos, Certificates of Deposits (CDs) and Commercial Papers (CPs). It should provide an anonymous trading system.

Clearing & Settlement: The clearing and settlement arrangement in equity market needs to be replicated in the debt market. A clearing corporation which would provide nation-wide clearing and settlement of debt securities with standardised procedures, practices and settlement cycles is a must. The clearing corporation should use various risk containment measures such as, capital adequacy, exposure monitoring and margins to manage risk and thereby offer settlement guarantee. A significant development in this context is the decision to set up a clearing corporation for clearing of money, government securities and forex markets transactions. This needs to be operationalised soon.

Repo Transactions: In order to impart liquidity in the market for government securities, certain designated entities have been permitted to undertake among themselves repo transactions in treasury bills and dated securities. Specific entity needs approval of RBI. 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 counter-party risk for repos. As a result, the market is neither deep nor liquid. These issues need to be addressed.

STRIPS: Separate Trading of Registered Interest and Principal of Securities (STRIPS) involves stripping a conventional security into a number of zero coupon securities, which can be traded separately. As one underlying 10-year government security can be converted to 21 zero coupon securities, the breadth of the debt market would expand considerably. Increased supply of securities across maturities would provide a continuous market and consequently improve liquidity. The introduction of STRIPS in government securities would be a good bait for small investors, as these are comparable to other fixed income instruments, which are their favourites. Besides, it would allow the issuer to issue securities with long term maturity for any amount and allow stripping of these securities to meet the market appetite for short-term securities in convenient amounts. However, a few legal clarifications/relaxations are needed for issuance and trading of STRIPS. The Negotiable Instruments Act 1881 should permit the principal and the interest coupons to be uniquely identified as distinctive securities. Clarifications are required if the issuance and transfer of STRIPS, even though derived from government securities, would attract any stamp duty and at what rates. The applicability of income tax also needs to be clarified.

Regulatory Issues

Regulatory Jurisdiction: There are several statutes regulating different aspects of the securities market. These have caused a lot of confusion not only in the minds of investors, but also among the various agencies who administer these legislations. The greater the number of laws, the greater is the scope for inconsistency among them and greater is the possibility for regulatory overlaps and gaps.

There are also as many regulators as the number of laws. Many a powers are exercised concurrently by SEBI with government. A few powers under the SCRA are now concurrently exercisable by RBI also. As a result, the responsibility for supervision and development of the securities market is fragmented among different agencies. As the roles of various agencies overlap, there is scope for duplicate and inconsistent regulations.

The protection of the interests of investors requires consolidation of all laws relating to securities market into a single piece of legislation, preferably called the Securities Act, and assigning its administration to one agency. It would be better if a special mechanism, like consumer forum, is created to dispose of all investor grievances summarily. And this piece of legislation should prevail over general laws like, the Companies Act, the UTI Act, the Consumer Protection Act, the Contracts Act, *etc.* and the agency works in close coordination with regulators for other areas of financial market.

The securities market is an integral part of the economy. It has the potential to destabilise other sectors. It is therefore necessary that the penalty for offences in the securities market is deterrent. The first step in this regard is to make all the offences in the securities market cognisable, as a few offences under the SCRA are. It is desirable that an adjudicating officer tries all offences under the securities laws and

awards suspension/cancellation of registration and/or monetary penalties, while SEBI concentrates on developmental and regulatory work. The maximum penalties prescribed under the securities laws appear at times too low where it should have been high, and too high where it should have been low. In addition to rationalising the rates of penalty, these needs to be increased substantially, may be ten fold, as has been done recently under the Companies Act.

Quality Personnel: The confidence of the investors can be maintained and enhanced by making provision for professional intermediation services through a system of certification. Industry/SROs/Regulators have made a modest beginning, but not adequate, given the dimensions of the market. SEBI regulations, which lay down various requirements for registration as an intermediary, should specify certification as a mandatory requirement for persons joining market intermediaries. While this requirement should apply at the entry point for all new employees joining the intermediaries and all intermediaries joining the market, regulation may allow a breathing time for the existing intermediaries and employees to qualify the certification. These people should also be required to update their skills and expertise by seeking certification at intervals of five years. This would enhance the knowledge and skill of the intermediaries, who can, in turn, educate and guide the investors in securities and issuers of securities.

Disclosure about Intermediaries: An investor normally deals with securities through an intermediary, whose acts of omission and commission can cause loss to him. In order for the investor to choose the right intermediary through whom he may transact business, it may be useful to help him in taking informed decision by making details of intermediaries available to him. One way to do so would be to display details of SEBI-registered intermediaries on a web-site. The details may include the form of organisation, management, capital adequacy, liabilities, defaults and penal actions taken by regulator and self-regulatory organisations against the intermediary in the past.

Corporate Governance: Listing agreement is being used as the only means available for bringing about discipline in corporate sector, particularly when non-compliance with listing agreement can at best invite a penalty up to Rs. 1,000. Trading of securities can be suspended or withdrawn, but this becomes a penalty on the investor. If the corporate governance norms are to be implemented in all seriousness, the coercive mechanism for following listing agreements in letter as well as spirit has to be strengthened. SEBI has announced several measures with regard to corporate governance, which basically aim at strengthening disclosures by the company. The emphasis should now shift to quality of disclosures rather than quantity of disclosures.

Market Misconduct: Despite vast improvements in market design and consequently, the operational efficiency, the market remains vulnerable to crisis. The regulators and SROs need to strengthen their capability to detect unfair trade practices, investigate them expeditiously and award exemplary punishment to the miscreants. They need to have right quality and quantity of people to enforce securities laws.

2. Primary Market

The issuers issue fresh securities through public issues as well as private placement. The resources, raised by them from domestic as well as international markets, are presented in Table 2.1. During 2000–01, a total of Rs. 2,06,601 crore were mobilised by the government and corporate sector from the primary market through public issues and private placement. While Table 2.1 is based on RBI data, detailed analysis of various facets of public issues and private placement by corporates is based on data from SEBI and Prime Database respectively. This chapter presents developments in primary market for corporate securities, both equity and debt. The primary market for government securities and secondary market for debt securities is discussed in Chapter 6.

Table 2.1. Resource Mobilisation by Government and Corporate Sector

(Rs. crore)

Issues	1999–00	2000–01
Corporate Securities	72,450	78,118
Domestic Issues	68,963	73,921
Public Issues	7,704	6,421
Non-Govt. Public Companies	5,153	4,949
PSU Bonds	—	—
Govt. Companies	—	—
Banks & FIs	2,551	1,472
Private Placement	61,259	67,500
Euro Issues	3,487	4,197
Government Securities	113,336	128,483
Central Government	99,630	115,183
State Governments	13,706	13,300
Total	185,786	206,601

Source: RBI.

The public issues market for corporate securities remained subdued since 1995–96 due to discouraging global economic trends, depressed conditions in the secondary market, high real interest rates and stringent entry norms. This trend was further reinforced by low confidence of investors arising from unduly high premium charged on issues made in earlier years and disappearance of some of these issuers. The corporates are finding it more attractive to mobilise funds from the private placement market, which provides them flexibility in terms of time and cost involved in raising funds and is less heavily regulated than public issues market. The private placement dominated the primary corporate market, accounting for 91.3% of total resources mobilised domestically. Corporate entities mobilised Rs. 67,500 crore during 2000–01 through private placement, essentially through debt securities, with public sector units (PSUs) meeting their resource requirements exclusively through this route. The public sector entities accounted for 82.5% of total resource mobilisation by way of private placements, while private corporate sector accounted for 96.5% of total resource mobilisation by way of public issues. Thus, the private placement is dominated by the public sector and the pubic issues is dominated by private corporate entities. The government raised Rs. 1,28,483 crore from

the primary market in 2000–01 to meet its requirements, the detailed analysis of which is given in Chapter 6. If the amounts raised through private placement, public and rights issues, and government securities are added together, the resources raised during 2000–01 are fairly high.

Policy Developments

Various measures were initiated by the Government, RBI and SEBI since April 2000 to refine the market design of the primary market further and improve the market sentiments.

DIP Guidelines

The disclosure and investor protection (DIP) guidelines were revised to provide for the following:

Eligibility Norms

- Public issues of size upto 5 times the pre-issue net worth shall be allowed in case of an unlisted company only if it has a track record of profitability and net worth as specified in the guidelines.
- A listed company can make public issues not exceeding five times its pre-issue net worth.
- Companies not having track record or wishing to raise more than 5 times the pre-issue net worth shall be eligible to make the issue only through book building route. In such a case, 60% of the issue size shall be allocated to Qualified Institutional Buyers (QIBs).
- The above norms would also apply to an offer for sale.
- The companies wishing to offer only 10% of the post-issue capital to public, can access market only through book building.

Promoters' Contribution and Lock-in

- The promoter's contribution shall be kept in an escrow account with a scheduled commercial bank, which shall be released to the company along with the public issue proceeds.
- In case of an unlisted company, the entire pre-issue share capital, other than that locked-in as promoter's contribution, shall be locked-in for a period of 1 year from the date of commencement of commercial production or the date of allotment in the public issue, whichever is later. However, in case where the pre-issue share capital is held by Venture Capital Funds (VCFs) registered with SEBI, the lock-in would be in accordance to the SEBI (Venture Capital Funds) Regulation, 1996.

Expediting Issue Process

The lead merchant banker, while filing the offer document with SEBI, shall also file the same with the stock exchanges where the securities are proposed to be listed. An in-principle approval of the stock exchange shall be obtained within 15 days of filing of the offer document. Further, the formalities for listing and commencement of trading at all stock exchanges where securities are to be listed have to be done within 7 working days of finalisation on basis of allotment. The lead manager has to ensure that the despatch of the share certificates/refund orders/cancelled stock invests and demat credits is completed within 2 working days of the finalisation of the basis of allotment.

Preferential Allotment

The guidelines on preferential allotment were modified to provide for additional disclosures. It was stipulated that the notice for the general meeting shall state the object of the issue through preferential offer, intention of promoters/directors/key management persons to subscribe to the offer, shareholding pattern before and after the offer, proposed time within which the allotment shall be complete and the identity of the proposed allottees and the percentage of post preferential issue capital that may be held by them. The instruments allotted on preferential basis to any person including promoters/promoter group (except the allotments involving share swap for acquisition) will be locked-in for a period of one year from the date of their allotment.

Book Building

SEBI permitted 100% one-stage book building with bidding centres at all cities with stock exchanges. The allocation of 100% book building will be as follows:

(a) not more than 60% of the book built portion to be allocated to institutional investors, *i.e.*, banks, foreign institutional investors (FIIs), mutual funds (MFs) and other financial institutions (FIs) on a discretionary basis. The maximum bid by these categories is restricted to the investment limit prescribed in the respective Regulations/Guidelines as applicable to these institutions,

(b) at least 15% of the book built portion to be allocated on proportionate basis to non-institutional investors applying for more than 1,000 shares,

(c) the remaining 25% of the shares would be available to the small investors to be allocated on pro-rata basis.

Debenture Trustees Regulations, 1993

SEBI amended the SEBI (Debenture Trustees) Regulations, 1993, providing for:

(i) There should be an arm's length relationship between the issuer and the trustee. No debenture trustee shall act as such in case it is an associate of a body corporate or it has lent or proposes to lend money to the body corporate. A transition period of 2 years has been given for the existing assignment.

(ii) A debenture trustee shall enter into an agreement with the body corporate before the opening of the issue of debentures agreeing to create security in respect of debentures within the specified time.

(iii) Debenture trustee should ensure despatch of debenture certificates and refund orders.

Debenture trustee shall appoint nominee director on the board of the issuer company in case of default in payment of interest or default in the creation of security or redemption of debentures. The debenture trustee has to communicate to the debenture holders on a half yearly basis in respect of compliance of the terms of the debenture issue, default, if any, in payment of interest or redemption of debentures, *etc.*

Unsecured Debt Instrument

In order to provide a variety of debt instruments and to help development of the debt market, SEBI decided to allow the issue of unsecured/subordinated debt instruments. Companies can now issue unsecured/subordinated debt instruments/obligations, which are not public deposits under the Companies Act, 1956, provided that such issues are subscribed by QIBs or other investors who have given positive consent for subscribing to such unsecured/sub-ordinated debt instruments/obligations.

On-line IPOs

Companies can now make initial public offers (IPOs) through the on-line system of the stock exchanges or through the existing banking channel. The procedure of e-IPOs has been laid down in the DIP Guidelines. The guidelines for on-line issues will be applicable in respect of fixed price issues as well as for the fixed price portion of book-built issue. In this system, brokers would place 'buy' orders for shares in the primary issue on behalf of their clients and would transfer the valid order data to the registrars to the issue on a daily basis. On closure of the issue, the basis of allocation would be finalised and the allocation money paid to the clients. On receipt of the money, the broker would hand over the application forms and money to the exchange after adjusting for any margin money previously collected. On completion of the above formalities, the shares would be allotted to the applicants. This mechanism would reduce the time taken for completion of the issue process and the cost of issues. It would benefit the issuers by ensuring faster listing of securities, thereby enabling quicker access to the funds raised in the issue.

Listing of Debt before Equity

Companies can issue and list debt securities to the public without listing equity subject to fulfillment of certain conditions that the securities have investment grade credit rating; they maintain same standard of continuing disclosures; promoters contribute 20%; and the same are locked-in for 3 years, *etc.* This facility was earlier available in respect of debt securities of infrastructure companies and municipal corporations and is now extended to all companies.

Companies (Amendment) Act, 2000

The Companies Act was amended to provide for the following:

(i) Minimum paid up capital shall be Rs. 1 lakh for private companies and Rs. 5 lakh for public companies.

(ii) The equity shares may be issued with voting rights or with differential rights as to dividend, voting or otherwise.

(iii) Every public listed company making IPO of any security for Rs. 10 crore or more shall issue the same only in dematerialised form.

(iv) Offer of shares/debentures to more than 50 persons shall be treated as made to the public.

(v) The provisions contained in sections 55 to 58, 59 to 84, 108, 109, 110, 112, 113, 116, 117, 118, 119, 120, 121, 122, 206, 206A and 207, in so far as they relate to issue and transfer of securities and non-payment of dividend shall be administered by SEBI in case of listed public companies, and in case of those public companies which intend to get their securities listed on any recognised stock exchange in India. In any case, these shall be administered by the Central Government. All powers relating to all other matters including the matter relating to prospectus, statement in lieu of prospectus, return of allotment, issue of shares and redemption of irredeemable preference shares shall be exercised by the Central Government, Company Law Board or the Registrar of companies, as the case may be.

Union Budget 2001–02

While moving the Finance Bill 2000–01 for consideration, the Finance Minister announced that the shares received by employees under employees stock option plan

would not be regarded as perquisites and would be taxed only as capital gains at the time of sale.

To help revive investor interest in primary issues, the Union Budget of 2001–02 proposed to exempt long term capital gains arising from the sale of securities and units if such gains are reinvested in primary issues of shares of public companies.

Market Design

The market design for primary market is provided in the provisions of the Companies Act, 1956, which deals with issue, listing and allotment of securities. In addition, securities laws prescribe a series of disclosures about issuer, promoter, management, project, risk factors and eligibility norms for accessing the market. However, in this section, the market design as provided in securities laws has been discussed.

DIP Guidelines, 2000

The issues of capital to public by Indian companies are governed by the Disclosure and Investor Protection (DIP) Guidelines of SEBI, which were issued in June 1992. SEBI has been issuing clarifications to these guidelines from time to time aiming at streamlining the public issue process. In order to provide a comprehensive coverage of all DIP guidelines, SEBI issued a compendium series in January 2000, known as SEBI (DIP) Guidelines, 2000. The guidelines provide norms relating to eligibility for companies issuing securities, pricing of issues, listing requirements, disclosure norms, lock-in period for promoters' contribution, contents of offer documents, pre- and post-issue obligations, *etc.* The guidelines apply to all public issues, offers for sale and rights issues by listed and unlisted companies.

Eligibility Norms

Any company issuing securities through the offer document has to satisfy the following conditions:

- A company making a public issue of securities has to file a draft prospectus with SEBI, through an eligible merchant banker, at least 21 days prior to the filing of prospectus with the Registrar of Companies. The filing of offer document is mandatory for a listed company issuing security through a rights issue where the aggregate value of securities, including premium, if any, exceeds Rs. 50 lakh. A company cannot make a public issue unless it has made an application for listing of those securities with stock exchange(s). The company must also have entered into an agreement with the depository for dematerialisation of its securities.
- An unlisted company can make public issue, on fixed price basis or on book building basis, provided it has a pre-issue net worth of not less than Rs. 1 crore in 3 out of the 5 preceding years and has minimum net worth in immediately preceding 2 years. The company should also have a track record of distributable profits in terms of section 205 of the Companies Act, 1956, for at least 3 out of the preceding 5 years. Further, the issue size should not exceed five times its pre-issue net worth. A listed company is eligible to make a public issue, on fixed price basis or on book building basis, if the issue size does not exceed five times its pre-issue net worth. If the company does not meet the above criteria, then the issue will have to be compulsorily made through book building route. In such a case, 60% of the issue size will have to be allotted to the 'Qualified Institutional Investors'. If the company wishes to issue

only 10% of post issue capital to public, it can be made only through book building with allocation of 60% of the issue to QIBs.

- Infrastructure companies are exempt from the requirement of eligibility norms if their project has been appraised by a public FI and not less than 5% of the project cost is financed by any of the institutions, jointly or severally, by way of loan and/or subscription to equity.
- For public and rights issues of debt instruments of maturities more than 18 months, it is mandatory to obtain credit rating from a registered credit rating agency (CRA) and to disclose the same in the offer document. If the credit rating is obtained from more than one CRA, all the credit ratings, including the rejected ones, need to be disclosed.

Thus the quality of the issue is demonstrated by track record, appraisal by approved FIs, credit rating, and subscription by QIBs.

Pricing of Issues

The companies eligible to make public issue can freely price their shares in cases of public/rights issues by listed companies and public issue by unlisted companies. In addition, eligible infrastructure companies can freely price their equity shares subject to compliance of disclosure norms of SEBI. The public and private sector banks can also freely price their shares subject to approval by RBI. A company may issue shares to applicants in the firm allotment category at higher price than the price at which securities are offered to public. Further, an eligible company is free to make public/rights issue in any denomination determined by it in accordance with the Companies Act, 1956 and SEBI norms.

Contribution of Promoters and Lock-in

The promoters' contribution in case of public issues by unlisted companies and promoters' shareholding in case of 'offers for sale' should not be less than 20% of the post-issue capital. In case of public issues by listed companies, promoters should contribute to the extent of 20% of the proposed issue or should ensure post-issue holding to the extent of 20% of the post-issue capital. For composite issues, the promoters' contribution should either be 20% of the proposed public issue or 20% of the post-issue capital.

For any issue of capital to the public, the minimum promoter's contribution is locked in for a period of 3 years. The locked-in securities held by promoters may be pledged only with banks or FIs as collateral security for loans granted by such banks or FIs.

Issue Obligations

The lead merchant banker plays an important role in the pre-issue obligations of the company. He exercises due diligence and satisfies himself about all aspects of offering and adequacy of disclosures in the offer document. Each company issuing securities has to enter into a Memorandum of Understanding with the lead merchant banker, which specifies their mutual rights, liabilities and obligations relating to the issue. In case of under-subscription of an issue, the lead merchant banker responsible for underwriting arrangements has to invoke underwriting obligations and ensure that the underwriters pay the amount of devolvement. All the other formalities related to post-issue obligations like, allotment, refund and despatch of certificates are also taken care by the lead merchant banker.

Book Building

Book building is a price discovery mechanism used by the corporates issuing securities. An issuer company proposing to issue capital through book building has two options, *viz.*, 75% book building route and 100% book building route. The 75% book-building route is available to all body corporates who are otherwise eligible to make an issue to the public. In case this route is followed, the issue size shall not be less than Rs. 100 crore and underwriting shall be mandatory to the extent of the net offer to the public. The prospectus should indicate the price band within which the securities are being offered for subscription. The balance 25% of the issue will be issued at the fixed price (fixed price portion) to individual investors applying for up to 1,000 shares. The issue price for the book built portion and the fixed price portion shall be the same. If 100% book building route is adopted, the size of issue has to be at least Rs. 25 crore and the issue has to be fully underwritten. The book built portion shall be allotted in demat form only. Book building shall be for the portion other than the promoters' contribution. Not more than 60% of the book built portion can be allocated to institutional investor, not less than 15% on proportional basis to non-institutional investors applying for more than 1,000 shares and the remaining 25% to small investors on prorata basis.

In addition to the above, the DIP guidelines also provide details of the contents of the offer document and advertisement, other requirements for issues of securities, like those under Rule 19(2)(b) of Securities Contracts (Regulation) Rules, 1957 (SCRR). The guidelines also lay down detailed norms for issue of debt instruments, issue of capital by designated FIs, and preferential/bonus issues.

Credit Rating

Credit rating is governed by the SEBI (Credit Rating Agencies) Regulations, 1999. 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 FIs, scheduled commercial banks, foreign banks operating in India, foreign credit rating agencies recognised 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 are required to have a minimum net worth of Rs. 5 crore. 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 (i) a security issued by its promoter, (ii) 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, and (iii) 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. 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. CRAs would have to carry out periodic reviews of the ratings given during the lifetime of the rated instrument.

Merchant Banking

The merchant banking activity in India is governed by SEBI (Merchant Bankers) Regulations, 1992. All merchant bankers have to be registered with SEBI. The details about them are presented in the following table:

Category of Merchant Banker	Permitted Activity	Net worth (Rs. crore)	Number as on March 31, 2001
Category I	To carry on any activity of the issue management, and to act as adviser, consultants, manager, underwriter and portfolio manager	5.00	162
Category II	To act as adviser, consultant, co-manager, underwriter and portfolio manager	0.50	—
Category III	To act as underwriter, adviser, and consultant to an issue	0.20	35
Category IV	To act as adviser or consultant to an issue	Nil	35

The person applying for certificate of registration as merchant banker has to be a body corporate other than a non-banking financial company, has necessary infrastructure, and has at least two persons in his employment with experience to conduct the business of the merchant banker. The applicant has to fulfill the capital adequacy requirements, with prescribed minimum net worth. The regulations specify the code of conduct to be followed by merchant bankers, responsibilities of lead managers, payments of fees and disclosures to SEBI. They are required to appoint a Compliance Officer, who monitors compliance requirements of the securities laws and is responsible for redressal of investor grievance.

On-line IPOs

A company proposing to issue capital to public through on-line system of the stock exchange has to comply with Section 55 to 68A of the Companies Act, 1956 and DIP Guidelines. The company is required to enter into an agreement with the stock exchange(s), which has the requisite system for on-line offer of securities. The agreement should cover rights, duties, responsibilities and obligations of the company and the stock exchanges inter-se, with provision for a dispute resolution mechanism between the company and the stock exchange. The issuer company has to appoint brokers, and a Registrar to the Issue having electronic connectivity with the stock exchanges. The issuer company can apply for listing of its securities at any exchange through which it offers its securities to public through on-line system, apart from the requirement of listing on the regional stock exchange. The lead manager would co-ordinate all the activities amongst various intermediaries connected in the system.

Demat Issues

As per SEBI mandate, all new IPOs will have to be compulsorily traded in dematerialised form. The admission to a depository for dematerialisation of securities has been made a prerequisite for making a public or rights issue or an offer for sale. The investors would, however, have the option of either subscribing to securities in physical form or dematerialised form. The Companies Act, 1956 requires that every public listed company making IPO of any security for Rs. 10 crore or more shall issue the same only in dematerialised form.

Private Placement

The private placement involves issue of securities, debt or equity, to a limited number of subscribers, such as banks, FIs, MFs and high net worth individuals. It is arranged

through a merchant/investment banker, who acts as an agent of the issuer and brings together the issuer and the investor(s). On the presumption that these are allotted to a few sophisticated and experienced investors and the public at large don't have much stake in it, the securities offered in a private placement are exempt from the public disclosure regulations and registration requirements of the regulatory body. What distinguishes private placement from public issues is, while the latter invite application from as many subscribers, the subscriptions in the private placement are normally restricted to a limited few. In terms of the Companies Act, 1956, offer of securities to more than 50 persons is deemed to be public issue.

Virtual Debt Portals

The private placement of debt as well as transactions in debt securities are generally effected through opaque negotiations. The result is inefficient price discovery, fragmented market, low liquidity, poor disclosures and ineffective audit trails. To counter these, the year witnessed launch of two B2B portals, namely *debtonnetindia* and *riskexpress* to provide a secure, anonymous, neutral and flexible transactional platform for issue and trading of fixed income instruments. To compliment its developmental efforts for debt market, ILFS, jointly with NSE, floated the B2B portal *debtonnetindia* to serve the requirements of private placement market for debt instruments. This B2B web-enabled market place for primary issuance of debt securities provides investors and brokers similar levels of efficiency and transparency on the primary market segment as exchange system provides for secondary market in debt. The *riskexpress*, on the other hand, provides both secondary and primary market platform. Quality issuers are using this e-infrastructure. During the year, 27 primary issues were hosted on the *riskexpress* platform.

Market Outcome

Public Issues

The resource mobilisation from the primary market by way of IPOs and new issues by listed companies declined to Rs. 6,108 crore through 151 issues during 2000–01 from Rs. 7,817 crore mobilised through 93 issues during the preceding year, according to SEBI data. During April–June 2001, a total of Rs. 456 crore were raised through 3 issues (Table 2.2). As compared to an increase of 39.9% during 1999–00, the resource mobilisation declined by 21.9% during 2000–01. During April–June 2001, the resource mobilisation declined by 23.9% over the corresponding period of previous year. Public issues (by listed companies and IPOs) contributed 88% and 89% of total resources raised during 2000–01 and April–June 2001 respectively, while the rest was by way of rights issues. The comparative share of public issues in total resource mobilisation during 1999–00 was 80%. This indicates a preference by the companies to issue capital to general public rather than to existing shareholders.

It is also observed from Table 2.2 that listed companies mobilised Rs. 3,385 crore through 37 issues during 2000–01, accounting for 55.4% of the resources, while there were 42 issues by listed companies for Rs. 5,098 crore during 1999–00 with their share being 65.3%. There was a marked increase in the number of IPOs during 2000–01 to 114 from 51 during the previous year, with their share in total resources raised increasing to 44.6% from 34.8%. The share of IPOs in resource mobilisation was, however, quite low at 1.1% during April–June 2001.

During 2000–01, there were 18 mega issues (Rs. 100 crore and above) accounting for 73.4% of resources raised as against 19 such issues accounting for 77.2% of resources

Table 2.2. Resource Mobilisation from Public Issues

(Amount in Rs. crore)

	1999–00		2000–01		April–June 2001	
Issue	Number	Amount	Number	Amount	Number	Amount
IPOs	51	2,719	114	2,722	1	5
Issues by Listed Companies	42	5,098	37	3,385	2	451
Public Issues	14	3,538	10	2,656	1	400
Rights Issues	28	1,560	27	729	1	51
Total	93	7,817	151	6,108	3	456

Source: SEBI.

raised in the preceding year. The number of mega-issues as well as the average size of mega-issues was lower during 2000–01 as compared to the previous year. The average size of all issues taken together declined to Rs. 44 crore during 2000–01 from Rs. 84 crore during 1999–00, due to a decline in the average size of mega-issues and also due to increase in the number of smaller-size issues. There were 66 issues below Rs. 5 crore during 2000–01 as against 19 issues below Rs. 5 crore during 1999–00. During April–June 2001, there were no mega-issues.

Most of the new issues of capital were by private sector companies, which made 148 issues and mobilised 96.5% of total resources during 2000–01. The private sector mobilised 97.3% to total resources mobilised during 1999–00. The entire amount of Rs. 456 crore during April–June 2001 was mobilised by the private sector (Table 2.3).

Table 2.3. Sector-wise Distribution of Resources Mobilised

(Amount in Rs. crore)

	1999–00		2000–01		April–June 2001	
Sector	Number	Amount	Number	Amount	Number	Amount
Private	90	7,603	148	5,893	3	456
Joint	1	14	0	—	0	—
Public	2	200	3	215	0	—
Total	93	7,817	151	6,108	3	456

Source: SEBI.

As per data available from Prime Database, the response to public issues appears to have worsened substantially during 2000–01 (Table 2.4). Only 5% of issues were subscribed over ten times during 2000–01, while 53% of the issues were subscribed over ten times in 1999–00. The most subscribed issue during 2000–01 was by Vantel Technologies Ltd., which was over-subscribed 58 times. 67% of the public issues failed to elicit adequate response (<1.5 times) during 2000–01, as compared to only 20% of issues being subscribed less than 1.5 times during 1999–00.

Traditionally, debentures have dominated the public issues. However, no clear trend is visible in the recent past. The share of debt in resource mobilisation through public issues increased from 27.6% in 1995–96 to 84.7% in 1998–99, but declined sharply to 41.6% in 1999–00 (Table 2.5). The year 2000–01, however, witnessed an increase in share of debt to 47.2%.

Banks and FIs garnered 51.4% of the total amount raised during 2000–01 as against 51.7% during the preceding year. IT sector companies mobilised only 13.2% of resources during 2000–01 as against 19.8% during 1999–00. The share of telecom sector in resource mobilisation increased sharply from 1.0% in 1999–00 to 15.1% in 2000–01. During April–June 2001, banks and FIs together accounted for 87.7% of resource mobilisation. Industry-wise distribution of resources raised is presented in Table 2.6.

Table 2.4. Response to Public Issues

(% of issues)

Times Subscribed	1998–99	1999–00	2000–01
<1.5	78	20	67
1.5–3	13	8	16
3–10	3	20	12
>10	6	53	5

Source: Prime Annual Report.

Table 2.5. Resources Mobilised through Debt and Equity

	Percentage Share	
Year	Equity	Debt
1995–96	72.39	27.61
1996–97	55.99	44.01
1997–98	41.17	58.83
1998–99	15.34	84.66
1999–00	58.41	41.59
2000–01	52.79	47.21
April–June 2001	33.33	66.67

Source: SEBI.

Table 2.6. Industry-wise Resource Mobilisation

	Percentage Share		
Industry	1999–00	2000–01	April–June 2001
Banking/FIs	51.67	51.40	87.72
Cement & Construction	4.31	1.35	0.00
Chemical	2.32	0.52	0.00
Entertainment	1.65	7.49	0.00
Finance	1.59	7.20	0.00
Information Technology	19.79	13.16	1.10
Paper & Pulp	0.18	0.00	0.00
Plastic	0.09	0.07	0.00
Telecom	0.96	15.10	0.00
Textile	1.19	0.00	0.00
Others	17.21	3.72	11.18
Total	100.00	100.00	100.00

Source: SEBI.

Euro Issues

Indian companies also raise resources internationally through Foreign Currency Convertible Bonds (FCCBs), Global Depository Receipts (GDRs) and American Depository

Receipts (ADRs). GDRs are similar to Indian shares and are traded on overseas stock exchanges. In India, GDRs/ADRs are reckoned as part of foreign direct investment and hence need to conform to the existing FDI policy. Resource mobilisation by Indian corporates through Euro issues by way of FCCBs, GDRs and ADRs has been significant in the 1990s. During 2000–01 the resource mobilisation through Euro issues was Rs. 4,197 crore as against Rs. 3,487 crore raised during 1999-2000 (Table 2.1).

Performance of IPOs

The performance of IPOs listed on NSE during April 2000–June 2001 is presented in Annexure 2.1.

Of 25 IPOs listed on NSE during April 2000 to June 2001, 8 belonged to IT sector, and 7 belonged to the entertainment industry. The value of most of the IPOs depreciated quite substantially on the first day of listing/trading. The returns, however, varied between different companies. The IPOs of fifteen companies suffered declines over their issue price on the first day of trading. In general, most of the IT and Pharmaceutical companies depreciated in value on the first day of trading. The maximum price depreciation was witnessed by TIPS Industries Ltd., a company belonging to the entertainment sector. Further, for most of the IPOs, the returns have become diluted as most of the IPOs closed at a much lower price as at end-June 2001 as compared to their issue price. Only two companies *viz.*, Aksh Optifibre Ltd. and Vision Organics Ltd., managed to register handsome gains over their issue price.

Book Building through On-line IPO System

Book building is basically a process used in IPO for efficient price discovery, wherein during the period for which the IPO is open, bids are collected from investors at various prices, which are above or equal to the floor price. The offer price is determined after the bid closing date. In its strive to continuously improve Indian securities market, NSE offers its infrastructure for conducting online IPOs through book building. It helps to discover price as well as demand for a security to be issued through a process of bidding by investors. The advantages of this new system are: (a) the investor parts with money only after allotment, (b) it eliminates refunds except in case of direct applications, and (c) it reduces the time taken for issue process. The securities get listed within 15 days from the closure of the issue. Though the guidelines for book building were issued in 1995, it was used for IPOs from 1999. During 2000–01, ten issuers used the on-line IPO system of NSE to mobilise Rs. 1,053 crore.

Debt Issues

Government and corporate sector accessed market through debt issues. They collectively raised a total of Rs. 1,85,061 crore from primary market during 2000–01. About 69.4% of this was raised by Government, while the balance by the corporate sector through public issues and private placement as may be seen from Table 2.7.

Private Placement of Debt

According to Prime Database estimates, a total of 214 issuers raised Rs. 52,434 crore through 596 privately placed issues in 2000–01, a decline of 4.1% over the funds raised through this route in the preceding year. During April–June 2001, 77 issuers raised Rs. 11,928 crore through 177 privately placed issues. About Rs. 2,172 billion have been

Table 2.7. Resources Raised from Debt Markets

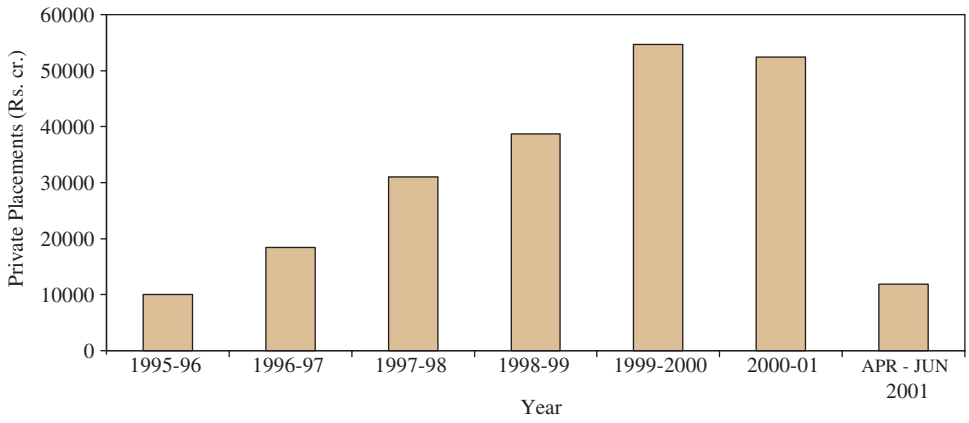
(Rs. crore)

Issuer	1999–00	2000–01	April–June 2001
Corporate	59,399	56,578	12,129
Public Issues	4,698	4,144	201
Private Placement	54,701	52,434	11,928
Government	113,336	128,483	56,757
Total	172,735	185,061	68,886

Source: Prime Database (for corporate debt) & RBI (for Government data).

raised through private placement of debt during last six and a half years since April 1995. The growth of private placement market is presented in Chart 2.1.

Chart 2.1. Growth of Private Placement of Debt



PSUs, state level undertakings and FIs/banks are most active in mobilising funds through private placement. They accounted for 82.5% of the total private placement market in debt instruments during 2000–01 as against 77% in 1999–00. All India Financial Institutions (AIFIs)/banks led with 41.3% share followed by state level undertakings, which accounted for 21.9% share during 2000–01. During April–June 2001, AIFIs raised 32.5% of total amount raised by private placements followed by private sector and PSUs with shares of 32% and 19.4%, respectively. The break-up of funds raised by various categories of issuers is presented in Table 2.8 and Chart 2.2.

Sectoral distribution shows that the financial services sector continues to dominate the private placement market, raising 51% in 2000–01. Their share, however, reduced to 7% during April–June 2001. Power sector accounted for 14% and 19% share during 2000–01 and April–June 2001, respectively. Sectoral distribution of the debt private placements is presented in Table 2.9.

From the companies listed at NSE, a total of 50 companies came out with private placement issues mobilising around Rs. 4,711 crore during April 2000 to June 2001. The details of private placement issues by NSE-listed companies during April 2000 to June 2001 are presented in Annexure 2.2. Most of the privately placed securities were selling at one-tenth of the issue price as at end June 2001.

Table 2.8. Issuer-wise Distribution of Private Placement of Debt

Issuer	Issue Amount (Rs. crore)			% of Issue Amount		
	1999–00	2000–01	April–June 2001	1999–00	2000–01	April–June 2001
AIFIs/Banks	14,539	21,673	3,875	26.58	41.33	32.49
State Financial Institutions	2,606	2,286	422	4.76	4.36	3.54
Public Sector Undertakings	8,436	7,839	2,311	15.42	14.95	19.37
State Level Undertakings	16,526	11,466	1,501	30.21	21.87	12.58
Private Sector	12,595	9,169	3,818	23.03	17.49	32.01
Total	54,701	52,434	11,928	100.00	100.00	100.00

Source: Prime Database.

Chart 2.2. Issuer-wise Distribution of Private Placement of Debt, 2000–01

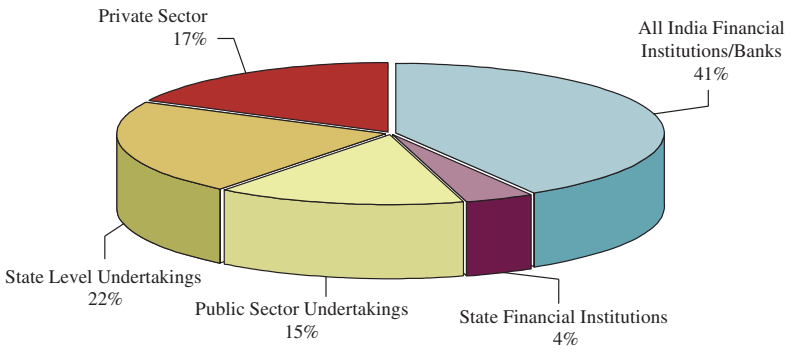


Table 2.9. Sectoral Distribution of Resources Mobilised by Private Placement

(In per cent)

Sector	1999–00	2000–01	April–June 2001
Financial	39	51	7
Power	15	14	19
Water Resources	8	6	2
Telecommunications	6	2	3
Others	32	27	69
Total	100	100	100

Source: Prime Database.

Corporate Debt

Resources mobilised by corporate sector through debt in the last few years is presented in Table 2.10. There is a preference for raising resources in the primary market through debt instruments and 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 stood at 95.8% in 2000–01. Private placements accounted for about 92.7% of total debt mobilisation from securities market.

Table 2.10. Resources Raised in the Corporate Debt Market

(Amount in Rs. crore)

Year	Debt Issues			Share of Private Placement in Debt Issues (%) (3/4 × 100)	Total Resource Mobilisation in the Primary Market	Share of Debt in Total Resource Mobilisation (%) (4/6 × 100)
	Public Issues	Private Placements	Total (2 + 3)			
1	2	3	4	5	6	7
1995–96	2,940	10,035	12,975	77.34	21,857	59.36
1996–97	6,977	18,391	25,368	72.50	30,039	84.45
1997–98	1,929	30,983	32,912	94.14	34,045	96.67
1998–99	7,407	38,748	46,155	83.95	46,658	98.92
1999–00	4,698	54,701	59,399	92.09	62,374	95.23
2000–01	4,144	52,434	56,578	92.67	59,057	95.80

Source: Prime Database.

Cost of Issues

In the primary market the process of public subscription is expensive, time consuming and fraught with uncertainty. The process involves filing a number of documents before and after an issue with SEBI and the whole process until allotment takes about 3 months. The process requires setting up of a number of mandatory collection centres across the country for collecting subscriptions from investors and price determination before the date of issue. Once the issue is subscribed the post subscription procedures are also time consuming. These should reduce as the book building and on-line IPOs become popular.

Rating Summary

During 2000–01, 1,937 instruments worth Rs. 2,81,673 crore were rated by four CRAs. As compared to this, 1,520 instruments worth Rs. 3,54,565 crore were rated during 1999–00 (Table 2.11A). In terms of amount rated, 3.2% of ratings were upgraded, 9.4% were downgraded and 45.8% were reaffirmed. Of the total amount, 36.9% were new ratings. In terms of number of instruments rated, the ratings of 98 instruments (5.1% of total) were upgraded, while ratings of 210 instruments (10.8% of total) were downgraded. The credit ratings of maximum number of instruments were reaffirmed during the year. During April–June 2001, 319 instruments worth Rs. 37,994 crore were rated. Of this, 76 instruments amounting to Rs. 10,828 crore were new ratings.

Table 2.11A. Rating Summary

(Amount in Rs. crore)

Status	1999–00		2000–01		April–June 2001	
	Number	Amount	Number	Amount	Number	Amount
Upgraded	69	13,514	98	8,939	6	1,045
Downgraded	265	32,743	210	26,347	39	1,432
Reaffirmed	555	190,046	856	128,921	153	24,286
Rating Watch	68	6,316	52	9,252	10	187
Withdrawn	78	826	174	4,158	24	184
Suspended	17	14	79	159	10	32
New Ratings	468	111,106	468	103,897	76	10,828
Total	1,520	354,565	1,937	281,673	319	37,994

Source: CMIE.

Table 2.11B. Rating Summary: Grades Assigned

Status	1999–00	2000–01	April–June 2001
Investment	1,327	1,709	275
Inadequate Safety	85	113	25
Risk Prone	41	23	10
Default	67	71	7
Not Meaningful	0	21	2
Total	1,520	1,937	319

Source: CMIE.

Of the total instruments rated during 2000–01, 1,709 instruments accounting for 88.2% of total were assigned investment grade, 113 instruments were rated as inadequately safe and 94 instruments were placed in risk prone and default category (Table 2.11B).

Vanishing Companies

Companies, which have not complied with the listing requirement/filing requirements of stock exchange/Registrar of Companies (ROC) for a period of 2 years, or the stock exchange has not received any correspondence from the company for a long time, or no office of the company is located at the mentioned registered office address at the time of inspection by stock exchange are considered as 'vanishing companies'. It has been noticed that many of the listed companies are not complying with various clauses of the listing agreement entered into by them with the stock exchanges in violation of the provisions of the Securities Contracts (Regulation) Act, 1956 (SCRA) and defaulted in their commitments made to the public while mobilising funds. On physical verification of the existence of these companies by the concerned stock exchanges at the registered office addresses as given in the offer document, it was found that some of these companies did not exist at the said addresses. Some of the companies which accessed market during initial euphoria following introduction of free price regime have also disappeared. This has caused disappointment and anxiety to public who had invested their hard earned money in these companies. A joint mechanism consisting of SEBI and Department of Company Affairs (DCA) was evolved to initiate actions against companies which are not complying with the conditions of listing and are not physically traceable at the registered office.

DCA has instructed its field organisations to take timely action for violation of the provisions of the Companies Act, 1956 and to enlist assistance of police authorities and general public to ascertain the whereabouts of such companies. DCA has also constituted seven task forces region-wise, *viz.*, Delhi, Mumbai, Chennai, Kolkotta, Ahmedabad, Bangalore and Hyderabad, with regional directors/ROC as convenors and the representatives of SEBI and stock exchanges as members. The primary responsibility of these task forces is to identify the vanishing companies of their region by going through the information available with these agencies. These task forces are monitored by a Central Coordinating Committee with Secretary, DCA and Chairman, SEBI as its co-Chairman. To protect the interest of the investors, a new section 205 C has been inserted in the Companies (Amendment) Act, 1999 to establish a fund called the 'Investor Education and Protection Fund'. To make laws more stringent against the defaulting companies, the section 274 of the Companies Act, 1956 has been amended whereby a director of a public company which fails to file the annual accounts and returns for

continuous three financial years or repay the deposits would not be eligible to be a director in a public company for five years, besides facing prosecution.

SEBI has identified 229 such listed companies, which have collected funds through public issues and are no longer traceable at their registered offices. It has issued orders under section 11B of the SEBI Act against 86 companies and 302 directors prohibiting them from associating with capital market activities, such as, not to deal in securities, not to access the capital market, and not be associated with any of the intermediaries in the capital market for a period of 5 years. Both SEBI and DCA have referred the cases of defaulting companies to respective state governments for strict action under the Indian Penal Code or under the Investor Protection Act. Other regulatory authorities like, RBI, Central Board of Direct Taxes (CBDT) and Economic Offences Wing and local police, are being involved in the task forces. SEBI has also sought information from the investors about vanishing companies. The companies referred to by the investors are under scrutiny and action in terms of the SEBI Act and the Companies Act would be initiated once the identification process is completed.

In order to prevent recurrence of such defaults by companies in future, the Central Co-ordinating Committee is considering (a) including authenticated photographs, passport numbers, PAN, bank account number and driving license number of the promoters/directors in the prospectus while coming out with public/rights issues and also at the time of incorporation of the company, and (b) freezing assets of directors of defaulting companies and expeditious prosecution, disqualification of the person in default including directors of the companies.

Policy Debates

Private Placement

During last few years, the popularity of the private placement market has grown manifold. This has been associated with a corresponding decline in the reliance of the corporates on public issues for meeting their capital needs. There are two noteworthy features of the private placement market in India — (i) most of these issues (approximately 99%) are debt issues, and (ii) the market is primarily dominated by banks, FIs and government entities, which accounted for 82.5% of the total resources mobilised by way of private placements during 2000–01. The rapid growth of private placement market could be attributed to the structuring of the issues to match the needs of issuers with that of investors, and tremendous savings in terms of cost and time involved. Further, the private placements do not require detailed compliance with formalities and paper work as in the case of public and rights issues. The companies do not have to adhere to detailed disclosure guidelines. As it is highly convenient to raise funds through this mode, several big issuers in this segment, like IDBI and ICICI, are able to mobilise funds almost on daily basis. In addition, the rates at which corporates mobilise/raise funds in this segment are much lower than the prime lending rates of most commercial banks. This reflects regulatory arbitrage.

The growth of private placement market has brought to the fore several issues, which require immediate regulatory attention. Though most of the issues are rated by CRAs, they do not come under the usual DIP guidelines, which apply to all new issues of capital through prospectus and rights issues. However, so long as it is ultimately public money, which is invested, the standards of disclosure should apply equally to public issues as well as private placements. MFs are major subscribers to privately placed issues and they handle money collected from small investors to a great extent. They are supposed to take

enough precautions while investing the funds, but unless disclosures are detailed and fair, MFs too are bound to make errors. The default risk to investors could be a potential problem with private placement and may also pose systemic risks if the subscribers to the issue happen to be large FIs. Further, it has been observed that most of the issues in the private placement market are debt issues, implying that the corporates' reliance on equity has come down. The likely outcome of this will be rise in debt-equity ratio if this trend continues, which has ramifications for the asset-liability structure of the Indian companies. One also needs to restrict the number of subscribers to a privately placed issued to a small number, which should be closely monitored by the regulatory authorities. In order to ensure development of private placement market in a healthy manner, it is essential to lay down a clear policy framework for this segment.

Annexure 2.1. Performance of IPOs Listed on NSE during April 2000 to June 2001

Sl. No.	Name of Company	Sector to which Company belongs	Date of Listing	Face Value (Rs.)	Issue Price (Rs.)	Close Price on first day of Trading (Rs.)	Close Price as at end-March, 2001 (Rs.)	Close Price as at end-June 2001 (Rs.)	Price Appreciation/ Depreciation on first day of Trading (%)	Price Appreciation/ Depreciation upto end-March 2001 (%)	Price Appreciation/ Depreciation upto end-June 2001 (%)
1.	Indian Overseas Bank	Bank	7-Dec-00	10	10	9.90	7.75	8.75	−1.00	−22.50	−12.50
2.	Vijaya Bank	Bank	10-Jan-01	10	10	9.50	7.15	7.50	−5.00	−28.50	−25.00
3.	Andhra Bank	Bank	4-Apr-01	10	10	8.90	NA	8.85	−11.00	NA	−11.50
4.	Cinevista Communications Ltd.	Entertainment	2-May-00	10	300	303.85	45.50	45.50	1.28	−84.83	−84.83
5.	Mukta Arts Ltd.	Entertainment	12-Sep-00	5	165	204.55	135.70	148.95	23.97	−17.76	−9.73
6.	TIPS Industries Ltd.	Entertainment	10-Nov-00	10	325	15.00	62.30	72.20	−95.38	−80.83	−77.78
7.	Balaji Telefilms Ltd.	Entertainment	22-Nov-00	10	130	157.00	144.45	210.55	20.77	11.12	61.96
8.	Pritish Nandy Communications Ltd.	Entertainment	11-Dec-00	10	155	165.15	24.00	37.90	6.55	−84.52	−75.55
9.	Creative Eye Ltd.	Entertainment	20-Dec-00	5	50	64.10	18.40	20.90	28.20	−63.20	−58.20
10.	Adlabs Films Ltd.	Entertainment	10-Jan-01	5	120	102.35	45.75	62.75	−14.71	−61.88	−47.71
11.	PNB Gilts Ltd.	Finance	18-Sep-00	10	30	18.70	17.00	16.85	−37.67	−43.33	−43.83
12.	Softpro System Ltd.	IT	30-May-00	10	85	68.10	10.10	9.30	−19.88	−88.12	−89.06
13.	Mascot Systems Ltd.	IT	8-Jun-00	4	480	524.50	82.35	104.85	9.27	−82.84	−78.16
14.	Dynacons Systems & Solutions Ltd.	IT	15-Sep-00	10	30	50.00	13.65	9.75	66.67	−54.50	−67.50
15.	Hughes Tele.com (India) Ltd.	IT	20-Oct-00	10	12	11.60	8.50	9.45	−3.33	−29.17	−21.25
16.	MRO-TEK Ltd.	IT	1-Nov-00	5	95	92.05	24.95	21.25	−3.11	−73.74	−77.63
17.	Aztec Software and Technology Services Ltd.	IT	29-Nov-00	3	80	107.70	57.15	83.55	34.63	−28.56	4.44
18.	IT&Y Ltd.	IT	21-Dec-00	5	81	76.05	30.00	22.10	−6.11	−62.96	−72.72
19.	D-Link (India) Ltd.	IT	11-Apr-01	10	300	155.40	NA	296.00	−48.20	NA	−1.33
20.	Aksh Optifibre Ltd.	Others	18-Aug-00	5	60	63.00	89.80	134.85	5.00	49.67	124.75
21.	Vision Organics Ltd.	Others	20-Nov-00	10	40	50.30	123.70	133.05	25.75	209.25	232.63
22.	Mid-Day Multimedia Ltd.	Others	4-Apr-01	10	70	43.80	NA	28.80	−37.43	NA	−58.86
23.	Cadila Healthcare Ltd.	Pharma	18-Apr-00	5	250	130.15	128.65	94.00	−47.94	−48.54	−62.40
24.	Elder Pharmaceuticals Ltd.	Pharma	19-Apr-00	10	110	43.55	30.55	27.65	−60.41	−72.23	−74.86
25.	Ajanta Pharma Ltd.	Pharma	29-May-00	10	225	176.20	91.50	58.00	−21.69	−59.33	−74.22

NA: Not applicable.

Source: NSE.

Annexure 2.2. Details of Private Placement Issues by NSE-listed Companies (April 2000 to June 2001)

Sl. No.	Name of Company	Number of Securities	Funds Raised (Rs. lakh)	Face Value (Rs.)	Issue Price (Rs.)	Close Price as at end-June 2001 (Rs.)
1.	Aegis Chemicals Ltd.	2,700,000	405	10	15.00	9.30
2.	Alok Textile Industries Ltd.	2,590,000	699	10	27.00	9.80
3.	Alok Textile Industries Ltd.	1,419,500	900	10	63.40	9.80
4.	Alok Textile Industries Ltd.	473,000	300	10	63.40	9.80
5.	Alps Industries Ltd.	125,000	269	10	215.00	41.20
6.	Ambuja Cement Rajasthan Ltd.	40,766	5	10	13.28	4.90
7.	Ambuja Cement Rajasthan Ltd.	31,000,000	3,100	10	10.00	4.90
8.	Apollo Hospitals Enterprise Ltd.	795,545	1,213	10	152.50	81.30
9.	Apollo Hospitals Enterprise Ltd.	2,000,000	7,300	10	365.00	81.30
10.	Century Extrusions Ltd.	4,249,048	425	10	10.00	1.50
11.	Computech International Ltd.	1,500,000	1,695	5	113.00	11.60
12.	Computech International Ltd.	1,500,000	1,695	5	113.00	11.60
13.	Great Eastern Shipping Co. Ltd.	25,000,000	2,500	10	10.00	32.60
14.	Great Eastern Shipping Co. Ltd.	50,000,000	5,000	10	10.00	32.60
15.	Great Eastern Shipping Co. Ltd.	10,000,000	1,000	10	10.00	32.60
16.	Great Eastern Shipping Co. Ltd.	10,000,000	1,000	10	10.00	32.60
17.	Global Tele-Systems Ltd.	50,000	708	10	1,416.00	172.05
18.	Global Trust Bank Ltd.	14,800,000	12,580	10	85.00	24.15
19.	Global Trust Bank Ltd.	2,559,000	2,175	10	85.00	24.15
20.	Goldstone Technologies Ltd.	600,000	1,200	10	200.00	26.45
21.	HDFC Bank Ltd.	19,800,000	18,612	10	94.00	209.60
22.	Himachal Futuristic Commn Ltd.	7,000,000	73,500	10	1,050.00	88.00
23.	India Cements Ltd.	3,317,500	3,052	10	92.00	31.40
24.	Infotech Enterprises Ltd.	52,000	5	10	10.00	111.75
25.	Infotech Enterprises Ltd.	250,000	875	10	350.00	111.75
26.	Information Technologies India Ltd.	50,000	534	5	1,067.50	—
27.	IVRCL Infrastructures & Projects Ltd.	4,300,000	4,515	10	105.00	44.85
28.	Trigyn Technologies Ltd.	7,350,000	60,638	10	825.00	44.25
29.	LML Ltd.	2,216,067	886	10	40.00	17.30
30.	Monsanto India Ltd.	2,313,031	34,223	10	1,480.00	959.75
31.	Morepen Laboratories Ltd.	2,500,000	16,250	10	650.00	95.55
32.	Neocure Therapeutics Ltd.	3,078,000	554	10	18.00	1.40
33.	Orient Information Technology Ltd.	847,468	2,500	10	295.00	43.60
34.	Pentasoft Technologies Ltd.	3,354,450	26,769	10	798.00	78.70
35.	Pentasoft Technologies Ltd.	6,645,550	53,031	10	798.00	78.70
36.	Pentamedia Graphics Ltd.	3,519,296	17,596	10	500.00	84.00
37.	Polar Industries Ltd.	540,000	147	10	27.25	20.20
38.	Rama Newsprint and Papers Ltd.	15,000,000	1,500	10	10.00	5.05
39.	Ramco Systems Ltd.	502,000	17,470	10	3,480.00	315.60
40.	Roofit Industries Ltd.	1,300,000	1,105	10	85.00	104.10
41.	Roofit Industries Ltd.	100,000	50	10	50.00	104.10
42.	Sakthi Sugars Ltd.	14,100,000	2,016	10	14.30	5.80
43.	SB&T International Ltd.	3,037,600	911	10	30.00	15.20
44.	SB&T International Ltd.	2,162,400	649	10	30.00	15.20
45.	Sun Earth Ceramics Ltd.	1,500,000	1,350	10	90.00	84.30
46.	Sun Earth Ceramics Ltd.	172,222	155	10	90.00	84.30
47.	Vysya Bank Ltd.	2,203,600	3,305	10	150.00	107.95
48.	Wimco Ltd.	22,131,797	4,426	10	20.00	5.00
49.	Zee Telefilms Ltd.	8,000,000	80,000	1	1,000.00	116.85
50.	Zenith Exports Ltd.	396,250	317	10	80.00	25.90
	Total	299,141,090	471,122			

Source: NSE.

3. Collective Investment Vehicles

Three distinct categories of collective investment vehicles namely, mutual funds, collective investment schemes and venture capital funds, mobilise resources from market for investment purposes. During 2000–01, the market proved even more difficult to beat than the previous year. Many mutual funds experienced shrinking of their bottom lines. The assets under management of all mutual funds taken together declined by about 20% from the previous year due to slump in the secondary market. The momentum in the venture capital industry did not pick up as it did in the west.

Mutual Funds

'Put your money in trust, not trust in money' entices the small investors, who generally lack expertise to invest on their own in the securities market and prefer some kind of collective investment vehicles (CIV), which can pool their marginal resources, invest in securities and distribute the returns therefrom among them on co-operative principles. The investors benefit in terms of reduced risk, and higher returns arising from professional expertise of fund managers employed by such investment vehicle. This was the original appeal of mutual funds (MFs) which offer a path to stock market far simpler and safer than the traditional call-a-broker-and-buy-securities route. This caught the fancy of small investors leading to proliferation of MFs. In developed financial markets, MFs have overtaken bank deposits and total assets of insurance funds. In the USA, the number of MFs far exceeds the number of listed securities.

Experimentation with MFs in India began in 1964 with the establishment of the Unit Trust of India (UTI), a statutory corporation with the objective of encouraging saving and investment. This was followed by entry of MFs promoted by public sector banks and insurance companies in 1987. The industry was opened up to private sector in 1993 providing Indian investors a broader choice. Starting with an asset base of Rs. 25 crore in 1964, the industry has grown exponentially to Rs. 97,953 crore at the end of June 2001. The number of households owning units of MFs exceeds the number of households owning equity and debentures. At the end of March 1999, according to the SEBI-NCAER Survey of Indian Investors (2000), 23 million unit holders had invested in units of MFs, while 19 million individual investors invested in equity and/or debentures.

The 1990s witnessed emergence of a variety of funds. There are funds which invest in growth stocks, funds which specialise in stocks of a particular sector, funds which assure returns to the investors, funds which invest in debt instruments and funds which invest aggressively and funds which do not do all these. Thus, we have income funds, balanced funds, liquid funds, gilt funds, index funds, sectoral funds and there are open-ended funds, closed-ended funds and assured return funds — there is a fund for everybody. The number of funds and schemes offered by them increased to 39 and 393 respectively at the end of March 2001. The number of units available today compare favourably with the number of securities/companies listed on stock exchanges and far exceeds the number of active securities. Such proliferation of number of MFs and their schemes has made

investors as bewildered as they are with securities. The investor likes choice, but he is lost with too many choices.

Policy Developments

The policy and regulatory initiatives since April 2000 include:

Union Budget 2000-01

The rate of tax on income distributed by debt-oriented mutual funds and UTI was increased from 11% to 22% (including surcharge) in an effort to correct the distortions arising out of differing tax treatment for interest incomes from MFs and other instruments, like bank deposits and corporate deposits.

With effect from April 1, 2000, investment in MFs will not be exempted from payment of capital gains tax under Sections 54EA and 54EB of the Income Tax Act, 1961.

Investments by MFs

SEBI amended regulations to:

(i) permit investments by MFs in the mortgage-backed securities. These securities, however, must have a credit rating of not below investment grade and would represent investments in real estate mortgages (*i.e.*, loans secured by real estate collateral) and not directly in real estate. This was expected to augment the availability of funds for housing sector and provide greater investment flexibility to the MFs.

(ii) allow MFs to invest in unlisted companies. A MF scheme could invest upto 5% of its net asset value (NAV) in the unlisted equity shares or equity related instruments in case of open-ended scheme and up to 10% of its NAV in case of closed-ended scheme. Within the investment limit of 15% of NAV in debt instruments issued by a single issuer, MFs could also invest in mortgage-backed securitised debt, which are rated not below investment grade by a credit rating agency registered with SEBI.

SEBI Regulations also stipulate that the asset management company (AMC) shall exercise due diligence and care in all its investment decisions. For effective implementation and bringing about transparency in the investment decisions, all the AMCs were advised to maintain records in support of each investment decisions which would indicate data, facts and opinion leading to that decision. AMC boards may develop a mechanism to verify that due diligence is being exercised while making investment decisions. Specific attention may be given to investments in unlisted and privately placed securities, unrated debt securities, non-performing assets (NPAs), transactions where associates are involved and the instances where there is poor performance of the schemes.

Testing and Certification

Association of Mutual Funds in India (AMFI) in association with NSE has developed a self-study and testing programme for MF employees and distributors to foster professional standards in their services. This will build a cadre of trained professional distributors of MF products and facilitate the move towards MF industry employing trained and certified professionals in the interest of investors. SEBI Advisory committee on MFs has decided that MFs should adopt certification of agents and distributors on a voluntary basis. Over a period of time, such certification may be made mandatory. By June 2001, about 3,500 employees/distributors of MFs have taken the AMFI test.

Money Market MFs

Consequent upon withdrawal of guidelines by RBI on money market MFs w.e.f. March 7, 2000, the schemes of such funds, like other MF schemes, would exclusively be governed by the SEBI (Mutual Funds) Regulations, 1996.

Guidelines for MFs

SEBI issued the following guidelines in accordance with the provisions of Regulation 77 of SEBI (Mutual Funds) Regulations, 1996:

(i) The offer period for the initial public offers (IPOs) was reduced from the present limit of a maximum of 45 days to 30 days in case of open-ended schemes and it was also decided that within the next 30 days the scheme should despatch statements of accounts and should open for ongoing sales and repurchase. The AMCs would start dispatching the statements of accounts once the minimum subscription amount specified in the offer document is received even before the closure of the issue.

(ii) In accordance with the Regulation 59A, the MF schemes were required to disclose their entire portfolios on half-yearly basis. A common format for disclosure was prescribed for the purpose of getting meaningful information on the way in which funds are deployed by the AMC.

(iii) The unclaimed redemption and dividend amounts would be deployed by the MFs in call money market or money market instruments only. The accumulated funds on account of dividends and redemptions, which remain unclaimed, would be transferred to a pool account after a period of 3 years and interest on such funds would be used for investor education. Further, the investment management fee charged by the AMC for managing unclaimed amounts shall not exceed 50 basis points. However, the investors would be free to claim their funds anytime in the future.

(iv) The annual report, including accounts of the AMCs, should be made available to the unitholders. This would also be put on the web-sites of the MFs.

(v) The MFs charge certain expenses as specified in Regulation 52(4). With a view of giving flexibility to MFs, any other expenses which are directly attributable to the scheme may be charged with the approval of the trustees within the overall limits as specified in Regulation 52(6). It was also said that each item of expenditure accounting for more than 10% of total expenditure should be disclosed in the accounts or notes of the schemes.

(vi) The directors of AMCs and trustees should be required to file the details of their purchase and sale transactions (exceeding Rs. 1 lakh in value) in securities on a quarterly basis.

(vii) The offer document would be revised and updated at least once in two years. Till the time the offer document is revised and reprinted, an addendum giving details of the changes may be attached to offer documents and abridged offer documents.

(viii) The MFs should despatch dividend warrants to unit holders within 30 days of the declaration of dividend.

In pursuant to the recommendations given by the Accounting Standards Committee (ASC), guidelines were issued for valuation of securities and for identification and provisioning for NPAs. These guidelines would be in accordance with the provisions of Regulation 77 of SEBI (Mutual Funds) Regulations, 1996. MFs shall categorise the securities according to the following norms:

(i) When a security (other than government security) has not traded on any stock exchange on a particular valuation day, the value at which it was traded on the selected stock exchange or any other stock exchange, as the case may be, would be used provided such date is not more than thirty days prior to valuation date.

(ii) When trading in an equity/equity related security in a month is less than Rs. 5 lakh and the total volume is less than 50,000 shares the security will be treated as thinly traded security.

(iii) A debt security (other than government security) that has a trading volume of less than Rs. 15 crore for a period of 30 days prior to the valuation date shall be considered as a thinly traded security based upon information provided by the relevant stock exchange on the volume of debt securities traded. The valuation of a thinly traded debt security would be done as per the norms set for non-traded debt security.

(iv) A security (other than government securities) not trading on any stock exchange for a period of 30 days prior to the valuation date (instead of the existing provisions of 60 days) is treated as non-traded security.

To determine if a non-traded/thinly traded equity/equity related security accounts for more than 5% of the total assets of the scheme, it should be valued by the procedure above and the proportion which it bears to the total net assets of the scheme to which it belongs would be compared on the date of valuation.

The valuation of non-traded/thinly traded securities would be valued 'in good faith' by the AMC in the following manner:

(a) For non-traded/thinly traded equity securities, net worth would be calculated on the basis of the latest balance sheet. The value as per the net worth per share and the capital earning value shall be averaged and further discounted by 10% for illiquidity to arrive at fair value per share.

(b) For non-traded/thinly traded debt securities of up to 182 days to maturity, the valuation would be cost (including accrued interest till the beginning of the day) plus the difference between the redemption value (inclusive of interest) and cost spread uniformly over the remaining maturity period of the instrument.

(c) For the purpose of valuation of all non-traded debt securities of over 182 days to maturity, these would be classified into 'Investment grade' and 'Non-investment grade' securities based on their credit ratings. The approach in valuation of non-traded debt securities is based on the concept of using spreads over the benchmark rate to arrive at the yields for pricing the non traded security and the valuation price plus the accrued interest should be used instead of purchase cost.

MF Distribution by NSCCL

In a move to encourage the MF industry, NSE and NSCCL have launched the Mutual Fund Service System (MFSS) to effectively cater to buying/redemption of units of MFs by individual investors, which presently takes place manually. The main objective of MFSS is to provide a one-stop shop to investors for transacting in financial products. NSE with its trading terminals across the country offers a mechanism for collection of orders from the market and NSCCL undertakes the clearing and settlement of the same. While a good number of closed-ended schemes are traded on the exchanges; the facilities for transacting in open-ended schemes of the MFs are very limited. Today the entire process of buying and redeeming open-ended MF scheme units takes place directly between the individual investor and the AMC.

The salient features of the system are as follows:

- Orders for purchase and sale of units from investors are collected using the on-line order collection system of NSE, which are finally settled using the clearing and settlement system of NSCCL.
- The orders collected on 'T' day would be received by NSCCL by the end of the day or latest on T+1 morning and conveyed to the MFs to facilitate computation of the NAV and the corresponding sale/repurchase prices of the units.
- The MF would send the issue/repurchase prices computed by them to the NSCCL on T+1 day. The respective MF would be the counter-party for each trade.
- The orders would be cleared and settled on an order to order basis.
- Settlement would be on rolling basis with the orders received on T day being settled on T+5 day.
- The members are required to deliver the securities/funds due to the investors within two working days of receiving the pay-out from NSCCL. No transaction charges will be levied on members.
- This will not only boost the MF industry but would also enable easy access for the investors to the industry. Zurich Mutual Fund is the first MF to go live using this system.

MF Distribution through Post Offices

Post offices started distributing MF products. IDBI Principal Mutual Fund has started distributing its index, balanced and income funds through select post offices branches. Other MFs like, SBI Mutual, ICICI Prudential, UTI and Zurich Mutual Fund are also tying up with Department of Posts to distribute their products. The MF supplies application forms for their schemes to the post office for sale over the counter and any customer who wishes to invest in MF can take a form from the counter, fill it in and hand it back to the officials in the post office which in turn are handed over to the MF office. This system of distribution is presently operational only in selected post offices in the 4 cities of Delhi, Mumbai, Patna and Kolkatta.

Union Budget 2001–02

(i) The Union Budget 2001–02 proposed that the tax payable on the distribution of dividends of domestic companies and income in respect of units of MFs and UTI would be reduced from 20% to 10% to provide a stimulus to the growth of capital market.

(ii) The Union Budget added a new Section 54ED that exempts tax on capital gain arising from sale of securities and units of MFs if the same is invested in IPO of eligible issue with a lock-in period of one year.

Market Design

MFs operate as CIV on the principle of accumulating funds from a large number of investors and then investing in a diversified manner, thus limiting the risks involved. The process gathered momentum in view of regulatory protection, fiscal concession and change in preference of investors. The MF industry in India is governed by SEBI (Mutual Funds) Regulations, 1996, which lay the norms for the MF and its AMC. All MFs in India are constituted as trusts. A MF is allowed to issue open-ended and closed-ended schemes

under a common legal structure. There were a total of 39 MFs as on March 31, 2001. This includes UTI, which is set up under the UTI Act and is not required to be registered with SEBI. There is however, an arrangement of voluntary compliance by UTI for the schemes launched after July 1994. UTI has made a voluntary compliance with MF regulations in respect of many schemes. Five schemes including US-64 do not yet come under the MF regulations.

Structure of MFs

A typical MF in India has the following constituents:

Fund Sponsor: A 'sponsor' is any person who, acting alone or in combination with another body corporate, establishes a MF. The sponsor of a fund is similar to the promoter of a company. In accordance with SEBI Regulations, the sponsor forms a trust and appoints a Board of Trustees, and also generally appoints an AMC as fund manager. In addition, the sponsor also appoints a custodian to hold the fund assets. The sponsor must contribute at least 40% of the net worth of the AMC and possess a sound financial track record over five years prior to registration.

Mutual Fund: A MF in India is constituted in the form of a trust under the Indian Trusts Act, 1882. The fund invites investors to contribute their money in the common pool, by subscribing to 'units' issued by various schemes established by the trust. The assets of the trust are held by the trustee for the benefit of unitholders, who are the beneficiaries of the trust. Under the Indian Trusts Act, the trust or the fund has no independent legal capacity, it is the trustee(s) who have the legal capacity.

Trustees: The MF or trust can either be managed by the Board of Trustees, which is a body of individuals, or by a Trust Company, which is a corporate body. Most of the funds in India are managed by Board of Trustees. The trustees being the primary guardians of the unitholders funds and assets, a trustee has to be a person of high repute and integrity. The trustees, however, do not directly manage the portfolio of securities. The portfolio is managed by the AMC as per the defined objectives, in accordance with Trust Deed and SEBI (Mutual Funds) Regulations.

Asset Management Company: The AMC, which is appointed by the sponsor or the trustees and approved by SEBI, acts like the investment manager of the trust. The AMC functions under the supervision of its own Board of Directors, and also under the direction of the trustees and SEBI. AMC, in the name of the trust, floats and manages the different investment 'schemes' as per the SEBI Regulations and as per the Investment Management Agreement signed with the Trustees.

Apart from these, the MF has some other fund constituents, such as custodians and depositories, banks, transfer agents and distributors. The custodian is appointed for a safe keeping of securities and participating in the clearing system through approved depository. The bankers handle the financial dealings of the fund. Transfer agents are responsible for issue and redemption of units of MF. AMCs appoint distributors or brokers who sell units on behalf of the Fund, and also serve as investment advisers. Besides brokers, independent individuals are also appointed as 'agents' for the purpose of selling fund schemes to investors. The regulations require arm's length relationship between the fund sponsors, trustees, custodians and AMC.

Types of Funds

There are many types of MFs available to investors. Broadly, they can be classified as open-ended funds or closed-ended funds. An open-ended fund gives the investors an

option to redeem and buy units at any time from the fund. In closed-ended funds, the investors have to await a given maturity before they can redeem their units to the fund. However, to provide liquidity many closed-ended funds get themselves listed on a stock exchange. Funds can also be classified as being tax-exempt or non-tax-exempt, depending on whether they invest in securities that give tax-exempt returns or not. In India, the exemptions are given to investors on dividend income earned from all MFs. MFs in India offer tax-free income to investors, but capital gains arising out of sale of units are taxable.

Several types of MFs can also be distinguished on the basis of the nature of their portfolios, *i.e.*, whether they invest in equities or fixed income securities or some combination of both. Broadly, there are money market funds, gilt funds, debt on income funds, equity funds, hybrid funds, commodity or gold funds, and real estate funds. Every type of fund has a unique risk profile that is determined by its portfolio.

Money Market Mutual Funds

The scheduled commercial banks and public financial institutions were allowed to set up money market mutual funds (MMMFs) in April 1992, subject to certain terms and conditions. In order to provide more liquidity and depth to the market, the prescribed restrictions were relaxed between November 1995 and July 1996. MMMFs are allowed to invest in rated corporate bonds and debentures with a residual maturity of one year. The minimum lock-in period for units of MMMFs was reduced from 30 days to 15 days in May 1998. MMMFs, which were regulated under the guidelines issued by the RBI, have been brought under the purview of SEBI Regulations since March 7, 2000. At present, there are only three MMMFs in operation.

Regulation of Mutual Funds

The prime authority for regulating MFs in India is SEBI. SEBI requires all MFs to be registered with it. The SEBI (Mutual Funds) Regulations, 1996 lay down detailed procedure for launching of schemes, disclosures in the offer document, advertisement material, listing and repurchase of closed-ended schemes, offer period, transfer of units, investments, *etc.* SEBI Regulations also specify the qualifications for being the sponsor of a fund; the contents of Trust Deed; rights and obligations of trustees; appointment, eligibility criteria, and restrictions on business activities and obligations of the AMC and its Directors. The AMCs, members of Board of Trustees or directors of Trustee Company and other associated company has to follow a certain code of conduct. They should ensure that the information disseminated to the unitholders is adequate, accurate, and explicit. They should also avoid conflicts of interest in managing the affairs of the schemes and keep the interest of all unit holders paramount in all matters.

In addition to SEBI, RBI also supervises the operations of bank-owned MFs. While SEBI regulates all market related and investor related activities of the bank/FI-owned funds, any issues concerning the ownership of the AMCs by banks fall under the regulatory ambit of the RBI.

Further, MFs, AMCs and corporate trustees are companies registered under the Companies Act, 1956 and therefore answerable to regulatory authorities empowered by the Companies Act. The Registrar of Companies ensures that the AMC, or the trustee company complies with the provisions of the Companies Act.

Many closed-ended schemes of the MFs are listed on one or more stock exchanges. Such schemes are subject to regulation by the concerned stock exchange(s) through a listing agreement between the fund and the stock exchange.

MFs, being Public Trusts, are governed by the Indian Trust Act, 1882. The Board of Trustees or the Trustee Company is accountable to the office of the Public Trustee, which in turn reports to the Charity Commissioner. These regulators enforce provisions of the Indian Trusts Act.

Unit Trust of India — Special Status

UTI was set up by a special statute called the UTI Act, 1963. Till recently, all of UTI's schemes and its overall functioning were completely governed by the UTI Act. However, schemes launched after July 1994 fall under SEBI purview. Among the major schemes of UTI, only US-64 remains outside the purview of SEBI. The salient features of UTI Act are:

- The management of the Trust is under a Board of Trustees which has nominees of RBI, IDBI, LIC, and SBI. The Chairman is appointed by the Central Government in consultation with IDBI.
- Unlike other MFs, UTI can, besides investing in various securities, grant loans against security, enter into bills discounting activities, launch savings cum insurance schemes, acquire immovable property, provide leasing/hire purchase finance and merchant banking services, provide portfolio management services to non-residents and deal in foreign exchange to the extent required for the discharge of its functions.
- In case of default by any entity in terms of its obligations towards the Trust, the Trust can initiate legal proceedings for sale of security, taking over the management of the defaulting entity or an injunction on movement of property owned by the entity.
- Unlike other funds, UTI may borrow, in India or abroad, from any person, on terms, which are agreed upon.
- For any scheme, its capital comprises unit capital, reserves created, borrowing, gifts and donations and any other capital allocated to the scheme by the Board of Trustees. The first unit scheme also has the initial capital contributed by its sponsors.
- In any year, surplus of income over expenses allocated to initial capital may be distributed among contributing institutions. At least 90% of surplus of income over expenses allocated to unit capital for the first unit scheme must be distributed, unless a dividend of at least 10% on unit capital is declared by the Trust. For other schemes, surplus allocated to the respective unit capital may be distributed at the Board's discretion or reinvested in accordance with the provisions of the scheme.

Investment Restrictions

Investment policies of each scheme are dictated by the investment objective of the scheme as stated in the offer document. However, the AMC and its fund managers have to comply with the restrictions imposed by SEBI. SEBI has laid down following investment restrictions with the objective of ensuring investor protection:

(i) Investments in the equity shares or equity-related instruments of a single company are restricted to 10% of the NAV of a scheme. This limit is not applicable in case of index funds and in case of sector/industry specific schemes subject to adequate disclosures in the offer document. Investments by index funds are in accordance with the weightage of the scrips in the specific index as disclosed in the offer document. In case of sector/industry specific schemes, the upper

ceiling on investments may be in accordance with the weightage of the scrips in the representative sectoral index/sub-index as disclosed in the offer document or 10% of the NAV of the scheme whichever is higher. The basic objective of these is to ensure that a fund has an adequately diversified portfolio, unless the specific objective of the scheme is to limit the investments.

(ii) Similarly, for debt schemes, SEBI restricts the investment in 'rated investment grade' debt instruments issued by a single issuer to 15% of NAV of the scheme. This limit may be extended to 20% of the NAV of the scheme with the prior approval of the Board of AMC and the Board of Trustees. In case of unrated as well as rated but 'below investment grade' debt instruments, the investment in the instruments of a single issuer is not allowed to exceed 10% of the NAV of the scheme. In case of such debt instruments of all the issuers in a scheme shall not exceed 25% of NAV subject to approval of Boards of AMC and trustee company. In the interest of investor protection, SEBI has restricted the total level of investment in more risky securities. These restrictions do not apply to money market and government securities, as they carry inherently less risk.

(iii) SEBI restricts the investment in unlisted shares to a maximum of 10% of the NAV of a scheme for closed-ended schemes. In case of open-ended schemes the limit is more stringent at 5% of the NAV of the scheme as there is continuous repurchase by investors in such a scheme.

(iv) SEBI permits MFs to invest abroad in American Depository Receipts (ADRs)/Global Depository Receipts (GDRs), within an overall limit of US $ 500 million for all funds put together. There is a sub-ceiling for individual MFs, which should not exceed 10% of the net assets managed by them as on the date of the last audited balance sheet, subject to a maximum of US $ 50 million for each MF.

(v) MFs are required to buy and sell securities only 'for delivery'. Short selling (selling without delivering) or carry forward transactions (without taking or giving delivery) are not permitted, as such transactions are considered speculative in nature and are not in general consonance with MFs as investment vehicles.

(vi) MFs are not allowed to advance any loans, but may lend securities in accordance with SEBI's Stock Lending Scheme. MFs must invest only in marketable securities.

(vii) A MF is prohibited from investing in any unlisted security or a security issued through private placement by an associate or group company of the sponsor. In the case of listed securities of group companies of the sponsor, it is not allowed to invest an amount in excess of 25% of the net assets of any of the schemes of the fund.

(viii) Trading in derivatives by MFs has been restricted to hedging and portfolio balancing purposes and not for speculative trading purposes.Thus, MFs are required to fully cover their positions in the derivatives market by holding underlying securities/cash or cash equivalents/option and/or obligation for acquiring underlying assets to honour the obligations contracted in the derivatives market. Investments in derivatives must be in accordance with SEBI guidelines issued on the subject.

Taxation

MF is treated like a 'pass-through' vehicle for taxation purposes. The investors are totally exempt from paying any tax on the dividend income they receive from the MFs. Generally, income earned by any MF is exempt from tax. However, income distributed to

unitholders by a closed-ended or debt fund (with more than 50% investment in debt) is liable to a dividend distribution tax of 10% (plus a surcharge of 2%). Open-ended equity funds (*i.e.*, funds with more than 50% of their portfolio in equity) are exempt from such dividend tax upto March 2002. If the investor sells his units and earns capital gains, he/she is subject to capital gains tax. No wealth tax is charged on the ownership of units.

Market Outcome

Resource Mobilisation

The MF vehicle is quite popular with investors who are wary of directly investing in the securities market. The popularity of the MFs as an investment avenue is clearly visible from the data presented in Table 3.1 In India, investment in MFs is considered to be as safe as bank deposits. This is due to assured return schemes offered by some MFs in the past and the MFs sponsored by banks and financial institutions. Thus, the schemes of MFs of the commercial banks and the insurance companies, which entered the market in 1987, were well received. The boom continued into the nineties with liberalisation evoking positive response from the investors.

Table 3.1. Resource Mobilisation by Mutual Funds

(Rs. crore)

	Public Sector MFs				
Year	Bank-sponsored	FI-sponsored	UTI	Private Sector MFs	Grand Total
1990–91	2,352	604	4,553	—	7,509
1991–92	2,140	427	8,685	—	11,252
1992–93	1,204	760	11,057	—	13,021
1993–94	148	239	9,297	1,560	11,244
1994–95	765	576	8,611	1,322	11,274
1995–96	113	235	−6,314	133	−5,833
1996–97	6	137	−3,043	864	−2,036
1997–98	237	203	2,875	749	4,064
1998–99	231	691	170	2,519	3,611
1999–00	156	357	4,548	14,892	19,953
2000–01	348	2,511	1,999	8,481	13,339

Source: RBI.

The resource mobilisations by MFs remained steady during the period 1992–95 with annual gross mobilisation averaging Rs. 11,000 crore per annum during the period. The MFs were, however, hit severely by the bearish sentiments in the secondary market since October 1994. The years 1995–96 and 1996–97 witnessed net outflows of funds from MFs. The MF industry managed to mobilise modest sums during the next two financial years. It was in 1999–00 that the MF industry witnessed a sharp turnaround with record resource mobilisation amounting to Rs. 19,953 crore. Tax sops announced in the Union Budget 1999–00 and emergence of bullish trends in the secondary market fuelled the recovery. The year 2000–01 witnessed a slowdown once again with net resource mobilisation by all MFs taken together aggregating Rs. 13,339 crore, which could be attributed to a slump in secondary market and increase in tax on income distributed by debt-oriented MFs.

A comparison of resource mobilisation by MFs *vis-à-vis* incremental bank deposits indicates asset allocation preference of investors, which depend upon various factors, such as, investment horizon, willingness to take risk, liquidity needs and tax considerations. The resource mobilisation by MFs has witnessed a varied pattern over last couple of years. The year 1999–00, in particular, witnessed huge resource mobilisation

by MFs. The resources mobilised by MFs during 1999–00 shot up to 22% of incremental bank deposits from 4% in the previous year. There was some slow down in resource mobilisation by MFs during 2000–01. Consequently, it came down to 11.4% of incremental bank deposits.

The data on resource mobilisation by MFs are compiled by a number of agencies including, the RBI, SEBI and AMFI. The following analysis is based on AMFI data.

The MF industry did not perform very well during the year 2000–01 due to unfavourable secondary market conditions. While Nifty and Sensex showed a decline of 24.8% and 27.9% respectively, the gross amount mobilised by MFs during the year was lower by 33%. During 2000–01, 41 new schemes were launched, 36 of which were open-ended and 5 closed-ended, as against 64 new schemes launched during the preceding year. This took the total number of schemes as at end-March 2001 to 393 from 337 at end-March 2000. These schemes together mobilised Rs. 92,957 crore during 2000–01 as against Rs. 59,739 crore during the preceding year. After adjustment of repurchases and redemptions, there was an inflow of funds of Rs. 18,535 crore and Rs. 9,128 crore during 1999–00 and 2000–01, respectively (Table 3.2). The resources mobilised by MFs have shown a strong correlation with the movements in secondary market. The net inflows to MFs moved in the same direction as the movement of market indices, like Nifty. During April–June, 2001 MFs launched 7 new schemes and mobilised a gross amount of Rs. 28,591 crore.

Table 3.2. Accretion of Funds with Mutual Funds

(Rs. crore)

Category	1999–00		2000–01		April–June 2001		Assets under Management as on		
	Sale	Purchase	Sale	Purchase	Sale	Purchase	31.03.00	31.03.01	30.06.01
A. Unit Trust of India	13,536	9,663	12,413	12,090	2,684	5,314	76,547	58,017	55,924
B. Bank Sponsored	1,828	1,744	2,181	4,125	1,341	367	7,842	3,333	3,584
C. Institution Sponsored	2,211	1,864	4,011	3,147	1,171	632	3,570	3,507	4,034
D. Private Sector (I + II + III)	42,164	27,933	74,352	64,467	23,395	15,341	25,046	25,730	34,411
I. Indian	6,688	5,718	19,901	17,576	7,439	5,258	2,331	3,370	5,600
II. Joint Ventures – Predominately Indian	15,539	10,641	20,796	18,353	4,970	3,048	9,724	8,620	10,694
III. Joint Ventures – Predominately Foreign	19,937	11,574	33,655	28,538	10,986	7,035	12,991	13,740	18,117
Grand Total (A + B + C + D)	59,739	41,204	92,957	83,829	28,591	21,654	113,005	90,587	97,953

Source: AMFI Updates.

Public sector MFs (including UTI) made gross mobilisation of Rs. 18,605 crore accounting for 20% of total resource mobilisation by MFs during 2000–01. The share of public sector MFs was 29.4% during the preceding year. The share of public sector MFs reduced further to 18.2% in April-June 2001. UTI alone raised 22.7% and 13.3% of total resources mobilised during 1999–00 and 2000–01, respectively. In net terms, the public sector MFs mobilised Rs. 4,304 crore during 1999–00 and Rs. 757 crore during 2000–01. The private sector MFs have surged ahead in terms of resource mobilisation. They raised 70.6% and 80% of net resources mobilised by MF industry during 1999–00 and 2000-01 respectively. While private sector MFs and UTI experienced positive inflows during 2000–01, the bank sponsored MFs suffered net outflows during the same period.

The share of open-ended schemes in total funds raised by MFs increased from 90.8% in 1999–00 to 97.7% in 2000–01, but declined to 94.9% in April–June 2001. The share of assured return schemes in total funds raised declined from 8.7% in 1999-2000 and to 0.6% in 2000–01 but rose to 4.9% in April–June 2001. The share of closed-ended schemes also increased from 0.5% during 1999–00 to about 1.5% during 2000–01 and declined to 0.3% in April-June 2001. The open-ended schemes and assured return schemes registered net inflow of Rs. 6,112 crore and Rs. 1,280 crore, respectively, during April–June 2001, while the closed-ended schemes registered outflows to the tune of Rs. 455 crore during the same period. Details of funds mobilised and repurchase/redemption by MFs under different schemes are presented in Table 3.3A

Table 3.3A. Scheme-wise Resource Mobilisation by Mutual Funds

(Rs. crore)

	1999–00		2000–01		April–June 2001	
Scheme	Sale	Purchase	Sale	Purchase	Sale	Purchase
Open-ended	54,224	37,597	90,905	77,367	27,119	21,007
Close-ended	337	2,654	1438	4,800	85	540
Assured Return	5,187	953	614	1662	1,387	107
Total	59,748	41,204	92,957	83,829	28,591	21,654

Source: AMFI Updates.

Table 3.3B. Scheme-wise Resource Mobilisation by Mutual Funds

(Rs. crore)

	1999–00		2000–01		April–June 2001	
Scheme	Sale	Purchase	Sale	Purchase	Sale	Purchase
Income	17,707	9,039	26,674	21,835	11,924	3,799
Growth	15,020	10,170	17,996	18,299	345	384
Balanced	5,717	4,204	7,701	4,919	193	4,323
Liquid/ Money Market	15,925	14,177	36,212	33,648	14,619	12,345
Gilt	5,132	2,997	4,160	4,472	1,497	566
ELSS	247	617	214	656	13	237
Total	59,748	41,204	92,957	83,829	28,591	21,654

Source: AMFI.

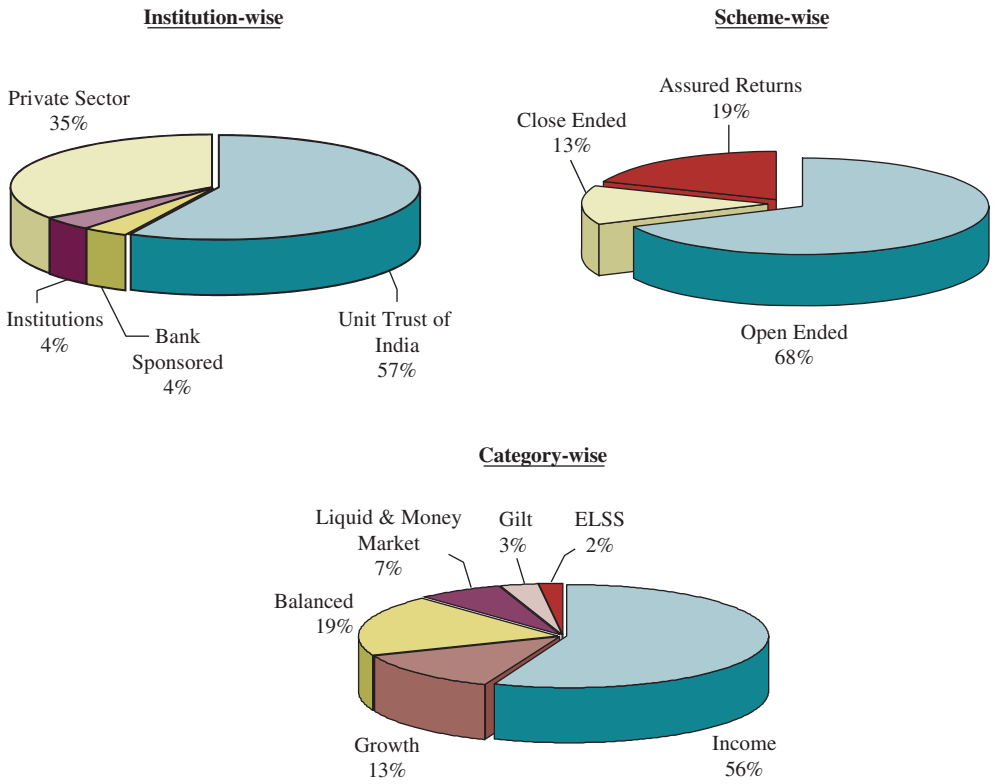
Income schemes raised about 28.6% of resources during 2000–01, as against 29.6% and 64.9% in the preceding two years, respectively. They mobilised about Rs. 11,924 crore (41.7%) of total resources in April–June 2001. The liquid/money market schemes have emerged as the first preference of investors. These schemes accounted for about one-third of net inflows during 2000–01 and raised about 51% of resources during April–June 2001. Scheme-wise details of inflows/outflows are presented in Table 3.3B.

Assets under Management

During 2000–01, the assets under management of all MFs declined by 19.8%, from Rs. 1,13,005 crore as at end-March 2000 to Rs. 90,587 crore as at end-March 2001 (Table 3.2). The assets under management, however, increased by 8% to Rs. 97,953 crore by end-June 2001. The share of private sector MFs in total assets under management increased from 22.2% as at end-March 2000 to 28.4% as at end-March 2001 and further to 35% as at end-June 2001 (Chart 3.1). UTI continues to be market leader with 64.0% share

in assets under management as at end-March 2001 and 57% share as at end-June 2001. During April–June 2001, the assets under management of public sector MFs declined by Rs. 1,315 crore, while that of private sector MFs increased by Rs. 8,681 crore.

Chart 3.1. Assets under Management at the end of June 2001



The open-ended schemes accounted for 67.8% of total assets under management of MFs as at end-June 2001 (Table 3.4). The closed-ended and assured return schemes accounted for about 13% and 19.2%, respectively, of assets under management as at end-June 2001.

Table 3.4. Assets under Management as at end June, 2001

(Rs. crore)

Scheme	Open Ended	Close Ended	Assured Returns	Total
Income	29,412	6,312	18,841	54,565
Growth	8,304	4,456	—	12,760
Balanced	18,600	216	—	18,816
Liquid/Money Market	6,444	—	—	6,444
Gilt	3,264	—	—	3,264
ELSS	353	1,751	—	2,104
Total	66,377	12,735	18,841	97,953

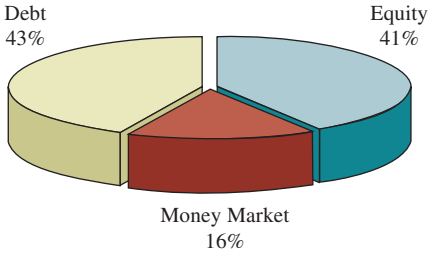
Source: AMFI Updates.

The income schemes accounted for 55.7% of total assets under management of MFs

as at end-June 2001, followed by balanced schemes with 19.2%. The growth schemes accounted for 13% of assets under management of MFs as at end-June 2001. The shares of different types of institutions, and categories of schemes in assets under management are presented in Chart 3.1.

About 41% of the total assets under management were invested in equities, while 43% in the debt and 16% in money market instruments as at end-March 2001. Investment distribution of total assets under management is presented in Chart 3.2.

Chart 3.2. Investment of Assets as at end-March 2001



Assured Return Schemes

Some of the schemes, which had assured returns, faced difficulties in meeting the assurance. In order to protect the interest of investors in such cases, SEBI directed sponsors/AMCs of MFs to honour their commitment of assured returns. In pursuance to such directions, the sponsors/AMCs of seven MFs contributed a total amount of Rs. 2,438 crore to meet the shortfall in case of 22 schemes by the end of March 2001 as compared to Rs. 1,979 crore for 19 schemes by March 2000. These seven MFs are BOI MF, Canbank MF, GIC MF, PNB MF, Indian Bank MF, SBI MF and LIC MF. SEBI (Mutual Funds) Regulations were amended to incorporate a provision that no return can be assured in a scheme unless such returns are fully guaranteed by the sponsor of AMC and the same is disclosed in the offer document.

Index Funds

An Index Fund is a MF that tries to mirror a market index, like Nifty or Sensex, as closely as possible by investing in all the stocks that comprise that index in proportions equal to the weightage of those stocks in the index. Thus, index funds are designed so as to replicate the performance of a well-established stock market index or a particular segment of the stock market. These are passively managed funds wherein the fund manager invests the funds in the stocks comprising the index in similar ratios. While reducing the risk associated with the market, index funds offer many benefits to the investors. Firstly, the investor is indirectly able to invest in a portfolio of a blue chip stock that constitutes the index. Next, they offer diversification across a multiplicity of sectors as at least 20–25 sectors find their way into the index. Added to these is the relatively low cost of management. Index funds are considered appropriate for conservative long term investors looking at moderate risk, moderate return arising out of a well-diversified portfolio.

A few index funds were launched in the recent past to reduce the bias of fund managers in stock selection and to provide a return at par with the index. They are UTI Master Index Fund, UTI Index Equity Fund, Franklin India Index Fund and IDBI Principal Index Fund *etc.* Templeton launched the 'Franklin India Index Tax Fund' in February

2001, which is the first tax saving index fund based on S&P CNX Nifty. There are total of six funds based on S&P Nifty namely, Franklin India Index Fund, Franklin India Tax Index Fund, IDBI Principal Index, UTI Nifty Index, India Access Fund and Pioneer ITI Index Fund.

The performance of index funds is generally similar to that of their benchmark indices. Franklin India Index Fund has generated negative returns of 11.8% over the last six months, which is marginally better than decline of 12.3% in Nifty. Similarly the other index funds based on S&P CNX Nifty also generated negative returns but fared better than the base index. A comparative table indicating returns of the index funds and its benchmark indices is presented in Table 3.5.

Table 3.5. Performance of Index Funds

		Returns*			
Index Funds	Launch Date	3 months	6 months	12 months	Base Index
IDBI Principal Index Fund	July 26, 1999	−2.90	−12.46	−25.02	S&P CNX Nifty
Franklin India Tax Index Fund	February 26, 2001	−2.75	—	—	S&P CNX Nifty
Franklin India Index Fund	August 4, 2001	−2.83	−11.84	—	S&P CNX Nifty
UTI Nifty Index	March 27, 2000	−3.32	−12.53	−25.22	S&P CNX Nifty
UTI Master Index	June 29, 1998	−3.35	−12.90	−27.73	BSE Sensex
S&P CNX Nifty	November 3, 1995	−3.51	−12.32	−24.71	—
BSE Sensex	January 2, 1986	−4.10	−12.97	−27.21	—

*Returns are calculated as on June 29, 2001.
Source: IISL.

Exchange Traded Funds

Exchange Traded Funds (ETFs) are innovative products, which first came into existence in the USA in 1993. The first ETF was based on the S&P 500 and was popularly known as SPDRs (Spiders). The fund provides exposure to an index or a basket of securities that trade on the exchange like a single stock. ETFs have a number of advantages over traditional open-ended index funds as they can be bought and sold on the exchange at prices that are usually close to the actual intra-day NAV of the scheme. They are an innovation to traditional MFs as they provide investors a fund that closely tracks the performance of an index with the ability to buy/sell on an intra-day basis. Unlike listed closed-ended funds, which trade at substantial premia or more frequently at discounts to NAV, ETFs are structured in a manner which allows to create new units and redeem outstanding units directly with the fund, thereby ensuring that ETFs trade close to their actual NAVs.

ETFs have gained prominence over the last few years with over US $ 70 billion (as on December 2000) invested in ETFs in over 30 indices globally. About 60% of trading volumes on the American Stock Exchange are from ETFs.

Like any other index fund, ETFs are usually passively managed funds wherein subscription/redemption of units works on the concept of exchange with underlying securities. Units can also be bought and sold directly on the exchange. The funds have all the benefits of indexing such as diversification, low cost and transparency. As the funds are listed on the exchange, costs of distribution are much lower and the reach is wider. These savings in cost are passed on to the investors in the form of lower costs. Further, exchange traded mechanism helps reduce the collection, disbursement and other processing charges. The structure of ETFs is such that it protects long-term investors from inflows and outflows of short-term investor. This is because the fund does not bear extra transaction cost when buying/selling due to frequent subscriptions and redemptions.

Tracking error, which is divergence between the price behaviour of a position or portfolio and the price behaviour of a benchmark, of ETFs is likely to be low as compared to a normal index fund. ETFs are highly flexible and can be used as a tool for gaining instant exposure to the equity markets, or for arbitraging between the cash and futures market.

An ETF based on S&P CNX Nifty is likely to be introduced in India soon by Benchmark Mutual Fund. The Nifty Benchmark Exchange Traded Fund would provide returns that closely correspond to the total return of stocks included in Nifty. It would be bought and sold like any other stock on NSE and would have all characteristics of an index fund.

Unit Scheme 1964 (US-64)

US-64 is a flagship scheme of UTI with over 20 million investors. The scheme was originally launched as a debt fund and was considered very safe. It provided high returns to the investors, especially in the first half of 1990s. The scheme encountered difficulties in July 1998, with reports that the original corpus of the scheme had been eroded to the extent of Rs. 1,098 crore, as a consequence of which, its reserves showed a negative balance. This shook the confidence of investors in the scheme.

UTI constituted a Committee under the Chairmanship of Mr. Deepak Parekh in October 1998 to undertake a comprehensive review of the functioning of the scheme and recommend measures for sustaining investor confidence and to strengthen the scheme. The Committee submitted its report in February 1999.

Following the recommendations of the Committee, mid-course reorganisation and portfolio rebalancing of US-64 was effected by UTI, which by the end of the year led to positive reserves. A number of measures were also taken by the Government of India. These included tax relief granted in the Budget for 1999–00. A swap arrangement was worked out whereby the Special Unit Scheme 99 (SUS 99) was created to which PSU stocks of US-64 were transferred on May 1, 1999. Government subscribed to SUS 99 through issue of dated GOI securities worth Rs. 3,300 crore. SUS 99 discharged the transfer considerations of PSU stocks by transferring the dated GOI securities to US-64. As a result, the scheme declared a dividend of 13.7% for the year 1999–00.

While many recommendations of the Parekh Committee were implemented by UTI, some key recommendations remained. These are (i) increasing the debt component in investment of the scheme, (ii) bringing the scheme under purview of SEBI, and (iii) shifting to NAV-based pricing. From negative reserves of Rs. 1,098 crore as at end-June 1998, US-64 recorded positive reserve of Rs. 130 crore as at end-June 1999, and showed substantial increase in reserves to Rs. 3,492 crore by end-June 2000. UTI continued to repurchase the units of US-64, at a price different from the NAV of the scheme. Till the month of March 2001, the schemes sales were higher than repurchases, thus the difference between NAV and repurchase price did not impact the scheme. However, in the months of April and May 2001, the scheme faced substantial redemption with negligible sales, thus impacting the NAV of the scheme. The equity portfolio of the scheme also reported significant depreciation in the first half of 2001. UTI, therefore, announced on July 2, 2001 suspension of the sales and repurchases of US-64 for a period of upto six months to enable it to make strategic changes to the scheme and the portfolio.

The freeze on sales and repurchases of the units of US-64 raised issues of the safety, and above all, liquidity of the scheme. UTI Board constituted a Consultative Group comprising Shri Y. H. Malegam, Dr. R. H. Patil and Shri N. S. Soonawala to render their expert advice in this regard. As an interim liquidity measure, UTI announced that small investor holding upto 3,000 units of the US-64 on June 30, 2001 can avail of the repurchase facility from August 1, 2001 to May 31, 2003. The repurchase price in August 2001 was fixed at the face value of Rs. 10 per unit. Thereafter, the repurchase

price unit will be increased by 10 paise every month. The scheme would be made NAV-based from January 1, 2002. From this date, small investors holding upto 3,000 units will have the option of selling their units either at then prevailing NAV-based price or the administered price as already announced by UTI. They will be eligible for dividends as may be declared.

While it is important for the sales/repurchases of the scheme to be linked to its NAV as soon as possible, it is recognised that the ideal time for doing this is when secondary market is buoyant. The suspension of the sale and repurchase of units converted an open-ended scheme into closed-ended one, which created a loss of investor confidence in the US-64, in particular, and MFs, in general. The exit window announced for small investors holding upto 3,000 units has helped in restoring investor confidence, to some extent. The prospects for US-64 are crucially linked to revival in stock markets. While introduction of NAV-based pricing from January 2002 has been announced, some more structural reforms aimed at ensuring the attractiveness of the scheme to investors are also being considered.

Policy Debates

Legal Status of Unit Trust of India

UTI was formed under a special Act of Parliament, *viz.*, the Unit Trust of India Act, 1963. While all other MFs come under the purview of the SEBI (Mutual Funds) Regulations, 1996, UTI continues to have an independent status. SEBI (Mutual Funds) Regulations set uniform standards and practices for all MFs. There has been an intense debate going on regarding whether UTI should be brought under SEBI purview notwithstanding the provisions of the UTI Act, 1963. UTI has, however, been voluntarily adhering to SEBI guidelines for most of its schemes.

A committee under the chairmanship of Justice D. R. Dhanuka, which was set up by SEBI in 1998 to examine the deficiencies in the securities laws was of the view that SEBI should be conferred powers to regulate and supervise the management and sponsors of all Collective Investment Schemes (CISs), including MFs. It was also suggested that SEBI should be the sole regulatory agency for the securities market and UTI should be treated at par with other MFs. A similar view is reportedly taken by the finance ministry, which proposed to convert UTI into a full-fledged MF subjecting it to the scrutiny of SEBI under the latter's regulations.

Units vs. Securities

The units of MFs not only compete with securities in terms of numbers, but also resemble securities to a large extent and hence compete with securities for attention of investors. Units represent the interest of the unit holder in the specific scheme just as securities represent the interest of the holder in the issuer. The unit holder has similar rights as a security holder has on the future performance of any underlying asset or group of assets. Special kinds of units (units of assured return schemes), which represent the rights of investors on a fixed income flow over the future years or a fixed maturity value at the end of a specified period, are similar to debentures issued by companies. UTI and other MFs issue units in a manner similar to issue of shares, debentures and other securities. These are listed and traded on various recognised stock exchanges like, shares, debentures and other securities. These are transferred from one holder to another or sold back to the issuer, at pre-specified or market determined values, just like, shares, debentures and other securities are. UTI and other MFs, as issuers of units, also have to adhere to all the requirements under the listing agreement with the respective exchanges as are applicable to the issuers of shares and debentures. The holders of units and securities have the

same need for safety, liquidity and return. Despite such close similarities between units and securities, they are not treated at par. The units of non-UTI MFs are not considered securities under law. There is no regulatory framework that governs trading of units of MFs and this is one of the reason why the secondary market for units have not developed to an appreciable extent. If there were a suitable regulatory framework and a vibrant market for units, the suspension of trading of units of US-64, which are securities, would not have invited wrath of small investors. Markets develop in a secured environment and this security is provided by a reliable regulatory framework.

Units are more risky for the investors as compared to securities as the fund managers churn the portfolio on daily basis. In order to help investors take informed decisions while choosing units of MFs, he needs to be guided and protected by a regulatory framework, which is not less rigorous than that applicable to securities. Strangely, the units are not even subject to same level of regulatory discipline and compliance as applicable for securities.

Some people believe that units of MFs are securities and hence the regulatory framework applicable to securities is applicable to trading of units also. They believe that since units are listed and traded on stock exchanges just like securities, that is, these are marketable, these are *de facto* securities. It is a wrong presumption that all those traded on a stock exchange are securities and all those not traded on a stock exchange are not securities. The exim scrips which were traded in early 1990s on stock exchanges are not securities, while unlisted shares/bonds of government companies/government securities, even though not listed/traded, are securities. In fact, the tradability or marketability is a necessary but not a sufficient condition, for an instrument to be a security. While all securities are marketable, all marketable instruments are not securities. Even all marketable securities are not securities under the Securities Contracts (Regulations) Act, 1956 (SCRA), which provides regulatory framework for trading of securities. Only those marketable securities, which have been specifically identified by SCRA as securities, are securities irrespective of the fact that they are listed/traded or not. The requirement of listing or facility of trading for an investment instrument does not make it a security.

The easiest way to develop the market for units of MFs and protect the investors investing in them is to consider the units to be securities so that the regulatory framework applicable to trading of securities would also apply to trading of units and SEBI which has the responsibility to protect the interests of investors in securities, can protect the interest of holders of units of MFs also. Since the jurisdiction of SEBI is limited to securities market and the units of MFs (except for units of UTI) are not explicitly recognised as securities in law, it is apprehended that the actions of SEBI in protecting the interests of investors in units of MFs and developing a market for them may not be sustained in the court of law.

Passive vs. Active Investing

A fund manager manages its portfolio in two styles, *viz.*, passive or active. Under passive management, the fund manager's objective is to construct a portfolio which seeks to equal the return on a given equity market index. No effort is made by the fund manager to find out which stocks are potential out performers and investment is done in broad indices or asset classes so as to achieve returns which approximate only the returns of the index or the asset class. On the other hand, under the actively managed funds the fund managers undertake research about companies, perform fundamental and technical analysis and seek various information before zeroing in on stocks which they identify as potential winners. Active investment management might be described as an attempt

to apply human intelligence, intuition and superior judgement to identify the potential winners in the financial markets.

There are MFs that offer Stock Index Funds whose main objective is to equal the return on a selected market index. While the style of investment may be called passive, it is only in the sense that the fund manager does not have to go through the process of stock selection unlike the active fund managers who try to pick stocks based on research or information, try to correctly time their decision to enter and exit from the markets and take positions in the options, futures and other derivatives market to hedge or take leveraged bets on the future direction of the market indices. Passive managers, on the other hand, invest in broad sectors or asset classes of the market, which could be a stock or a bond index and accept the average returns the various asset classes or indices produce. The main objective of the passive managers is to make a profit but they do not attempt to place judgement on stocks by doing research or analysing information.

Active fund management is more popular and more funds are managed in the similar fashion but researches have proved that it is actually more expensive and in most cases it is difficult to predict future prices correctly and outperform the markets. Stock prices are based on fundamental analysis which involves research into the operations and finances of a company with the objective of estimating its future earnings, technical analysis which involves study of historical data on the company's share price movements and trading volume. The objective of this kind of study is to recognise patterns in the market price behaviour and use that knowledge to try to predict the future course of the market price of a share, or even an industry. The fund manager also uses mathematical models for equity valuation, which helps in evaluating the market as a whole or particular sector/ industries.

In India, several index funds have been launched of late, which are passively managed funds. As pointed out by many studies, actively managed funds have failed to outperform the markets. It is therefore expected that the popularity of passively managed funds will gain further popularity.

Collective Investment Schemes

SEBI has continued with its efforts aimed at protecting investors in Collective Investment Schemes (CISs) by asking individual entities, which had failed to apply for grant of registration, to wind up their schemes and repay investors, and by issuing public notices cautioning investors about the risks associated with CIS. As on March 31, 2001, 36 applications for grant of registration were received from existing entities which reportedly mobilised about Rs. 295 crore. Further, 60 entities which reportedly collected about Rs. 426 crore intimated SEBI about their intention to repay the investors and wind up their schemes in terms of the provisions of SEBI (CIS) Regulations, 1999. Also, in some cases where the proceedings are in various courts, the entities, which had launched CIS, agreed to make repayments to the investors.

SCR Rules

The rules were amended to provide for listing of units of CIS in stock exchanges. A collective investment management company (CIMC) desirous of getting units/any other instrument of CIS listed on a stock exchange has to comply with a number of requirements similar to the ones prescribed for companies for listing their securities on the stock exchanges. The CIMC has to satisfy the stock exchange that at least 25% of the units or any other instrument of a CIS were offered to public for subscription through advertisement

for a period of not less than two days and not more than ninety days and that the applications received in pursuance to such offer were allotted fairly and unconditionally. The CIMC also has to comply with the terms and conditions as may be laid down by the stock exchange.

Registration of CIS with SEBI

As per the provisions of SEBI (Collective Investment Schemes) Regulations, 1999, which was notified on October 15, 1999, no existing CIS could launch any new scheme or raise money from the investors even under the existing schemes, unless a certificate of registration was granted to it by SEBI. For grant of certificate of registration, existing CIS entities were required to make an application within a period of 2 months from the date of notification of the Regulations. Accordingly, the last date for making an application for grant of certificate of registration to SEBI by existing CIS entities was December 14, 1999. However, having regard to the interests of investors who had invested in such existing CISs and requests of CIS for extension of time received as aforesaid, the last date for making an application was extended by SEBI upto March 31, 2000. Under the provisions of the Regulations, an existing CIS, which had failed to make an application or was not desirous of obtaining registration had to compulsory wind up the scheme(s) and make payment to the investors.

As on June 2001, there were 4 CISs registered with SEBI. Though the rules providing for listing of units of CIS have been framed, no CIS has yet sought listing of its units in any exchange.

Venture Capital Funds

Nodal Agency for VCFs

To simplify procedure, the Finance Act, 2000 has made SEBI the single-point nodal agency for registration and regulation of both domestic and overseas Venture Capital funds (VCFs). No approval of VCFs by tax authorities is required. VCFs shall enjoy a complete pass-through status. There will be no tax on distributed or undistributed income of such funds. The income distributed by the funds will only be taxed in the hands of investors at the rates applicable to the nature of income. This liberalisation is expected to give a strong boost to non-resident Indians (NRIs) in Silicon Valley and elsewhere to invest some of their capital, knowledge and enterprise in ventures in their motherland.

Investment Restrictions

The following restrictions apply to investments by VCFs:

(a) VCF has to disclose the investment strategy at the time of application for registration,

(b) a VCF cannot invest more than 25% corpus of the fund in one venture capital undertaking (VCU),

(c) VCF cannot invest in the associated companies, and

(d) VCF have to make investment in the VCU as per following:

  (i) At least 75% of the investible fund has to be invested in unlisted equity shares or equity linked instruments.

(ii) Not more than 25% of the investible funds may be invested by way of subscription to IPO of a VCU whose shares are proposed to be listed subject to lock-in period of one year, and debt or debt instrument of a VCU in which the VCF has already made an investment by way of equity.

Regulations for VCFs

SEBI amended regulations for VCFs. The salient amendments are:

(i) VCF is a fund established in the form of a trust/a company including a body corporate and registered with SEBI. It has a dedicated pool of capital, raised in the specified manner and invested in VCUs in accordance with the regulations. VCU is a domestic company whose shares are not listed on a stock exchange and is engaged in specified business.

(ii) The minimum investment in a VCF from any investor would not be less than Rs. 5 lakh and the minimum corpus of the fund before it could start activities should be at least Rs. 5 crore.

(iii) The norms of investment were modified. A VCF seeking to avail benefit under the relevant provisions of the Income Tax Act will be required to divest from the investment within a period of one year from the listing of the VCU.

(iv) The VCF will be eligible to participate in the IPO through book building route as Qualified Institutional Buyer.

(v) The mandatory exit requirement by VCF from the investment within one year of the listing of the shares of VCUs to seek tax pass-through was removed under the SEBI (VCF) Regulation to provide for flexibility in exit to VCFs.

(vi) The VCFs were directed to provide with the information pertaining to their venture capital activity for every quarter starting from the quarter ending December 31, 2000.

(vii) Automatic exemption was granted from applicability of open offer requirements in case of transfer of shares from VCFs in Foreign Venture Capital Investors (FVCIs) to promoters of a VCU.

There were 35 VCFs registered with SEBI as at end June 2001. During the year 2000–01, 13 new domestic VCFs and only 1 FVCI were registered. All VCFs are now required to provide information pertaining to their venture capital activity for every quarter starting from the quarter ending December 2000.

4. Secondary Market — Trading[1]

The stock exchanges are the exclusive centres for trading of securities. The regulatory framework encourages this by virtually banning trading of securities outside exchanges. Until recently, the area of operation/jurisdiction of an exchange was specified at the time of its recognition, which in effect precluded competition among the exchanges. These are called regional exchanges. In order to provide an opportunity to investors to invest/trade in the securities of local companies, it is mandatory for the companies, wishing to list their securities, to list on the regional stock exchange nearest to their registered office. If they so wish, they can seek listing on other exchanges as well. Monopoly of the exchanges within their allocated area, regional aspirations of the people and mandatory listing on the regional stock exchange resulted in multiplicity of exchanges. As a result, we have 24 exchanges (The Capital Stock Exchange, the latest in the list, is yet to commence trading) in the country recognised over a period of time to enable investors across the length and breadth of the country to access the market.

The three newly set up exchanges (OTCEI, NSE and ICSE) were permitted since their inception to have nation-wide trading. Listing on these exchanges was considered adequate compliance with the requirement of listing on the regional exchange. SEBI recently allowed all exchanges to set up trading terminals anywhere in the country. Many of them have already expanded trading operations to different parts of the country. The trading platforms of a few exchanges are now accessible from many locations. Further, with extensive use of information technology, the trading platforms of a few exchanges are also accessible from anywhere through the internet and mobile devices. This made a huge difference in a geographically vast country like India. It significantly expanded the reach of the exchange to the homes of ordinary investors and assuaged the aspirations of people to have exchanges in their vicinity. The issuers/investors now prefer to list/trade on exchanges providing nation-wide network rather than on regional exchanges. Consequently, territorial jurisdiction of an exchange, opportunity to invest in securities of local companies through listing on regional exchanges, and convenience of trading from a nearby exchange lost relevance.

The broad structure of the secondary market as on March 31, 2001 is presented below:

Stock Exchanges	23	With Clearing Corporation	1
Exchanges		With Settlement Guarantee Fund	16
With Screen-based Trading System	23	Registered Members (brokers)	9,782
With Internet Trading	2	Registered Foreign Brokers	38
With WAP Facility	1	Registered Corporate Members	3,808
With Equity Trading	23	Registered Sub-Brokers	9,957
With Debt Market Segment	1	Registered FIIs	506
With Derivative Trading	2	Listed Companies	9,922
With MCFS *	7	Market Capitalisation	Rs. 7,68,863 crore
With ALBM *	1	Turnover during 2000–01	Rs. 28,80,990 crore

* These have been discontinued w.e.f. July 2, 2001.

[1] This Chapter discusses the trading of equity shares and the next Chapter discusses clearing and settlement of equity shares. The trading of debt and derivative instruments is discussed in Chapter 6 and 7 respectively.

Policy Developments

Government and market regulators have taken several measures over last one decade to improve the working of the stock exchanges and market intermediaries. The measures aimed at improving market infrastructure, and upgradation of risk containment measures so as to protect the integrity of the market and interest of investors. The policy developments pertaining to trading of securities during 2000–01 and April–June 2001 are discussed below:

Registration Fees Payable by Brokers

SEBI Regulations require every stock broker to pay a registration fee of Rs. 5,000 for each financial year if his annual turnover does not exceed Rs. 1 crore. If the annual turnover exceeds Rs. 1 crore during any financial year, the broker has to pay Rs. 5,000 plus 100th of 1% of the turnover in excess of Rs. 1 crore. After the expiry of five years from the date of initial registration as a broker, he has to pay Rs. 5,000 for a block of 5 financial years. These regulations were contested before the Supreme Court. The issues raised and the decision of the Court thereon [Transferred Case (Civil) No. 20 of 2000] are presented below:

Statutory Authority of SEBI: It was contended by the petitioners that the fee prescribed in the regulations is without authority of law and is *ultra vires* Articles 265, 14 and 19 (1) (g) of the Constitution of India. The court, however, held that SEBI has necessary competence to collect the fees for the purposes of carrying out its mandates and also power to collect the registration fee.

Tax vs. Fee: The petitioners contended that a fee can be levied only if the collector of the fee is rendering any service to the contributories of the fee. After collecting huge sums of money by way of impugned fee, SEBI is not rendering them services co-relatable to the levy, but is utilising the same for the benefit of non-contributories. The levy being a compulsory extraction having penal consequences, the same is not a fee but a tax in the garb of fee. The Court observed that there have been sea changes in the judicial thinking as to the difference between a tax and a fee and held that so far as the regulatory fee is concerned, the service to be rendered is not a condition precedent and the same does not lose the character of fee provided it is not excessive. It is also not necessary that the services to be rendered by the collecting authority should be confined to the contributories alone. If the levy is for the benefit of the entire industry, there is sufficient *quid pro quo* between the levy recovered and the services rendered to the industry as a whole. In the instant case, SEBI Act requires SEBI to undertake various regulatory activities to regulate the business of the securities market and it is empowered to charge the required fee for the said purpose. Once it is held that the fee levied is regulatory in nature, the requirement of *quid pro quo* recede to the background.

Excessive Collection: The petitioners contended that the amount to be collected for the first five years as per the levy is over Rs. 400 crore, which is unjustified and unreasonable in view of the requirements of SEBI. The Court, after considering in detail the various activities to be carried out by SEBI under the Act and also under other Acts, held that SEBI would require substantial sums of money.

Capital Expenditure: It was contended by petitioners that they should not be made liable for the capital expenditure of SEBI. The Court held that it was already an established position of law that capital expenditure could be included in the costs of services. It observed that if the statute intends that the necessary funds should be met by collection

of fees from the securities market, then the said levy can not be questioned on the ground that monies required for capital expenditure of SEBI should be met by Government.

Discrimination: The petitioners contended that they were discriminated against other intermediaries in the stock market in as much as they as a class alone were made to pay the fee on the basis of annual turnover, while others had to pay only on a flat rate. The Court held that there is nothing wrong in either classifying the brokers as separate class for the subject of levy based on their annual turnover because the volume of transaction of brokers has a direct bearing on the regulatory expenses of the SEBI. Hence, this classification has a direct nexus with the object to be achieved.

Turnover as basis: It was contended that assuming that SEBI had the authority to levy the fee, the same could not be levied on the basis of the annual turnover of the brokers because such levy would amount to a tax on turnover. The Court held that the 'annual turnover' of a broker is not the subject matter of a levy but is only a measure of the levy.

Institutional Mechanism

While responding to a calling attention motion by the Hon'ble Leader of the Opposition on extreme volatility in the stock market, the Hon'ble Finance Minister proposed in March 2001 the following measures to improve the institutional mechanism and trading practices in the stock markets:

(a) Corporatisation of stock exchanges by which ownership, management, and trading membership would be segregated from each other.

(b) Extension of rolling settlement to 200 Category 'A' stocks in Modified Carry Forward Scheme, Automated Lending and Borrowing Mechanism and Borrowing and Lending Securities Scheme by July 2001.

(c) Legislative changes will be made to further strengthen the provisions in the SEBI Act, 1992 to ensure investor protection.

He also reiterated that the Government and SEBI would work to ensure that the capital market operates in an orderly, transparent, safe and fair manner. He assured that the guilty shall be brought to book without any fear or favour.

Joint Parliamentary Committee

A Joint Committee of both the Houses of Parliament consisting of 30 member, 20 from the Lok Sabha and 10 from the Rajya Sabha, was constituted in April 2001:

(i) to go into the irregularities and manipulations in all their ramifications in all transactions, including insider trading, relating to shares and other financial instruments and the role of banks, brokers and promoters, stock exchanges, financial institutions, corporate entities and regulatory authorities,

(ii) to fix the responsibility of the persons, institutions or authorities in respect of such transactions,

(iii) to identify the misuse, if any, of and failures/inadequacies in the control and the supervisory mechanisms,

(iv) to make recommendations for safeguards and improvements in the system to prevent recurrence of such failures,

(v) to suggest measures to protect small investors, and

(vi) to suggest deterrent measures against those found guilty of violating the regulations.

Union Budget, 2001–02

The Union Budget proposed the following measures, which impact the secondary market:

(a) In order to liberalise capital account,
- ADRs/GDRs will be provided two-way fungibility. Converted local shares may be reconverted to ADRs/GDRs while being subject to sectoral caps, wherever applicable.
- Indian companies will be permitted to list in foreign stock exchanges by sponsoring ADR/GDR issues against block shareholding. This facility would be offered to all categories of shareholders.

(b) Foreign Institutional Investors (FIIs) can invest in a company under the portfolio investment route up to 24% of the paid up capital of the company. This can be increased to 49% with the approval of the general body of the shareholders by a special resolution.

Companies (Second Amendment) Act, 2000

The Companies (Second Amendment) Bill, 1999 was passed by the Lok Sabha on November 27, 2000. It amended the Companies Act, 1956 with a view to improve corporate governance and protection of investors. It contains the following provisions having a bearing on securities market:

(i) The equity shares may be issued with voting rights or with differential rights as to dividend, voting or otherwise.

(ii) Every public listed company making initial public offer (IPO) of any security for Rs. 10 crore or more shall issue the same only in dematerialised form,

(iii) The provisions contained in sections 55 to 58, 59 to 84, 108, 109, 110, 112, 113, 116, 117, 118, 119, 120, 121, 122, 206, 206A and 207, so far as they relate to issue and transfer of securities and non-payment of dividend, shall be administered by SEBI in case of listed public companies, and in case of those public companies which intend to get their securities listed on any recognised stock exchange in India. In any other case, these shall be administered by the Central Government.

(iv) The dividend/interim dividend shall be paid to shareholders within 30 days.

(v) Board report shall include a Director's Responsibility Statement to highlight the accountability of directors in good corporate governance.

(vi) Public listed companies with a paid up capital of Rs. 5 crore or more shall set up an Audit Committee of the Board of Directors.

(vii) No person can hold office of director in more than 15 companies at a time.

Amendments to Listing Agreement

The listing agreement was amended in the following manner:

Announcement of Board Decisions: In order to avoid excessive volatility in stock prices due to announcements regarding decisions in respect of declaration of dividend or rights issues or bonus *etc.* during the market hours, SEBI advised the stock exchanges to amend Clauses 20 and 22 of the listing agreement to provide that such announcements be made on the date of the Board Meeting only after the close of the market hours. It was clarified that if such announcements are to be made before the opening of the market hours, it shall be made at least half an hour before the market opens.

Utilisation of Funds: Clause 43 of the listing agreement requires that a company which mobilises funds from public through public/rights issues would provide to the stock exchanges and publish a statement showing variations between the projected utilisation of the funds and/or projected profitability statement made by it in its prospectus or letter of offer and the actual utilisation of funds and/or actual profitability on a half yearly basis. To improve disclosure standards, the stock exchanges were advised by SEBI to amend Clause 43 to provide that statements would be published on a quarterly basis, along with the unaudited/audited financial results as required under Clause 41.

To include the disclosure of the funds raised through preferential offers and their actual utilisation, the stock exchanges were advised in October 2000 to substitute existing Clause 43 of the listing agreement requiring a company to furnish on a quarterly basis a statement to the exchange indicating the variations between projected utilisation of funds and/or projected profitability statement made by it in its prospectus or letter of offer or object/s stated in the explanatory statement to the notice for the general meeting for considering preferential issue of securities, and the actual utilisation of funds and/or actual profitability. The statement shall be given for each of the years for which projections are provided in the prospectus/letter of offer/object(s) stated in the explanatory statement to the notice for considering preferential issue of securities and shall be published in newspapers simultaneously with the unaudited/audited financial results as required under Clause 41. If there are material variations between the projections and the actual utilisation/profitability, the company shall furnish an explanation therefor in the advertisement and shall also provide the same in the Directors' Report.

Further Issue of Capital: As there is a single international securities identification number (ISIN) for all shares issued by companies, there is a possibility of freshly issued shares being delivered in the market without being listed. To take care of this problem, SEBI advised the stock exchanges to modify the listing agreement requiring a company to obtain 'in-principle' approval for listing from the exchange before issuing further shares or securities. The stock exchanges would intimate this to the depositories immediately.

Disclosure Standards: Based on the recommendation of the Accounting Standards Committee, SEBI advised the stock exchanges in February 2001 to amend Clauses 20, 22, 36 and 41 of the listing agreement to provide the following:

1. Companies shall immediately disclose all material information simultaneously to all the stock exchanges where the securities of the company are listed. In respect of any material event arising out of decisions taken in the Board meetings including the announcements of results, dividends, bonus, rights *etc.*, the information shall be furnished to the stock exchanges within 15 minutes of the closure of the Board meetings. Regional exchange of the listed company shall disseminate the information to all other exchanges where the securities of the listed company are listed/traded.
2. The companies shall have an option to publish audited half yearly financial results within two months instead of publishing unaudited results within one month followed by a limited review within two months.
3. The companies shall disclose the aggregate of non-promoter shareholding along with the half-yearly financial results with effect from the half year ending on or after March 31, 2001.
4. The requirement of disclosures related to Y2K preparedness under the Clauses 32 and 41 of the listing agreement may be discontinued.

Shareholding Pattern: SEBI directed the stock exchanges in February 2001 to amend Clause 35 of the listing agreement to incorporate the provision regarding shareholding pattern of companies aiming to ensure greater transparency by listed companies. The listed companies shall disclose the shareholding pattern on a quarterly basis within 15 days of the end of the quarter in the prescribed format. The stock exchanges as well as listed companies shall post the information on their web-sites. The companies would also disclose the names of all persons who have 1% shareholding. Foreign holdings and ADR/GDR holdings would also be disclosed.

Non-promoter Holding on a Continuous Basis: SEBI directed the stock exchanges in May 2001 to amend their listing agreement to incorporate the requirement of quantitative continuous listing conditions to ensure availability of floating stock on a continuous basis. The listing agreement would provide the following:

(i) The company agrees that in the event of the application for listing being granted by the Exchange, the company shall maintain on a continuous basis, the minimum level of non-promoter holding at the level of public shareholding as required at the time of listing.

(ii) Where the non-promoter holding of an existing listed company as on April 01, 2001 is less than the limit of public shareholding as required at the time of initial listing, the company shall within one year raise the level of non-promoter holding to at least 10%. In case the company fails to do so, it shall buy back the public shareholding in the manner provided in the Takeover Regulations, 1997.

(iii) The company agrees that it shall not make preferential allotment or an offer to buy back its securities, if such allotment or offer would result in reducing the non-promoter holding below the limit of public shareholding specified under the DIP Guidelines, as applicable at the time of initial listing or the limit specified in sub-clause (ii) above for the existing listed company, as the case may be.

These conditions shall not apply to the companies referred to Board for Industrial and Financial Reconstruction (BIFR). The stock exchanges were advised by SEBI to monitor the level of non-promoter holding on a half yearly basis from the returns submitted by the companies. The non-promoter holding would be a part of half-yearly disclosures by the companies.

The following shall also be the condition for continued listing:

(a) When any person acquires or agrees to acquire 5% or more of the voting rights of any securities, the acquirer and the company shall comply with the relevant provisions of the Takeover Regulations, 1997.

(b) When any person acquires or agrees to acquire any securities exceeding 15% of the voting rights in any company or if any person who holds securities which in aggregate carries less than 15% of the voting rights of the company and seeks to acquire the securities exceeding 15% of the voting rights, such person shall not acquire any securities exceeding 15% of the voting rights of the company without complying with the relevant provisions of the Takeover Regulations, 1997.

The requirement of at least 5 public shareholders for every Rs. 1 lakh capital issued was withdrawn.

Listing Requirement

Public Offer: SEBI had relaxed in 1999 the requirement of public offer for IT companies. It further relaxed in August 2000 the requirement of offering 25% of the securities to public

for the purpose of listing under Rule 19(2)(b) of the Securities Contracts (Regulation) Rules, 1957 (SCRR) in respect of the companies in the media (including advertisement), entertainment and telecommunication sectors, subject to the condition that:

(i) at least 10% of the capital issued, comprising a minimum of 20 lakh securities, were offered to the public, and

(ii) the size of the net offer to the public (*i.e.*, the offer price multiplied by the number of securities offered to the public, excluding reservations, firm allotment and promoters' contribution) was not less than Rs. 50 crore.

This relaxation was available if not less than 75% of the company's revenue and profit emanate from these sectors. This was done to facilitate availability of quality securities to Indian investors.

Government amended the SCRR in June 2001 to relax the listing requirement on a stock exchange. A public company seeking listing of its securities on a stock exchange is required to satisfy the exchange that at least 10% of each class or kind of securities issued by it was offered to the public for subscription through advertisement in newspapers for a period not less than 2 days and that applications received in pursuance of such offer were allotted. However, this requirement is subject to the following conditions:

(i) minimum 20 lakh securities (excluding reservations, firm allotment and promoters' contribution) was offered to the public;

(ii) the size of the offer to the public, *i.e.*, the offer price multiplied by the number of securities offered to the public was minimum Rs. 100 crore; and

(iii) the issue was made only through book building method with allocation of 60% of the issue size to the qualified institutional buyers (QIBs) as specified by SEBI.

If, however, a company does not fulfill the above conditions, it has to satisfy the exchange that at least 25% of each class or kind of securities was offered to the public for subscription through advertisement in newspapers for a period not less than two days and that applications received in pursuance of such offer were allotted.

Conditional Listing: Many times, the stock exchanges accorded conditional listing to a company, but allowed trading only if the company fulfilled all the conditions. If the conditions were not fulfilled, the permission for trading was not granted. In such cases, the issuer gets subscription money and the exchange gets listing fee, but investors hold securities without being able to trade in them. Neither the Securities Contracts (Regulation) Act, 1956 (SCRA) nor the byelaws made thereunder empower an exchange to grant such conditional listing. In an order, Securities Appellate Tribunal (SAT) condemned such conditional permission, which endangered the interest of investors. It observed: 'Since such conditional permission negates the protection available to subscribers under section 73 of the Companies Act, SEBI perhaps would probe into the matter and take proper corrective and punitive measures to protect the interests of the investors'. Pursuant to this, stock exchanges were advised in May 2001 by SEBI to desist from the practice of granting conditional listing to the companies as it does not comply with section 73 of the Companies Act, 1956. The section 73 of the Companies Act, 1956 envisages a final decision of granting or refusing listing permission to the companies.

Collection of Listing Fees: SEBI withdrew the requirement of collection of three years listing fees up-front and granted stock exchanges the freedom to collect listing fees in a manner as they deem fit. The stock exchanges were so far required to collect three years listing fees up-front at the time of initial listing and subsequently once in every

three years. The amount so collected was to be kept in an escrow account with the stock exchanges, which may be drawn, periodically by the stock exchanges to the extent of its annual listing fees.

Withdrawal/Suspension of Dealings

The exchanges needed approval from SEBI for suspending securities from trading for more than 3 days. They have now been allowed to take decisions relating to suspension of trading, including number of days of suspension, without requiring SEBI's approval.

The SC(R) Rules were amended in August 2000 to provide that in case a stock exchange withdraws admission to dealings in any security, including unit/any other instrument of a collective investment scheme (CIS), or the suspension of admission to dealings continues beyond three months, the concerned company or body corporate can prefer an appeal to SAT. The SAT may, after giving the stock exchange an opportunity of being heard, vary or set aside the decision of the stock exchange. Thereupon the orders of the SAT shall be carried out by the stock exchange.

It has been provided that every appeal to the SAT shall be filed within a period of forty five days from the date on which a copy of order of a stock exchange withdrawing admission to dealings or suspending admission to dealings beyond three months in any security, including units or any other instruments of a CIS, is received by the appellant.

Listing of Units of CIS

The SC(R) Rules were amended in August 2000 to provide norms for listing of units of CIS. A collective investment management company (CIMC) desirous of getting units/any other instrument of any CIS listed on a stock exchange has to comply with a number of requirements similar to the ones prescribed for companies for listing their securities on the stock exchanges. The CIMC has to satisfy the stock exchange that at least 25% of the units or any other instrument of a CIS were offered to public for subscription through advertisement for a period of not less than two days and not more than ninety days and that the applications received in pursuance to such offer were allotted fairly and unconditionally. The CIMC also has to comply with the terms and conditions as may be laid down by the stock exchange. However, no CIS has so far sought listing on an exchange.

Bank Financing of Equities

Based on the recommendations of the RBI-SEBI Standing Technical Committee, RBI issued guidelines on bank financing of equities and investments in shares in November 2000. The main features of the guidelines are as follows:

(i) Within the overall exposure to sensitive sectors, a bank's exposure to the capital market by way of investments in shares, convertible debentures and units of equity-oriented mutual funds (MFs) cannot exceed 5% of the bank's outstanding domestic credit (excluding inter-bank credit and advances outside India) as on March 31 of the previous year.

(ii) Banks can grant advances to individuals for subscribing to IPOs, subject to a limit of Rs. 10 lakh for advances against IPOs to an individual. Banks are not allowed to extend credit to companies for investment in other companies' IPOs and to non-banking financial companies (NBFCs) for further lending to individuals for IPOs.

(iii) A minimum margin of 25%, including cash margin, must be obtained by banks for issue of guarantees on behalf of share brokers.

RBI reviewed the guidelines in May 2001 and incorporated the following:

(i) Banks can acquire shares, debentures and units of MFs, *etc.*, for

- direct investment in shares, debentures, *etc.* at their own risk,
- loans and advances to individuals and share broking entities for investment in capital markets on their own accounts.

Further, shares/debentures may be assigned to banks by individuals and corporates as collateral and as additional security for certain approved purposes, which do not involve stock broking or investment in capital market.

(ii) The ceiling of 5% for investment in shares *etc.*, would cover:

- direct investments in equity shares, convertible bonds and debentures and units of equity-oriented MFs,
- advances against shares to individuals for investment in equity shares (including IPOs), bonds and debentures, units of equity-oriented MFs,
- secured and unsecured advances to stock brokers and guarantees issued on behalf of stock brokers and market makers.

The 5% ceiling would be computed in relation to the bank's total outstanding advances (including commercial paper) as on March 31 of the previous year.

(iii) Within the overall ceiling of 5% for total exposure to capital market, the total investment in shares, convertible bonds and debentures and units of equity-oriented MFs by a bank should not exceed 20% of its net worth.

(iv) A uniform margin of 40% will be applicable on all advances/financing of IPOs/ issue of guarantees. A minimum cash margin of 20% (within the margin of 40%) will have to be maintained in respect of guarantees issued by banks.

(v) The guidelines also specify norms for risk management and internal control systems.

Multiple Membership

SEBI clarified that the eligibility criteria for multiple membership as stipulated in Government of India circular dated August 12, 1991, which required that a member should have operated his membership for a period of at least 5 years before seeking membership to another stock exchange shall not be applicable if a member (whether corporate or individual) has been admitted to a stock exchange in accordance with Rule 8 of the SCRR. The above stated criteria was earlier relaxed in the case of corporate members seeking multiple membership. The other norms relating to multiple membership as stipulated in the said circular shall continue to be applicable.

WAP Trading

In terms of approval of the SEBI Committee on internet-based Trading and Services, SEBI specified in October 2000 the minimum requirements for brokers offering securities trading through wireless medium on Wireless Application Protocol (WAP) platform. A broker providing stock trading through WAP must be a SEBI-registered broker who also has an internet web-site, which complies with all the requirements, laid down by SEBI in a circular issued in January 31, 2000 relating to internet trading. All the requirements as stipulated in the circular will apply to WAP-based systems, subject to certain modifications/further restrictions. The modifications relate to greater network security, manner of price quotas/order trade confirmations, system operations, risk

management and investor information. A broker/member desirous of providing WAP-based trading will be required to take approval from respective exchanges. Following this, NSE has started WAP-enabled on-line trading.

Stock Exchange Balance Sheet

The Stock exchanges were advised to disseminate their annual accounts to public through their web-sites.

Digital Signature on Contract Note

Following passing of the Information Technology Act, 2000 (IT Act), contract notes with digital signatures are legally valid. SEBI clarified that the brokers can issue contract notes authenticated by means of digital signatures provided that the broker has obtained digital signature certificate from Certifying Authority under the IT Act, 2000. The mode of confirmation by client may be as specified in the agreement between the broker and the client. Accordingly, NSE allowed its trading members to issue contract notes authenticated by means of digital signatures.

Client Code

SEBI decided to make the client code mandatory at the broker level. Brokers shall collect and maintain in their back office the Permanent Account Number (PAN) allotted by Income Tax Department for all their clients. Where an individual client does not have PAN, such a client shall be required to give a declaration to that effect and until the PAN is allotted, such client shall furnish passport number and place and date of its issue. Where the client does not have a PAN or passport, such client shall furnish driving license number and place and date of its issue. If none of the above is available, the client shall give his voter ID number. This requirement shall be applicable for clients having order value of Rs. 1 lakh or more and shall be enforced with effect from August 01, 2001.

Enforcement of Corporate Governance

For ensuring compliance of the various provisions of corporate governance, SEBI directed the stock exchanges to implement the following:

1. The stock exchanges shall set up a separate monitoring cell with identified personnel to monitor the compliance with the provisions of corporate governance. This cell shall obtain the quarterly compliance report from the companies scheduled in the first phase and shall submit a consolidated compliance report to SEBI within 30 days of the end of the quarter, commencing from the quarter ending March 2001. These companies shall submit the quarterly compliance report to the stock exchanges within 15 days from the end of the quarter.
2. All companies seeking fresh listing of their IPOs are required to comply with the provisions of corporate governance at the time of listing. The stock exchanges shall ensure that these provisions have been complied with before granting any new listing. Conditional listing may be granted to only those companies where the stock exchange is satisfied that genuine legal issues exist which will delay compliance.

Insider Trading

The code of conduct for listed companies and other entities and the code of corporate disclosure practices along with certain amendments in the SEBI (Insider Trading) Regulations, 1992 were approved by SEBI in May 2001. These are detailed below:

1. The code of conduct for listed companies and other entities associated with securities markets covers the following aspects:

   - maintaining confidentiality of 'Unpublished Price Sensitive Information',
   - trading restrictions such as, trading windows, restricted lists of securities and pre-clearance of trades,
   - internal reporting requirements for transactions in securities, and
   - provisions for internal enforcement and penalty to be imposed by companies/other entities for contravention of code of conduct.

2. The code of corporate disclosure practices for listed companies covers the areas of

   - prompt disclosure of price sensitive information by listed companies,
   - responding to market rumours,
   - timely reporting of shareholdings/ownership and changes in ownership,
   - disclosure of information with special reference to analysts, institutional investors, and
   - dissemination of information by companies including through company websites.

3. The amendments to the SEBI (Insider Trading) Regulations, 1992 include requirements for initial and continual disclosure of shareholding by directors or officers who are insiders and substantial shareholders (holding more than 5% shares/voting rights) of listed companies. These disclosures are to be made to the companies, which will inform the stock exchanges within the prescribed time period.

Investment Advice by Intermediaries

SEBI notified in June 2001 the SEBI (Investment Advice by Intermediaries) (Amendment) Regulations, 2001. This amended a number of SEBI regulations requiring market intermediaries to appoint a Compliance Officer who shall be responsible for monitoring the compliance requirements of the SEBI Act, rules, regulations, notifications, guidelines, instructions, *etc.* issued by SEBI or Central Government and for redressal of investors' grievances. The Compliance Officer shall independently report to the SEBI about any non-compliance observed by him. It also requires that the intermediaries or any of its employee's shall not render any investment advice about any security in the publicly accessible media unless a disclosure of his/employee's or his dependent family members' interest in the said security has been made while rendering such advice. The intermediaries mandated to have a Compliance Officer are Bankers to an Issue, Credit Rating Agencies, Custodian of Securities, Debenture Trustees, Depositories and Participants, Foreign Institutional Investors, Merchant Bankers, Mutual Funds, Portfolio Managers, Registrars to an Issue and Share Transfer Agents, Stock Brokers and Sub-Brokers and Underwriters. The Intermediary/Compliance Officer contravening the provisions of the regulations shall be liable for action under the concerned regulation and the SEBI Act.

Market Design[2]

Exchange Management

There are 23 operative stock exchanges in India. Most of the stock exchanges in the country are incorporated as 'Association of Persons' or Section 25 companies under the Companies Act. These are organised as 'mutuals' and are considered beneficial in terms of tax benefits and matters of compliance. The trading members, who provide broking services also own, control and manage the stock exchanges. They elect their representatives to regulate the functioning of the exchange, including their own activities. However, broker-owned exchanges do not offer an effective model for self-regulatory organisations (SROs) as the regulatory and public interest role of the exchange comes into conflict with private interests of the elected directors. This limitation has been realised by the stock exchanges themselves as well as the regulators. Various committees recommended reducing dominance of trading members in the management of stock exchanges by prescribing composition of governing council and strengthening the position of Executive Director. The reform process made some attempts in this direction, but this did not materially alter the situation. In view of the less than satisfactory quality of administration of broker-managed exchanges, the Finance Minister in March 2001 proposed demutualisation of exchanges by which ownership, management and trading membership would be segregated from each other. The regulators are working towards implementing this.

Of the 23 stock exchanges in India, two stock exchanges *viz.*, OTCEI and NSE are already demutualised. These are managed by boards of directors, which do not include trading members. These are purest forms of demutualised exchanges, where ownership, management and trading are in the hands of three different sets of people. The concept of demutualisation completely eliminates any conflict of interest and helps the exchange to pursue market efficiency and investors interest aggressively.

Membership

The trading platform of a stock exchange is accessible only to brokers. The broker enters into trades in exchanges either on his own account or on behalf of clients. The clients may place their orders with them directly or through a sub-broker indirectly. A broker is admitted to membership of an exchange in terms of the provisions of the SCRA, the SEBI Act 1992, the rules, circulars, notifications, guidelines, *etc.* prescribed thereunder and the byelaws, rules and regulations of the concerned exchange. No stock broker or sub-broker is allowed to buy, sell or deal in securities, unless he or she holds a certificate of registration granted by SEBI. A broker/sub-broker complies with the code of conduct prescribed by SEBI.

The stock exchanges are free to stipulate stricter requirements for its members than those stipulated by SEBI. The minimum standards stipulated by NSE for membership are in excess of the minimum norms laid down by SEBI. The standards for admission of members laid down by NSE stress on factors, such as, corporate structure, capital adequacy, track record, education, experience, *etc.* and reflect a conscious endeavour to ensure quality broking services. The eligibility criteria for membership on the CM segment of NSE are presented in Table 4.1.

[2] While an attempt has been made to present market design for the entire Indian securities market, the trading mechanism and such other exchange-specific elements have been explained based on the model adopted by NSE. The market developments have been explained, mostly for the two largest stock exchanges, *viz.*, NSE and BSE. Wherever data permit, an all-India picture has been presented.

Table 4.1. Eligibility Criteria for Membership on CM Segment of NSE

Particulars	CM and F&O Segment	CM & WDM Segment	CM, WDM and F&O Segment
Constitution	Individuals/Firms/ Corporates	Corporates	Corporates
Net Worth	Rs. 100 lakh	Rs. 200 lakh	Rs. 200 lakh
Interest Free Security Deposit (IFSD)	Rs. 125 lakh	Rs. 250 lakh	Rs. 275 lakh
Collateral Security Deposit (CSD)	Rs. 25 lakh	Rs. 25 lakh	Rs. 25 lakh
Annual Subscription	Rs. 1 lakh	Rs. 2 lakh	Rs. 2 lakh
Education	Proprietor/two partners/two directors should be graduates. Two dealers should also have passed SEBI-approved certification test for derivatives.	At least two directors should be graduates.	At least two directors should be graduates. Two dealers should also have passed SEBI-approved certification test for derivatives.
Experience	Two years experience in securities market.		
Track Record	The applicant/partners/directors should not be defaulters on any stock exchange. They must not be debarred by SEBI for being associated with capital market as intermediaries. They must be engaged solely in the business of securities and must not be engaged in any fund-based activity.		

Source: NSE.

The authorities have been encouraging corporatisation of the broking industry. Over time, a number of brokers — proprietor firms and partnership firms — have converted themselves into corporates. As at end-March 2001, there were 9,782 brokers (including multiple registrations) registered with SEBI as compared to 9,192 brokers as at end-March 2000. Of these, 3,808 brokers, accounting for nearly 39% of total, were corporate entities. It may be noted that around 88% of brokers on NSE were corporatised as at end-March 2001, followed by OTCEI with 77% corporate brokers. Some of the brokers hold multiple memberships of exchanges, *i.e.*, they trade on more than one exchange. As at end-March 2001, 8,227 brokers had single membership, while 621 double, 82 triple and 10 quadruple memberships. Three members held membership of five exchanges, while two members held membership of six exchanges. As end-March 2001, there were 9,957 sub-brokers registered with SEBI, as compared with 5,675 sub-brokers as at end of previous year. Of these, 92% of the sub-brokers were from NSE and BSE.

Listing

Listing means formal admission of a security to the trading platform of a stock exchange, invariably evidenced by a listing agreement between the issuer of the security and the stock exchange. Listing of securities on Indian stock exchanges is essentially governed by the provisions in the Companies Act, 1956, SCRA, SCRR, rules, bye-laws and regulations of the concerned stock exchange, the listing agreement entered into by the issuer and the stock exchange and the circulars/guidelines issued by Central Government and SEBI. The key provisions are explained below:

1. The Companies Act, 1956 requires a company intending to issue securities to public to seek permission for dealing with its securities on one or more recognised stock

exchanges. The prospectus should state the names of the stock exchanges where application for listing has been made and any allotment of securities shall be void if permission for listing is not granted by all the stock exchanges before expiry of 10 weeks from the closure of the issue.

2. The SCRA empowers exchanges to make byelaws, which may provide for the listing of securities, the inclusion of any security for the purpose of dealings and suspension or withdrawal of any such securities and the suspension/prohibition of trading in specified securities. All listed companies are under obligation to comply with the conditions of listing agreement with the stock exchange where their securities are listed. On failure to comply with the conditions of listing, they are punishable with a fine up to Rs. 1,000. A company can prefer an appeal to the SAT against refusal of a stock exchange to list its securities.
3. The SCRR prescribe requirements with respect to the listing of securities on a recognised stock exchange and empowers SEBI to waive or relax the strict enforcement of any or all of them. A company seeking listing has to satisfy the stock exchange that at least 10% of the securities were offered to public for subscription, subject to the condition that a minimum of 20 lakh securities, are offered to the public, and the size of the net offer to the public (*i.e.*, the offer price multiplied by the number of securities offered to the public, excluding reservations, firm allotment and promoters' contribution) is not less than Rs. 100 crore, and the issue is made only through book building method with allocation of 60% of the issue size to the QIBs as specified by SEBI. In the alternative, it is required to offer at least 25% of the securities to public.
4. The listing agreement contains a provision requiring the issuer to irrevocably agree that unless the Exchange agrees otherwise, the issuer will not, without the previous permission in writing of SEBI, withdraw its adherence to the agreement for listing. It also requires an issuer to agree that any of its securities listed on the Exchange shall remain on the list entirely at the pleasure of the Exchange which has right to suspend or remove from the list the said securities at any time and for any reason which the Exchange considers proper in its absolute discretion. As a precondition for continuous listing, an issuer undertakes to forthwith comply with such conditions as may be prescribed by the Exchange.
5. A government circular requires that the companies wishing to list their securities must get listing on the regional stock exchange (an exchange is considered regional for the state/Union Territory where it is located) nearest to their registered office. If they so wish, they can seek listing on other exchanges also. All the exchanges where application has been made for listing must dispose off applications within the time specified in the Companies Act.
6. A SEBI circular requires the basic norms for listing of securities on the stock exchanges to be uniform for all the exchanges. They may, however, prescribe additional norms over and above the minimum norms. These norms are part of the byelaws of the stock exchanges. SEBI has been issuing guidelines/circulars prescribing certain norms to be included in the listing agreement and to be complied with by the companies. The listing requirements for companies in the CM segment of NSE are presented in Table 4.2.

The SCRR, byelaws, and the listing agreement prescribe a number of requirements to be continuously complied with by the issuers for continued listing. The listing agreement also stipulates the disclosures to be made by the companies and the corporate governance practices to be followed by all listed companies. The Exchange monitors

such compliance. Failure to comply with the requirements invites suspension of trading of the security for a specified period, or withdrawal/delisting, in addition to penalty prescribed in the SCRA. SEBI circular permits voluntary delisting of securities from non-regional stock exchanges after providing an exit opportunity to holders of securities in the region where the concerned Exchange is located. An Exchange can, however, delist the securities compulsorily following a very stringent procedure.

The number of companies listed on various stock exchanges increased to 9,922 at the end of 2000–01 from 9,871 at the end of previous year. Many of these companies are 'primarily' listed on an exchange, *i.e.*, the company is listed on the stock exchange of the region where it is located. These companies are, however, permitted for trading on other stock exchanges. The Calcutta Stock Exchange (CSE) had the highest number of companies primarily listed on it, accounting for more than 19% of primary listings across all stock exchanges.

Listing Fees

The stock exchanges levy listing fees from the companies listed on their exchange. The listing fee has two components—initial fees and annual fees. While initial fee is a fixed amount, the annual fee varies depending upon the size of the company. NSE charges Rs. 7,500 as initial fees from the companies at the time of listing. In addition, NSE collects a minimum of Rs. 4,200 as annual fees from companies with a paid-up share and/or debenture capital of less than or equal to Rs. 1 crore. For companies with a paid-up share and/or debenture capital of more than Rs. 50 crore, the annual listing fees is Rs. 70,000 *plus* Rs. 1,400 for every additional Rs. 5 crore or part thereof. NSE levies half of the prescribed annual fees in respect of listed securities for which it is not the regional exchange. It does not levy any listing fee in respect of 'permitted to trade' securities. From the aggregate amount collected as listing fees by the stock exchanges during a month, 5% of it is paid to SEBI on a quarterly basis.

Trading Mechanism

All stock exchanges in India follow screen-based trading system. NSE was the first stock exchange in the country to provide nation-wide order-driven, screen-based trading system. NSE model was gradually emulated by all other stock exchanges in the country. The trading system at NSE known as the National Exchange for Automated Trading (NEAT) system, is an anonymous order-driven system and operates on a strict price/time priority. It enables members from across the country to trade simultaneously with enormous ease and efficiency. NEAT has lent considerable depth in the market by enabling large number of members all over the country to trade simultaneously and consequently narrowed the spreads significantly. A single consolidated order book for each stock displays, on a real time basis, buy and sell orders originating from all over the country. The book stores only limit orders, which are orders to buy or sell shares at a stated quantity and stated price. The limit orders are executed only if the price quantity conditions match. Thus, the NEAT system provides an Open Electronic Consolidated Limit Order Book (OECLOB). The trading system provides tremendous flexibility to the users in terms of kinds of orders that can be placed on the system. Several time-related (Good-till-Cancelled, Good-till-Day, Immediate-or-Cancel), price-related (buy/sell limit and stop-loss orders) or volume-related (All-or-None, Minimum Fill, *etc.*) conditions can be easily built into an order. Orders are sorted and matched automatically by the computer keeping the system transparent, objective and fair. The trading system also provides complete market information on-line, which is updated on real time basis.

Table 4.2. Listing Criteria for Companies in the CM Segment of NSE

Criteria	Initial Public Offerings (IPOs)*	Securities Listed on other Stock Exchanges	Companies Formed by Amalgamation/Restructuring
Paid-up Equity Capital (PUEC)/Market Capitalisation (MC)	PUEC ⩾ Rs. 10 cr. and MC ⩾ Rs. 25 cr.**	(a) PUEC ⩾ Rs. 10 cr. and MC ⩾ Rs. 25 cr. # OR (b) PUEC ⩾ Rs. 25 cr. OR (c) MC ⩾ Rs. 50 cr.	(a) PUEC ⩾ Rs. 10 cr. and MC ⩾ Rs. 25 cr. ** OR (b) MC ⩾ Rs. 50 cr. OR (c) Net worth ⩾ Rs. 50 cr.
Company/Promoter's Track Record	3 years of existence of applicant/promoting company.	3 years of existence of applicant/promoting company.	3 years of existence of promoting/parent/ applicant company.
Dividend Track Record or Net worth	—	(a) Dividend paid/Distributable Profits for at least 2 out of the last 3 years OR Net worth Rs. 50 cr. ## (b) No negative net worth (c) No winding-up petition, and (d) No reference to BIFR.	Dividend paid for at least 2 out of the last 3 years OR Net worth ⩾ Rs. 50 cr. of the parent/applicant company.
Project Appraisal/ Listing on other Stock Exchanges	(a) Project appraisal by specified agencies OR (b) Working capital arrangement with a bank. ##	(a) Listed on any other stock exchange for last three years OR (b) Project appraisal by specified agencies OR (c) Working capital arrangement with a bank. #	The parent company should be listed on NSE or the applicant company should be listed on any other exchange.
Other Requirements	(a) No disciplinary action by other stock exchanges/regulatory authority in past 3 yrs. (b) Satisfactory redressal mechanism for investor grievances, distribution of shareholding and litigation status.	Same as for IPOs.	Same as for IPOs and restructuring scheme of arrangement to be approved by a court order.

* The criteria for IPOs shall also be applicable to companies which have come out with IPOs, but are not listed on NSE, provided they make an application for listing within 6 months of the date of closure of public issue.
** For knowledge-based companies, the criterion for PUEC shall be ⩾ Rs. 5 cr. and MC ⩾ Rs. 50 cr.
# If MC < Rs. 25 cr., the security should have been traded for at least 25% of the trading days during the last 12 months.
Not applicable to nationalised banks, PSUs, FIs, government companies, statutory corporations, banking companies and subsidiaries of scheduled commercial banks.
Note:
1. Market capitalisation is the product of the issue price and the post-issue number of equity shares. It shall be calculated by using a 12 month moving average of the market capitalisation over a period of six months immediately preceding the date of application.
2. Net worth means paid-up equity capital plus reserves excluding revaluation reserve minus miscellaneous expenses not written off minus negative balance in profit and loss account to the extent not set off.
3. Knowledge-based companies are companies in the field of information technology, internet, commerce, telecommunications, pharmaceuticals, *etc.* and the revenue from knowledge-based activity is more than 75% of income for last 2 years.
Source: NSE.

The trading platform of the CM segment of NSE is accessed not only from the computer terminals from the premises of brokers spread over 420 cities, but also from the personal computers in the homes of investors through the internet and from the hand-held devices through WAP. The trading platform of BSE is also accessible from 400 cities.

Internet trading is available on NSE and BSE, as of now. SEBI has approved use of internet as an order routing system, for communicating clients' orders to the exchanges through brokers. SEBI-registered brokers can introduce internet-based trading after obtaining permission from respective stock exchanges. SEBI has stipulated the minimum conditions to be fulfilled by trading members to start internet-based trading and services.

NSE was the first exchange in the country to provide web-based access to investors to trade directly on the exchange. It launched internet trading in February 2000. It was followed by the launch of internet trading by BSE in March 2001. The orders originating from the personal computers (PCs) of investors are routed through the internet to the trading terminals of the designated brokers with whom they have relations and further to the exchange for trade execution. Soon after these orders get matched and result into trades, the investors get confirmation about them on their PCs through the same internet route.

SEBI approved trading through wireless medium or WAP platform. NSE is the only exchange to provide access to its order book through the hand held devices, which use WAP technology. This serves primarily retail investors who are mobile and want to trade from any place when the market prices for stocks of their choice are attractive.

Technology

Across the globe, developments in information, communication and network technologies have created paradigm shifts in the securities market operations. Technology has enabled organisations to build new sources of competitive advantage, bring about innovations in products and services, and provide new business opportunities. Stock exchanges all over the world have realised the potential of IT and have moved over to electronic trading systems, which are cheaper, have wider reach and provide a better mechanism for trade and post-trade execution.

In recognition of the fact that technology will continue to redefine the shape of the securities industry, NSE stresses on innovation and sustained investment in technology to remain ahead of competition. NSE is the first exchange in the world to use satellite communication technology for trading. It uses satellite communication technology to energise participation from about 3,500 VSATs from over 400 cities spread all over the country. NSE has the largest VSAT-based trading network in the world and the largest VSAT network for any purpose in the Asia Pacific region. At the server end, all trading information is stored in an in-memory database to achieve minimum response time and maximum system availability for users. For all trades entered into the trading system *viz.*, NEAT, there is uniform response time of less than 2 seconds. NSE has been continuously undertaking capacity enhancement measures so as to effectively meet the requirements of increased users and associated trading loads. With recent upgradation of trading hardware, and improved system architecture, NSE can handle up to 2.2 million trades per day. The capacity enhancement ensured that NSE could successfully handle peak volume of nearly 14 lakh trades involving a turnover of about Rs. 11,000 crore on February 28, 2001. For the purpose of making pertinent information available to the members, a facility in the form of Extranet has been implemented by the exchange. NSE has also put in place NIBIS (NSE's Internet Based Information System) for on-line real-time dissemination of trading information over the internet.

As part of its business continuity plan, NSE has established a disaster back-up site in a different city along with its entire production infrastructure, including the satellite earth station. A high-speed optical fibre links the primary and secondary site. The transaction data is backed up from the main site to the disaster back-up site through the said high-speed link to keep both the sites all the time synchronised with each other.

Trading Rules

Insider Trading

Insider trading is prohibited and is considered an offence. The SEBI (Insider Trading) Regulations, 1992 prohibit an insider from dealing (on his own behalf or on behalf of others) in securities on the basis of 'unpublished price sensitive information', communicating such information and also from counseling any other person to deal in securities of any company on the basis of such information. Unpublished price sensitive information, which if published or known, is likely to have an impact on the market price of the securities of that company. Such information may relate to the financial results of the company, declaration of dividends, issue of rights issues and bonus shares, amalgamation, mergers, takeovers, any major policy changes, *etc.* SEBI, on the basis of any complaint or otherwise, investigates/inspects the allegation of insider trading. On the basis of the report of the investigation, SEBI may prosecute persons found *prima facie* guilty of insider trading in an appropriate court or pass such orders as it may deem fit. Based on inspection, an adjudicating officer appointed by SEBI can impose monetary penalty.

In order to strengthen insider trading regulations, SEBI recently approved a code of conduct for listed companies, its employees, analysts, market intermediaries and professional firms. The insider trading regulations were amended to include requirements for initial and continual disclosure of shareholding by directors or officers, who are insiders, and substantial shareholders (holding more than 5% shares/voting rights) of listed companies.

Unfair Trade Practices

The SEBI (Prohibition of Fraudulent and Unfair Trade Practices in relation to the Securities Market) Regulations, 1995 enable SEBI to investigate into cases of market manipulation and fraudulent and unfair trade practices. These regulations empower SEBI to investigate into violations committed by any person, including an investor, issuer or an intermediary associated with the securities market. The regulations define frauds as acts committed by a party to a contract or by his agent, with intent to deceive another party or his agent or to induce him to enter into the contract. The regulations specifically prohibit market manipulation, misleading statements to induce sale or purchase of securities, and unfair trade practices relating to securities. SEBI can conduct investigation, *suo moto* or upon information received by it, through an investigation officer in respect of conduct and affairs of any person buying/selling/dealing in securities. Based on the report of the investigating officer, SEBI can initiate action for suspension or cancellation of registration of an intermediary.

Takeovers

The restructuring of companies by way of takeover is governed by the SEBI (Substantial Acquisition of Shares and Takeovers) Regulations, 1997. The Regulations were

formulated so that the process of acquisitions and takeovers is carried out in a well-defined and orderly manner following the principle of fairness and transparency. As per the regulations, the mandatory public offer is triggered by:

- crossing the threshold limit of 15%,
- crossing the creeping acquisition limit of 5% during 12 months period by persons holding between 15% and 75% of shares,
- Attempts by persons having 75% or more to acquire more shares, and
- changes in control with or without acquisition of shares.
- The regulations give enough scope to existing shareholders for consolidation and also cover the scenario of indirect acquisition of control. The applications for takeovers are scrutinised by the Takeover Panel constituted by SEBI.

Buy back

Buy back aims at improving liquidity in the shares of companies and helps corporates in enhancing the shareholders' wealth. Under the SEBI (Buy Back of Securities) Regulations, 1998, a company is permitted to buy back its shares from:

(a) existing shareholders on a proportionate basis through the tender offer, *i.e.*, by means of offer documents;

(b) open market through stock exchanges, and book building process; and

(c) shareholders holding odd lot shares.

The regulations provide for extensive disclosures in the explanatory statement to be annexed to the notice for the general meeting and the letter of offer. The company has to disclose the pre and post-buy back holdings of the promoters. With a view to ensure completion of the buy back process speedily, the regulations provide for time bound steps in every mode. For example, in the cases of purchases through stock exchanges, an offer for buy back shall not remain open for more than 30 days. The verification of shares received in buy back has to be completed within 15 days of the closure of the offer. The payments for accepted securities has to be made within 7 days of the completion of verification and bought back shares have to be extinguished and physically destroyed within 7 days of the date of the payment. To ensure security for performance of its obligation, the company making an offer for buy back will have to open an escrow account on the same lines as provided in Takeover Regulations.

Price Bands

Stock market volatility is generally a cause of concern for both policy makers as well as investors. To curb excessive volatility, SEBI has prescribed a system of price bands. The price bands or circuit breakers bring about a coordinated trading halt in all equity and equity derivatives markets nation-wide. An index-based market-wide circuit breaker system at three stages of the index movement either way at 10%, 15% and 20% has been prescribed. The breakers are triggered by movement of either S&P CNX Nifty or Sensex, whichever is breached earlier. As an additional measure of safety, individual scrip-wise price bands of 20% either way have been imposed for all scrips except those available for stock options.

Demat Trading

A depository holds securities in dematerialised form. It maintains ownership records of securities in a book entry form and also effects transfer of ownership through book entry. SEBI has introduced some degree of compulsion in trading and settlement of securities in dematerialised form. While the investors have a right to hold securities in either physical or demat form, SEBI has mandated compulsory trading and settlement of securities in select securities in dematerialised form. This was initially introduced for institutional investors and was later extended to all investors. Starting with twelve scrips on January 15, 1998, all investors are required to mandatorily trade in dematerialised form in respect of 2,335 securities as at end-June 2001. The securities of companies, which fail to establish connectivity with both the depositories on the scheduled date as announced by SEBI, are traded on the 'trade for trade' settlement window of the exchanges. However, in order to mitigate the difficulties of small investors, the stock exchanges provide additional windows for sales upto 500 shares in the physical form.

Since the introduction of the depository system, dematerialisation has progressed at a fast pace and has gained acceptance amongst the participants in the market. All actively traded scrips are held, traded and settled in demat form. The details of progress in dematerialisation in two depositories, *viz.*, NSDL and CDSL, are presented in Table 4.3.

Table 4.3. Progress of Dematerialisation: NSDL & CDSL

	NSDL			CDSL		
Parameters of Progress	March-00	March-01	June-01	March-00	March-01	June-01
Companies - Agreement Signed	918	2,821	3,183	765	2,723	3,299
Companies - Available for Demat	821	2,786	3,154	556	2,703	3,279
Depository Participants	124	186	202	61	264	281
DP Locations	1,425	1,896	2,639	72	132	148
Stock Exchanges Connected	10	10	10	4	11	13
Demat Quantity (Mn.)	15,501	37,208	39,948	523	1,920	2,295
Demat Value (Rs. Bn.)	4,614	3,262	3,265	82	109	106

Source: SEBI, NSDL & CDSL.

In a SEBI working paper titled 'Dematerialisation: A Silent Revolution in the Indian Capital Market' released in April 2000, it has been observed that India has achieved a very high level of dematerialisation in less than three years' time, and currently more than 99% of trades settle in demat form. Competition and regulatory developments facilitated reduction in custodial charges and improvements in qualities of service standards. The paper observes that one imminent and apparent immediate benefit of competition between the two depositories is fall in settlement and other charges. Competition has been driving improvement in service standards. Depository facility has effected changes in the stock market microstructure. Breadth and depth of investment culture has further got extended to interior areas of the country faster. Explicit transaction cost has been falling due to dematerialisation. Dematerialisation substantially contributed to the increased growth in turnover. Dematerialisation growth in India is the quickest among all emerging markets and also among developed markets excepting for the UK and Hong Kong.

Charges

As per SEBI Regulations, every stock broker is required to pay a registration fee of Rs. 5,000 every financial year, if his annual turnover does not exceed Rs. 1 crore. If the broker's turnover is more than Rs. 1 crore during any financial year, the broker has

to pay Rs. 5,000 plus hundredth of 1% of the turnover in excess of Rs. 1 crore. After the expiry of five years from the date of initial registration as a broker, he has to pay Rs. 5,000 for a block of five financial years. The trading members are required to collect the annual fees payable by their sub-brokers and submit it to the stock exchanges for onward transmission to SEBI.

In addition to the registration fee collected by SEBI, the stock exchanges collect transaction charges from its trading members. In order to share the benefits of efficiency with market participants, NSE has been reducing its transaction charges over time. The transaction charges as effective from January 2001 are as indicated below:

Monthly Turnover of the Member (Rs. crore)	Transaction Charges per Rs. 1 lakh of Turnover on Incremental Basis
$\leqslant$ 200	6 (0.006%)
$\geqslant$ 200 and $\leqslant$ 600	5 (0.005%)
$\geqslant$ 600	4 (0.004%)

The brokerage charged by trading members from clients vary. The maximum brokerage chargeable by a trading member in respect of trades effected in the securities admitted to dealing on the CM segment of the NSE is fixed at 2.5% of the contract price, exclusive of statutory levies like SEBI turnover fee, service tax and stamp duty. Further, the sub-broker can charge brokerage at rates not exceeding the rate prescribed by SEBI, *i.e.*, 1.5%. The total brokerage that can be charged to a client is subject to an overall limit of 2.5%. However, brokerage charges as low as 0.15% are also observed in the market.

Deferral Products

In addition to the normal trading sessions, the stock exchanges also used to arrange sessions for deferral products like ALBM/BLESS and 'badla' on a regular basis. All deferral products have been banned by SEBI with effect from July 2, 2001. ALBM provided members a facility to lend/borrow securities at market determined rates. The Modified Carry Forward System (MCFS) or badla was available at BSE and six other stock exchanges. It provided a mechanism for carrying forward positions as well as for borrowing funds. (The deferral products are discussed in greater detail in Chapter 5).

Institutional Trades

Transactions by MFs in the secondary market are governed by SEBI (Mutual Funds) Regulations, 1996 and the investment objective of the scheme. A mutual fund under all its schemes is not allowed to own more than 10% of any company's paid-up capital. Mutual funds are allowed to do only 'delivery-based' transactions and are not allowed to short sell. A mutual fund cannot invest more than 10% of the NAV of a particular scheme in the equity shares or equity related instruments of a single company.

The investments by FIIs are governed by the rules and regulations of RBI and SEBI. As per RBI guidelines, each FII can invest upto 10% of the paid-up capital of a company. Total FII investment in a company should not exceed 24%. This can, however, be increased to 49% of the paid-up capital of the company with the approval of shareholders through a special resolution in General Body Meeting. As per SEBI guidelines, all FII transactions are to be routed through a registered member of a recognised stock exchange in India. FIIs have to necessarily give and take delivery of securities sold and bought. They are also not permitted to engage in short selling of securities.

Index Services

The most important index in financial market is the stock index, which uses a set of stocks that are representative of the whole market, or a specified sector, to measure the change in overall behaviour of the markets or sector over a period of time. India Index Services & Products Limited (IISL), promoted by NSE and CRISIL, is the only specialised organisation in the country to provide stock index services. It has developed and has been maintaining scientifically an array of indices of stock prices in NSE, in technical partnership with Standard & Poor's, USA. The popular indices are the S&P CNX Nifty, CNX Nifty Junior, S&P CNX Defty, S&P CNX 500, CNX Midcap 200, S&P CNX Industry indices (for 79 industries) and CNX segment indices (for 3 segments). IISL maintains over 80 indices comprising broad-based benchmark indices, sectoral indices and customised indices. These indices are monitored and updated dynamically and are reviewed regularly. These are maintained professionally to ensure that it continues to be a consistent benchmark of the equity markets. This involves inclusion and exclusion of stocks in the index and the day-to-day tracking and giving effect to corporate actions on individual stocks.

S&P CNX Nifty, which comprises of 50 largest and most liquid stocks, was introduced in April 1996. It has a historical time series dating back to January 1990. It accounted for 51.2% of total market capitalisation of CM segment of NSE as at end-June 2001. CNX Nifty Junior, introduced in December 1996, is built out of the next 50 large and liquid stocks. It accounted for 5% of market capitalisation as at end-June 2001.

While trying to construct Nifty, a number of calculations were done to arrive at the ideal number of stocks. An analysis of liquidity suggested that Indian market had comfortable liquidity of around 50 stocks. Beyond 50, the liquidity levels became increasingly lower. Hence the index set size of 50 stocks was chosen. The stocks included in the Nifty index are being picked up based on impact cost worked out from snapshots of limit order book of NSE. The selection of stocks is based on the criteria of liquidity and market capitalisation. The composition of Nifty is reviewed every quarter. This helps in maintaining liquidity of the index while preventing too many changes making the index unstable. The index is calculated afresh every time a trade takes place in an index stock. It is calculated on-line and disseminated over trading terminals across the country. (The movement of Nifty since 1991 is presented in Chart 1.1 of Chapter 1). Annexures 4.1 to 4.4 present the market capitalisation, weightage, beta and monthly returns of the S&P CNX Nifty stocks since April 2000.

S&P CNX Nifty was introduced by the NSE keeping in mind that it would be used for modern applications such as index funds and index derivatives, besides reflecting the stock market accurately. It has become the most popular and widely used indicator of the stock market in the country. Many financial and risk management products based on S&P CNX Nifty index have gained immense popularity in the recent past. As many as six index funds are based on Nifty Index.

Index futures and options have been launched at NSE based on S&P CNX Nifty. Futures contracts based on Nifty have also been launched at the derivative exchange at Singapore. It is the only Indian index-based derivative product traded on a foreign exchange.

Market Outcome

Turnover — Growth and Distribution

Trading volumes at the stock exchanges have been witnessing phenomenal growth for last few years. It increased from Rs. 1,64,057 crore in 1994–95 to Rs. 20,67,031 core in 1999–00. During 2000–01, the turnover on all stock exchanges taken together increased by 39.4% to Rs. 28,80,990 crore (Table 4.4). Turnover ratio increased from 34 in 1994–95 to 375 in 2000–01, which is now one of the best in the world.

Table 4.4. Turnover on Stock Exchanges in India

Stock Exchanges	Turnover (Rs. crore)		Share in Turnover (%)	
	1999–00	2000–01	1999–00	2000–01
1. NSE	839,052	1,339,510	40.59	46.49
2. Mumbai	685,028	1,000,032	33.14	34.71
3. Calcutta	357,166	355,035	17.28	12.32
4. Delhi	93,289	83,871	4.51	2.91
5. Ahmedabad	37,566	54,035	1.82	1.88
6. Uttar Pradesh	24,048	24,747	1.16	0.86
7. Ludhiana	7,741	9,732	0.37	0.34
8. Pune	6,087	6,171	0.29	0.21
9. Bangalore	11,147	6,033	0.54	0.21
10. Hyderabad	1,237	978	0.06	0.03
11. ICSE	545	233	0.03	0.01
12. Cochin	0	373	0.00	0.01
13. OTCEI	3,588	126	0.17	0.00
14. Madras	250	109	0.01	0.00
15. Madhya Pradesh	10	2	0.00	0.00
16. Magadh	8	2	0.00	0.00
17. Vadodara	159	1	0.01	0.00
18. Gauhati	0	0	0.00	0.00
19. Bhubaneshwar	70	0	0.00	0.00
20. Coimbatore	39	0	0.00	0.00
21. Jaipur	2	0	0.00	0.00
22. Mangalore	0	0	0.00	0.00
23. SKSE	0	0	0.00	0.00
Total	2,067,031	2,880,990	100.00	100.00

Source: SEBI.

The year 2000–01 witnessed peak volumes between June 2000 and February 2001. The market, however, bottomed out since March 2001, despite the euphoria about a good budget. This was due to the crisis, which broke out in early 2001, involving some brokers and the banking system. The monthly turnover at CM segment of NSE declined from a peak of Rs. 1,48,830 crore in January 2001 to Rs. 60,226 crore in March 2001. Similarly, at BSE, the turnover declined from a peak of Rs. 1,14,849 crore in January 2001 to Rs. 45,170 crore in March 2001 (Table 4.5). The trading volumes have declined further in the first quarter of the current financial year following announcement of several structural changes in the markets. These include a shift to rolling settlement for all major securities and withdrawal of deferral products. Such changes are usually accompanied by a fall in volumes initially. However, as the market gains experience with the new mechanism, the trading volumes are expected to return to their normal levels.

The increase in turnover has not been uniform across exchanges. Despite a handsome increase in turnover for all stock exchanges taken together, as many as thirteen exchanges recorded decline in turnover during 2000–01. Only three exchanges, namely NSE, BSE,

Table 4.5. Stock Market Indicators—Monthly Trends on NSE and BSE

(Rs. crore)

	Turnover		Avg. Daily Turnover		Market Capitalisation (end of period)	
Month	NSE	BSE	NSE	BSE	NSE	BSE
Apr-00	57,229	44,601	3,179	2,478	846,391	755,914
May-00	79,037	57,891	3,593	2,631	790,478	702,777
Jun-00	119,373	86,277	5,426	3,922	852,554	793,230
Jul-00	110,056	80,346	5,241	3,826	746,402	720,884
Aug-00	125,347	92,563	5,698	4,207	794,516	766,642
Sep-00	142,480	114,432	7,124	5,722	730,350	692,657
Oct-00	106,854	76,304	5,088	3,634	707,121	653,437
Nov-00	122,731	86,971	5,579	3,953	764,177	699,230
Dec-00	131,415	99,199	6,571	4,960	760,391	691,162
Jan-01	148,830	114,849	6,765	5,220	807,641	736,631
Feb-01	135,932	101,427	6,797	5,071	789,600	716,173
Mar-01	60,226	45,170	2,868	2,151	657,847	571,553
Apr-01	35,616	23,876	1,875	1,257	653,720	567,728
May-01	48,329	31,868	2,197	1,449	592,437	595,938
Jun-01	42,783	25,451	2,037	1,212	569,797	553,230

+ Estimated (A + B1 + B2 + Z).
Source: NSE and BSE.

and Ahmedabad Stock Exchange improved their market share during the year (Table 4.4). The increase in turnover took place only at big exchanges and it was mostly at the cost of small exchanges. Of the 23 operative stock exchanges (Capital Stock Exchange is yet to start operations), 17 exchanges together reported less than 1% share in total turnover. Top six exchanges together accounted for over 99% of turnover. NSE continued to be market leader with 46% market share. Since its inception in 1994, NSE has emerged as the favoured exchange among trading members. The consistent increase in popularity of NSE is clearly evident from Annexure 4.5, which presents business growth of CM segment of NSE right since inception. NSE now reports higher turnover from its trading terminals in most of the cities than the corresponding regional exchange. The comparative picture of turnover of regional stock exchanges and turnover of NSE terminals at different cities is presented in Table 4.6.

The sectoral distribution of turnover has undergone significant change over last few years. Table 4.7 presents the share of top '50' companies at NSE, classified according to different sectors, in turnover and market capitalisation. A drastic change in the importance of different sectors is observed over last five years. The share of manufacturing companies in turnover of top '50' companies, which was nearly 80% in 1995–96, declined sharply to less than 10% in 2000–01. During the same period the share of information technology (IT) companies in turnover increased sharply from nil in 1995–96 to 76% in 2000–01.

Trades concentrate not only on a few exchanges and among particular sector/s, but also on a few securities/members, though decreasing concentration of trades is observed in the recent years. The concentration of trading among top 'N' securities/members on NSE is presented in Table 4.8. The share of top '5' securities in turnover, which had been declining till 1999–00, increased to 52% in 2000–01. Trading in top '100' securities accounted for nearly 98% of turnover during 2000–01. Member-wise distribution of turnover as presented in Table 4.8 indicates increasing diffusion of trades among a large number of trading members over the years. During 2000–01, top '5' members accounted for only 7.8% of turnover, while top '100' members accounted for 49% of total turnover.

Table 4.6. Turnover on NSE terminals vs. Turnover on other Exchanges in the City

(Rs. crore)

Stock Exchange/Exchange City	1999–00		2000–01	
	NSE	Exchange	NSE	Exchange
1. Mumbai (BSE)	371,402	685,028	647,624	1,000,032
2. Mumbai (OTCEI)	371,402	3,588	647,624	126
3. Mumbai (ICSE)	371,402	545	647,624	233
4. Calcutta	82,671	357,166	110,352	355,035
5. Delhi	149,135	93,289	228,105	83,871
6. Ahmedabad	22,295	37,566	35,940	54,035
7. Uttar Pradesh (Kanpur)	5,325	24,048	7,359	24,746
8. Ludhiana	1,784	371,402	2,404	9,732
9. Pune	10,487	6,087	14,349	6,171
10 Bangalore	11,951	11,147	22,690	6,033
11. Hyderabad	20,709	1,237	30,759	978
12. Cochin	6,186	0	10,067	187
13. Chennai	32,590	250	45,495	109
14. Madhya Pradesh (Indore)	8,904	10	15,129	2
15. Magadh (Patna)	685	8	1,006	2
16. Vadodara	6,794	159	9,814	1
17. Coimbatore	4,961	39	7,854	0
18. Bhubaneshwar	365	70	577	0
19. Jaipur	10,271	2	14,196	0
20. Guwahati	741	0	1,316	0
21. Mangalore	863	0	1,117	0
22. SKSE (Rajkot)	3,860	0	5,066	0

Note: The NSE figures relate to its volumes in the CM segment (not WDM and Derivatives segments) from the concerned city, while all other figures represent all-India turnover of the concerned exchange.
Source: SEBI & NSE.

Market concentration among top 'N' securities/members has, however, come down during April–June 2001.

Turnover in India seems to be more concentrated in comparison to that in other comparable markets as may be seen from Table 4.9. Ten most active index securities accounted for 48.9% of turnover in India and top ten index securities in terms of equity base accounted for 27.2% of market capitalisation at the end of 2000.

As on March 31, 2001, 64 members were granted permission to commence internet trading by NSE. This number stood at 72 at the end of June 2001. Trades worth Rs. 7,289 crore and Rs. 1,537 crore were routed and executed through the internet during 2000–01 and the first quarter of the current financial year, respectively.

The internet volumes are expected to go up as the spread of internet increases further. NSE.IT, a subsidiary of NSE, has launched NEAT *iXS* to help brokerage firms to conduct internet trading. This software can be accessed through internet from India and abroad using standard browsers. It provides real time on-line market information including stock quotes and order screens, allowing investors to place orders from their personal computers. The success of internet trading in India will, however, depend on expansion of internet bandwidth, which is necessary for faster execution of trades.

Market Capitalisation

The market capitalisation data are available only for BSE and NSE. During 2000–01, the market capitalisation of both the stock exchanges suffered declines due to a decline in stock prices (Table 4.5). The market capitalisation of securities available for trading on

Table 4.7. Distribution of Turnover and Market Capitalisation of Top '50' Companies listed at NSE

Turnover

	Amount (Rs. crore)						% to total					
Companies	1995–96	1996–97	1997–98	1998–99	1999–00	2000–01	1995–96	1996–97	1997–98	1998–99	1999–00	2000–01
Manufacturing	49,909	131,109	132,678	88,224	139,742	124,779	79.29	45.88	37.43	23.13	18.78	9.85
Financial Services	10,859	100,037	54,071	26,500	34,308	17,559	17.25	35.01	15.25	6.95	4.61	1.39
F.M.C.G	704	43,818	155,148	94,240	38,011	32,438	1.12	15.33	43.77	24.71	5.11	2.56
I.T.	0	159	2,579	138,148	369,315	957,159	0.00	0.06	0.73	36.22	49.63	75.56
Pharmaceuticals	158	408	1,976	9,029	48,230	21,085	0.25	0.14	0.56	2.37	6.48	1.66
Others	1,313	10,229	8,048	25,285	114,481	113,803	2.09	3.58	2.27	6.63	15.39	8.98
Total	62,943	285,762	354,500	381,427	744,088	1,266,823	100.00	100.00	100.00	100.00	100.00	100.00

Market Capitalisation

	Amount (Rs. crore)						% to total					
Companies	1995–96	1996–97	1997–98	1998–99	1999–00	2000–01	1995–96	1996–97	1997–98	1998–99	1999–00	2000–01
Manufacturing	139,546	162,188	177,371	106,572	151,692	96,718	62.05	62.18	54.95	34.39	20.53	20.79
Financial Services	25,655	29,083	34,061	18,334	36,209	36,460	11.41	11.15	10.55	5.92	4.90	7.84
F.M.C.G.	22,648	29,888	59,199	90,773	79,522	80,497	10.07	11.46	18.34	29.29	10.76	17.30
I.T.	0	0	8,434	45,742	306,418	106,095	0.00	0.00	2.61	14.76	41.48	22.80
Pharmaceuticals	4,168	4,728	8,176	24,221	19,324	21,035	1.85	1.81	2.53	7.82	2.62	4.52
Others	32,880	34,934	35,545	24,272	145,609	124,502	14.62	13.39	11.01	7.83	19.71	26.76
Total	224,897	260,821	322,786	309,912	738,774	465,306	100.00	100.00	100.00	100.00	100.00	100.00

F.M.C.G. Fast Moving Consumer Goods
I.T. Information Technology

Table 4.8. Percentage Share of Top 'N' Securities/Members in Turnover

	No. of Securities/Members				
	5	10	25	50	100
Securities					
1994–95 (Nov.-Mar.)	48.77	55.92	68.98	81.14	91.07
1995-96	82.98	86.60	90.89	93.54	95.87
1996-97	84.55	91.96	95.70	97.03	98.19
1997-98	72.98	85.17	92.41	95.76	97.90
1998-99	52.56	67.11	84.71	92.03	95.98
1999-2000	39.56	59.22	82.31	88.69	93.66
2000-01	52.15	72.90	88.93	94.57	97.80
April-June 2001	44.16	63.96	84.64	92.76	97.29
Members					
1994-95 (Nov.-Mar.)	18.19	26.60	44.37	61.71	81.12
1995-96	10.65	16.56	28.61	41.93	58.59
1996-97	5.94	10.08	19.67	30.57	45.95
1997-98	6.29	10.59	18.81	29.21	44.24
1998-99	7.73	11.96	20.77	31.66	47.02
1999-2000	7.86	12.99	22.78	34.41	49.96
2000-01	7.78	12.76	23.00	33.86	48.79
April-June 2001	5.86	10.57	20.94	33.26	49.73

Source: NSE.

Table 4.9. Market Concentration in Emerging Asian Markets: end 2000

(In per cent)

	Index Stock's Share of		Share of 10 Largest Index Stocks in Market Capitalisation	Share of 10 Most Active Index Stocks in Turnover
	Market Capitalisation	Turnover		
China	51.4	34.2	26.0	9.5
Thailand	73.4	67.9	39.7	37.7
Taiwan	66.7	57.1	35.5	29.5
Korea	75.5	39.2	50.2	18.4
Malaysia	68.1	49.9	39.0	19.9
India	59.2	65.8	27.2	48.9

Source: S&P Emerging Stock Markets Factbook 2001.

NSE (CM segment) declined by 35.5% to Rs. 6,57,847 crore as at end-March 2001 from Rs. 1,020,426 crore as at end-March 2000. The market capitalisation of companies listed at BSE decreased by 37.4% to Rs. 5,71,553 crore as at end-March 2001 from Rs. 9,12,842 crore the year before. All-India market capitalisation is estimated at Rs. 7,68,863 crore at the end of March 2001 as against Rs. 11,92,630 crore at the end of March 2000. The market capitalisation at both NSE and BSE suffered further declines during April–June 2001 and stood at Rs. 5,69,797 crore and Rs. 5,53,230 crore as at end-June 2001 for the two exchanges respectively. The market capitalisation on NSE is highest among the exchanges and accounts for about 90% of total market capitalisation.

The sectoral distribution of market capitalisation on NSE is presented in Table 4.7. A sharp change in the shares of different sectors in market capitalisation is observed over the years. Traditionally, manufacturing companies and financial services sector accounted for a major share in market capitalisation. However, in the recent past, the importance of these traditional sectors has declined and new sectors like, information technology, pharmaceuticals and fast moving consumer goods have picked up. In particular, the market capitalisation of IT companies had risen to dizzy heights by 1999–

00. However, the share of IT companies in market capitalisation diminished during 2000–01 on account of IT meltdown witnessed all over the world.

Prices

The year 2000–01 witnessed a sharp decline in stock prices, as reflected by movement of select Indian and foreign indices in Table 4.10. S&P CNX Nifty and BSE Sensex suffered decline of 24.9% and 27.9%, respectively, during the year on a point-to-point basis. To a great extent, the decline in stock prices could be attributed to the downturn in international equity markets. The global equity markets witnessed large sell-offs during 2000–01, particularly in new economy stocks on the NASDAQ. A slow down in industrial production, in particular, and economic activity, in general, also adversely affected the market sentiment. There were intermittent recoveries in the stock prices during the year, but they could not be sustained following allegations of payment crisis and large scale price manipulation in the first quarter of 2001.

Table 4.10. Movement of Select Indices on Indian/Foreign Markets

Index	31.03.2000	31.03.2001	30.06.2001	Change during 2000–01 (%)	Change During April–June 2001(%)
S&P CNX Nifty	1528.45	1148.20	1107.90	−24.88	−3.51
BSE Sensex	5001.28	3604.38	3456.78	−27.93	−4.10
Hang Seng	17406.54	12760.64	13042.53	−26.69	2.21
Dow Jones	10921.92	9878.78	10566.21	−9.55	6.96
NASDAQ	4572.82	1840.26	2161.24	−59.76	17.44
Nikkei	20337.32	12999.70	12969.05	−36.08	−0.24
FTSE	6540.20	5633.70	5635.02	−13.86	0.02

Source: NSE, BSE & Bloomberg.

The stock markets continued to suffer between end-March 2001 and end-June 2001. The S&P CNX Nifty declined by 3.5%, while Sensex registered a loss of 4.1%. The markets suffered due to uncertainty regarding the ability of some brokers to honour their obligations and the liquidity problems encountered by some co-operative banks. The monthly averages of S&P CNX Nifty and Sensex are presented in Table 4.11. This table also presents monthly averages of P/E ratios for NSE and BSE. The declining trend in P/E ratios is indicative of poor returns in the market.

Of late, the market participants, analysts and investors have related the developments in domestic equity markets with NASDAQ market. NASDAQ Composite has come to symbolise the new economy or technology stocks. Chart 4.1 plots the daily movement in S&P CNX Nifty and NASDAQ-100 index. During most part of the year, the stock prices in India tended to rise/fall in sympathy with that in NASDAQ.

Volatility

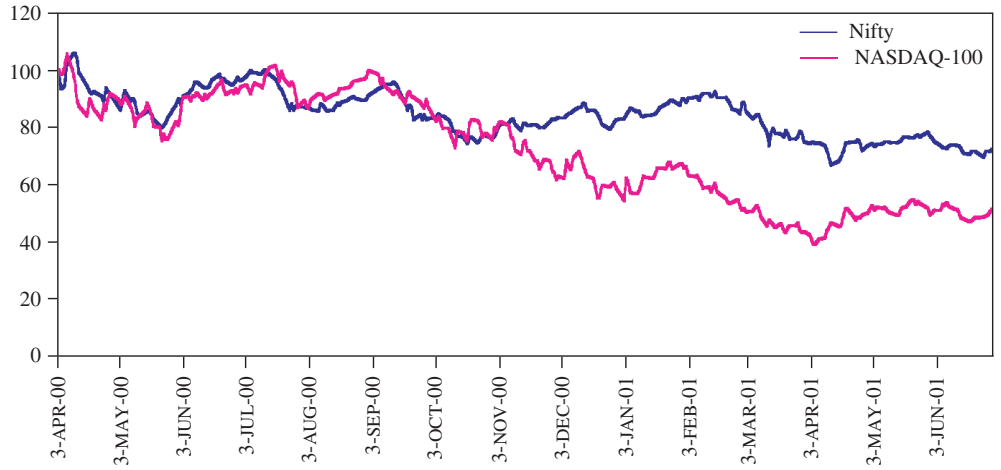
The volatility of S&P CNX Nifty and Sensex since April 2000 is presented in Table 4.11. The stock markets witnessed maximum volatility in April 2000, when volatility of Nifty as well as Sensex exceeded 3%. The volatility of S&P CNX Nifty and Sensex came down to 1.1% and 1.2% respectively by August 2000. March 2001 witnessed high volatility again with volatility in both S&P CNX Nifty and Sensex nearly approaching 3%. It has, however, come down subsequently due to various measures announced by SEBI. Chart 4.2 presents the volatility of S&P CNX Nifty, Sensex and NASDAQ-100. It can be observed that NASDAQ-100 is more volatile than either S&P CNX Nifty or BSE Sensex.

Table 4.11. Stock Market Index, Volatility and P/E Ratio: April 2000 to June 2001

	S&P CNX Nifty			Sensex		
Month/Year	Index*	Volatility (%)**	P/E Ratio*	Index*	Volatility (%)**	P/E Ratio*
Apr-00	1469.03	3.51	22.81	4657.55	3.93	27.79
May-00	1312.65	2.64	20.33	4433.61	2.90	27.68
Jun-00	1451.74	1.48	23.68	4748.77	1.47	29.39
Jul-00	1445.26	1.76	22.33	4279.86	2.14	28.51
Aug-00	1350.94	1.07	20.54	4477.31	1.17	25.27
Sep-00	1371.27	2.04	20.84	4090.38	2.21	21.53
Oct-00	1201.60	1.59	18.22	3711.02	1.62	22.30
Nov-00	1240.59	1.44	18.77	3997.99	1.54	19.72
Dec-00	1291.43	1.42	19.60	3972.12	1.53	18.06
Jan-01	1316.96	1.21	20.75	4326.72	1.33	21.53
Feb-01	1371.91	1.58	21.32	4247.04	1.68	22.30
Mar-01	1214.47	2.90	18.20	3604.38	2.91	19.72
Apr-01	1116.41	2.23	16.09	3519.16	2.42	18.06
May-01	1159.44	0.89	15.74	3631.91	0.96	18.86
Jun-01	1107.15	1.27	15.36	3557.64	1.24	17.49

* Monthly Average of Closing values.
** Volatility is calculated as standard deviation of daily returns of the indices for the respective months.
Source: SEBI and NSE.

Chart 4.1. Movement of S&P CNX Nifty and NASDAQ-100



The volatility across different sectoral indices varied widely. For the month of April 2000, while the Nifty volatility was 3.5%, the volatility of CNX IT Index and S&P CNX Petrochemicals Index was 5.4% and 5.3% respectively. Similarly in March 2001, while Nifty volatility was 2.9%, that of CNX IT Index and S&P CNX Petrochemicals Index was 6.5% and 3.0% respectively. The volatility of sectoral indices is presented in Table 4.12.

Returns in Indian Market

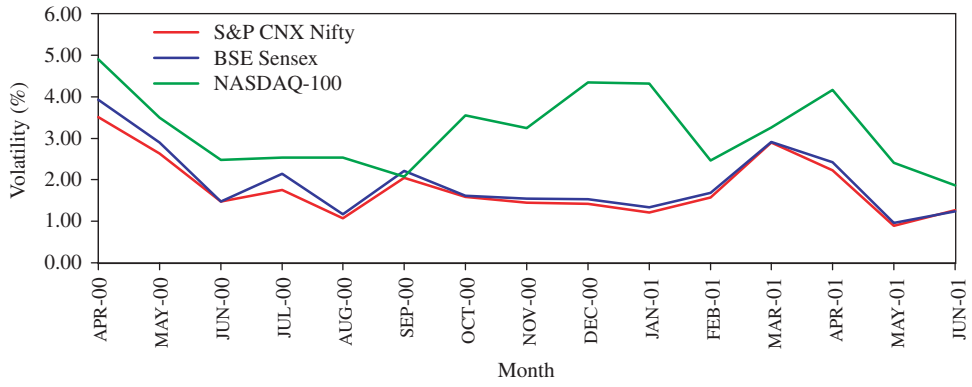
The performance of S&P CNX Nifty and various other indices over different periods of last 1 month to 15 months is presented in Table 4.13. It reveals that all indices have performed poorly over varying periods of past 1 month to 15 months. All indices suffered largest declines over the 15 month period. For example, a basket of Nifty stocks acquired 1 month ago suffered a decline of 5.1%, but that acquired 15 months earlier suffered a

Table 4.12. Performance of Sectoral Indices

	Monthly Closing Prices						Average Daily Volatility					
Month/Year	S&P CNX Nifty	CNX FMCG	CNX IT	CNX Finance	S&P CNX Petrochem	S&P CNX Pharma	S&P CNX Nifty	CNX FMCG	CNX IT	CNX Finance	S&P CNX Petrochem	S&P CNX Pharma
Apr-00	1406.55	2692.55	45085.80	335.84	1466.70	1430.67	3.51	3.39	5.35	4.45	5.25	3.52
May-00	1380.45	3007.07	32394.06	343.49	1468.84	1402.02	2.64	3.55	6.07	4.83	2.15	2.90
Jun-00	1471.45	3227.16	42411.04	329.35	1471.69	1458.07	1.48	1.59	3.40	2.03	1.84	2.09
Jul-00	1332.85	2961.34	34587.23	293.15	1443.26	1407.37	1.82	2.02	4.33	3.30	2.86	1.92
Aug-00	1394.10	2910.87	42979.41	319.79	1445.05	1507.97	1.07	1.47	3.73	2.09	0.86	1.01
Sep-00	1271.65	2634.84	36285.95	294.62	1461.90	1357.40	2.05	2.04	4.07	3.28	2.59	1.67
Oct-00	1172.75	2460.24	32309.49	261.85	1296.49	1450.32	1.59	1.77	4.01	1.97	2.08	1.98
Nov-00	1268.15	2646.44	33382.18	284.46	1415.48	1540.85	1.44	1.44	2.53	1.98	1.56	1.78
Dec-00	1263.55	2787.43	29383.46	295.03	1462.38	1522.32	1.42	0.98	3.49	2.83	1.47	1.74
Jan-01	1371.70	2782.99	33896.98	296.34	1654.40	1516.05	1.21	1.29	3.63	1.31	1.82	1.13
Feb-01	1351.40	2823.87	30116.65	292.89	1773.69	1512.74	1.58	2.01	2.85	2.60	1.32	0.90
Mar-01	1148.20	2653.73	17468.25	213.20	1656.00	1327.20	2.90	1.98	6.52	4.46	3.03	2.23
Apr-01	1125.25	2630.61	17267.40	205.40	1464.08	1261.28	2.23	1.03	8.08	2.96	4.45	2.65
May-01	1167.90	2517.79	18982.64	221.74	1673.98	1331.90	0.90	0.55	2.81	1.31	1.75	1.10
Jun-01	1107.90	2492.01	16302.17	191.38	1576.26	1260.47	1.27	1.20	3.62	1.77	1.88	1.10

Source: IISL.

Chart 4.2. Stock Market Volatility since April 2000



decline of 27.5%. It may also be observed that the basket of IT companies, captured by the CNX IT index, suffered maximum decline over the longer period of 15 months (75%). The CNX IT index turned out to be the worst performer over the shorter period of one month also.

Table 4.13. Performance of Select Indices as at end June 2001

(In per cent)

	1 month	3 month	6 month	12 month	15 month
S&P CNX Nifty	−5.14	−3.51	−12.32	−24.71	−27.51
S&P CNX 500	−8.24	−3.76	−20.48	−32.40	−45.13
S&P CNX Defty	−5.26	−4.31	−12.89	−28.47	−32.77
CNX Nifty Junior	−13.01	−11.64	−41.66	−47.04	−61.70
CNX Midcap 200	−13.23	−5.83	−27.31	−31.85	−46.35
CNX IT Index	−14.12	−6.68	−44.52	−61.56	−75.01

Source: IISL.

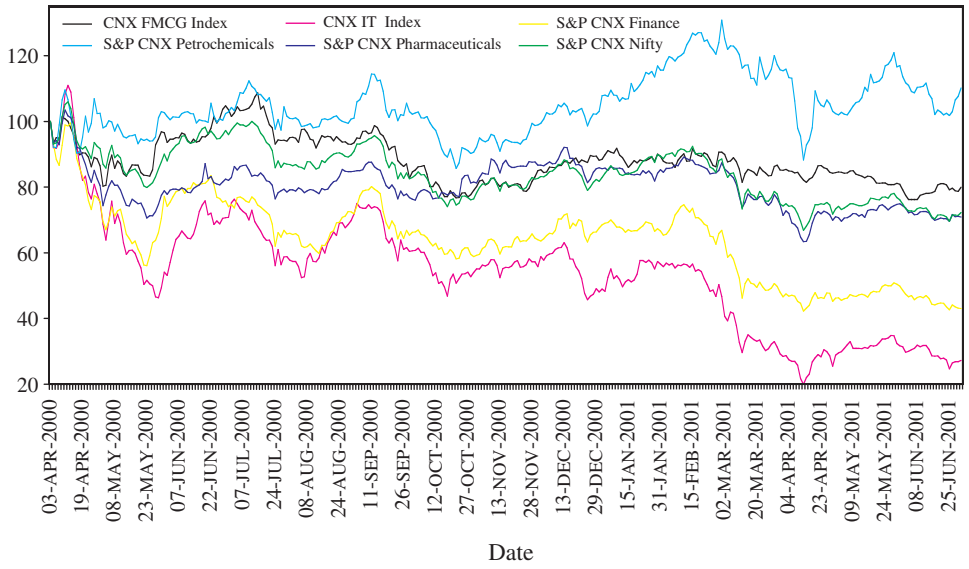
According to a study done under NSE Research Initiative,[3] the small stocks have outperformed the large stocks in the sample period of September 1991 to March 2000. This can happen either because size is a proxy for risk or because the market for the small stocks is inefficient. The study found that size indeed is a proxy for risk. However, the return generated by the small stocks is too large given their risk exposures. The transaction costs can explain a large part of this difference.

Sectoral Indices

The comparative performance of five major sectoral indices, *viz.*, S&P CNX Petrochemicals Index, S&P CNX Finance Index, CNX FMCG Index, S&P CNX Pharmaceuticals Index, and CNX IT Index, with that of S&P CNX Nifty Index since April 2000 is presented in Chart 4.3. It is observed that during the entire period, CNX IT Index and CNX Finance Index underperformed the Nifty Index. Among all sectoral indices, CNX IT Index was the worst performer and its performance continued to decline in the more recent period. Despite a persistent downturn in stock prices, the S&P CNX Petrochemicals Index out-performed Nifty for the entire period since April 2000. CNX FMCG Index and S&P CNX Pharma Index

[3] Mohanty, P. (2001). 'Efficiency of the Market for Small Stocks', NSE Research Initiative, Paper No. 2.

Chart 4.3. Movement of Nifty and Sectoral Indices: April 2000–June 2001



generally mirrored the trend in Nifty. The monthly closing prices of these sectoral indices are presented in Table 4.12.

Arbitrage

Many securities are listed and traded at the same time on more than one stock exchange in the country. Every stock exchange follows its own practices and procedures in respect of listing and trading of securities, clearing and settlement of transactions, and risk containment measures. The existence of many exchanges with their regional peculiarities fragments the market, to some extent, and disperses liquidity. As a result, the same security is quoted at widely different prices on different exchanges at the same time because of differences in local demand and supply conditions and settlement systems. In an efficient market, two assets with identical attributes must sell for the same price, and so should an identical asset trading in two different markets. If the prices of such an asset differ, a profitable opportunity arises to sell the assets where it is overpriced and buy it back where it is underpriced. The arbitrageurs can step in and exploit this profit opportunity. Some idea about possibilities of arbitrage between NSE and BSE as on June 29, 2001 can be seen from Table 4.14, which lists securities and their prices where maximum arbitrage opportunities existed on that particular day.

Liquidity

Many securities listed in stock exchanges are not traded. Trading in many other securities is negligible. These suggest illiquidity in such securities. Table 4.15 gives a comparative picture of number of companies listed/available for trading and those actually traded at BSE and NSE during 2000–01. The percentage of companies traded on BSE was quite low at 33.5% in April 2000, and it declined further to 26.5% in March 2001. Further, many of the companies whose securities were traded experienced very thin trading. Only 40.6% of companies traded on BSE were traded for more than 100 days during 2000–01 (Table 4.16). Trading took place for less than 100 days in case of 59.4% of companies traded at BSE

Table 4.14. Arbitrage Opportunities between BSE and NSE (as on June 29, 2001)

Company	Closing Prices		Difference
	NSE	BSE	
Mico	2340.00	2290.05	49.95
Ravalgaon	4019.00	3975.00	44.00
Birla 3M	392.00	380.10	11.90
Lakshmi Mills	255.00	245.00	10.00
Bimetal Bear	128.70	120.00	8.70
Madras Cements	4216.50	4269.45	(52.95)
Zandu Pharma	1923.00	1965.00	(42.00)
Agee Gold	340.00	373.55	(33.55)
Procter & Gamble	534.60	559.00	(24.40)
Vital Comm.	19.75	33.60	(13.85)

Source: The Economic Times, dated June 30, 2001.

during the year, and for less than 10 days in case of 25.9% of companies traded. The situation at NSE is, however, different. On an average, 95% of companies available for trading were traded every month during 2000–01. Nearly 80% of companies traded on NSE were traded for more than 100 days during 2000–01. There was no trade in several companies listed on a number of regional stock exchanges. This indicates that trading is concentrated among only a limited number of stocks and is very thin in a large number of stocks.

Table 4.15. Trading Frequency on NSE and BSE

Month	NSE			BSE		
	Available for Trading	Traded	% of Traded to Available for Trading	Listed	Traded	% of Traded to Listed
Apr-00	1,145	1,059	92.49	8,103	2,713	33.48
May-00	1,109	1,050	94.68	8,273	2,643	31.95
Jun-00	1,109	1,058	95.40	8,368	2,647	31.63
Jul-00	1,094	1,050	95.98	8,475	2,633	31.07
Aug-00	1,089	1,038	95.32	8,588	2,605	30.33
Sep-00	1,070	1,035	96.73	8,782	2,571	29.28
Oct-00	1,067	993	93.06	8,963	2,416	26.96
Nov-00	1,070	1,006	94.02	9,195	2,494	27.12
Dec-00	1,050	1,008	96.00	9,394	2,535	26.99
Jan-01	1,050	978	93.14	9,569	2,588	27.05
Feb-01	1,026	984	95.91	9,690	2,594	26.77
Mar-01	1,029	964	93.68	9,810	2,598	26.48

Source: BSE and NSE.

One could also use liquidity ratio,[4] defined as annualised trading volume per unit of market capitalisation, as a measure of liquidity. Table 4.17 presents liquidity ratios by size deciles on NASDAQ and for 924 most liquid stocks traded on NSE. One can draw following inferences:

- In decile 1, 2 and 3, the stocks traded on NSE are smaller than those seen in the smallest decile on NASDAQ. Hence, while the liquidity ratios seen appear to be low in absolute terms, it is not clear whether these low liquidity ratios are innately associated with size, or a reflection of poor disclosure and enforcement.

[4] Shah, A. & Thomas, S. (2001), 'Policy Issues in the Indian Equity Market', Technical Report, IGIDR (2001a).

Table 4.16. Frequency Distribution of Companies Traded at NSE and BSE

	No. of Companies Traded at NSE		No. of Companies Traded at BSE	
No. of Days Traded	2000–01	% to Total	2000–01	% to Total
Above 100 days	954	79.43	1,596	40.64
91 to 100 days	22	1.83	98	2.50
81–90 days	23	1.92	97	2.47
71–80 days	9	0.75	98	2.50
61–70 days	19	1.58	117	2.98
51–60 days	16	1.33	133	3.39
41–50 days	16	1.33	113	2.88
31–40 days	23	1.92	131	3.34
21–30 days	37	3.08	241	6.14
11–20 days	33	2.75	287	7.31
1–10 days	49	4.08	1,016	25.87
Total	1,201	100.00	3,927	100.00

Source: BSE and NSE.

- In decile 4 through 7, the stocks traded on NSE are comparable in size to the stocks traded on NASDAQ. However, their liquidity ratios are significantly inferior to their peers who trade on NASDAQ.
- In decile 8, 9 and 10, the liquidity ratios seen on NSE are comparable to those seen on NASDAQ.
- The top decile on NSE and NASDAQ are both at a liquidity ratio of 350% or so. However, the mean market capitalisation seen in the top decile at NSE is just US$ 847 million, which is much smaller than that seen on NASDAQ (US$ 6 billion). In other words, stocks on NSE obtain liquidity ratios of the order of 350% at a much lower size threshold when compared with NASDAQ.

Thus, large stocks in India obtain liquidity ratios, which are comparable or better than those seen on NASDAQ. However, for firms with a market capitalisation below US$ 30 million or so, which represents the bulk of firms in India, liquidity ratios at NSE are inferior to those on NASDAQ.

Table 4.17. Liquidity Ratio by size deciles on NSE (January 2001)

Decile	Mean Market Capitalisation ($ million)	Mean Liquidity Ratio (per cent)
1.	1.18	10.38
2.	2.54	14.01
3.	3.96	5.25
4.	6.27	9.96
5.	9.85	17.00
6.	15.37	25.84
7.	23.44	45.26
8.	42.28	127.54
9.	105.12	88.69
10.	847.64	351.43

Source: 'Policy Issues in the Indian Equity Market' by Ajay Shah and Susan Thomas, May 18, 2001.

Many Indian companies have floated ADR/GDR issues, which are listed abroad. The liquidity of domestic securities of companies at NSE, which have floated ADRs/GDRs, is better compared to the ADR/GDR market. This is clearly evident from Table 4.18.

Table 4.18. Impact Cost: NSE and GDR Markets

Security	Transaction Size (Rs.)	Impact Cost (%)	
		NSE	GDR
INDRAYON	414,120	1.2	3.0
GRASIM	450,713	1.2	3.0
ASHOKLEY	270,070	2.7	2.4
TELCO	453,033	0.2	2.4
EIHOTEL	548,888	1.7	2.4
ITC	584,588	0.1	2.3
L&T	620,288	0.2	2.2
IPCL	472,133	0.4	2.1
M&M	517,650	1.2	1.7
INDHOTEL	780,938	1.6	1.7
BAJAJAUTO	1,133,475	0.3	1.6
RANBAXY	852,338	1.3	1.6
ICICI	580,125	0.8	1.5
BSES	905,888	0.3	1.5
SBIN	899,283	0.1	1.2
HINDALCO	1,247,715	1.2	0.9
RELIANCE	792,005	0.1	0.8

Source: 'Changing Liquidity in the Indian Equity Market' by Ajay Shah and Sivaprakasam Sivakumar, Emerging Markets Quarterly Vol. 4 No. 2, Summer 2000.

Transaction Costs

Liquidity to a large extent depends on transaction costs. Lower the transaction cost, the lower is the bid-ask spread and higher the volumes. According to a recent SEBI study, the transaction costs for equity shares in India, at least for the institutional investors, are much lower as compared to some of the developed and emerging markets. It observes that Indian market has the second lowest transaction cost in the world (Table 4.19). There has been decline in transaction cost for equities for all groups of investors in the Indian market as an increasing number of scrips are being traded in dematerialised form and instances of bad delivery have come down substantially. Increasing competition has also put pressure on trading costs. The average transaction cost for retail investors is higher than that for institutional investors on account of higher brokerage. Institutional investors offer higher volume of business and therefore have better bargaining capacity. They are also not required to pay any margins. Average transaction cost for MFs and FIs is lower than that of the FIIs, as the FIIs pay higher brokerage compared to the MFs and the FIs.

Institutional Transactions

Though the volume of trades done by FIIs is not very high as compared to other market participants, they are the driving force in determination of market sentiments and price trends. This is so because they do only delivery-based trades and they are perceived to be infallible in their assessment of the market. During 2000–01, the FIIs invested heavily in the Indian stock markets with a net investment of Rs. 9,934 crore, though FII investment during 2000–01 was lower than that in the previous year. The FII net investment was highest during the month of January 2001 when they brought in Rs. 4,273 crore. FIIs

Table 4.19. International Comparison of Transactions Costs (July 2000)

(Figures in basis points)

Components of Trading Costs	USA	India MF	India FII	Hong Kong	Thailand	Indonesia	Italy	Singapore	Australia	UK
Brokerage	0.6	25	32	25	50	65	70	61.5	50	30
Regulator's Fee	0.03	–	–	1.1	–	–	–	5	–	–
Custody	0.006	6	–	–	–	–	–	–	–	–
Safekeeping/Clearing	1.0	–	8	0.3	–	–	–	1	–	–
Stamp Duty	–	–	–	11.625	10	–	–	3	30	50
VAT + Tax	–	–	–	–	3.5	4	–	–	–	–
Total	1.636	31	40	38.025	63.5	69	70	70.5	80	80

Source: SEBI.

recorded net outflows in the months of June, July, October and December 2000. Trends in purchases and sales by FIIs are presented in Table 4.20. During the current financial year, FIIs inflows were quite high in April and June 2001. Total inflows during April–June 2001 are estimated at Rs. 3,835 crore. The cumulative net FII investment touched Rs. 48,577 crore or US$ 14.2 billion by end-June 2001.

Table 4.20. Trends in FII Investment

Period	Purchases (Rs. crore)	Sales (Rs. crore)	Net Investment (Rs. crore)	Cumulative Net Investment (Rs. crore)	Net Investment (US$ mn.)	Cumulative Net Investment (US$ mn.)
1994–95	7,631	2,835	4,796	4,796	1,528	3,167
1995–96	9,694	2,752	6,942	11,738	2,036	5,202
1996–97	15,554	6,979	8,575	20,313	2,432	7,634
1997–98	18,695	12,737	5,957	26,270	1,650	9,284
1998–99	16,115	17,699	−1,585	24,686	−386	8,898
1999–00	56,856	46,734	10,122	34,808	2,339	11,237
2000–01	74,051	64,116	9,934	44,742	2,159	13,397
Apr-00	8,355	5,768	2,587	37,394	593	11,831
May-00	6,307	6,055	253	37,647	58	11,888
Jun-00	5,399	6,334	−935	36,712	−213	11,676
Jul-00	5,858	7,259	−1,402	35,310	−314	11,362
Aug-00	5,134	3,875	1,259	36,569	281	11,643
Sep-00	7,150	6,931	218	36,788	48	11,691
Oct-00	4,441	4,659	−219	36,569	−48	11,643
Nov-00	4,791	3,886	905	37,475	195	11,839
Dec-00	4,452	5,087	−635	36,839	−136	11,703
Jan-01	8,601	4,328	4,273	41,113	914	12,617
Feb-01	6,586	4,723	1,864	42,977	400	13,017
Mar-01	6,978	5,212	1,766	44,742	380	13,397
April–June 2001	13,175	9,340	3,835	48,577	820	14,217
Apr-01	5,080	3,101	1,979	46,721	425	13,821
May-01	3,976	3,300	676	47,397	145	13,966
Jun-01	4,119	2,939	1,180	48,577	251	14,217

Source: SEBI.

The details of transactions by MFs since April 2000 are presented in Table 4.21. During 2000–01, the MFs have invested more funds in the debt instruments than equity instruments. In the equity market, MFs were net sellers to the tune of Rs. 2,766 crore during 2000–01. In the month of February 2001 alone, MFs were net sellers to the extent of Rs. 1,237 crore. Beginning from January 2001, MFs have recorded net sales in every month. In the first quarter of the current financial year, net sales of MFs amounted to Rs. 884 crore.

Table 4.21. Trends in Transactions by Mutual Funds

(Rs. crore)

	Equity			Debt			
Month/Year	Gross Purchase	Gross Sales	Net Purchases/ Sales	Gross Purchase	Gross Sales	Net Purchases/ Sales	Total
Apr-00	1,550	1,508	42	661	195	466	508
May-00	1,550	1,198	352	919	792	127	479
Jun-00	1,599	2,049	−450	670	316	354	−96
Jul-00	1,253	1,424	−171	913	608	305	134
Aug-00	1,241	1,221	20	863	657	206	226
Sep-00	1,601	1,480	121	634	415	219	340
Oct-00	1,162	1007	155	893	437	456	611
Nov-00	927	1359	−432	1,200	580	620	188
Dec-00	1,729	1638	91	1,313	968	345	436
Jan-01	1,688	2,591	−903	2,167	1,281	887	−16
Feb-01	1,670	2,907	−1,237	1,908	1,249	659	−577
Mar-01	1,407	1,762	−355	1,372	993	379	24
2000-01	17,378	20,144	−2,766	13,513	8,490	5,023	2,257
Apr-01	746	1,039	−293	1,460	715	745	451
May-01	995	1,473	−478	2,570	1,428	1,142	664
Jun-01	659	771	−112	2,519	1,838	681	569
April-June 2001	2,400	3,283	−884	6,549	3,981	2,568	1,684

Source: SEBI.

ADR/GDR Prices

The extent of divergence between the prices of ADRs/GDRs and the domestic prices is presented in Table 4.22. A comparison of the price of ADR/GDR of a company with the domestic price of its share gives an idea about the extent to which domestic price of the security is at premium/discount to the international price. The government recently permitted two-way fungibility for ADRs/GDRs, which means that investors (foreign institutional or domestic) in any company that has issued ADRs/GDRs can freely convert the ADRs/GDRs into underlying domestic shares. They can also reconvert the domestic shares into ADRs/GDRs, depending on the direction of price change in the stock. This is expected to bring about an improvement in the liquidity in ADR/GDR market and elimination of arbitrage, implying that ADR/GDR prices and domestic share prices of companies that have floated ADRs/GDRs will be better aligned.

Takeovers

A SEBI study has worked out the impact of Takeover Regulations. The study revealed that over the last couple of years, there has been a substantial increase in takeovers. Since SEBI (Substantial Acquisition of Shares and Takeovers) Regulations, 1997 came into existence, 1,011 companies have been taken over for various purposes, which include, consolidation of holdings, change in control of management and substantial acquisition. The most important objective has been change in control of management, accounting for 61% of cases of takeovers. The number and value of takeovers has increased sharply as corporates became better aware of the regulations and their utility in successful restructuring.

Out of the total 1,011 acquisitions, 256 are through open offers and the balance through exemption. The number of open offers grew from 2 in 1994–95 to 77 in 2000–01, while the value of open offers increased from Rs. 118 crore to Rs. 1,372 crore over the same period (Table 4.23). Of the total 285 offers made during the study period, only

Table 4.22. Divergence between ADR/GDR Prices and Local Prices (as on June 29, 2001)

(In per cent)

Company	Weight (%)	Premium/Discount to Local
Skindia GDR Index	100.00	11.22
Bajaj Auto	1.37	14.56
BSES	3.84	6.26
E.I. Hotels	0.85	19.04
Finolex Cab	0.81	4.14
Grasim	3.14	25.16
Guj. Amubja	3.44	−2.31
Hindalco	8.43	10.45
ICICI	3.07	20.82
ICICI (ADR)	4.25	19.51
Indian Hotels	0.97	33.57
Infosys Tech (ADR)	7.32	54.81
IPCL	0.69	3.98
ITC	2.76	14.91
LaT	6.01	8.86
Mah & Mah	1.06	11.39
MTNL	4.71	0.56
Pentamedia Graphics	0.12	1.65
Ranbaxy Labs	3.87	10.42
Reliance	17.75	−0.74
Satyam Infoway (ADR)	1.26	0.00
State Bank of India	9.55	17.39
Telco	1.77	12.76
VSNL	12.96	−0.71

Source: The Economic Times Dated June 30, 2001.

eight resulted in hostile bids. There are also clear industry concentrations. While finance and information technology industries score very high on the number of companies acquired, on the basis of amount spent, the electronic/electrical industry occupies number one position followed by metal and cement and construction. Further, mostly Indian companies/promoters are the major users of acquisition mechanism. Foreign companies/promoters accounted for only 15% of all takeovers. The study has estimated that through the Takeover Regulations the investor has benefited to the extent of Rs. 42.5 billion.

Buy backs

Indian corporates have used buy back to improve liquidity in their shares. The buy back is generally done by companies whose shares are undervalued in the market due to a large amount of floating stock. Since 1998, when the permission for buy back was granted by SEBI, 33 companies floated buy back offers by June 2001. These companies together sought to buy back 1,59,663 lakh securities amounting to approximately Rs. 3,94,033 crore.

Policy Debates

Management of Stock Exchanges

Most of the exchanges in India are directly or indirectly owned and managed by brokers. Apart from facing the handicap of a perceived conflict of interests, this model

Table 4.23. Takeovers: Trends in Open Offers

(Value in Rs. lakh)

	Objectives							
	Change in Control of Management		Consolidation of Holdings		Substantial Acquisition		Total	
Year	Number	Value	Number	Value	Number	Value	Number	Value
1994–95	0	0	1	11,404	1	419	2	11,823
1995–96	4	3,010	4	2,553	0	0	8	5,563
1996–97	11	1,183	7	7,830	1	225	19	9,238
1997–98	18	14,292	10	33,983	12	9,532	40	57,807
1998–99	29	9,968	24	41,627	11	16,350	64	67,945
1999–00	42	25,882	9	7,107	24	13,078	75	46,067
2000–01	70	114,042	5	18,900	2	4,248	77	137,190
Total	174	168,377	60	123,404	51	43,852	285	335,634

Source: SEBI.

of exchange governance is considered unsuitable for electronic exchanges, which have trading members spread all over the country. On realising the limitations of mutual structure and discovering the advantage of a demutual structure, the stock exchanges are increasingly organising themselves as commercial entities and undergoing a process of demutualisation. The motivation for demutualisation ranges from expanding the business network, increasing fund raising capability, expediting decision making process, pursuing strategic alliances, internationalising their appeal, *etc.* NSE has been from day one the purest form of a demutualised stock exchange, where the brokers do not own the shares and its management is free from broker control. The right to trade is completely divorced from ownership and management. This has completely eliminated any conflict of interest. NSE, however, continues to emphasise relationship building with all its participants, including trading members, investor community and the companies, whose securities are traded on the Exchange. This has enabled smooth conduct of business of the Exchange in a fair and non-partisan manner.

Successful demutualisation requires us to be aware about the following concerns:

- A 'demutual' suffers from a different type of conflict of interest. Since it is a 'for-profit' organisation, its commercial role may get precedence over the regulatory role. Every decision is likely to be tested against its impact on profitability. It may, for example, be either very lenient in enforcing the rules to encourage the volume of business or very strict in enforcement of rules to increase penal revenue. NSE has been able to strike a fine balance between its commercial and regulatory roles, which supplement each other.
- A demutualised exchange would like to be listed on an exchange. This would open up another arena for conflict of interest if it is listed on itself. It is unlikely that the exchange would like to subject itself to same strict discipline as applicable to other listed companies. One solution could be to list the securities on another exchange, but permit trading on itself. A better solution would be to vest the listing powers in a body, like UK Listing Authority, separate from stock exchanges.
- In a mutual environment, the governing councils include nominees of regulators and public representatives. This is necessary in public interest to refrain the elected directors from pursuing their self-interest. In the demutualised environment, such a check is also necessary to ensure that the board of directors do not act only in the best commercial interest of the organisation. This may be achieved by including

a few public representatives, who should have specific responsibilities and be held accountable. The practice of having nominees of regulator may have to be reviewed as this may make the regulator liable for all the developments at the exchanges

- In the demutual environment, the shares can be cornered by a few or undesirable persons. The exchanges could be prone to hostile takeovers. Such probability can be reduced by prescribing ceiling on shareholdings and requiring regulator's approval for change in ownership beyond a threshold limit. Public representatives would be useful to prevent mismanagement in such cases.
- It is an undenying fact that a 'mutual' has better access to expertise and knowledge of the market participants, which are critical inputs for framing rules. As the brokers are involved in framing the rules, a 'mutual' generally ensures better compliance with such rules by them. The access to market expertise and knowledge and compliance with the rules have been successfully achieved by NSE through the Executive Committee, Committee on Settlement Issues, Committee on Trade Issues *etc.*
- The process of demutualisation would involve offering shares of a corporatised exchange to public, including trading members. It is possible that the trading members subscribe for the shares and in terms of their rights under the Companies Act, get themselves elected to the board of directors. This may defeat the purpose of demutualisation. It would then be necessary to specify under the SCRA that a shareholder, who is also a trading member, may not join the board. There is thus an apparent conflict between the Companies Act and the SCRA in the sense that the former confers a right on the shareholder to join the management while the latter deprives a broker-shareholder from doing so. This conflict may be resolved by the well-accepted principle that the special law (SCRA) prevails over the general law (Companies Act). A deep understanding of the laws, however, overshadows this conflict and makes it clear that both the Acts are seeking to fulfil the same objective. The Companies Act requires an interested director to refrain from participating in the deliberations in the board meetings. Since a broker-shareholder, if elected to board of directors of an exchange, would be a perpetually interested director, he has to refrain from attending the board meetings and hence cannot really contribute to management. It is, therefore, desirable that such a shareholder refrains voluntarily from joining the board or is prevented from joining the board by the SCRA. Thus the SCRA would reinforce the objective of the Companies Act more explicitly.
- The corporatisation-cum-demutualisation would result in two classes of members namely, trading members and shareholder-members. Since 'member' under the SCRA means a member of the recognised stock exchange, it is apprehended in some circles that the SCRA may not accommodate different classes of members. Again, NSE model, which has these two types of members, provides the solution. It has been affirmed recently by the Supreme Court that there can be more than one class of members and they will fall within the definition of 'members' under the SCRA.

Regional Stock Exchanges

Of late, there has been intense debate on the need for having so many regional exchanges. During last few years, most of the regional exchanges have witnessed shrinking volumes. The increase in turnover has taken place mostly at big exchanges and at the cost of small exchanges that failed to keep pace with the changes. The business has moved away from small exchanges to exchanges, which adopted technologically superior trading and settlement systems. This indicates declining attractiveness of regional exchanges even

for local investors. With fall in turnover, the financial health of many exchanges is deteriorating. While the income of the small exchanges is not increasing, they continue to incur increasing administrative and maintenance expenses and increased investment on setting up on-line trading and settlement systems. As may be seen from Table 4.24, about a dozen exchanges suffered losses during 1999–00. The exchanges (except NSE and BSE) together incurred a total loss of about Rs. 2 crore, while BSE and NSE earned profits.

Table 4.24. Financial Health of Regional Stock Exchanges

(Rs. lakh)

	1998–99			1999–00		
Stock Exchanges	Income	Expenditure	Profit/Loss	Income	Expenditure	Profit/Loss
Ahmedabad	910	797	114	976	913	63
Bangalore	287	471	−184	324	444	−120
Bhubaneshwar	112	77	34	102	86	15
Calcutta	2,074	2,026	48	3,769	2,774	995
Cochin	157	287	−130	124	230	−106
Coimbatore	116	240	−124	93	210	−117
Delhi	1,793	1,667	126	2,189	1,915	274
Gauhati	57	73	−17	54	52	1
Hyderabad	207	288	−80	264	266	−2
ICSE	24	131	−107	66	517	−452
Jaipur	226	227	−1	221	295	−73
Ludhiana	395	361	34	378	369	9
Madhya Pradesh	76	103	−27	126	91	35
Madras	350	229	121	343	280	63
Magadh	40	53	−13	37	70	−34
Mangalore	55	64	−9	55	60	−5
OTCEI	636	1,457	−821	568	1,232	−665
Pune	282	283	−1	286	263	23
SKSE	117	188	−71	133	149	−16
Uttar Pradesh	273	317	−43	301	354	−53
Vadodara	248	277	−29	269	279	−10
Mumbai	7,484	5,931	1,553	13,008	7,781	5,227
NSE	15,075	12,399	2,676	20,543	15,995	4,548
Total (Except NSE & BSE)	8,438	9,618	−1,181	10,676	10,852	−175
Total	30,997	27,948	3,049	44,227	34,628	9,599

Note: Major extraordinary items like profit on sale of assets and forefeitures have been excluded. *Source:* Annual Reports of Stock Exchanges.

Such poor financial performance is despite the fact that the exchanges earn substantial amount of non-business income (income from listing, interest and rent), as may be seen from Table 4.25. Listing has become a perennial source of income for the exchanges and irrespective of the volume of business, it contributes almost the same amount year after year. Non-business income accounted for 76% and 68% of total income for all exchanges (except NSE and BSE) and 47% and 39% for all exchanges respectively in 1998-99 and 1999–00. Business income (membership fees and subscriptions, transaction-based service charges, miscellaneous income) accounted for only 32% of total income of exchanges (except NSE and BSE) and 61% of all exchanges during 1999–00. The pattern of revenue of small exchanges varies sharply from that of big exchanges; non-business income and business income contributes major portion of revenue of small and big exchanges respectively.

This makes it clear that all 24 exchanges are not viable in the changed environment. There have been attempts in the past by the exchanges to protect their viability. In a novel experiment, a number of small exchanges joined hands to float another exchange,

Table 4.25. Sources of Income of Stock Exchanges

(In per cent)

Stock Exchanges	1998–99				1999–00			
	Non-Business Income		Business Income	Total	Non-Business Income		Business Income	Total
	Listing Fees	Interest & Rent			Listing Fees	Interest & Rent		
Ahmedabad	60.72	26.13	13.15	100.00	61.49	24.38	14.12	100.00
Bangalore	38.79	26.08	35.13	100.00	35.50	27.75	36.75	100.00
Bhubaneshwar	27.34	64.24	8.42	100.00	22.51	68.84	8.65	100.00
Calcutta	25.29	23.47	51.24	100.00	14.07	23.00	62.93	100.00
Cochin	32.97	25.24	41.79	100.00	32.84	21.91	45.26	100.00
Coimbatore	10.06	49.36	40.58	100.00	12.67	76.02	11.30	100.00
Delhi	48.49	48.10	3.41	100.00	37.81	58.86	3.33	100.00
Gauhati	77.84	9.75	12.41	100.00	84.82	5.35	9.83	100.00
Hyderabad	63.94	19.86	16.19	100.00	61.33	16.51	22.15	100.00
ICSE	0.00	29.25	70.75	100.00	1.08	49.91	49.01	100.00
Jaipur	68.56	20.07	11.37	100.00	70.52	20.45	9.02	100.00
Ludhiana	34.89	46.19	18.91	100.00	36.04	40.35	23.61	100.00
Madhya Pradesh	78.30	13.41	8.30	100.00	43.67	14.97	41.36	100.00
Madras	63.70	15.45	20.85	100.00	70.40	12.83	16.77	100.00
Magadh	41.65	34.76	23.59	100.00	54.63	15.36	30.01	100.00
Mangalore	32.14	45.70	22.16	100.00	32.17	47.35	20.48	100.00
OTCEI	2.71	75.06	22.23	100.00	3.41	75.02	21.57	100.00
Pune	20.35	68.58	11.08	100.00	25.42	64.22	10.36	100.00
SKSE	20.70	61.20	18.10	100.00	25.11	51.32	23.58	100.00
Uttar Pradesh	40.86	31.40	27.73	100.00	37.72	33.52	28.76	100.00
Vadodara	50.26	44.92	4.82	100.00	47.26	47.23	5.51	100.00
Mumbai	15.04	43.58	41.38	100.00	9.15	38.61	52.25	100.00
NSE	1.20	23.40	75.40	100.00	1.06	17.50	81.44	100.00
Total (Except NSE & BSE)	38.80	37.50	23.70	100.00	31.37	36.81	31.82	100.00
Total	14.78	32.11	53.11	100.00	10.76	28.37	60.87	100.00

Note: Business income includes income from membership, transaction and service charges, that is total income *minus* income from listing, interest and rent.

Source: Annual Reports of Stock Exchanges

called Inter-Connected Stock Exchange of India Ltd. (ICSE), to provide a separate, inter-connected national market system for their trading members. ICSE contributed a meager turnover of Rs. 233 crore during 2000–01. In another experiment, a small exchange was allowed to promote a subsidiary, which acquired membership of a big exchange (NSE/BSE) and the members of the small exchange were registered as sub-brokers of the subsidiary. As members of NSE, these subsidiaries reported a turnover of Rs. 8,672 crore during 2000–01.

In the recent past, there has been some talk about revival of small exchanges including consolidation, merger and takeover of exchanges. This borrows heavily from experience abroad where exchanges have consolidated or developed niche markets. However, it is not very clear if much can be achieved by bringing together a few exchanges under one common roof. This would club the assets and the liabilities of the exchanges along with the personnel, which may generate some synergy and may attract some volume for few days. This may not materially alter the position. What is required is withdrawal of resources from the current use and utilising them for some other productive use. They could consider moving into business of a non-exchange intermediary like, stock-broking, investment banking, insurance agency or develop expertise to work in a niche area of an exchange like, Canadian Venture Exchange.

Central Listing Authority

Under the current dispensation, while it is mandatory to list a security on a regional exchange, it can be listed on any number of exchanges. There is competition among the issuers to list securities on as many as exchanges as possible. There is also competition among the exchanges to attract as many issuers as possible. A security not found suitable for listing on an exchange gets listed on a different exchange, as they follow different criteria for listing a security. This may explain the relatively high incidence of vanishing companies on lenient exchanges. A security should either be suitable for listing on all exchanges or not suitable at all for listing on any exchange, that is, it should be suitable for all investors or for none.

For all practical purposes, listing agreement is a one sided agreement requiring the issuer to agree to all the conditions prescribed at the time of signing the agreement or to be prescribed subsequently. The agreement is also amended unilaterally. The issuer has absolutely no choice in the matter as none of the terms is negotiable. Even the stock exchange does not have any freedom to vary any of the terms of the agreement. Since the terms are uniform across securities and exchanges, the issuers of securities can be asked to comply with a standard set of requirements specified in the SCRR.

All exchanges are having a re-look at the way they conduct business and are gearing up to demutualise themselves by converting themselves into a public limited company. The stock exchanges will also be accessing securities market to finance their ever-expanding trading network and would be interested to list their securities. This would create an anomalous situation where a stock exchange would admit its own securities for trading. A satisfactory solution may be to vest the listing powers with a body separate from stock exchanges. Further, listing casts a number of these obligations on issuers and on exchanges. Many of the exchanges may be weak organisationally to monitor compliance of obligations. Many of the issuers find it difficult to comply with the requirements separately for different exchanges. In view of this, it is desirable that there is only one central agency, which considers all requests for listing and grants listing if it finds a security suitable for investors across the country. A security granted listing by the agency would be available for trading on all exchanges who will not waste resources in terms of duplication of efforts on listing and monitoring compliance. The security

should also be monitored, and suspended and withdrawn from trading centrally by the listing agency. The investors and market participants would get all the company related information, which are mandatorily required to be filed by companies with stock exchanges or any other agency, at one central location preferably a web-site.

Margin Trading

Margin trading is purchasing securities by borrowing a portion of the transaction value and using the securities in the portfolio as collateral. It is another form of leveraged trading implying that backed by the collateral, one can buy assets, which are far greater in value than the value of the collateral. The collateral in this case is termed 'margin' and can be made up of securities or other financial assets. It is also possible for one to enter into short sale through a margin account, *i.e.*, borrow securities from the brokerage firm in order to sell it, hoping that the price will decline. Margin trading thus leads to an increase in the purchasing/selling power of the investors and also enables them to multiply their gains if the stock market moves on expected lines.

Margin trading is quite popular in most of the markets, which have switched over to rolling settlement and has become more popular as markets have moved over to rolling settlement with shorter settlement cycles. It provides an avenue for raising funds to speculators or day traders, who are instrumental in generating liquidity in the market. It is a well accepted fact that the volumes in which day-traders operate are not sustainable if they were to operate strictly with own funds. In any market, some kind of leverage is a must for enthusing investor interest. Especially now that investors do not have facilities like, ALBM and 'badla', for doing leveraged trading, margin trading can provide an alternative financing mechanism, which would address the liquidity concerns in the market.

The introduction of margin trading in India is critically linked to achieving integration between banking and securities market. Both the securities markets and banking systems can achieve tremendous gains in efficiency and risk management if the interface between these two segments can be improved through appropriate mechanisms. The reform in the payments system, which will bring about improvements in the infrastructure for funds transfer in the country, is an essential pre-requisite for this. In fact, further institutional development of the Indian securities market is hindered by bottlenecks in the payments system. In addition to this, banks will have to evolve adequate risk management systems for safeguarding loans given by them against collateral of securities.

Public Holding for Listing

The current listing framework prescribes different standards for continued listing for existing listed companies and would-be listed companies. The existing listed company is required to have non-promoter holding of at least 10%, while the would-be listed company would maintain non-promoter holding at the level of public holding as required at the time of listing, that is, at 10% plus 20 lakh securities plus Rs. 100 crore or 25%. Thus existing listed and would be listed companies and consequently investors in these companies are treated differently. It would be better if all the companies are required to maintain the non-promoter holding at the level of the public holding required at the time of listing. That is, the companies listed before 1993 would maintain it at 60%, the companies listed between 1993 and 2001 would maintain it at 25% and the companies listed after 2001 would maintain it at 10% + 20 lakh + Rs. 100 crore or 25%. This is all the more desirable because the investor subscribes to the shares of the company based on the understanding that the non-promoter holding would be maintained at the level required

at the time of listing. In the alternative, all companies should be required to maintain non-promoter holding of 10% + 20 lakh + Rs. 100 crore or 25%. Further, the listing agreement as amended now provides that the companies would maintain public holding at the specified percentage. There is no indication as to how to achieve this. Can a company compel the promoters to divest their holdings? In case an existing listed company fails to do so, it would be required to buy back the public shareholding in the manner provided in the SEBI takeover code. No such requirement has been prescribed for would-be listed companies. Both the existing listed and would-be listed companies should be required to buy back the public holding if they fail to maintain minimum public holding. In case the company does not buy back, would it be delisted? This needs to be clarified.

Similarly, there should not be any discrimination between a government company and non-government company. The powers of the stock exchange to relax any of the conditions of listing with the prior approval of SEBI in respect of a government company needs to be withdrawn.

The public offer is of no consequence unless the public is actually allotted shares. The SCRR should speak in terms of allotment to public, not just public offer. Only then the listing agreement can enforce minimum non-promoter holding required at the level of public shareholding at the time of listing.

As of now, there is nothing called public shareholding at the time of listing. And the word 'public' has not been defined. The words, 'offer to public', 'public shareholding', 'non-promoter holding', 'floating stock' *etc.* are creating confusion. By default 'public' means 'non-promoters' and includes FI, FIIs, MFs, employees, NRIs/OCBs, private corporate bodies, *etc.* The SCRR now permits 10% public offer subject to the condition that 60% of the issue is allocated to QIBs. Since QIBs are part of public, allocating 60% to QIBs would automatically constitute 60% public offer and the retail public would not get any share. Or, if 60% of public offer of 10% is allocated to QIBs, the retail public would be left with just 4%. It is therefore necessary to define 'public' and other terms and explicitly exclude allocation to QIBs from the public offer.

Units of CIS are securities. The same requirement (10% + 20 lakh + Rs. 100 crore) as applicable to listing of securities, should also apply to listing of units of CIS. The requirements prescribed in the SCRR for units of CIS may be brought at par with those for securities.

Market Manipulation

A prime challenge before the regulators today is to protect the market from price manipulations. There has been a growing concern that stock markets are guided mainly by speculation and are concentrated among a few scrips and among a few members. There is clear evidence that on many stock exchanges, a small percentage of listed scrips are traded. The market is dominated by a few FIs, FIIs and a group of bulls and bears, some of whom are primarily interested in unhealthy speculation rather than healthy trading. Large-scale sales/purchases by some of them, at times in concert, does inject the market with a speculative overtone, as evidenced by manifold rise in prices of BPL, Videocon, Pentafour, Sterlite *etc.* during May–June 1998. The 1990s witnessed several instances of fraud and market manipulations in the securities market. These include the Harshad Mehta scam of 1992, the problems with M. S. Shoes in 1995, the CRB Mutual Fund scandal in 1997, and the most recent crisis involving some brokers and the banking system, which broke in March 2001. The magnitude of market manipulation can be judged from the fact that two Joint Parliamentary Committees have been set up in 1990s to go in to stock market irregularities and manipulations and of the 68 cases taken up by SEBI for investigation during 2000–01, 47 related to price manipulation and price rigging.

Each of these crises distorted stock prices, adversely affected liquidity and shattered investor confidence. To some extent, these crises could be attributed to the inadequacy of surveillance systems at most of the stock exchanges in the country and their inability to curb unhealthy practices. There were, however, some inherent problems with the system of account period settlement, which followed essentially a futures-style settlement. The introduction of rolling settlement on a wider scale will take care of this by keeping the cash and futures market separate. Some other factors responsible for speculation in Indian market were the prevalence of carry forward facility, and different settlement cycles on different stock exchanges. These have been addressed in the recent reform measures. The situation can be improvised further if the stock exchanges further strengthen their on-line and off-line monitoring mechanisms and SEBI keeps a closer watch on the market developments.

In the preliminary investigation report submitted by SEBI to the Joint Parliamentary Committee investigating the irregularities and manipulation in securities transactions, it suggested the following systemic measures:

(a) The monitoring and surveillance capabilities of the stock exchanges need to be strengthened. These functions need to be kept independent of management interference and influences.

(b) In order to better assess and manage the risk in the market, a system of Unique Client Identity should be introduced for identifying the entities dealing through multiple members.

(c) There is an urgent need to evolve a mechanism of sharing of information amongst surveillance departments of exchanges to have a holistic picture of risk profile and trading by members.

(d) With a view to reduce leverage in trading, the system of bank guarantees for meeting capital and margin requirement needs to be reviewed.

(e) With a view to reduce the risk and leverage under ALBM/BLESS/MCFS, it would be appropriate to impound at least one third of the hawala profits by the Exchange till the positions are squared up.

(f) An appropriate centralised monitoring mechanism for transfer of funds from the banking system to the capital market should be evolved.

(g) The issue regarding strengthening and providing penal and other investigation powers under the SEBI Act needs consideration on priority.

Corporate Governance

There has been a lot of emphasis in the recent past on adoption of fair and ethical business practices by all corporate entities. SEBI introduced a code of corporate governance based on the recommendations of the Kumar Mangalam Birla Committee. This has been incorporated as Clause 49 of the listing agreement. One, however, wonders if the listing agreement is the only means available for bringing about discipline in corporate sector, particularly when non-compliance with listing agreement can at best invite a penalty up to Rs. 1,000. Trading of securities can be suspended or withdrawn, but this becomes a penalty on the investor. One cannot argue that market would reward the corporates following good corporate norm and punish those who are not following such norms. If the corporate governance norms are to be implemented in all seriousness, the coercive mechanism for following listing agreements in letter as well as spirit has to be strengthened. SEBI has announced several measures with regard to corporate governance, which basically aim at strengthening disclosures by the company. The emphasis should, however, be on quality of disclosures rather than quantity of disclosures.

Annexure 4.1. Market Capitalisaion of S&P CNX Nifty Securities: April 2000 to June 2001 (end of period)

(Rs. crore)

Sl.No.	Security	Apr–00	May–00	Jun–00	Jul–00	Aug–00	Sep–00	Oct–00	Nov–00	Dec–00	Jan–01	Feb–01	Mar–01	Apr–01	May–01	Jun–01
1.	ABB	683	782	857	833	1015	879	894	1083	1089	1098	1304	988	1019	1152	1035
2.	ACC	2405	1952	2030	1833	2130	1585	1595	2469	2722	3076	3047	2226	2548	2389	2339
3.	ASIANPAINT	1633	1710	1622	1801	1667	1423	1595	1626	1776	1702	1707	1575	1677	1627	1605
4.	BAJAJAUTO	4256	4342	4237	4220	4262	3987	3136	2661	2293	3014	3279	2614	2298	2771	2605
5.	BHEL	2473	2984	3248	2883	3261	2547	2514	3148	4002	4119	3964	3492	3849	4609	4358
6.	BRITANNIA	1418	1727	1662	1991	1862	1838	2107	2313	2235	2221	2043	1947	1935	1789	1709
7.	BSES	3596	3934	3417	3220	3016	3126	2422	2938	2728	2917	3041	2580	2669	2938	2731
8.	CASTROL	3706	3611	3719	3276	3328	2927	2297	3035	3375	3406	3367	2855	3041	2892	2670
9.	CIPLA	5343	4636	5185	4355	4867	4129	5315	5931	6261	6746	6038	5986	6887	6637	6855
10.	COCHINREFN	648	623	608	553	578	550	576	655	716	722	722	648	590	610	498
11.	COLGATE	1958	2199	2440	2624	2205	2160	2015	2336	2262	2514	2466	2113	2454	2360	2192
12.	DABUR	–	*2143	1870	2379	1943	1719	1754	2069	1935	1894	2006	1740	1977	2115	1771
13.	DIGITALEQP	–	–	–	–	–	*1579	1551	1620	1563	2194	2315	1371	1539	1841	1644
14.	DRREDDY	3412	3691	3459	3049	3495	3314	3711	3579	3376	3446	3516	3298	3540	4431	5079
15.	GLAXO	2313	2037	2572	2864	2754	2670	2449	2743	2729	2597	2762	2546	2209	2347	1902
16.	GRASIM	3273	2461	2634	2333	2504	1967	1870	2261	2640	3036	2929	2300	2637	3097	2758
17.	GUJAMBCEM	2909	2855	2887	2923	2879	2300	1964	2275	2330	2788	2753	2259	2525	2707	2724
18.	HCL-INSYS	–	*1126	1368	1013	1098	995	714	753	672	647	704	268	256	280	202
19.	HDFC	5598	5699	6571	6026	6242	5215	5601	6304	6454	6609	7069	6508	6837	7963	8290
20.	HDFCBANK	5476	5603	6139	5666	5823	5699	6095	5380	5420	6177	6241	5555	5605	5600	5106
21.	HEROHONDA	3722	3690	3941	4112	3666	3305	3519	3414	3500	3444	3239	2829	2794	2771	2925
22.	HINDALCO	5267	5385	5896	5951	5966	6054	5323	5185	5499	5716	5687	5745	6031	6460	6183
23.	HINDLEVER	52477	56623	62307	52861	52466	45791	39061	42487	45352	45429	50435	48141	46197	43464	45100
24.	HINDPETRO	3806	4640	4157	3896	4136	3695	3616	4338	4785	6183	6008	5450	5653	5528	5363
25.	ICICI	10468	10653	9824	9353	8513	7716	5839	6868	7367	7300	8407	6931	6511	6401	5627
26.	INDHOTEL	1065	923	994	961	1082	1051	910	978	1063	1140	1318	1133	1077	1085	921
27.	INFOSYSTCH	53765	46349	54974	44726	55083	48696	47185	47524	37667	44935	41289	27015	24537	24955	24799
28.	IPCL	1182	1327	1538	1393	1560	1375	1230	1496	1571	1901	1783	1360	1304	1504	1290
29.	ITC	13986	17807	19432	18209	19043	17503	18647	20057	21992	22356	19049	19977	20595	19536	18512
30.	L&T	5840	4703	6080	4832	5088	4135	3682	4536	4860	6205	6491	5494	5446	6180	5448
31.	M&M	2952	2750	2343	2164	2036	2046	1425	1615	1641	1808	1785	1325	1495	1356	889
32.	MTNL	14112	11384	13479	10817	9626	6943	8836	10414	11252	12291	9286	8344	9415	9066	7947
33.	NESTLE	3106	3746	3631	5052	4422	4726	5179	5201	5286	5056	5251	4900	5276	5113	5370
34.	NIIT	7826	7621	8465	6263	7261	5531	6082	6592	6154	5890	4784	2790	1459	1838	1483
35.	NOVARTIND	2358	2712	2608	2785	2801	2572	2022	1703	1676	1316	1306	863	834	926	737
36.	ORIENTBANK	647	651	642	609	610	584	551	667	667	750	812	766	758	739	694
37.	P&G	1201	1582	1452	1563	1431	1366	1195	1250	1503	1500	1488	1199	1282	1234	1157
38.	RANBAXY	7070	6363	6715	6399	7767	7365	8101	9004	7794	7679	7986	6665	5786	5655	5598
39.	RECKCOLMAN	688	707	681	850	768	894	833	870	865	775	793	673	630	633	536
40.	RELIANCE	32159	36239	35912	35491	35464	36091	31839	34579	35717	40528	43636	41049	36091	41339	38831
41.	RELPETRO	23786	21311	23205	21978	20687	24066	23420	25229	25081	28131	27269	21546	22253	23579	20772
42.	SATYAMCOMP	17591	14101	16568	13675	16059	13679	8561	9555	9092	11707	9711	6567	6067	6107	5372
43.	SBIN	10881	10726	11968	10560	10444	9339	8592	9602	10139	12131	12921	10581	11029	11658	11413
44.	SMITKLBECH	1557	1612	1564	1960	2023	1806	1847	1923	1967	1757	1751	1670	1722	1711	1824
45.	TATACHEM	787	796	758	682	685	628	681	801	913	986	924	691	720	829	647
46.	TATAPOWER	549	634	941	904	947	795	791	1607	2001	2329	2973	2030	2457	2979	2632
47.	TATATEA	1662	1772	1617	1122	1115	981	820	1017	1243	1527	1508	1319	1202	1336	1040
48.	TELCO	3254	3181	3161	2369	2562	2086	1795	2250	2255	2404	2633	1671	1935	2105	1597
49.	TISCO	3976	4499	4361	4342	4013	3472	3556	4532	4789	5056	5688	4504	4946	5198	4243
50.	ZEETELE	–	*20268	16827	16823	20310	17407	11148	10948	10789	10238	6591	4987	4063	5484	4820

* Denotes the month in which the particular security was included in S&P CNX Nifty Index.
Source: IISL.

Annexure 4.2. Weightage of S&P CNX Nifty Securities: April 2000–June 2001

Sl.No.	Security	Apr–00	May–00	Jun–00	Jul–00	Aug–00	Sep–00	Oct–00	Nov–00	Dec–00	Jan–01	Feb–01	Mar–01	Apr–01	May–01	Jun–01
1.	ABB	0.20	0.22	0.22	0.24	0.28	0.26	0.29	0.33	0.33	0.31	0.37	0.33	0.35	0.38	0.35
2.	ACC	0.70	0.54	0.53	0.53	0.59	0.48	0.52	0.74	0.82	0.86	0.86	0.74	0.86	0.78	0.80
3.	ASIANPAINT	0.48	0.48	0.42	0.52	0.46	0.43	0.52	0.49	0.54	0.47	0.48	0.52	0.57	0.53	0.55
4.	BAJAJAUTO	1.24	1.21	1.11	1.22	1.17	1.20	1.02	0.80	0.69	0.84	0.93	0.87	0.78	0.90	0.89
5.	BHEL	0.72	0.83	0.85	0.83	0.90	0.77	0.82	0.95	1.21	1.15	1.12	1.16	1.30	1.50	1.49
6.	BRITANNIA	0.41	0.48	0.43	0.57	0.51	0.55	0.69	0.70	0.68	0.62	0.58	0.65	0.65	0.58	0.59
7.	BSES	1.05	1.09	0.89	0.93	0.83	0.94	0.79	0.89	0.82	0.81	0.86	0.86	0.90	0.96	0.94
8.	CASTROL	1.08	1.00	0.97	0.94	0.92	0.88	0.75	0.92	1.02	0.95	0.95	0.95	1.03	0.94	0.91
9.	CIPLA	1.56	1.29	1.35	1.25	1.34	1.24	1.73	1.79	1.89	1.88	1.71	1.99	2.33	2.16	2.35
10.	COCHINREFN	0.19	0.17	0.16	0.16	0.16	0.17	0.19	0.20	0.22	0.20	0.20	0.22	0.20	0.20	0.17
11.	COLGATE	0.57	0.61	0.64	0.76	0.61	0.65	0.66	0.70	0.68	0.70	0.70	0.70	0.83	0.77	0.75
12.	DABUR	–	* 0.6	0.49	0.69	0.53	0.52	0.57	0.62	0.58	0.53	0.57	0.58	0.67	0.69	0.61
13.	DIGITALEQP	–	–	–	–	–	*0.48	0.51	0.49	0.47	0.61	0.65	0.46	0.52	0.60	0.56
14.	DRREDDY	0.99	1.03	0.90	0.88	0.96	1.00	1.21	1.08	1.02	0.96	0.99	1.10	1.20	1.44	1.74
15.	GLAXO	0.67	0.57	0.67	0.82	0.76	0.80	0.80	0.83	0.82	0.72	0.78	0.85	0.75	0.76	0.65
16.	GRASIM	0.95	0.68	0.69	0.67	0.69	0.59	0.61	0.68	0.80	0.84	0.83	0.76	0.89	1.01	0.94
17.	GUJAMBCEM	0.85	0.79	0.75	0.84	0.79	0.69	0.64	0.69	0.70	0.78	0.78	0.75	0.85	0.88	0.93
18.	HCL-INSYS	–	* 0.31	0.36	0.29	0.30	0.30	0.23	0.23	0.20	0.18	0.20	0.09	0.09	0.09	0.07
19.	HDFC	1.63	1.58	1.71	1.74	1.72	1.57	1.83	1.90	1.95	1.84	2.00	2.16	2.31	2.59	2.84
20.	HDFCBANK	1.59	1.56	1.60	1.63	1.60	1.71	1.99	1.62	1.64	1.72	1.76	1.85	1.90	1.82	1.75
21.	HEROHONDA	1.08	1.03	1.03	1.18	1.01	0.99	1..15	1.03	1.06	0.96	0.91	0.94	0.95	0.90	1.00
22.	HINDALCO	1.53	1.50	1.54	1.71	1.64	1.82	1.74	1.56	1.66	1.59	1.61	1.91	2.04	2.10	2.12
23.	HINDLEVER	15.28	15.74	16.25	15.22	14.45	13.78	12.75	12.82	13.70	12.64	14.24	15.99	15.63	14.16	15.45
24.	HINDPETRO	1.11	1.29	1.08	1.12	1.14	1.11	1.18	1.31	1.45	1.72	1.70	1.81	1.91	1.80	1.84
25.	ICICI	3.05	2.96	2.56	2.69	2.34	2.32	1.91	2.07	2.23	2.03	2.37	2.30	2.20	2.09	1.93
26.	INDHOTEL	0.31	0.26	0.26	0.28	0.30	0.32	0.30	0.30	0.32	0.32	0.37	0.38	0.36	0.35	0.32
27.	INFOSYSTCH	15.65	12.89	14.34	12.88	15.17	14.65	15.40	14.34	11.38	12.50	11.66	8.97	8.30	8.13	8.50
28.	IPCL	0.34	0.37	0.40	0.40	0.43	0.41	0.40	0.45	0.47	0.53	0.50	0.45	0.44	0.49	0.44
29.	ITC	4.07	4.95	5.07	5.24	5.24	5.27	6.08	6.05	6.64	6.22	5.38	6.64	6.97	6.37	6.34
30.	L&T	0.86	0.76	0.61	0.62	0.56	0.62	0.46	0.49	0.50	0.50	0.50	0.44	0.51	0.44	0.30
32.	MTNL	4.11	3.16	3.52	3.12	2.65	2.09	2.88	3.14	3.40	3.42	2.62	2.77	3.19	2.95	2.72
33.	NESTLE	0.90	1.04	0.95	1.45	1.22	1.42	1.69	1.57	1.60	1.41	1.48	1.63	1.79	1.67	1.84
34.	NIIT	2.28	2.12	2.21	1.80	2.00	1.66	1.98	1.99	1.86	1.64	1.35	0.93	0.49	0.60	0.51
35.	NOVARTIND	0.69	0.75	0.68	0.80	0.77	0.77	0.66	0.51	0.51	0.37	0.37	0.29	0.28	0.30	0.25
36.	ORIENTBANK	0.19	0.18	0.17	0.18	0.17	0.18	0.18	0.20	0.20	0.21	0.23	0.26	0.26	0.24	0.24
37.	P&G	0.35	0.44	0.38	0.45	0.39	0.41	0.39	0.38	0.45	0.42	0.42	0.40	0.43	0.40	0.40
38.	RANBAXY	2.06	1.77	1.75	1.84	2.14	2.22	2.64	2.72	2.35	2.14	2.26	2.21	1.96	1.84	1.92
39.	RECKCOLMAN	0.20	0.20	0.18	0.24	0.21	0.27	0.27	0.26	0.26	0.22	0.22	0.22	0.21	0.21	0.18
40.	RELIANCE	9.36	10.07	9.37	10.22	9.76	10.86	1.0.39	10.43	10.79	11.28	12.32	13.63	12.21	13.47	13.31
41.	RELPETRO	6.92	5.92	6.05	6.33	5.70	7.24	7.64	7.61	7.58	7.83	7.70	7.16	7.53	7.68	7.12
42.	SATYAMCOMP	5.12	3.92	4.32	3.94	4.42	4.12	2.79	2.88	2.75	3.26	2.74	2.18	2.05	1.99	1.84
43.	SBIN	3.17	2.98	3.12	3.04	2.88	2.81	2.80	2.90	3.06	3.38	3.65	3.51	3.73	3.80	3.91
44.	SMITKLBECH	0.45	0.45	0.41	0.56	0.56	0.54	0.60	0.58	0.59	0.49	0.49	0.56	0.58	0.56	0.62
45.	TATACHEM	0.23	0.22	0.20	0.20	0.19	0.19	0..22	0.24	0.28	0.27	0.26	0.23	0.24	0.27	0.22
46.	TATAPOWER	0.16	0.18	0.25	0.26	0.26	0.24	0.26	0.48	0.60	0.65	0.84	0.67	0.83	0.97	0.90
47.	TATATEA	0.48	0.49	0.42	0.32	0.31	0.30	0.27	0.31	0.38	0.42	0.43	0.44	0.41	0.44	0.36
48.	TELCO	0.95	0.88	0.82	0.68	0.71	0.63	0.59	0.68	0.68	0.67	0.74	0.56	0.65	0.69	0.55
49.	TISCO	1.16	1.25	1.14	1.25	1.10	1.04	1.16	1.37	1.45	1.41	1.61	1.50	1.67	1.69	1.45
50.	ZEETELE	–	* 5.63	4.39	4.84	5.59	5.24	3.64	3.30	3.26	2.85	1.86	1.66	1.37	1.79	1.65

* Denotes the month in which the particular security was included in S&P CNX Nifty Index.
Source: IISL.

Annexure 4.3. Beta of S&P CNX Nifty Securities: April 2000 to June 2001

(In per cent)

Sl .No.	Security	Apr–00	May–00	Jun–00	Jul–00	Aug–00	Sep–00	Oct–00	Nov–00	Dec–00	Jan–01	Feb–01	Mar–01	Apr–01	May–01	Jun–01
1.	ABB	0.69	0.77	0.76	0.72	0.68	0.64	0.61	0.60	0.59	0.61	0.68	0.72	0.77	0.79	0.76
2.	ACC	1.01	1.17	1.09	1.11	1.06	1.05	1.03	0.99	0.95	0.94	0.91	0.97	1.03	1.20	1.21
3.	ASIANPAINT	0.44	0.42	0.38	0.31	0.26	0.25	0.21	0.19	0.20	0.16	0.23	0.23	0.24	0.25	0.27
4.	BAJAJAUTO	0.42	0.60	0.53	0.56	0.53	0.50	0.49	0.53	0.50	0.39	0.32	0.32	0.35	0.36	0.37
5.	BHEL	0.96	1.07	1.00	1.02	1.00	0.96	0.94	0.91	0.91	0.88	0.94	0.95	1.01	1.10	1.12
6.	BRITANNIA	0.35	0.56	0.47	0.52	0.50	0.45	0.47	0.49	0.49	0.39	0.26	0.28	0.24	0.14	0.14
7.	BSES	1.03	1.00	0.99	1.00	0.92	0.91	0.88	0.87	0.87	0.90	0.76	0.74	0.62	0.73	0.69
8.	CASTROL	0.46	0.64	0.57	0.61	0.58	0.54	0.52	0.52	0.48	0.39	0.48	0.50	0.52	0.58	0.57
9.	CIPLA	0.69	0.84	0.86	0.90	0.88	0.84	0.79	0.77	0.79	0.77	0.80	0.83	0.82	0.76	0.74
10.	COCHINREFN	0.58	0.63	0.59	0.54	0.47	0.46	0.41	0.38	0.42	0.42	0.52	0.67	0.66	0.75	0.81
11.	COLGATE	0.64	0.73	0.70	0.57	0.55	0.51	0.47	0.44	0.43	0.33	0.37	0.32	0.38	0.34	0.32
12.	DABUR	–	*0.83	0.85	0.77	0.75	0.76	0.73	0.69	0.69	0.60	0.75	0.75	0.68	0.66	0.65
13.	DIGITALEQP	–	–	–	–	–	*1.59	1.57	1.56	1.63	1.69	1.71	1.83	2.07	2.15	2.24
14.	DRREDDY	0.91	1.05	0.98	1.04	1.07	1.04	1.02	0.98	1.02	0.96	0.88	0.85	0.81	0.73	0.72
15.	GLAXO	0.54	0.70	0.71	0.75	0.72	0.69	0.63	0.64	0.66	0.61	0.56	0.56	0.54	0.49	0.45
16.	GRASIM	0.69	0.71	0.69	0.67	0.60	0.61	0.55	0.53	0.50	0.49	0.62	0.78	0.85	1.01	1.05
17.	GUJAMBCEM	0.79	0.85	0.78	0.87	0.84	0.82	0.76	0.78	0.75	0.74	0.73	0.80	0.72	0.88	0.89
18.	HCL-INSYS	–	*1.12	1.44	1.26	1.28	1.32	1.31	1.37	1.37	1.47	1.60	1.77	1.99	2.11	2.14
19.	HDFC	0.47	0.47	0.35	0.35	0.32	0.33	0.24	0.21	0.17	0.08	0.01	0.08	0.10	0.22	0.25
20.	HDFCBANK	0.75	0.61	0.55	0.61	0.59	0.56	0.54	0.58	0.51	0.49	0.45	0.62	0.50	0.59	0.62
21.	HEROHONDA	0.51	0.56	0.52	0.50	0.47	0.45	0.45	0.43	0.40	0.37	0.36	0.40	0.26	0.25	0.27
22.	HINDALCO	0.54	0.61	0.55	0.50	0.52	0.52	0.52	0.51	0.54	0.52	0.41	0.51	0.39	0.37	0.38
23.	HINDLEVER	0.42	0.77	0.76	0.80	0.81	0.80	0.83	0.86	0.87	0.88	0.89	0.87	0.82	0.65	0.65
24.	HINDPETRO	0.80	0.83	0.75	0.72	0.68	0.68	0.65	0.62	0.65	0.66	0.77	0.68	0.66	0.73	0.70
25.	ICICI	0.89	0.97	0.92	0.95	0.98	0.95	0.94	0.94	1.01	1.00	1.15	1.10	1.10	1.06	1.08
26.	INDHOTEL	0.50	0.57	0.61	0.52	0.49	0.46	0.36	0.35	0.32	0.30	0.40	0.49	0.48	0.49	0.50
27.	INFOSYSTCH	1.20	1.35	1.36	1.40	1.51	1.51	1.54	1.54	1.55	1.56	1.56	1.55	1.69	1.80	1.83
28.	IPCL	0.97	1.02	0.91	0.93	0.90	0.86	0.81	0.79	0.74	0.74	0.87	1.03	1.06	1.25	1.23
29.	ITC	0.92	1.15	1.13	1.14	1.11	1.10	1.08	1.08	1.06	1.03	0.76	0.74	0.63	0.55	0.55
30.	L&T	1.09	1.16	1.18	1.25	1.23	1.23	1.27	1.24	1.23	1.26	1.18	1.11	1.00	1.11	1.08
31.	M&M	0.60	0.82	0.78	0.92	0.90	0.91	0.91	0.94	0.94	1.06	1.04	1.15	1.21	1.10	1.13
32.	MTNL	1.19	1.26	1.27	1.20	1.16	1.17	1.14	1.13	1.11	1.13	1.01	1.02	0.98	0.98	0.90
33.	NESTLE	0.38	0.55	0.49	0.47	0.43	0.44	0.44	0.46	0.44	0.42	0.36	0.39	0.41	0.35	0.36
34.	NIIT	0.98	1.01	1.03	1.06	1.08	1.07	1.07	1.05	1.04	1.08	1.08	1.33	1.52	1.66	1.74
35.	NOVARTIND	0.24	0.40	0.40	0.39	0.34	0.34	0.37	1.05	1.04	1.08	0.42	0.56	0.54	0.49	0.50
36.	ORIENTBANK	0.63	0.66	0.63	0.55	0.50	0.47	0.40	0.38	0.33	0.28	0.34	0.37	0.46	0.55	0.53
37.	P&G	0.48	0.57	0.58	0.48	0.49	0.49	0.47	0.43	0.42	0.34	0.42	0.41	0.45	0.48	0.48
38.	RANBAXY	1.15	1.24	1.19	1.20	1.19	1.14	1.08	1.03	1.03	1.00	0.84	0.86	0.83	0.83	0.80
39.	RECKCOLMAN	0.33	0.47	0.47	0.44	0.43	0.43	0.41	0.44	0.44	0.39	0.44	0.51	0.54	0.58	0.57
40.	RELIANCE	0.98	1.11	1.00	1.03	1.02	1.01	1.02	0.99	0.97	0.94	0.90	0.84	0.84	0.90	0.94
41.	RELPETRO	0.87	1.03	0.94	0.96	0.91	0.91	0.89	0.86	0.88	0.84	0.86	0.90	0.88	0.97	0.98
42.	SATYAMCOMP	1.33	1.39	1.44	1.54	1.64	1.68	1.72	1.72	1.71	1.79	2.02	1.96	2.27	2.43	2.44
43.	SBIN	0.96	1.05	0.97	1.02	1.01	0.99	0.97	0.96	0.94	0.91	0.92	0.86	0.82	0.87	0.84
44.	SMITKLBECH	0.21	0.32	0.31	0.29	0.27	0.26	0.25	0.28	0.29	0.25	0.24	0.29	0.30	0.29	0.30
45.	TATACHEM	0.84	0.84	0.74	0.72	0.68	0.67	0.66	0.64	0.60	0.56	0.74	0.90	0.95	1.05	1.08
46.	TATAPOWER	0.64	0.66	0.73	0.70	0.64	0.65	0.64	0.62	0.61	0.64	0.59	0.95	1.04	1.22	1.18
47.	TATATEA	0.82	0.86	0.75	0.82	0.77	0.78	0.73	0.68	0.65	0.61	0.65	0.84	0.91	1.04	1.11
48.	TELCO	0.77	0.97	0.86	0.90	0.80	0.76	0.73	0.69	0.66	0.64	0.78	1.00	1.04	1.16	1.20
49.	TISCO	0.82	0.91	0.88	0.94	0.88	0.86	0.85	0.79	0.77	0.75	0.79	0.96	1.08	1.23	1.20
50.	ZEETELE	–	*1.20	1.30	1.35	1.35	1.44	1.41	1.42	1.59	1.72	1.69	1.84	2.16	2.20	2.21

Beta is calculated for the 12 months ending on the last trading day of the respective month.
* Denotes the month in which the particular security was included in S&P CNX Nifty Index.
Source: IISL.

Annexure 4.4. Monthly Returns of S&P CNX Nifty Securities: April 2000–June 2001

Sl .No.	Security	Apr–00	May–00	Jun–00	Jul–00	Aug–00	Sep–00	Oct–00	Nov–00	Dec–00	Jan–01	Feb–01	Mar–01	Apr–01	May–01	Jun–01
1.	ABB	−24.35	14.48	9.56	−2.78	21.84	−13.46	1.79	21.07	0.57	0.86	18.70	−24.22	3.12	13.11	−10.22
2.	ACC	−0.67	−18.84	4.04	−9.74	16.21	−25.57	0.59	54.83	10.27	12.99	−0.95	−26.95	14.51	−6.25	−2.11
3.	ASIANPAINT	−3.83	4.71	−5.13	11.02	−8.09	−14.60	12.06	1.95	9.20	−4.17	0.34	−7.73	6.42	−2.97	−1.34
4.	BAJAJAUTO	−7.47	2.01	−2.42	−0.39	1.00	−6.46	−21.34	0.10	−13.80	31.44	8.78	−20.29	−12.08	20.61	−5.99
5.	BHEL	−19.58	20.63	8.86	−11.23	13.12	−21.91	−1.30	25.22	27.14	2.94	−3.77	−11.92	10.23	19.75	−5.44
6.	BRITANNIA	−17.88	21.86	−3.77	19.80	−6.51	−1.29	14.62	9.82	−3.40	−0.60	−8.01	−4.72	−0.62	−7.56	−4.46
7.	BSES	8.91	9.39	−13.13	−5.79	−6.31	3.63	−22.52	21.30	−7.13	6.92	4.25	−15.15	3.44	10.06	−7.03
8.	CASTROL	−2.93	−2.58	3.01	−11.92	1.58	−12.04	−21.52	32.12	11.21	0.90	−1.14	−15.21	6.53	−4.89	−7.71
9.	CIPLA	−21.39	−13.23	11.84	−16.01	11.76	−15.16	28.71	11.59	5.57	7.75	−10.49	−0.86	15.06	−3.64	3.29
10.	COCHINREFN	−3.19	−3.78	−2.43	−9.07	4.49	−4.83	4.83	13.10	9.26	0.96	0.00	−10.31	−8.94	3.39	−18.31
11.	COLGATE	−1.37	12.29	10.95	7.55	−15.96	−2.04	−6.74	15.96	−3.17	11.12	−1.89	−14.31	16.12	−3.82	−7.14
12.	DABUR	–	* 14.95	−12.75	27.24	−18.35	−11.52	2.05	17.02	−6.48	−2.14	5.95	−13.29	13.61	7.00	−16.25
13.	DIGITALEQP	–	–	–	–	–	* −9.64	−1.80	4.47	−3.53	40.35	5.54	−40.78	12.22	19.64	−10.73
14.	DRREDDY	−21.09	8.18	−6.29	−11.85	14.64	−5.19	11.99	−3.55	−5.68	2.06	2.06	−6.20	−9.99	25.17	14.61
15.	GLAXO	−13.93	−11.95	26.28	11.36	−3.86	−3.03	−8.29	12.00	−0.50	−4.84	6.36	−7.84	−13.22	6.25	−18.95
16.	GRASIM	16.12	−24.82	7.04	−11.42	7.33	−21.45	−4.92	20.88	16.77	15.02	−3.52	−21.47	14.64	17.43	−10.95
17.	GUJAMBCEM	−7.07	−1.87	1.13	1.25	−1.51	−20.11	−14.59	15.84	2.39	19.67	−1.27	−17.93	11.79	7.19	0.63
18.	HCL-INSYS	–	* −1.99	21.52	−26.00	8.41	−9.35	−28.27	5.50	−10.81	−3.63	8.75	−61.94	−4.35	9.15	−27.78
19.	HDFC	19.59	1.80	15.30	−8.29	3.59	−16.45	7.40	12.54	2.38	2.41	6.97	−7.94	5.05	15.52	4.10
20.	HDFCBANK	−4.72	−6.02	9.57	−7.71	2.77	−2.13	6.96	−11.73	0.75	13.96	1.04	−10.99	0.90	−0.22	−8.83
21.	HEROHONDA	−3.96	−0.86	6.81	4.34	−10.86	−9.84	6.46	−2.97	2.51	−1.59	−5.97	−12.66	−1.24	−0.82	5.59
22.	HINDALCO	−4.07	2.25	9.47	0.93	0.26	1.47	−12.08	−2.59	6.05	3.95	−0.51	1.02	4.98	7.11	−4.29
23.	HINDLEVER	−0.93	7.90	10.04	−15.14	−0.75	−12.72	−14.70	8.77	6.74	0.17	11.02	−4.55	−4.04	−5.92	3.76
24.	HINDPETRO	−15.23	21.93	−10.42	−6.29	6.18	−10.66	−2.16	19.99	10.29	29.22	−2.83	−9.29	3.74	−2.22	−2.98
25.	ICICI	−1.22	1.76	−7.78	−4.80	−8.98	−9.36	−24.33	17.62	7.26	−0.91	15.17	−17.56	−6.06	−1.69	−12.09
26.	INDHOTEL	−4.40	−13.28	7.67	−3.38	12.68	−2.92	−13.40	7.46	8.74	7.19	15.65	−14.05	−4.96	0.80	−15.15
27.	INFOSYSTCH	−9.48	−13.81	18.74	−18.64	23.15	−11.60	−3.10	0.72	−20.74	19.29	−8.11	−34.57	−9.18	1.71	−0.63
28.	IPCL	−21.97	12.28	15.83	−9.44	12.04	−11.87	−10.56	21.67	5.02	20.94	−6.19	−23.72	−4.14	15.36	−14.23
29.	ITC	−23.14	27.32	9.12	−6.30	4.58	−8.09	6.53	7.56	9.65	1.66	−14.79	4.87	3.10	−5.14	−5.24
30.	L&T	−19.15	−19.47	29.27	−20.52	5.30	−18.73	−10.97	23.22	7.12	27.67	4.61	−15.36	−0.88	13.49	−11.84
31.	M&M	−14.43	−8.49	−14.81	−7.62	−5.92	0.49	−30.37	13.38	1.61	10.13	−1.25	−25.78	12.84	−9.31	−34.43
32.	MTNL	−4.86	−19.33	18.40	−19.75	−11.01	−27.88	27.27	17.86	8.05	9.24	−24.45	−10.14	12.84	−3.71	−12.33
33.	NESTLE	−13.58	20.61	−3.08	39.14	−12.47	6.88	9.58	0.43	1.63	−4.34	3.86	−6.68	7.67	−3.09	5.02
34.	NIIT	0.41	−2.63	11.08	−26.01	15.94	−23.83	9.98	8.37	−6.64	−4.29	−18.78	−41.67	−47.70	25.95	−19.33
35.	NOVARTIND	−17.57	15.01	−3.84	6.79	0.58	−8.17	−21.39	−9.73	−1.56	−21.52	−0.69	−33.91	−3.47	11.05	−20.36
36.	ORIENTBANK	−8.82	0.60	−1.33	−5.10	0.16	−4.26	−5.77	21.15	0.00	12.41	8.22	−5.58	−1.13	−2.41	−6.12
37.	P&G	−6.39	31.65	−8.18	7.63	−8.47	−4.52	−12.52	4.57	20.25	−0.16	−0.79	−19.45	6.91	−3.76	−6.22
38.	RANBAXY	−13.82	−10.00	5.54	−4.70	21.38	−5.18	9.98	11.15	−13.44	−1.48	4.01	−16.54	−13.20	−2.26	−1.00
39.	RECKCOLMAN	−1.62	2.75	−3.68	24.86	−9.66	16.53	−6.83	4.42	−0.57	−10.42	2.25	−15.10	−6.36	0.50	−15.38
40.	RELIANCE	8.83	−0.15	−0.90	−1.17	−0.07	1.77	−11.78	8.60	3.29	13.47	7.67	−5.93	−12.08	14.54	−6.07
41.	RELPETRO	−9.72	−10.41	8.89	−5.29	−5.88	16.34	−2.68	7.72	−3.16	12.16	−3.06	−20.99	3.28	5.96	−11.90
42.	SATYAMCOMP	−30.61	−19.84	17.50	−17.46	17.43	−14.82	−37.41	11.61	−4.84	28.76	−17.05	−32.37	−7.62	0.67	−21.36
43.	SBIN	0.98	−1.43	11.58	−11.76	−1.10	−10.58	−8.00	11.76	5.59	19.65	6.51	−18.11	4.23	5.70	−2.10
44.	SMITKLBECH	−15.33	3.53	−2.97	25.37	3.18	−10.69	2.25	4.09	2.34	−10.71	−0.30	−4.66	3.10	−0.62	6.59
45.	TATACHEM	−16.65	1.15	−4.77	−10.01	0.40	−8.31	8.49	17.64	13.98	8.01	−6.32	−25.22	4.18	15.18	−22.00
46.	TATAPOWER	−29.87	15.47	48.53	−3.95	4.76	−16.08	−0.51	19.41	20.94	16.50	27.67	−31.70	21.00	21.25	−11.65
47.	TATATEA	−11.04	6.58	−8.71	−30.60	−0.65	−11.99	−16.47	24.05	5.69	22.89	−1.29	−12.53	−8.87	11.16	−22.18
48.	TELCO	−6.71	−2.24	−0.64	−25.06	8.16	−18.58	−13.93	25.30	0.23	6.64	9.53	−36.54	15.77	8.80	−24.13
49.	TISCO	−6.21	13.15	−3.07	−0.42	−7.59	−13.49	2.44	27.43	5.69	5.57	12.49	−20.81	9.81	5.10	−18.38
50.	ZEETELE	–	* −27.52	−16.98	−0.02	20.73	−14.29	−35.95	−1.79	−1.45	−5.11	−35.62	−28.76	−18.53	34.97	−12.11

Returns are calculated for the respective months.
* Denotes the month in which the particular security was included in S&P CNX Nifty Index.
Source: IISL.

Annexure 4.5. Business Growth of CM Segment of NSE

Year/Month	No. of Trading Days	No. of Securities Traded	No. of Trades (Lakh)	Traded Quantity (Lakh)	Turnover (Rs. cr.)	Average Daily Turnover (Rs. cr.)	Turnover Ratio (%)	Demat Traded Quantity (Lakh)	Demat Turnover (Rs. cr.)	Demat Turnover as a % of Total Turnover	Market Capitalisation (Rs. cr.)*
1994–95 (Nov.–Mar.)	102	–	3	1,391	1,805	17	–	0	0	0	363,350
1995–96	246	–	66	39,912	67,287	276	–	0	0	0	401,459
1996–97	250	–	264	135,561	294,503	1,176	–	2	6	0	419,367
1997–98	244	–	381	135,685	370,193	1,520	–	315	351	0	481,503
1998–99	251	–	546	165,327	414,474	1,651	–	8,542	23,818	5.74	491,175
1999–00	254	–	984	242,704	839,052	3,303	–	153,772	711,706	84.82	1,020,426
Apr–00	18	1,059	74	13,390	57,229	3,179	6.76	11,679	52,021	90.90	846,391
May–00	22	1,050	111	16,477	79,037	3,593	10.00	14,538	72,995	92.36	790,478
Jun–00	22	1,058	132	19,607	119,373	5,426	14.00	17,392	111,926	93.76	852,554
Jul–00	21	1,050	122	19,114	110,056	5,241	14.74	17,114	101,847	92.54	746,402
Aug–00	22	1,038	138	23,456	125,347	5,698	15.78	21,177	116,186	92.69	794,516
Sep–00	20	1,035	142	25,946	142,480	7,124	19.51	24,167	135,714	95.25	730,350
Oct–00	21	993	131	24,154	106,854	5,088	15.11	21,860	99,567	93.18	707,121
Nov–00	22	1,006	151	31,905	122,731	5,579	16.06	28,857	113,335	92.34	764,177
Dec–00	20	1,008	163	35,790	131,415	6,571	17.28	32,159	120,774	91.90	760,391
Jan–01	22	978	186	42,152	148,830	6,765	18.43	40,789	143,912	96.70	807,641
Feb–01	20	984	192	48,268	135,932	6,797	17.22	48,222	135,850	99.94	789,600
Mar–01	21	966	135	29,277	60,226	2,868	9.16	29,268	60,211	99.98	657,847
2000–01	251	1,201	1,676	329,536	1,339,510	5,337	–	307,222	1,264,337	94.39	657,847
Apr–01	19	951	114	20,782	35,616	1,875	5.45	20,735	35,605	99.97	653,720
May–01	22	954	141	25,715	48,329	2,197	8.16	25,714	48,329	99.99	592,437
Jun–01	21	961	133	22,336	42,783	2,037	7.51	21,935	42,625	99.63	569,797
April–June 2001	62	–	388	68,833	126,728	2,044	–	68,384	126,559	99.87	569,797

* As at end of Period.

Source: NSE.

5. Secondary Market — Clearing and Settlement

The clearing and settlement mechanism in Indian securities market has witnessed several innovations during the last decade. These include use of the state-of-art information technology, compression of settlement cycle, dematerialisation and electronic transfer of securities, securities lending and borrowing, professionalisation of trading members, fine-tuned risk management system, emergence of clearing corporations to assume counter-party risk *etc.*, though many of these are yet to permeate the whole market.

The stock exchanges in India follow a system of account period settlement for cash market transactions, except for transaction in a few securities, which are settled under T+5 rolling settlement. It has recently been mandated that 414 major securities would be compulsorily traded under rolling settlement from July 2001. The remaining securities would continue to be traded under account period settlement till January 2002 and under rolling settlement (RS) thereafter. Trades taking place over a trading cycle (5 days under account period and 1 day under rolling) are clubbed and settled together, but after few days (6 calendar days under account period and 5 working days under rolling) from the close of trading cycle. The members receive the funds/securities in accordance with the pay-in/pay-out schedules notified by the respective exchanges. Some of the stock exchanges were also offering deferral products to enable members to postpone their settlement obligations. These have been discontinued from July 2001.

Given the growing volume of trades and market volatility, the time gap between trading and settlement gives rise to settlement risk. In recognition of this, the exchanges have evolved different institutions and practices to ensure timely settlement of trades. The regulators have also prescribed elaborate margining and capital adequacy standards to secure market integrity and protect the interests of investors. The exchanges not providing counter-party guarantee have set up trade guarantee funds, which honour pay-in liabilities in the event of default by a member. The trades are settled irrespective of default by a member and the exchange follows up the defaulting member subsequently for recovery of his dues to exchange. The market has now full confidence that settlements will take place in time and will be completed irrespective of possible default by isolated trading members. This has been driving volumes in the market.

Movement of securities has become almost instantaneous in the dematerialised environment. Two depositories provide the facility of electronic transfer of securities. They are connected to most of the exchanges and the clearing agencies. All actively traded securities are held, traded and settled in demat form. The obligations of members are downloaded to members/custodians by the clearing agencies. The members/ custodians make available the required securities in their pool accounts with depository participants (DPs) by the prescribed pay-in time for securities. The depository transfers the securities from the pool accounts of members/custodians to the DP account of the clearing agency. As per the schedule determined by the clearing agency, the securities are transferred at the pay-out time by the depository from the DP account of the clearing agency to the DP accounts of members/custodians. The pay-in and pay-out of securities take place on the same day under both account period and rolling settlement.

Select banks have been empanelled by the clearing agencies for electronic transfer of funds. The members are required to maintain accounts with any of these banks. The members are informed electronically of their pay-in obligations of funds. The members make available required funds in their accounts with clearing banks by the prescribed pay-in day. The clearing agency forwards funds obligations file to clearing banks which, in turn, debit the accounts of members and credit the account of the clearing agency. In some cases, the clearing agency runs an electronic file to debit members' accounts with clearing banks and credit its own account. As per the schedule of allocation of funds determined by the clearing agency, the funds are transferred on the pay-out day by the clearing banks from the account of the clearing agency to the accounts of members. In some cases, the clearing agency directly credits the members' accounts with clearing banks and debits its own account. Under rolling settlement, the pay-in and pay-out of funds as well as securities take place 5 working days after the trade date, while under account period settlement the pay-in and pay-out is effected 6 calendar days after the end of the trading cycle.

Settlement of trades transacted on an exchange requires smooth, preferably instantaneous, movement of securities and funds in accordance with the prescribed schedule of pay-in/pay-out. The regulators and exchanges have been endeavouring to speed up movement of both funds and securities to achieve delivery *versus* payment (DvP) in securities transactions, that is, final and simultaneous exchange of funds and securities.

Policy Developments

SEBI has prescribed elaborate margining and capital adequacy norms to contain and manage risk in the market. SEBI continuously reviews the working of clearing and settlement systems as also the risk management practices being followed by stock exchanges and their clearing corporations and rationalises them according to changing market conditions. The last year saw major innovations in the market practices like, introduction of rolling settlement in 414 major securities and uniform Monday-to-Friday settlement cycle across all exchanges for the remaining securities, ban on all deferral products, introduction of market-wide circuit breaker, Value at Risk (VaR) based margin system for all securities under compulsory rolling settlement and shifting the margin system from net to gross basis. Many of these would be operationalised during 2001–02. Major policy developments during 2000–01 and April–June 2001 are presented below:

No-delivery period

In **April 2000**, SEBI decided to reduce the no-delivery period arising out of the book closure/record dates in respect of the scrips for which delivery by all investors had been made compulsory in dematerialised form to one settlement period, *i.e.*, one week.

Further, based on the recommendations of the Secondary Market Advisory Committee, SEBI advised the stock exchanges on **December 6, 2000** to implement the following:

- 'No-delivery period' on account of book closure/record dates for corporate actions, such as, issue of dividend and bonus shares is abolished in respect of the scrips which are traded in the compulsory dematerialised mode.
- The time gap between two book closures and record dates is reduced from minimum 90 days to 30 days.

Transfer of Demat Securities

SEBI decided that the clearing members shall be required to transfer the securities from their respective clearing member (CM) pool accounts to the respective beneficiary accounts of their clients within 6 calendar days after the pay-out day, instead of the existing time limit of 15 days, with effect from **February 12, 2001**. The securities lying in the pool account beyond 6 calendar days would attract a penalty at the rate of 6 basis points per week on the value of securities. The penalty so collected by the depositories shall be credited to a separate account with the depository and earmarked for defraying the expenses in connection with the investors' education and awareness programmes conducted by the depository. Further, with effect from April 2, 2001, stock exchanges shall introduce the settlement system for direct delivery of securities to the investors. Clearing corporation/clearing house (CC/CH) shall ascertain from each clearing member, the beneficial account details of their respective clients who are due to receive pay-out of securities. Based on this, the CC/CH shall send pay-out instructions to the depositories so that the client receives pay-out of securities directly to the extent of instructions received from the respective clearing members. To the extent of instruction not received, the securities shall be credited to the CM pool account. With effect from **April 2, 2001**, the time limit of 6 calendar days after the pay-out day for transferring the balances to the beneficiary accounts of clients shall be reduced to 4 calendar days or 2 working days, whichever is later.

Rolling Settlement

SEBI has been introducing rolling settlement in a phased manner. It reviewed the progress of rolling settlement in February 2000 and based on review added a total of 156 scrips under rolling settlement. 74 companies, which had changed names to infotech companies, were included in compulsory rolling settlement from May 8, 2000. 31 non-banking financial companies (NBFCs), which were listed and traded on the BSE, but whose applications for certificate of registration were rejected by RBI, were covered under compulsory rolling settlement from May 8, 2000. 17 scrips, which exhibited high volatility (*i.e.*, of more than 110% for 7 weeks or more in the last 10 weeks) were also included in compulsory rolling settlement from May 8, 2000. In addition, 34 companies out of 199 companies, which were already included in compulsory demat trading for all investors and did not have carry forward facility in any of the exchanges and had signed agreements with both the depositories were included for compulsory rolling settlement from March 21, 2000.

In order to improve liquidity and turnover in the securities under rolling settlement, SEBI permitted Continous Net Settlement (CNS), Modified Carry Forward System (MCFS) and Automated Lending and Borrowing Mechanism (ALBM) for these securities. However, following allegations of price manipulations, the Finance Minister announced in March 2001 that about 200 scrips would be traded in rolling settlement by July 2001. In pursuance to this, SEBI, on March 20, 2001 decided that all scrips, which were included in the ALBM/Borrowing and Lending Securities Scheme (BLESS) or MCFS in any stock exchange or in the BSE 200 list, numbering 251 securities, would be traded only in the compulsory rolling settlement on all the exchanges from July 2, 2001. This was in addition to the scrips, which were already under compulsory rolling settlement, and would bring the total number of scrips in rolling settlement to 414 scrips by July 2001. The remaining securities would be brought under compulsory rolling settlement with effect from January 2, 2002. The exchanges were also advised to introduce uniform settlement cycle (Monday to Friday) in respect of remaining securities.

Restriction on Short Sales

Pursuant to discussions in the meeting of the group on risk management, SEBI decided that all sales transactions effective from **March 8, 2001** shall be backed by delivery unless a sale transaction was preceded by a purchase position of at least an equivalent amount in the name of the same client in the same or any other exchange. This would also apply to the proprietory trading by members. This would be on self-certification basis and would be subject to off-site inspection by the Exchange upto sub-broker and client-level. This would apply to scrips in the MCFS, ALBM, BLESS and other deferral products.

With the introduction of the rolling settlement in 414 scrips from July 2, 2001, and the fact that all deferral products would no longer be available, SEBI decided to withdraw the restrictions on short sales with effect from July 2, 2001.

Utilisation of the Settlement Guarantee Fund

The Stock Exchanges were allowed on **March 9, 2001** to use the Settlement Guarantee Funds (SGFs) maintained by them, for meeting the shortages arising out of non-fulfillment/partial fulfillment of the funds' obligations by the members in a settlement before declaring the concerned member a defaulter as in the case of NSCCL, subject to the condition that:

(a) in cases where the shortage was in excess of the base minimum capital (BMC), the trading facility of the member was withdrawn and the securities pay-out due to the member was withheld,

(b) in cases where the shortage exceeded 20% of the BMC and was less than the BMC on six occasions within a period of three months, the trading facility of the member was withdrawn and the securities pay-out due to the member was withheld. On recovery of the complete shortages, the member would be permitted to trade with a reduced gross exposure.

Gross Margining

The stock exchanges were advised to comply with the requirement of introducing gross margining on the basis of the data available from the system (and not on self-certification basis) by March 31, 2001.

The gross margins were so far being calculated across clients in ALBM/MCFS/BLESS. SEBI decided on **June 21, 2001** to extend it to the entire market with effect from September 3, 2001. The stock exchanges were advised to make suitable changes in their system software to implement the system-based margin calculation on a gross basis across clients in the cash market.

Risk Containment/Management

To study the risk containment measures in a unified manner with the objective of making the system simple, safe and market-oriented, SEBI appointed a Group on Risk Management System for the equity market with the following terms of reference:

(i) Reviewing the entire risk management system comprising the margin system, exposure norms, circuit filters, capital adequacy, *etc.* and also to study the risk management measures in place in the cash markets in the developed and emerging market countries.

(ii) Rationalising and simplifying the present risk management system for the account period settlement without compromising the present levels of safety and further strengthening the risk containment measures.

(iii) Recommending risk containment measures for the securities traded in the rolling settlement.

In a meeting of the Risk Management Group of SEBI held on **April 6, 2000** the following decisions were taken:

- The surplus margin available with the stock exchange in cash after adjustments for additional capital required by the broker for further exposure would be refunded by the stock exchange to the broker on daily basis. This was implemented by the stock exchanges by May 1, 2000.
- The exchanges should immediately implement the existing guideline of SEBI that the outstanding position to the extent of early pay-in of securities/funds should not be considered for computing mark-to-market (MTM) margin, volatility margin and exposure limits.
- The sale position, which crystallises at the end of the trading period, would be considered exempt for the purpose of calculation of exposure limit and margins. The exchanges, however, at their discretion can effect such risk management measures as they deem fit in respect of such delivery positions in case of exceptional circumstances considering the volatility and liquidity and other parameters.
- The clearing banks of the exchanges should have connectivity with the clearing houses/corporation in order to ensure the efficiency of collection and refund/ remittance of the margin system.

The Risk Management Group met again on **April 26, 2000** and took the following decisions relating to circuit filters. It was decided to relax price bands with effect from May 2, 2000, in the following manner:

(i) Once a scrip touches the 8% price band in either direction, the trading in that scrip would be restricted up to the price band for half an hour. After half an hour, the price band would be relaxed by 4% in that direction only.

(ii) The relaxation of the price band would initially be done only at NSE or BSE. The other exchanges would relax the price band (by 4%) only after such relaxation is effected at NSE or BSE.

(iii) This would initially be applicable for the top 200 scrips, which would be jointly identified by NSE and BSE.

(iv) The exchange (NSE or BSE), where the price band in any of the 200 scrips is hit first, would communicate such information to the other exchanges.

(v) In case the price band is hit on either side in the last half an hour of trading, then the trading in that scrip would be restricted up to the price band for fifteen minutes instead of half an hour. After fifteen minutes, the price band would be relaxed by 4% in that direction only.

(vi) The same formula would be applicable in respect of scrips in rolling settlement.

The Group on Risk Management for Equity Market met on **June 21, 2000**, and took the following decisions:

- *Volatility Margin:* The additional volatility margin (AVM) would not be applicable for scrips in the compulsory rolling settlement. The volatility margin would, however, continue in the account period settlement. The structure of volatility margin was simplified by reducing the number of slabs and also the percentage of the margin as under:

Volatility (%)	Margin (%)
⩾80 to ⩽100	10
>100 to ⩽150	15
>150	25

The new structure was applicable from the account period commencing immediately after June 30, 2000.

- *Price Bands:* It was decided to relax price bands by 8% with half an hour cooling period after the scrip has hit the initial price band of 8% for all the scrips falling under compulsory rolling settlement. The price bands for account period settlement were also relaxed on similar lines for the identified 200 scrips. These would be applicable for trading on or after July 3, 2000.
- *Withdrawal of Additional Margin on Sales:* It was decided to do away with the 5% additional margin on sale side, which was imposed on April 26, 2000. Accordingly, additional margin on net sale positions would not be levied on trades executed on and from June 26, 2000.
- *Encouragement for Delivery-based Transactions:* If the margin in respect of trades marked for delivery at the end of the day (to be certified by broker) are secured by bank guarantee from the investor in favour of the broker or exchange, the exchange may not insist on any cash component in margins. These trades cannot be squared up during the settlement period and must result in delivery. This would reduce the cost of delivery-based transactions resulting in higher delivery-based business.

The following decisions were taken in a meeting of the Group on Risk Management in Equity Markets held on **July 13, 2000**:

- *Mark to Market Margin:* MTM Margin shall be collected separately from daily/ exposure margin, as the purpose of these margins is different.
- *Gross Margins on the basis of client identification:* The equity markets must move towards margining on a gross basis, hence all the exchanges would modify their software in such a way that client code becomes mandatory at the broker level. This modification must be carried out by all the exchanges within three months.
- *Margin on all trades:* All the clients excluding FIs/FIIs/MFs shall maintain a deposit of minimum margin with a broker in the form of cash, bank guarantees, fixed deposit receipts (FDRs) or approved securities. Such margin deposit shall not be less than 10% of the net open position of a client at any point of time. Actual delivery of shares sold or actual payment made for shares bought shall be excluded from the net position.
- *Disclosure of Open Positions:* The exchanges shall disclose the daily net open position of top 500 scrips.

Risk Containment/Management for Rolling Settlement

Pursuant to the discussions in the meeting of the sub-group of the Group on Risk Management Systems for Equity Markets, SEBI took the following decisions on **June 21, 2001**, with regard to risk containment in rolling settlement:

(i) For the scrips in compulsory rolling settlement, the 99% VaR-based margin system would be introduced with effect from July 02, 2001 in the following manner:

- For the additional 251 scrips, which will be included in the compulsory rolling settlement with effect from July 02, 2001 and 15 scrips (out of 163 scrips already in compulsory rolling settlement) having the facility of CNS, Carry Forward under Rolling Settlement (CFRS), Automated Lending and Borrowing under Rolling Settlement (ALBRS), BLESS, exchanges will calculate scrip-wise VaR and index-based VaR as indicated below and apply the higher of the two as the margin percentage:
  - ⋆ Scrip-wise daily volatility will be calculated using the same exponentially weighted moving average methodology as is used in index futures market and scrip-wise daily VaR will be calculated as 3.5 times the volatility so calculated.
  - ⋆ The index-based VaR will be calculated as the index VaR times a suitable multiplier. The multiplier factor for each stock will be calculated on the first trading day of every calendar month based on average stock volatility during previous six months on a rolling basis, which in any case shall not be less than 1.75.
- For the 148 scrips already in the compulsory rolling settlement, the margin will be 3 times the daily index VaR.
- The minimum daily index VaR shall be 5% as in the index futures market at present. The higher of Sensex and Nifty VaR will be used.

(ii) While the above calculations would address 99% of the cases, it would be necessary to have an additional level of margin to address the 1% of the cases to supplement the VaR-based margins. Based on the analysis of historical data of individual stock VaRs, it was felt that additional margin of 12% may be necessary.

(iii) The VaR calculations will be based either on BSE Sensex or S&P CNX Nifty and would be disseminated by the BSE and NSE daily on their web-sites by 6.30 p.m. in a downloadable format. Other stock exchanges could make their own VaR calculations based on BSE Sensex and S&P CNX Nifty or freely adopt the VaR calculations available on the sites of BSE and NSE. These would be used for the purpose of margin calculations for the transactions carried out next day. The VaR-based margin would be capped at 100% and collected on T+1 basis.

(iv) In addition to the VaR margin, the exchanges will also collect MTM margin. The exchanges should at their discretion impose additional margin on scrips wherever necessary to contain the risks in the market.

(v) Currently, the FIs, FIIs, Banks and MFs are required to pay additional volatility margin on their net outstanding sale position. Since in the present model of VaR-based margin, the minimum multiplier is 1.75, positive differential between the minimum VaR (1.75 times index VaR) and the actual margin percentage calculated as above is analogous to scrip being volatile. Thus, these institutions will be required to pay margin calculated on the basis of this differential for the 251 + 15 stocks for the sale side as is currently being done.

(vi) The exchanges should place a system of direct debit of the members' settlement accounts for the purposes of margin payment and the practice of payment of margin by cheque shall be completely done away with.

(vii) The exchanges would make suitable changes in software to implement margin calculations on gross basis.

Index-based Circuit Breaker in Compulsory Rolling Settlement

SEBI decided to implement w.e.f. July 2, 2001 an index-based market-wide circuit breaker system, which will apply at three stages of the index movement either way at 10%, 15% and 20%. These circuit breakers will bring about a coordinated trading halt in all equity and equity derivative markets nationwide. The breakers would be triggered by movement of either Sensex or the S&P CNX Nifty whichever is breached earlier in the following manner:

	Duration of trading halt (in minutes)			
% movement in either indices in either direction	Before 1 p.m.	1 p.m. to 2 p.m.	2 p.m. to 2.30 p.m.	After 2.30 p.m.
10	60	30	30	No halt
15	120	60	Trading halt for the remainder of the day	
20	Trading halt for the remainder of the day			

These percentages will be translated into absolute points of index variations on a quarterly basis and at the end of each quarter these absolute points of index variations would be revised and be applicable for the next quarter. The absolute points would be calculated based on the closing level of the index on the last day of trading in a quarter and rounded off to the nearest 25 points in the case of the Sensex and the nearest 10 points in the case of the S&P CNX Nifty.

In addition to the market-wide index-based circuit filters, it has been decided that there would be individual scrip-wise price bands of 20% either way, for all scrips in the compulsory rolling settlement except for the scrips on which derivatives products are available or scrips included in indices on which derivatives products are available.

Risk Containment/Management for Deferral Products

Carry Forward Charges to Short Seller: There was asymmetry in cost to long buyer and short seller. While the long buyer had to pay carry over charges to carry over the long position, the short seller did not have to do so to carry over his short position at most of the time. On the contrary, the short seller received the carry over charges. To provide level playing field to long buyers and short sellers, it was decided that the short seller, who did not either own shares or had not borrowed shares (which in that case shall be deposited with the clearing corporation/clearing house), the carry forward charges shall not be payable to the short seller. These carry forward charges would be credited by the stock exchange to its Investor Protection Fund. This was made effective for all settlements ending after **May 31, 2000**.

This was later extended to ALBM where, a short seller received charges when the lending price was below the clearing price. It was decided that where short seller was due to receive charges as lending price was below the clearing price, such charges shall be released to the short seller only if either the seller actually owned the shares or the seller actually had funds by which he could have taken delivery of the borrowed shares even if ALBM transactions and trade transactions were not netted off. In other cases, the excess of the clearing price over the lending price would be credited to the Investor Protection Fund of the exchange and shall not be released to the short seller.

SEBI, in its Board Meeting held on **June 14, 2000**, modified the following conditions of MCFS:

- The overall carry forward limit was enhanced from the existing limit of Rs. 20 crore to Rs. 40 crore per broker. The margining up to Rs. 20 crore would remain at the

existing prescribed level, while the incremental position would attract an additional margin of 5%. Further, there would be scrip-wise, broker-wise position limit of Rs. 5 crore.

- The maximum limit of 90 days for carry forward of transactions was removed.

SEBI decided on **July 27, 2000** to permit ALBM as a generic product under the Securities Lending Scheme, 1997. The following risk containment measures would apply to ALBM:

- The same position limits as in MCFS, namely a limit per broker of Rs. 40 crore in the aggregate and Rs. 5 crore per scrip, would apply to trade positions that were netted against ALBM position, and not to stand-alone ALBM positions.
- The stock exchanges desirous of implementing ALBM would need SEBI approval for the eligibility criteria for scrips to be included in the ALBM list, the process of choosing the scrips in the ALBM list, and disclosure and transparency provisions relating to ALBM.
- Any exchange desirous of implementing ALBM has to demonstrate that it has a well-designed software for margin computation and well-established governance structures and administrative infrastructure for monitoring and enforcing the margining system.
- The stock exchange or its clearing corporation implementing ALBM must be an approved intermediary under the Stock Lending Scheme.
- Receiving of charges by an uncovered short seller would be prohibited.
- ALBM transactions, which are netted against trade positions, would be subject to gross margins, as in index futures and MCFS.
- The margin on all trade positions that are to be netted against ALBM transactions shall not be less than the limit of 10% mandated for the MCFS. In cases where the position so netted by a member exceeds Rs. 200 million, the excess over Rs. 200 million would attract a margin of at least 15%.
- The financiers in the ALBM system will have the option of depositing the collateral with the clearing corporation. A financier who does so would not be subjected to daily MTM and other margins.
- The incremental carry forward margin (CFM) will be equally applicable on the ALBM and MCFS.
- The margins for MCFS and ALBM transactions should be paid 100% in cash or fixed deposits or government securities, or a combination of the three. MTM margin will be collected separately from daily/exposure margin as the purpose of the two margins is different.

SEBI also clarified that in case the position in ALBM or the carry forward position in any exchange, in any scrip, exceeds the parameters mentioned in the table below, the additional/incremental ALBM/CFM shall be levied at a rate, which is higher of the rates determined as per the Table below:

Net Outstanding Market Position (In Rs. crore)	Rate of Margin (%)	Deferred Net Position in ALBM or Carry Forward Net Position (in number of shares as % of total number of shares paid up)	Rate of Margin (%)
>75 ⩽100	5	>3% ⩽4%	5
>100 ⩽150	8	>4% ⩽5%	8
>150 ⩽200	12	>5% ⩽6%	12
>200 ⩽300	17	>6% ⩽7%	17
>300 ⩽400	23	>7% ⩽8%	23
>400	30	>8%	30

The positions referred to would exclude the positions pertaining to the pure securities borrowers to the extent that the collateral securities are kept with the clearing house/ corporation.

SEBI had set up a committee under the Chairmanship of Prof. J. R. Varma, Member, SEBI to: (i) consider the proposal of BSE for introduction of carry forward mechanism in rolling settlement, (ii) suggest adequate safeguards in this regard, and (iii) consider revisions in the existing carry forward mechanism. SEBI considered the report and approved the following on **September 12, 2000**:

- Introduction of carry forward system in the rolling settlement (both daily and weekly carry forward system with maturities of 1, 2, 3, 4 and 5 days).
- Introduction of CNS by stock exchanges.
- Changes in the existing carry forward system under weekly account period settlement as under:
  - ⋆ Increase in the carry forward limit per broker from the existing limit of Rs. 20 crore to Rs. 40 crore. The margin upto the present limit of Rs. 20 crore will remain at the present level of 15% and incremental position will attract a minimum margin of 20%. Further, there will be scrip-wise broker-wise position limit of Rs. 5 crore.
  - ⋆ Continuation of margin on carry forward trades on gross basis.
  - ⋆ Discontinuation of the present limit of 75 days for carrying forward trades.
  - ⋆ Introduction of specific eligibility criteria for scrips in the carry forward system both in the account period and rolling settlement as well as for scrips in the CNS.

It was decided to introduce the facilities of CNS, CFRS and ALBRS in 15 scrips in the present compulsory rolling settlement segment. The dates for commencement of these facilities would be announced by the stock exchanges.

Further, pursuant to the decisions taken in an earlier meeting of the Group on Risk Management in Equity Markets, stock exchanges were advised on **November 6, 2000** that:

(i) The exchanges may collect a uniform margin of 12.5% on the carry forward position in the MCFS and on the trade positions in the ALBM instead of the stratified margin slabs.

(ii) As CFRS, ALBRS and CNS are new products, the Exchanges would undertake educational and awareness programs for the investors to familiarise them with the features of these products.

Based on the discussions of the Group on Risk Management in Equity Markets, SEBI decided on the following risk containment measures for rolling settlement and for the products of CNS, CFRS and ALBRS on **November 15, 2000**:

(a) The gross exposure would be aggregate of all the open positions of the member outstanding on that day. Thus the gross exposure as at the end of day T would be the net of the following:
   - The net of the outstanding positions of the previous four trading days,
   - The outstanding position created on day T,
   - The net outstanding position of the future 5 settlements.

(b) The gross exposure margin would be calculated on the worst case scenario, *i.e.*, highest net outstanding position at the end of any trading day for which the settlement has not been concluded.

(c) MTM margin would be applicable as in the account period settlement system.

(d) The present limit of Rs. 5 crore per scrip for a member would be applicable to the scrips in CFRS and ALBRS.

(e) The T-2 open deferral positions at the three exchanges of BSE, Calcutta Stock Exchange (CSE) and the NSE would be shared and consolidated positions would be considered for announcement of the scrips attracting the incremental CFRS and ALBRS margin on T+1 day.

(f) The margin, which is applicable in the account period settlement, would continue in the rolling settlement also.

(g) Member-wise CFRS and ALBRS limit of Rs. 40 crore would continue to apply as an aggregate exposure of account period and rolling settlement deferrals.

(h) The margin structure as applicable for the CFRS and the ALBRS would also apply to the CNS positions of the member.

Pursuant to the discussions in the meeting of the stock exchanges, SEBI implemented the following decisions on **February 1, 2001**:

(i) The stock exchanges were directed earlier to modify their software in such a way that client code becomes mandatory at the broker level. It has now been decided that the stock exchanges which have MCFS or ALBM facilities shall discontinue these facilities from February 28, 2001, if they fail to comply with this directive by that date. Other stock exchanges which do not offer these facilities, but have active trading, shall have to close down trading from March 31, 2001, in case, they fail to comply with this directive by that date. The stock exchanges, which currently do not have any trading, shall implement the requirement of client code before trading commences at the exchange.

(ii) The margins on MCFS and ALBM are required to be collected on gross basis. It has now been decided that with effect from February 28, 2001 the stock exchanges offering these facilities shall calculate these margins from the system instead of on self-certification basis. Any exchange failing to comply with this shall discontinue MCFS and ALBM facilities.

(iii) The facilities of CFRS, ALBRS and the CNS, which are now available to specific scrips in the compulsory rolling settlement, would also be available to the voluntary rolling settlement segment of the exchanges for all scrips, which are eligible for these products in the account period settlement.

(iv) All the clients except the FIs, FIIs and MFs are required to maintain a deposit with the broker in the form of cash, bank guarantees, FDRs or approved securities, which shall not be less than 10% of the net position of the client at any point of time. To ensure compliance with this requirement, it has now been decided that the stock exchanges shall obtain an auditors' certificate to this effect from all brokers on a quarterly basis. The brokers in turn shall obtain a similar certificate from their sub-brokers.

Based on the discussions in the meeting of the Risk Management Group, the stock exchanges were advised by SEBI on **February 13, 2001** to implement the following:

(a) The option to the pure securities borrower of withdrawing shares from the clearing house/clearing corporation, subject to margins is withdrawn. The shares borrowed under this facility shall be retained with the clearing corporation or clearing house of the exchange.

(b) With effect from February 28, 2001, the sub-brokers will mandatorily provide the client code, while acting on behalf of clients at the order entry level and the exchanges will ensure the same.

(c) In addition to 15 scrips in compulsory rolling settlement, CNS facility would also be available in voluntary rolling settlement segment of the stock exchanges in all the scrips which are having facility of ALBM/MCFS in those stock exchanges in the account period settlement.

(d) For a scrip to have the facility of ALBM/MCFS, the exchanges shall ensure that the scrip satisfies all the three following parameters:

(i) Market capitalisation: The scrip must have a minimum market capitalisation of Rs. 200 crore. The scrips, which are currently in the ALBM or MCFS, would however continue to have this facility for the time being.

(ii) Liquidity: The scrip shall satisfy all the following four parameters:

- Trading Volume — average trading volume in the scrip in the last six months should be among the top 75% of the universe meeting the market capitalisation criteria.
- Number of Trades — average number of trades should be among the top 75% of the trading universe meeting market capitalisation criteria.
- Trading Frequency — the scrip should have been traded on at least 75% of the trading days in the last 6 months.
- Velocity of Trades — the scrip should have been among the top 75% in terms of number of shares traded as a percentage of the total number of shares in the equity capital of the company for at least six months.

OR

The impact cost must be less than 2.5%.

(iii) Floating Stock: At least 25% of the company's equity capital must be held by non-promoters. In case, the non-promoter holding is less than 25%, the market capitalisation of non-promoter holding of the company's capital should be at least Rs. 100 crore subject to a minimum non-promoter holding of 10% of paid-up capital.

The list of scrips so eligible would be reviewed every six months.

(e) The MTM profits and losses across the settlements for which the position are unsettled would be permitted to be netted off.

(f) All margin prescribed by SEBI shall be collected on T+1 basis.

SEBI, on **March 28, 2001**, decided that the incremental MCFS/ALBM/BLESS margin would now be calculated and collected on a gross basis at client level based on the data generated from the system. In case the gross carry forward position in MCFS/or gross outstanding position in ALBM/BLESS in any exchange, in any scrip, exceeds the parameters mentioned below, the additional margin shall be levied, at a rate which is higher of the rates determined as per the tables below with effect from April 2, 2001:

Gross Outstanding Market Position (Rs. in cr.)	Or	Gross Carry Forward Positions (as % of company's paid up capital)	Rate of Margin (%)
>100 ⩽150	Or	>3 ⩽4	5
>150 ⩽200	Or	>4 ⩽6	10
>200 ⩽250	Or	>6⩽8	15
>250 ⩽400	Or	>8 ⩽10	20
>400 ⩽500	Or	>10 ⩽15	25
>500	Or	>15	30

Once this margin is imposed by any exchange having ALBM/MCFS facility, the other exchanges having ALBM/MCFS will also follow the same from the start of the next settlement.

On **June 21, 2001**, SEBI advised the stock exchanges that all deferral products namely ALBM/BLESS/MCFS/CNS shall cease to be available for all scrips. No new deferred positions shall be permitted from July 2, 2001 onwards. All outstanding deferred positions in the current settlement shall be compulsorily liquidated by September 3, 2001. The exchanges shall be required to monitor the positions of the members, and announce plan for phased liquidation of positions between July 2, 2001 to September 3, 2001.

Clearing Process[1]

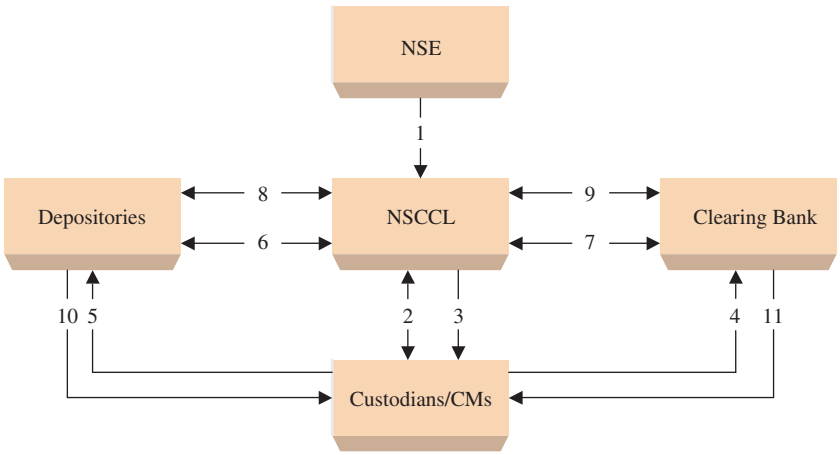
The transactions in secondary market are processed through three distinct phases, *viz.* trading, clearing and settlement. While the stock exchange provides the platform for trading to its trading members, the clearing corporation determines the funds and securities obligations of the trading members and ensures that trading members meet their obligations. The clearing banks and depositories provide the necessary interface between the custodians/clearing members (who clear for the trading members or their own transactions) for settlement of funds and securities obligations of trading members.

The clearing process involves determination of what counter-parties owe, and what counter-parties are due to receive on the settlement date. It is essentially the process of determination of obligations, after which the obligations are discharged by settlement. The clearing and settlement process for transactions in securities on NSE is presented in the Chart 5.1.

NSCCL clears the trades executed on NSE as per the settlement cycles, as presented in Table 5.1. In the rolling settlement, the NSCCL notifies the consummated trade details to clearing members/custodians on T or T+1 day. The custodians affirm back the trades to NSCCL by T+2 day. Based on the affirmation, NSCCL does multilateral netting and determines obligations of counter-parties. A clearing member has to pay-in/pay-out funds or securities or both. A member has a security-wise net obligation to receive/

[1] The clearing and settlement process and risk management system has been discussed taking CM segment of NSE as an example.

Chart 5.1. Clearing and Settlement Process at NSE



1. Trade details from Exchange to NSCCL (real-time and end of day trade file).
2. NSCCL notifies the consummated trade details to CMs/custodians who affirm back. Based on the affirmation, NSCCL applies multilateral netting and determines obligations.
3. Download of obligation and pay-in advice of funds/securities.
4. Instructions to clearing banks to make funds available by pay-in time.
5. Instructions to depositories to make securities available by pay-in time.
6. Pay-in of securities (NSCCL advises depository to debit pool account of custodians/CMs and credit its account and depository does it).
7. Pay-in of funds (NSCCL advises clearing banks to debit account of custodians/CMs and credit its account and clearing bank does it).
8. Pay-out of securities (NSCCL advises depository to credit pool account of custodians/CMs and debit its account and depository does it).
9. Pay-out of funds (NSCCL advises clearing banks to credit account of custodians/CMs and debit its account and clearing bank does it).
10. Depository informs custodians/CMs through DPs.
11. Clearing Banks inform custodians/CMs.

deliver a security. The obligations are netted for a member across all securities to determine his fund obligations and he has to either pay or receive funds. Members' pay-in/pay-out obligations are determined latest by T+2 day and are forwarded to them on the same day so that they can settle their obligations on the settlement day. In account period settlement, custodial confirmation and determination of obligations takes place on the day after completion of the trading cycle, *i.e.*, on Saturday.

Several entities, like clearing corporation, clearing members, custodians, clearing banks, depositories, are involved in the process of clearing. The roles of each of these entities are explained below:

- ***Clearing Corporation:*** The clearing corporation is responsible for post-trade activities of a stock exchange. Clearing and settlement of trades and risk management are the central functions for a clearing corporation.
- ***Clearing Members:*** Clearing members can be of two types: (i) those who are trading as well as clearing members; these members trade as well as take the responsibility

Table 5.1. Settlement Cycles in CM Segment of NSE

Schedule	Rolling (T+5) Settlement	Account Period Settlement
Market Type	Normal	Normal
Settlement Mode	Depository only	Depository/non-Depository
Day 1, Monday	Trading	Trading
Day 2, Tuesday	—	Trading
Day 3, Wednesday	Custodial Confirmation; Determination of Obligations	Trading
Day 4, Thursday	—	Trading
Day 5, Friday	—	Trading
Day 6, Saturday	—	Custodial Confirmation; Determination of Obligations
Day 8, Monday	Securities/funds pay-in/pay-out	—
Day 9, Tuesday	Auction for shortages	—
Day 10, Wednesday	—	—
Day 11, Thursday	Auction pay-in/pay-out	Intra-region non-depository pay-in of securities; Depository pay-in of securities/funds pay-in at 11.00 A.M. Securities/Funds pay-out from 2.30 P.M.
Day 12, Friday	—	Auction for shortages, unrectified bad delivery & company objections
Day 15, Monday	—	—
Day 16, Tuesday	—	Auction pay-in/pay-out; Reporting of bad delivery
Day 17, Wednesday	—	Pick-up of bad delivery/company objections

to settle their trades, and (ii) those who act only as clearing members; these members do not trade but take on the responsibility to settle the trades of other trading members. They are responsible for settling their obligations as determined by the clearing corporation. They have to make available funds and/or securities in the clearing account or pool account, as the case may be, to meet their obligations on the settlement day.

- ***Custodians:*** Custodians are clearing members but not trading members. They settle trades on behalf of other trading members. A trading member may assign a particular trade to a custodian for settlement. The custodian is required to confirm whether he is going to settle that trade or not. If it confirms to settle that trade, then clearing corporation assigns that particular obligation to that custodian and the custodian is required to settle it on the settlement day.
- ***Clearing Banks:*** Clearing banks are a key link between the clearing members and clearing corporation for funds settlement. Every clearing member is required to open a dedicated clearing account with one of the clearing banks. Based on the clearing member's obligation as determined through clearing, the clearing member makes funds available in the clearing account for the pay-in and receives funds in case of a pay-out.
- ***Depositories:*** Depository helps in the settlement of the dematerialised securities. It holds dematerialised securities of the investors in the beneficiary accounts. Each clearing member is required to maintain a clearing pool account with all the depositories. Separate accounts are required to be opened for the settlement of trades on different stock exchanges. The clearing members are required to provide the securities as per their obligations in the clearing pool account on settlement day. At a pre-determined time, the depository sends the information about the

availability of securities in the clearing pool accounts of the clearing member to the clearing corporation.

Risk Management

A sound risk management system is integral to an efficient clearing and settlement system. The clearing corporation ensures that trading members' obligations are commensurate with their net worth. It has put in place a comprehensive risk management system, which is constantly monitored and upgraded to pre-empt market failures. It monitors the track record and performance of members and their net worth; undertakes on-line monitoring of members' positions and exposure with the market, collects margins from members and automatically disables members if the limits are breached. To safeguard the interest of the investors, NSE administers an effective market surveillance system to curb excessive volatility, detect and prevent price manipulation and follows a system of price bands. Further, the exchange maintains strict surveillance over market activities in illiquid and volatile securities.

Risk Containment Measures

There have been umpteen experiments with different risk containment measures in the recent past. These measures have been repeatedly reviewed and revised. This section, however, discusses the measures prevailing as in June 2001.

Capital Adequacy Requirements

As compared to the minimum statutory requirements as also those stipulated by other stock exchanges, the capital adequacy requirements stipulated by the NSE are higher. The capital adequacy norms to be followed by members are presented in Table 5.2.

Table 5.2. Capital Adequacy Norms for Membership on NSE

	Members of			Professional Clearing Members of	
Requirement	CM and F&O Segment	CM and WDM Segment	CM, WDM and F&O Segment	CM Segment	CM and F&O Segment
Net Worth	Rs. 100 lakh	Rs. 200 lakh	Rs. 200 lakh	Rs. 300 lakh	Rs. 300 lakh
Interest Free Security Deposit (IFSD)	Rs. 125 lakh	Rs. 250 lakh	Rs. 275 lakh	Rs. 25 lakh	Rs. 34 lakh
Collateral Security Deposit (CSD)	Rs. 25 lakh	Rs. 25 lakh	Rs. 25 lakh	Rs. 25 lakh	Rs. 50 lakh

Note: A professional clearing member (PCM) is required to bring in IFSD of Rs. 6 lakh and CSD of Rs. 17.5 lakh (Rs. 9 lakh and Rs. 25 lakh respectively for corporate members) per trading member in the CM segment.
Source: NSE.

The deposits kept with the Exchange as part of the membership requirement are taken as base minimum capital of the member to determine his intra-day turnover limits and/or gross exposure limit. Additional base capital (ABC) is required to be deposited with the NSCCL by the member for taking additional exposure.

Trading and Exposure Limits

NSCCL imposes limits on turnover and exposure in relation to the base minimum capital of a member, which is the amount of funds and securities that a member keeps with the Exchange/NSCCL.

The members are subject to limits on trading volumes in a day as well as exposure at any point of time. Gross intra-day turnover (Buy + Sell) of a member shall not exceed $33\frac{1}{3}$ times of the capital available with NSCCL. Similarly, gross exposure (aggregate of cumulative net outstanding positions in each security, at any point of time) of a member shall not exceed 8.5 times free base capital up to Rs. 1 crore. If a member has free capital in excess of Rs. 1 crore, his exposure shall not exceed Rs. 8.5 crore plus 10 times of the capital in excess of Rs. 1 crore.

Determination of Gross Exposure (in Rolling Settlement): The gross exposure of a member is computed across all securities and across all open settlements in rolling settlement. Open settlements are all those settlements for which trading has commenced and for which pay-in is yet to be completed. It is arrived at by adding up the absolute values of the products of net cumulative values and the specified adjustment factor, for all securities in which a member has an open position. For this purpose, scrips have been classified in to three groups, based on market capitalisation, impact cost and number of trades. Groups I, II and III have been assigned adjustment factors of 1, 2 and 3 respectively. The determination of gross exposure is illustrated in the Table 5.3. The exposure as determined for trades in rolling settlement is added to exposure in account period settlement for the purpose of on-line monitoring of positions.

Table 5.3. Determination of Exposure for Exposure Limits

	Net Value (buy value-sale value)			Cumulative Net Value #			
Day	Scrip A	Scrip B	Scrip C	Scrip A	Scrip B	Scrip C	Gross Exposure*
Day 1	−31,000	−115,000	−49,900	−31,000	−115,000	−49,900	410,700
Day 2	52,500	155,000	146,600	21,500	40,000	96,700	391,600
Day 3	−19,600	−105,000	198,000	1,900	−65,000	294,700	1,016,000
Day 4	9,900	103,000	−750,000	11,800	38,000	−455,300	1,453,700
Day 5	−29,200	−31,000	408,500	−17,400	7,000	−46,800	171,800
Day 6	−5,000	0	−104,800	8,600	122,000	−101,700	557,700
Day 7	−35,000	22,000	345,600	−78,900	−11,000	97,300	392,800
Day 8	36,000	54,300	320,000	−23,300	148,300	219,300	977,800

It is the cumulative net values of the scrip for last five days (T to T-4). For example, the exposure at the end of day 6 is cumulative open position of the scrips for days 2 to 6.
* While arriving at the exposure, it is assumed that scrips A, B and C have adjustment factors 1, 2 and 3 respectively. That is, cumulative net values have been multiplied by the adjustment factors and then the absolute values of the products have been summed up to determine exposure.

Determination of Gross Exposure (in Account Period Settlement): The process of determination of gross exposure under account period settlement is essentially the same as in rolling settlement. However, while computing the gross exposure at any time for a particular trading day, the net outstanding positions of the previous settlement period are added to the cumulative net outstanding positions as of that particular trading day until the securities pay-in day for the previous settlement period. Further, the securities that are traded in the account period settlement have an adjustment factor of '5'.

Exposure Limit Violation: Members exceeding the gross exposure limit are not permitted to trade with immediate effect until the member's cumulative gross exposure is reduced to below the gross exposure limits as defined above or any such lower limits as applicable to the members. Alternatively, a member may bring in ABC resulting in enhanced gross exposure limit.

A penalty of Rs. 5,000 is levied for each violation of gross exposure limit and intra-day turnover limit, which is paid by next day. The penalty is debited to the clearing

account of the member. Non-payment of penalty in time attracts penal interest of 15 basis points per day till the date of payment. In respect of violation of gross exposure limit on more than one occasion on the same day, each violation is treated as a separate instance for purpose of calculation of penalty. The penalty is charged to the members irrespective of whether the member brings in additional capital subsequently.

Early pay-in of funds/securities: If members meet funds obligations prior to the funds pay-in day, after satisfying the applicable conditions, then the margin payable by the member is re-computed after considering the funds pay-in. The value of the advance pay-in made is reduced from the cumulative net outstanding position of the member for the purpose of calculating gross exposure.

Similarly, if members deliver securities prior to the securities pay-in day, after satisfying the applicable conditions, then the margin payable by the member is re-computed after considering the above pay-in of securities. The value of the advance pay-in made is reduced from the cumulative net outstanding position of the member for the purpose of calculating gross exposure.

On-line Exposure Monitoring: NSCCL has put in place an on-line monitoring and surveillance system whereby exposure of the members is monitored on a real time basis. A system of alerts has been built in so that both the member and NSCCL are alerted as per pre-set levels (reaching 70%, 85%, 95% and 100%) when the members approach their allowable limits. The system enables NSSCL to further check the micro-details of members' positions, if required and take pro-active action.

The on-line surveillance mechanism also generates various alerts/reports on any price/volume movement of securities not in line with past trends/patterns. For this purpose the exchange maintains various databases to generate alerts. Alerts are scrutinised and if necessary taken up for follow up action. Open positions of securities are also analysed. Besides this, rumors in the print media are tracked and where they are price sensitive, companies are contacted for verification. Replies received are informed to the members and the public.

Off-line Monitoring: Off-line surveillance activity consists of inspections and investigations. As per regulatory requirement, a minimum of 10% of the active trading members are to be inspected every year to verify the level of compliance with various rules, byelaws and regulations of the Exchange. Usually, inspection of more members than the regulatory requirement is undertaken every year. The inspection verifies if investor interests are being compromised in the conduct of business by the members. The investigation is based on various alerts, which require further analysis. If further analysis reveals any suspicion of irregular activity which deviates from the past trends/patterns and concentration of trading at NSE at the member level, then a more detailed investigation is undertaken. If the detailed investigation establishes any irregular activity, then disciplinary action is initiated against the member. If the investigation suggests suspicions of possible irregular activity across exchanges and/or possible involvement of clients, then the same is informed to SEBI.

Margin Requirements (in Rolling Settlement)

The daily margin in rolling settlement comprises of MTM margin and VaR-based margin.

Mark to Market Margin: MTM margin is computed and levied in the same manner as done under the account period settlement. MTM is the notional loss, which a member would incur, if the cumulative net outstanding positions in all securities were closed out at the closing price of the securities at the end of the relevant day. In case a security

has not been traded on the relevant particular day, the latest available closing price is considered as the closing price. For each security, this is worked out by multiplying the difference between the close price and the price at which the trade was executed by the cumulative buy and sell open position (for buy position the close price being lower than the actual trade price and for sale position, the close price being higher than the actual trade price). The aggregate across all securities is the MTM margin payable by a member. MTM profit/loss across different securities within the same settlement are set off to determine the MTM loss for a settlement, but set off benefits across the settlements are not allowed.

VAR-based Margin: The VaR rate is applied to gross exposure to determine VaR-based margin. The computation of the VaR rate as well as the gross exposure on which VaR rate is applied is explained below.

Computation of VaR Rate: VaR rate is a single number, which encapsulates whole information about the risk in a portfolio. It measures potential loss from an unlikely adverse event in a normal market environment. It involves using historical data on market prices and rates, the current portfolio positions, and models (*e.g.*, option models, bond models) for pricing those positions. These inputs are then combined in different ways, depending on the method, to derive an estimate of a particular percentile of the loss distribution, typically the 99^{th} percentile loss. The step by step computation of VaR-based margin is explained below.

- Obtain the closing price of the security (for the days on which it was traded in the exchange) and closing index values for the previous one-year period. Let these be
  - ⋆ Closing prices of the security → $CP_0, CP_1, CP_2, \ldots CP_n$
  - ⋆ Closing values of index → $CV_0, CV_1, CV_2, \ldots CV_n$
- Calculate the logarithmic returns with respect to previous day's closing price of the security/closing value of index for each day in the reference period. Logarithmic return (R_n) for day 'n' can be computed using the formula:
  - ⋆ For scrip → $R_n = \text{LN}(CP_n/CP_{n-1})$
  - ⋆ For index → $R_n = \text{LN}(CV_n/CV_{n-1})$
- Compute initial volatility by calculating the standard deviation of returns for the one year period using the formula:

$$\text{Standard deviation} \quad \sigma_0 = \sqrt{\sum_{i=1}^{n} (\overline{R} - R_i)^2 / n}$$

  where $\overline{R}$ is the average return for the reference period.
- Calculate daily volatility for subsequent days. For day 1, the volatility will be

$$\sigma_1 = \sqrt{\lambda(\sigma_0)^2 + (1-\lambda)R_1^2}$$

  Similarly for day 2

$$\sigma_2 = \sqrt{\lambda(\sigma_1)^2 + (1-\lambda)R_2^2}$$

  where, $\lambda = 0.94$, a parameter which indicates how rapidly volatility estimate changes. This value has been arrived at on the basis of the empirical study done by Prof. J. R. Varma.

- Calculate VaR for the scrip at 3.5σ level and VaR for the index at 3σ level. A higher σ level is used for the scrip because the scrip is expected to have higher volatility as compared to the index, which is a portfolio. The volatility estimate at 3σ level represents 99% VaR.
- Calculate VaR for a security or index for a particular day using the σ for both long positions and short positions.
  - ⋆ For scrip,

    $$\text{VaR for short positions} = \text{Exponential}\,(3.5\sigma) - 1, \text{ and}$$
    $$\text{VaR for long positions} = 1 - \text{Exponential}\,(-3.5\sigma).$$

  - ⋆ For index,

    $$\text{VaR for short positions} = \text{Exponential}\,(3\sigma) - 1, \text{ and}$$
    $$\text{VaR for long positions} = 1 - \text{Exponential}\,(-3\sigma)$$

    To ensure that risk for all possible situations is covered, long VaR or short VaR, whichever is higher, is considered as the VaR for the scrip or index, as the case may be.
- Derive index-based scrip VaR from the index VaR. The VaR Multiplier (relative volatility of the scrip as compared to that of index) is multiplied with index VaR to get the index-based scrip VaR. A minimum VaR multiplier of 1.75 has been stipulated by SEBI for the calculation of index-based scrip VaR. VaR multiplier for scrips is computed on a monthly basis by dividing 'average standard deviation of the scrip return for last six months' by 'average standard deviation of the index return for last six months'.

Index-based VaR or scrip VaR, whichever is higher, is used as VaR for the scrip. An additional margin of 12% is added to this applicable VaR. This additional margin is applied in order to safeguard against the remaining 1% cases. The total VaR margin calculated using the above steps is rounded up to the higher integer. This percentage so derived is the VaR margin rate, applicable on the open position. Maximum VaR applicable on a scrip, however, shall not exceed 100%.

NSE disseminates VaR margin rates to the members and public at large through its web-site. VaR margin rate for each security is provided on a daily basis, at the end of each trading day. These rates are applicable on the positions at the end of next trading day. A separate file is also provided on a daily basis for the VaR margin rates applicable for the institutional trades on the net outstanding sale positions at the end of next trading day. A file on the multiplier is provided on a monthly basis, detailing the multiplier to be applied on each security in the following month.

All margins are payable on trade day plus one. Members are required to compute their margin obligations and deposit the margin money in cash, bank guarantee or FDRs, rounded off to the next higher multiple of Rs. 10,000.

The margins deposited in cash on a given day are released to the member on the subsequent day after adjustment for margin, ABC and any other funds dues. If a member delivers securities prior to the securities pay-in day, the margin payable by him is recomputed after considering the above pay-in of securities. The value of the advance pay-in made is reduced from the cumulative net outstanding position of the member for the purpose of gross exposure limits.

Determination of Exposure: The exposure to be reckoned for the purpose of applying VaR-based margin rates is determined in the manner illustrated in Table 5.4. It is arrived at by adding up the absolute values of the net cumulative positions for all securities in which a member has an open position.

Table 5.4. Determination of Exposure for VaR Margins

	Net Value (buy value-sale value)			Cumulative Net Value*			
Day	Scrip A	Scrip B	Scrip C	Scrip A	Scrip B	Scrip C	Exposure #
Day 1	−31,000	−115,000	−49,900	−31,000	−115,000	−49,900	195,900
Day 2	52,500	155,000	146,600	21,500	40,000	96,700	158,200
Day 3	−19,600	−105,000	198,000	1,900	−65,000	294,700	361,600
Day 4	9,900	103,000	−750,000	11,800	38,000	−455,300	505,100
Day 5	−29,200	−31,000	408,500	13,600	122,000	3,100	138,700
Day 6	−5,000	0	−104,800	−43,900	−33,000	−248,300	325,200
Day 7	−35,000	22,000	345,600	−59,300	94,000	−100,700	254,000
Day 8	36,000	54,300	320,000	−33,200	45,300	969,300	1,047,800

* It is the cumulative net values of the scrip for last four days (T to T−3), as margins are collected on T+1 basis. For example, the exposure at the end of day 6 is cumulative open position of the scrips for days 3 to 6.
# It is the sum of absolute cumulative net values for all scrips.

Margin Requirements (in Account Period Settlement)

A member is required to pay daily margin comprising of MTM margin or volatility margin (whichever is higher), gross exposure margin and additional margin on net outstanding sale positions. The members are responsible for computing margin payable for all securities and make margin payments on due date. All margins are payable on trade day plus one. Non-payment of either the whole or part of the margin amount due attracts penal charge at the rate of 0.09% per day of the amount not paid.

Gross exposure margin and volatility margins are not applicable on crystallised sale positions at the end of a settlement. However, MTM is payable on crystallised sale positions. Crystallised sale positions are determined after the custodial confirmations for the settlement and final settlement obligations are determined.

While computing margins, institutional deals are excluded. However, no exemptions are allowed in the applicability of volatility margin to any class of investors for their net outstanding sale positions. Deals executed on behalf of financial institutions, SEBI-registered FIIs/MFs and banks are considered as institutional deals.

The various types of margins are explained below:

Gross Exposure Margin: Gross exposure margin is computed on the aggregate of the cumulative net outstanding positions (purchases or sales) in each security for a member in the following manner:

Gross Exposure (Rs. crore)	Margin Payable
$\leqslant 1$	Nil
>1 and $\leqslant 3$	2.5% in excess of Rs. 1 crore
>3 and $\leqslant 6$	Rs. 5 lakh plus 5% in excess of Rs. 3 crore
>6 and $\leqslant 8$	Rs. 20 lakh plus 10% in excess of Rs. 6 crore
>8 and $\leqslant 20$	Rs. 40 lakh plus 15% in excess of Rs. 8 crore
>20	Rs. 220 lakh plus 20% in excess of Rs. 20 crore

Mark to Market Margin: MTM margin is the notional loss, which a member would incur, if the net cumulative outstanding positions in all securities were closed out at the closing price of the relevant trading day. For each security, this is worked out by multiplying the difference between the close price and the price at which the trade was executed by the cumulative buy and sell open position (for buy position the close price being lower than actual trade price and for sale position the close price being higher than actual trade price). The aggregate across all securities is MTM margin payable by a member. It is calculated as under:

$$\text{MTM Profit/Loss} = [\,(\text{Total Buy Quantity} \times \text{Close price}) - \text{Total Buy Value}] + [\text{Total Sale Value} - (\text{Total Sale Quantity} \times \text{Close price})\,]$$

While calculating MTM margin during the trading cycle, the notional profit worked out on identical basis is ignored. The credit for MTM profit is therefore not taken into account and all the MTM losses are taken into consideration. After close of a trading cycle, MTM margin continues to be computed in respect of transactions of the closed trading cycle till its funds pay-in day because the positions for the closed settlement are not settled by way of delivery and payment.

MTM margins are calculated separately for the two trading cycles (*i.e.*, the 'current trading cycle' and the immediately preceding 'closed trading cycle'). MTM profits of the closed trading cycle are not adjusted against MTM losses of the current trading cycle or the losses of members on real-time basis.

Volatility Margin: Volatility of a security is determined on the basis of fluctuations in stock prices over a six week period. The volatility percentage is defined as:

$$\frac{[\text{6 week high price} - \text{6 week low price}] \times 100}{\text{6 week low price}}$$

Price variations on account of calls, bonuses, rights, mergers, amalgamations, and scheme of arrangements are adjusted for determining volatile securities and adjustment in prices, when securities are traded ex-benefits, are made for the purpose of computation of volatility. The margin rates are as under:

Volatility (%)	Margin Slabs (%)
>80 to $\leqslant 100$	10
>100 to $\leqslant 150$	15
>150	25

Securities that attract volatility margin and the applicable margin rates are announced on the last day of the trading cycle and are be applicable from the first day of the succeeding trading cycle. The volatility margin is levied on the net outstanding position of the member in each scrip based on the respective margin rates.

The volatility margin is not applicable for securities, whose prices are less than Rs. 40. However, it attracts volatility margin if the price of the security increases to Rs. 40 or more. If the price of a security goes below Rs. 40 in a trading period, it is still considered for the purpose of calculation of volatility margin during the current trading period.

Volatility margin is computed for each scrip, where volatility margin is higher than MTM margin. The sum of volatility margin thus computed is the volatility margin payable by the member.

Index-based Circuit Filters

An index based market-wide circuit breaker system applies at three stages of the index movement either way at 10%, 15% and 20%. These circuit breakers bring about a co-ordinated trading halt in all equity and equity derivatives markets nation-wide. The breakers are triggered by movement of either S&P CNX Nifty or Sensex whichever is breached earlier. As an additional measure of safety, individual scrip-wise price bands of 20% either way have been imposed for all scrips, except those for which derivative products are available or those included in indices on which derivative products are available. Any order above or below 20% over the base price comes to the Exchange as a 'price freeze'. NSE may suo moto cancel the orders in the absence of any immediate

confirmation from the members that these orders are genuine or for any other reason as it may deem fit. The Exchange views entries of non-genuine orders with utmost seriousness as this has market-wide repercussion.

Settlement

The clearing and settlement agencies in India operate two major types of settlement, namely, account period settlement and rolling settlement.

Account Period

Under account period settlement, trades accumulate over a trading period of five working days and at the end of the period, these are clubbed together, positions are netted and the balance is settled about a week after the end of the trading period. The members realise the sale proceeds and securities in accordance with pay-in and pay-out schedules notified by the exchanges. The account period settlement combines the features of cash as well as of futures markets together. Traditionally, all stock exchanges in India have been following account period settlement. However, the trading cycle varied between stock exchanges with trading cycle in some stock exchanges commencing on Monday and ending on Friday, while it commenced on Wednesday and ended on Tuesday on some other stock exchange. This created arbitrage opportunities for members trading on two exchanges with different trading cycle. SEBI recently directed all stock exchanges to follow a uniform Monday to Friday trading cycle from July 2, 2001 in respect of securities not under compulsory rolling settlement.

Rolling Settlement

Under rolling settlement, which is operative in respect of 414 securities as mandated by SEBI, all trades executed on a trading day are settled 'X' days later. This is called 'T+X' rolling settlement, where 'T' is the trade date and 'X' is the number of business days after trade date on which settlement takes place. The rolling settlement has started on T+5 basis in India, implying that the outstanding positions at the end of the day 'T' are compulsorily settled 5 days after the trade date.

Rolling settlement was first introduced in India by OTCEI. As dematerialisation took off, NSE provided an option to settle the trades in demat securities on rolling basis. In January 2000, SEBI made rolling settlement compulsory for trades in 10 select scrips. Based on a review in February 2000, SEBI added a total of 156 scrips under rolling settlement. SEBI further added another 263 scrips (included in the ALBM/BLESS or MCFS in any stock exchange or in the BSE-200 list) under compulsory rolling settlement on all the exchanges from July 2, 2001. The remaining scrips would be traded under compulsory rolling settlement from January 2002.

Rolling settlement offers several advantages over account period settlement:

(a) The account period settlement does not discriminate between an investor transacting on the first day and an investor transacting on the last day of the trading period, as trades are clubbed together for the purposes of settlement and all investors realise the securities and/or funds together. Hence some investors have to wait longer for settlement of their transactions. Under rolling settlement, the investors trading on a particular day are treated differently from the investors trading on the preceding or succeeding day. All of them wait for 'X' days from the trade date for settlement. Further, the gap between the trade date and the

settlement date is less under rolling settlement, making both securities and funds easily convertible.

(b) The account period settlement combines the features of cash as well as futures markets and hence distorts price discovery process. In contrast, rolling settlement, which segregates cash and futures markets and thereby removes excessive speculation, helps in better price discovery.

(c) Account period settlement allows build up of large positions over a trading period of five days and consequently, there is a pressure to close them out on the last trading day, leading to significant market volatility. This does not happen under rolling settlement, where positions can be built during a day only.

(d) There is scope for both intra-settlement and intra-day speculation under account period settlement, which allows large outstanding positions and hence poses greater settlement risks. In contrast, since all open positions under rolling settlement at the end of a date 'T' are necessarily settled 'X' working days later, it limits the outstanding positions and reduces settlement risk.

(e) Till recently, it was possible to shift positions from one exchange to another under account period as they followed different trading cycles. Rolling settlement took care of this by making trading cycle uniform.

Settlement Process

The settlement process begins as soon as members' obligations are determined through the clearing process. The settlement process revolves around the clearing corporation, which with the help of clearing banks and depositories, ensures actual movement of funds as well as securities on the prescribed pay-in and pay-out day.

This requires members to bring in funds/securities to the clearing corporation. The CMs make the securities available in designated accounts with the two depositories (CM pool account in the case of NSDL and designated settlement accounts in the case of CDSL). The depositories move the securities available in the pool accounts to the pool account of the clearing corporation. Likewise CMs with funds obligations make funds available in the designated accounts with clearing banks. The clearing corporation sends electronic instructions to the clearing banks to debit designated CMs' accounts to the extent of payment obligations. The banks process these instructions, debit accounts of CMs and credit accounts of the clearing corporation. This constitutes pay-in of funds and securities.

After processing for shortages of funds/securities and arranging for movement of funds from surplus banks to deficit banks through RBI clearing, the clearing corporation sends electronic instructions to the depositories/clearing banks to release pay-out of securities/funds. The depositories and clearing banks debit accounts of the clearing corporation and credit accounts of CMs. This constitutes pay-out of funds and securities.

Settlement is deemed to be complete upon declaration and release of pay-out of funds and securities. The settlement is performed by NSCCL as per well-defined settlement cycle for rolling and account period settlement. The settlement cycles for the CM segment are presented in Table 5.2. Under Rolling Settlement, the securities/funds pay-in/pay-out takes place on T+5 day. While pay-in of securities/funds takes place at 11.00 a.m. on T+5 day, the pay-out of securities/funds takes from 2.30 p.m. on same day. Under the account period settlement, the pay-in and pay-out of funds and securities take place on the Thursday following the trading period. Thus settlement is complete in 5 days from the end of the last day of the trading cycle.

Dematerialised Settlement

In order to promote dematerialisation of securities, NSE joined hands with leading financial institutions to establish the National Securities Depository Ltd. (NSDL), the first depository in the country, with the objective of enhancing the efficiency in settlement systems as also to reduce the menace of fake/forged and stolen securities. This has ushered in an era of dematerialised trading and settlement. SEBI has made dematerialised settlement mandatory in an ever-increasing number of securities in a phased manner, thus bringing about an increase in the proportion of shares delivered in dematerialised form. The share of demat delivery in total delivery at NSE increased to 98% in value terms during 2000–01 and to 99.8% in June 2001. There is an increasing preference to settle trades, particularly in high value securities, in demat form. Such high level of demat settlement reassures success of rolling settlement.

Settlement Guarantee

After the execution of trade, the NSCCL becomes the counter-party to each transaction and ensures that funds and securities obligations are met. It provides settlement on the strength of a SGF. A large SGF, which stood at Rs. 2,409 crore at the end of June 2001, provides the cushion for any residual risk. It operates like a self-insurance mechanism where members contribute to the Fund. In the event of failure of a trading member to meet settlement obligations or committing a default, the Fund is utilised to the extent required for successful completion of the settlement. This has eliminated counter-party risk of trading on the Exchange. As a consequence, despite the fact that the daily turnover at times exceeds Rs. 10,000 crore, credit risk no longer poses any threat in the market place. The market has full confidence that settlement shall take place in time and shall be completed irrespective of default by isolated trading members.

Professional Clearing Member

NSCCL admits a special category of members called Professional Clearing Members (PCM). A PCM clears and settles trades executed for their clients (individuals, institutions *etc.*). In such an event, the functions and responsibilities of the PCM are similar to custodians. PCMs may also undertake clearing and settlement responsibility for trading members. In such a case, the PCM would settle the trades carried out by the trading members connected to them. The onus for settling the trade would be thus on the PCM and not on the trading member. A PCM has no trading rights but has only clearing rights, *i.e.*, he just clears the trades of his associate trading members and institutional clients.

Direct Pay-out of Funds/Securities

NSCCL has put in place a system for giving direct pay-out to investor's account. The system is applicable for both the depositories. An investor who is expecting a pay-out is required to give his/her account details to the trading member. The trading member in turn passes on this information to NSCCL. In order to smoothen the back office work of the trading members for providing this information, a front end has been provided for creating the file through which the information is passed on to NSCCL. On the pay-out day, pay-out goes to such investors' account directly from NSCCL. In case of any wrong information provided by the trading member, the pay-out goes to the pool account of the trading member.

No-delivery Period

Whenever a book closure or a record date is announced by a company, the exchange sets up a 'no-delivery' period for that security. During this period, trading is permitted in the security. However, these trades are settled only after the no-delivery period is over. This is done to ensure that investor's entitlement for the corporate benefits is clearly determined. SEBI has abolished the no-delivery period on account of book closures and record dates for corporate actions, such as, issue of dividend and bonus shares, in respect of the scrips that are traded in the compulsory dematerialised mode. The time gap between two book closures/record dates is reduced from minimum 90 days to 30 days.

Deferral Products

Securities lending and borrowing is an integral part of any developed securities market. G 30 recommendations require that securities lending and borrowing should be encouraged as a method of expediting the settlement of securities transactions and existing regulatory and taxation barriers that inhibit the practice of lending and borrowing securities should be removed. SEBI launched the Securities Lending Scheme in February 1997 with a view to facilitate the timely delivery of securities to improve the efficiency of the settlement system and to correct the temporary imbalances between demand and supply. The scheme provided for lending of securities through an *Approved Intermediary* to a borrower under an agreement for a specified period. It also defined eligibility criteria, obligations and responsibilities of an *Approved Intermediary* through whom lenders and borrowers can deal. In terms of the scheme, SEBI approved the following products: ALBM of NSCCL, BLESS of BSE and MCFS. These have been discontinued with effect from July 2, 2001. The salient features of ALBM and MCFS, the most popular products, are discussed below:

Automated Lending and Borrowing Mechanism

NSCCL commenced securities lending and borrowing, called Automated Lending and Borrowing Mechanism (ALBM), on February 10, 1999. ALBM provided a facility to members to lend/borrow securities for weekly market as well as for rolling market, at market determined rates. It was designed essentially to facilitate the members to meet the settlement obligations by borrowing the securities from the members willing to lend securities. In order to allow members to borrow seamlessly for discharge of settlement obligations and in line with international practices, ALBM settlement was integrated with normal settlements. In the interest of market efficiency and risk management, it was meaningful for a clearing corporation to net all liabilities falling due on any given day for settlement.

Modified Carry Forward System

The Modified Carry Forward System (MCFS) facility was available on BSE and exchanges at Delhi, Ludhiana, Calcutta, Ahmedabad, Madras and Mangalore. It provided a financing mechanism, whereby funds were lent against securities which acted as collateral. The securities that formed part of the collateral towards this borrowing were withheld by the clearing house as Vyaj badla shares. Besides providing for a mechanism to carry forward positions, it provided a full-fledged mechanism to borrow funds (Vyaj badla). There was a facility for marking positions to be carried forward throughout the trading period. At the end of the trading period, the badla session determined the financing rates. There was a break up session where members were required to break up

their positions into carry forward and Vyaj badla. An obligation was created after the badla session for the borrower of funds to return funds to the Vyaj badla financier.

Settlement Statistics

The details of settlement of trades in equities on NSE are provided in Annexure 5.1. About 17% of trades in terms of volume and 8% in terms of value were settled by delivery during 2000–01. There has been a substantial reduction in short and bad deliveries. Short deliveries averaged around 0.7% of total delivery in 2000–01 and reduced to 0.3% in June 2001. The ratio of bad deliveries to net deliveries progressively declined to almost negligible in 2000–01. There has been a dramatic pick-up in demat settlement which accounted for 98% of total delivery-based settlement in value terms in 2000–01 and 99.8% in June 2001.

During 2000–01, taking all stock exchanges together, 20.7% of shares accounting for 10.8% of turnover were settled by delivery and the balance were squared up/netted out (Table 5.5). In the preceding year, 20.7% of shares accounting for 12.9% of turnover were settled by delivery. This indicates preference for non-delivery-based trades, particularly in high volume securities.

Table 5.5. Delivery Pattern in Stock Exchanges

(In per cent)

	1999–00		2000–01	
Exchange	Quantity	Value	Quantity	Value
NSEIL	19.87	10.07	14.43	7.68
Mumbai	24.03	16.06	33.62	16.69
Calcutta	7.50	4.59	9.81	7.24
Delhi	17.06	9.40	26.86	12.34
Ahmedabad	5.34	4.63	7.93	6.83
Uttar Pradesh	2.39	2.30	2.48	2.04
Bangalore	13.11	6.24	12.96	4.46
Ludhiana	5.16	3.06	6.64	3.44
Pune	3.92	3.48	3.26	2.50
OTCEI	5.46	1.42	22.90	31.43
Hyderabad	45.44	32.77	45.30	17.05
ICSEIL	3.27	1.83	8.69	3.77
Chennai	42.26	30.40	31.36	13.05
Vadodara	5.49	3.14	0.00	0.00
Bhubaneshwar	0.00	0.00	0.00	0.00
Coimbatore	0.00	2.63	0.00	0.00
Madhya Pradesh	0.00	0.00	4.26	2.93
Magadh	0.00	0.00	0.00	0.00
Jaipur	0.00	50.00	0.00	0.00
Mangalore	0.00	0.00	0.00	0.00
Gauhati	0.00	0.00	0.00	100.00
SKSE	0.00	0.00	0.00	0.00
Cochin	0.00	0.00	1.89	6.13
Total	18.95	10.82	20.74	10.80

Source: SEBI.

Settlement Efficiency

During last couple of years, the clearing and settlement mechanism in India has improved considerably. This is clearly evident from the benchmarks of settlement efficiency complied by Standard and Poor's as presented in Table 5.6. These benchmarks,

which are expressed as a score out of 100, provide an indication of the aggregate level of post-trade operational efficiency in securities markets. The Settlement Benchmark provides a means of tracking the evolution of settlement performance over time. The Settlement Benchmark for India improved from 8.40 in 1994 to 59.64 in 2000. The Safekeeping Benchmark provides the efficiency of a market in terms of collection of dividends and interest, reclamation of excess withheld taxes, and protection of rights in the event of a corporate action. India's score for safekeeping improved from 71.80 in 1994 to 81.86 in 2000. The Operational Risk Benchmark takes into consideration the settlement and safekeeping benchmarks and takes into accounts other operational factors such as the level of compliance with the G 30 recommendation, the complexity and effectiveness of the regulatory and legal structure of the market, and counter-party risk. India scored 51.40 out of 100 in Operational Risk Benchmark in 2000 as compared to 28.00 in 1994.

Table 5.6. Benchmarks of Settlement Efficiency

(Score out of 100)

Benchmark	1994	1995	1996	1997	1998	1999	2000
Settlement	8.30	−16.80	−0.70	−1.20	10.00	41.90	59.64
Safekeeping	71.80	75.00	76.60	76.80	69.70	78.10	81.86
Operational Risk	28.00	0.00	16.80	23.50	47.30	43.60	51.40

Source: S&P Emerging Stock Markets FactBook 2001.

Policy Debates

Delivery *versus* Payment

The settlement systems are broadly of two types: deferred net settlement (DNS) and real time gross settlement (RTGS). In DNS, the clearing process nets the sell/buy positions of members over a period of time and each member settles only the net amount on a specified day. The liquidity requirements are considerably smaller under DNS. In RTGS, on the other hand, the settlement of all transactions (buy and sell) is done instantly on a gross basis. Members maintain sufficient liquidity throughout the trading cycle, as they have to settle all claims assigned to them. The RTGS is gaining popularity all over the world as it takes care of systemic risk arising out of default by any one member. RTGS, in specific context of securities settlement, means DvP, which completely eliminates or substantially reduces the *principal risk*, *i.e.*, the risk that the seller of a security could deliver the security but did not receive payment, or the buyer of a security made payment but did not receive the delivery of the security. Thus, DvP system increases the efficiency of settlement arrangement.

The DvP system is generally preferred for large-volume transactions and internationally, it has been introduced for settlement of government securities. Several variants of DvP are in vogue. There are: (i) systems that settle transfer instructions for both securities and funds on a gross basis with final delivery of securities and payment of funds taking place simultaneously, (ii) systems that settle securities transfer instructions on a gross basis with final delivery of securities occurring throughout the trading cycle, but settle funds transfer instructions on a net basis with final payment of funds occurring at the end of the cycle, and (iii) systems that settle transfer instructions for both securities and funds on a net basis, with final transfer of both securities and funds occurring at the end of the trading cycle. It may be noted that DvP system in government securities is operating in India through Subsidiary General Ledger (SGL) accounts. Further progress

in this regard is contingent upon implementation of electronic funds transfer (EFT) facility and RTGS in payment system.

DvP in securities settlement, though a difficult task, remains the ultimate goal of clearing and settlement agencies. The G 30 recommendations, which have been driving the best practices in the securities markets all over the world, specify that DvP should be employed as the method of settling all securities transactions, where DvP means simultaneous, final and irrevocable exchange of securities and cash on a continuous basis throughout the day. The International Securities Services Association (ISSA) also recommended implementation of real DvP as one of the key measures to mitigate risks in securities settlement systems. It may be emphasised that the requirement of DvP settlement is at the level of direct participants and not at the level of clients.

Straight Through Processing

Once the exchanges are able to use the safest Straight Through Processing (STP) for connecting the broker offices with the banks and DPs on real time basis, the risks will almost vanish. Under this system, the selling client's DP account will be checked as soon as broker gets sale order through the internet for securities balances and, similarly, buying client's bank account will be checked for cash balances. Only if this check confirms availability of adequate balances of either stock or cash, the order will be routed by the broker's trading terminal for trade execution. NSE has been working with the clearing agencies and trading members to gradually introduce STP so that the settlement risks are further eliminated. The limited availability of EFT and absence of RTGS are constraining NSE's endeavour in this regard.

Funds Clearing

Settlement of trades requires smooth, preferably instantaneous, movement of securities and funds in accordance with the prescribed schedule of pay-in and pay-out. NSE has been endeavouring to speed up movement of both funds and securities. The securities can now move instantaneously since all the participants have accounts with either of the two depositories, which are connected to each other and are connected to the Exchange. The movement of funds is not so instantaneous as only a few banks empanelled as clearing banks by NSCCL have the facility to transfer funds electronically. As participants have accounts in different banks at different places, movement of funds among participants invariably requires clearance through RBI's payment system. Further, the funds coming in and the funds going out of a clearing bank for settlement purposes rarely match requiring movement of funds from one clearing bank to another by using the RBI clearing system. This constrains same day pay-in and pay-out. The funds do not reach the accounts of investors on the same day as the NSCCL effects pay-out to the trading members. These could be addressed if the clearing corporation directly participates in the RBI's clearing.

Clearing Corporation

The anonymous order book does not allow participants to assess the counter-party risk. It is, therefore, necessary that the exchanges use a clearing corporation to provide novation and settlement guarantee. NSCCL provides such novation for all trades executed on NSE. Similar facility should be provided for trades on other exchanges. It is not necessary that each stock exchange must have its own exclusive clearing corporation. It may be better if the stock exchanges use the services of a clearing corporation or a few clearing corporations, as they share the depository services. Such an arrangement allows the

clearing corporation to have an overall view of gross exposure position of traders across the stock exchanges and is much better geared to manage the risk. However, to provide for necessary competition, it is essential that there are at least two clearing corporations, just as this has been ensured in the case of depositories.

The clearing corporation ensures financial settlement of trades on the appointed day and time irrespective of default by members to bring in the required funds and/or securities, with the help of a settlement guarantee fund. This has revolutionised the volumes in the secondary market. It is important to keep improving the value of the settlement guarantee fund by adding back all the accruals to the fund, subject to administrative expenses, to retain and build up the faith that the retail and foreign investment have reposed in the settlement mechanism. For this purpose, it is necessary to exempt the income of the clearing corporation from the purview of income tax.

As the clearing corporation guarantees financial settlement, it is necessary that it has first lien over the assets of insolvent clearing members.

It is meaningful for a clearing corporation to net all liabilities falling due on any given day for all types of settlement. As long as the clearing corporation is a centralised legal counter-party, risk management would dictate that it nets all obligations *vis-à-vis* each counter-party to itself.

Continuous Net Settlement

CNS is essentially a post settlement process, which enables the seller, who can not deliver securities, to postpone the settlement of his obligations to the subsequent settlement. It is primarily a tool for imparting flexibility to the seller and avoiding painful auctions. It is an automated book-entry accounting system, which centralises the settlement of security transactions and maintains a smooth and orderly flow of securities and money balances. Throughout the CNS processing cycles, the system generates reports that provide participants with a complete record of securities and money movements, and related information.

CNS is based on the following premise:

(i) The supply of securities is limited compared to that of funds. It is indeed true that supply of securities in respect of every stock is limited to the extent of its issue and more particularly limited to the extent of stock floating in the market.

(ii) While the funds are fully and totally fungible, the securities are not. They are not fungible across various securities but are fungible within a security (no identity of securities in the depositories unlike share certificates where every share had a distinctive identity and the ownership or the right of ownership was specifically attached to such distinctive identity). Therefore, against obligation of one security, no other security can be tendered as delivery. Funds being totally fungible across all the obligations, it does not suffer the limitation that prevails in case of securities.

(iii) In a rolling settlement environment where the obligations are to be performed in a shorter period, there could be non-performance emanating out of various situations in the sense that the deliveries are not effected on the appointed day and time. Thus, there is a greater potential of securities being found delivered short and consequently increasing the risk in the market place.

CNS offers a facility to a member having a deliverable obligation and going short in delivery of securities on the pre-determined day and time, to make an alternate arrangement of obtaining delivery of securities so as to meet the obligation on the succeeding settlement. Alternatively, a member may take a counter position on the

succeeding trading day to create a receivable obligation in the succeeding settlement. This ensures that the unsettled obligation is added or merged with the settlement obligations of the succeeding day where on account of multilateral netting, there will be benefit of offsetting of deliverable obligations and thereby no settlement obligation on the succeeding day.

CNS, if re-introduced in India, would move the market further in direction of shorter settlement cycle, as it provides a window to address the situation of short delivery of securities that may arise on account of shorter settlement cycle. It will serve mainly three purposes: (1) reduce the risk involved in settlement in the market place, as shorter the time of settlement after the trade day, the lesser is the risk, (2) ensure success of rolling settlement by improving liquidity of securities under rolling settlement, and (3) take settlement practices and system of Indian markets nearer to the international standards which will reinforce confidence of international investors.

VaR *versus* Margin Requirements

Starting from July 2, 2001, the margin requirements for scrips in the compulsory rolling settlement mode would be determined based on a scientific model, *i.e.*, VaR model. The regulation, stated broadly, prescribes a scrip-wise 99% VaR to be computed as equal to 3.5 times the daily volatility of each scrip, with the latter being computed using the same exponentially weighted moving average method that is currently used for index futures. The daily scrip-wise margins are computed as a multiple (at least 1.5 times) of the daily VaR. The exchanges are expected to calculate and display the scrip-wise margins on a daily basis. Margins for each trading member are arrived at by summing up scrip-wise margins based on scrip-wise VaRs multiplied by their positions in each stock, and this margin would be applicable for transactions to be carried out in the next day. The new margining system would remove the limitation of an across-the-board margin wherein volatile stocks are inadequately covered and less volatile stocks are handicapped by more than required margin, by linking the margins explicitly to measures of risk/volatility of stock prices. Naturally, the effectiveness of the risk-based margining system would critically depend upon the accuracy with which the proposed VaR model characterises the risk of a portfolio.

A 99% VaR will indicate the ***maximum*** loss that a portfolio can suffer in 99% of times. Conversely, it is the ***minimum*** loss that a portfolio can suffer in 1% worst cases. Therefore, VaR can be interpreted as the best of the worst scenarios or the worst of the best scenarios. A related point is that two portfolios, with different catastrophic risk profiles (stream of large losses), can have the same VaR. The exchanges must, therefore, undertake exercises before implementing the new guidelines in order to make sure that they would not be holding excessively large or small levels of margins that could adversely affect the market activity.

Another aspect of the proposed regulation is that the daily VaR be computed scrip-wise and multiplied with each trader's position in each stock to arrive at margins to be applicable for a trader's transaction the next day. An obvious limitation of this regulation is that it treats the risk of a portfolio as equal to the sum of risks of each scrip in the portfolio, thereby ignoring the fact that a portfolio is a diverse set of correlated positions. The risk of well-diversified portfolios is expected to be less than that of the sum of the risks of individual parts, and margins based on the latter will be too high for this portfolio, possibly adversely affecting the market activity. A related technical point, not often recognized, is that VaR of a portfolio could be greater or less than the sum of VaRs of individual securities in the portfolio depending upon the composition of portfolio. In particular, for portfolios consisting of options this property of lack of sub-additivity

becomes important. This would mean that by setting margins based on scrip-wise VaRs, the exchanges cannot be sure that they are being conservative all the time and hence safe. For the margins to be determined in a scientific manner, the SEBI must encourage the exchanges to develop models to compute the VaR of a portfolio as a whole and not by parts.

Finally, VaR is obviously related to the volatility (variance) of the underlying stock price, but it is *not* a measure of volatility. Under some assumptions about how stock returns are statistically distributed (the so-called normal distribution), one can compute 99% VaR as 2.33 times the stock volatility. The SEBI guidelines require daily VaR to be computed as 3.5 times the daily volatility, may be factoring in, in a crude way, for the possibility that stock returns are not normally distributed. Whether this factor is sufficient or not to account for the extreme, but rare, losses is again an empirical matter that needs to be established in the Indian context. Further, one can not be sure that the VaR model, based on historical return data, would remain stable and applicable during the 'crisis' periods for which it is designed in the first place as stock prices may behave very differently during the crisis periods than otherwise. The regulator and exchanges will have to use some other auxiliary measures to deal with such situations.

Annexure 5.1. Settlement Statistics for CM Segment of NSE

Month/Year	No. of Trades (Lakh)	Traded Quantity (Lakh)	Delivered Quantity (Lakh)	% of Delivered Quantity to Traded Quantity	Turnover (Rs. cr.)	Delivered Value (Rs. cr.)	% of Delivered value to Total Turnover	Delivered Quantity in Demat Mode (Lakh)	% of Demat Delivered Quantity to Total Delivered Quantity	Delivered Value in Demat Mode (Rs. cr.)	% of Demat Delivered Value to Total Delivered Value	Short Delivery (Auctioned quantity) (Lakh)	% of Short Delivery to Delivery	Unrectified Bad Delivery (Auctioned quantity) (Lakh)	% of Unrectified Bad Delivery to Delivery	Funds Pay-in (Rs. cr.)	Settlement Guarantee Fund (Rs. cr.)*
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Nov 94–Mar 95	3	1,330	688	51.74	1,728	898	51.98	—	—	—	—	6	0.85	1.76	0.26	300	—
1995–96	64	39,010	7,264	18.62	65,742	11,775	17.91	—	—	—	—	179	2.46	32.17	0.44	3,258	—
1996–97	262	134,317	16,453	12.25	292,314	32,640	11.17	—	—	—	—	382	2.32	66.25	0.40	7,212	—
1997–98	383	135,217	22,051	16.31	370,010	59,775	16.15	—	—	—	—	333	1.51	72.90	0.33	10,827	—
1998–99	550	165,310	27,991	16.93	413,573	66,204	16.01	6,179	22.08	11,571	17.48	305	1.09	69.73	0.25	12,175	584
Apr-99	48	11,762	2,339	19.89	35,988	3,394	9.43	838	35.83	2,305	67.90	28	1.20	5.54	0.24	1,275	579
May-99	54	14,438	2,710	18.77	39,844	3,959	9.93	1,460	53.88	3,028	76.50	31	1.14	5.46	0.20	1,610	593
Jun-99	73	22,434	3,736	16.65	50,310	4,446	8.83	2,067	55.33	3,707	83.37	52	1.39	11.01	0.29	1,761	616
Jul-99	65	20,569	3,952	19.22	45,016	4,785	10.63	2,149	54.38	3,953	82.60	50	1.27	9.49	0.24	1,705	663
Aug-99	89	24,454	4,836	19.78	62,535	6,004	9.60	2,219	45.89	4,495	74.87	70	1.44	11.46	0.24	1,941	762
Sep-99	70	19,247	4,214	21.89	44,027	5,492	12.47	2,059	48.86	4,222	76.88	58	1.38	12.05	0.29	1,896	815
Oct-99	84	23,172	4,941	21.32	66,750	7,067	10.58	2,328	47.12	5,311	75.16	70	1.43	13.18	0.27	2,158	914
Nov-99	89	23,936	4,404	18.40	69,009	6,150	8.91	2,189	49.71	4,560	74.16	61	1.39	11.41	0.26	2,182	899
Dec-99	116	27,346	5,607	20.50	108,972	9,443	8.67	3,072	54.79	7,541	79.85	70	1.24	12.01	0.21	2,809	1,006
Jan-00	62	13,661	3,299	24.15	60,922	7,493	12.30	1,918	58.14	6,305	84.15	45	1.38	7.77	0.24	2,678	897
Feb-00	116	22,523	5,196	23.07	122,140	13,868	11.35	3,395	65.34	12,132	87.49	55	1.06	5.83	0.11	4,180	1,455
Mar-00	91	15,063	3,479	23.09	97,537	10,506	10.77	2,369	68.10	9,488	90.31	44	1.26	4.92	0.14	3,797	1,391
1999–00	958	238,605	48,713	20.42	803,050	82,607	10.29	26,063	53.50	67,047	81.16	635	1.30	110.00	0.23	27,992	1,391
Apr-00	69	11,490	2,446	21.28	63,091	7,278	11.54	1,812	74.11	6,805	93.49	34	1.40	2.90	0.119	4,826	1,358
May-00	116	18,643	2,910	15.61	80,848	7,209	8.92	2,381	81.81	6,878	95.40	36	1.23	2.03	0.070	4,991	1,342
Jun-00	118	16,925	2,568	15.17	100,382	7,418	7.39	2,059	80.18	7,100	95.71	27	1.05	1.53	0.060	3,070	1,503
Jul-00	114	17,257	2,461	14.26	101,014	7,417	7.34	2,119	86.11	7,177	96.76	26	1.06	1.06	0.043	3,232	1,494
Aug-00	143	21,678	2,976	13.73	119,020	8,470	7.12	2,664	89.52	8,272	97.66	26	0.87	1.21	0.041	4,121	2,161
Sep-00	130	23,549	2,986	12.68	132,457	8,559	6.46	2,850	95.45	8,482	99.10	29	0.98	0.57	0.019	3,941	2,339
Oct-00	124	21,721	3,203	14.75	97,739	7,661	7.84	3,113	97.19	7,567	98.77	19	0.58	0.41	0.013	2,879	2,303
Nov-00	122	22,782	3,055	13.41	91,593	6,023	6.58	2,995	98.04	5,986	99.39	19	0.62	0.19	0.006	2,561	2,378
Dec-00	156	32,722	4,304	13.15	119,295	7,606	6.38	4,231	98.30	7,558	99.37	25	0.57	0.42	0.010	3,172	2,528
Jan-01	195	38,203	5,268	13.79	146,326	11,014	7.53	5,172	98.18	10,939	99.32	27	0.51	0.57	0.011	4,513	2,889
Feb-01	170	42,188	8,167	19.36	124,154	14,240	11.47	8,065	98.75	14,165	99.47	31	0.38	0.36	0.004	3,644	3,048
Mar-01	155	37,038	9,859	26.62	87,979	13,383	15.21	9,795	99.36	13,318	99.52	41	0.41	0.32	0.003	4,988	2,916
2000–01	1,614	304,196	50,203	16.50	1,263,898	106,277	8.41	47,257	94.13	104,246	98.09	339	0.68	11.58	0.023	45,937	2,916
Apr-01	87	16,323	5,643	34.57	28,226	6,083	21.55	5,620	99.59	6,070	99.79	16	0.28	0.04	0.0008	1,915	2,751
May-01	155	27,764	6,428	23.15	51,835	7,371	14.22	6,405	99.64	7,353	99.76	15	0.24	0.02	0.0003	1,976	2,620
Jun-01	127	22,797	5,134	22.52	43,136	5,960	13.82	5,114	99.61	5,945	99.75	14	0.27	0.01	0.0002	1,626	2,409
Apr–Jun 2001	369	66,884	17,206	25.72	123,197	19,414	15.76	17,139	99.61	19,368	99.77	45	0.26	0.072	0.0004	5,517	2,409

* Balance at the end of period.

6. Debt Market

The debt market in India comprises of two main segments, *viz.*, the government securities market and the corporate securities market.[1] The market for government securities is the most dominant part of the debt market in terms of outstanding securities, market capitalisation, trading volume and number of participants, while the corporate debt segment is not very deep and liquid. The government raises money from the debt market for meeting its short, medium and long-term needs. It also sets benchmark for pricing corporate paper of varying maturities. The short-term instruments in this segment are also used by RBI as instrument of monetary policy. The main instruments in the government securities market are dated securities, treasury bills, floating rate bonds, zero coupon bonds and inflation index bonds. The outstanding volume in marketable government securities (of Central as well as State Government) is estimated at around Rs. 5,25,000 crore. Treasury bills (T-bills) of various maturities, which are the second largest component of sovereign debt, are issued regularly. The corporate debt segment includes private corporate debt, bonds issued by public sector units (PSUs) and bonds issued by development financial institutions (DFIs).

The government securities market has witnessed significant transformation in the 1990's. The most significant developments include introduction of auction-based price determination for government securities; development of instruments and mechanisms for government borrowing; increase in information dissemination on market borrowings and secondary market transactions; and the development of the yield curve for government securities for marking-to-market portfolios of banks. RBI also introduced the system of primary dealers (PDs) and satellite dealers (SDs); introduced delivery *versus* payment (D*v*P) in securities settlement; expanded the number of players in the market with facility for non-competitive bidding in auctions; and allowed wider participation in constituent Subsidiary General Ledger (SGL) accounts. The government securities market also benefited from emergence of liquidity arrangement through the Liquidity Adjustment Facility (LAF); expansion of the repo markets; complete stoppage of automatic monetisation of deficits; and emergence of self regulatory bodies, such as, the Primary Dealers Association of India (PDAI) and the Fixed Income Money Markets and Derivatives Association (FIMMDA).

These reforms have resulted in a marked change in the nature of instruments offered, a wider investor base and a progressive movement towards market-determined interest rates. The market for government securities has, however, remained largely captive and wholesale in nature, with banks being the major investors in this segment. While the primary market for government securities witnesses huge activity due to continuous borrowing needs of the government, only a small part of the outstanding stock finds its way into the secondary market. The number of transactions in the secondary market continues to be small relative to the size of outstanding debt and the size of the

[1] This chapter discusses the market design and outcome in the government securities market, both primary and secondary segment. Data availability for secondary market for corporate securities is limited. Wherever possible, the developments in the secondary market for corporate debt are also covered in this chapter. The developments in primary corporate debt market are presented in Chapter 2 of this publication.

participants. Many banks and other institutions trade in these securities on the telephone and report trades on the Wholesale Debt Market (WDM) segment of NSE. The liquidity continues to be thin despite a shift to screen-based trading on NSE. Further reforms are, therefore, necessary for improving market design and liquidity. The activity in the secondary market could pick up once bond yields are better aligned and investors, apart from institutional investors, start actively participating in the market.

The development of secondary debt market in India has considerably lagged behind the equity market. Over 98% of activity in the secondary debt market are on account of transactions in government securities and T-bills, while trades in corporate debt paper and PSU bonds are insignificant. This is partly due to lack of sufficient number of securities and partly due to lack of interest by retail investors.

The year 2000–01 has been most eventful for debt markets in India, with several important decisions like setting up of a clearing corporation for government securities, a negotiated dealing system to facilitate transparent electronic bidding in auctions and secondary market transactions on a real time basis and dematerialisation of debt instruments, already in various stages of implementation. The year also witnessed unprecedented volumes both in primary market and secondary market. The trading volumes of the WDM segment of the NSE exceeded combined volumes on equity segments of all exchanges by June 2001.

Table 6.1. Resources Raised from Debt Markets

(Rs. crore)

Issuer	1999–00	2000–01	April–June 2001
Government	113,336	128,483	56,757
Corporate	59,399	56,578	12,129
Public Issues	4,698	4,144	201
Private Placement	54,701	52,434	11,928
Total	172,735	185,061	68,886

Source: Prime Database (for corporate debt data) & RBI (for Government data).

During 2000–01, the government and corporate sector collectively mobilised Rs. 1,85,061 crore from primary market, 7.1% higher than the resources mobilised in the preceding year (Table 6.1). About 69.4% of these were raised by the government (Central and State Government), while the balance amount was mobilised by the corporate sector through public and private placement issues. (The details of corporate debt issues are discussed in detail in Chapter 2.) During the first quarter of the current financial year, the total resource mobilisation from the primary market aggregated Rs. 68,886 crore, of which 82.4% was mobilised by the government. The turnover in secondary debt market during 2000–01 aggregated Rs. 7,12,662 crore, 29.6% higher than the previous year. The share of NSE in total turnover in debt securities touched 60% during 2000–01. The turnover in the secondary debt market during the first quarter of the financial year was Rs. 3,39,221 crore, with the share of NSE being 63.1%.

Policy Developments

With a view to develop and deepen debt market, particularly government securities market, and optimising cost-maturity structure of government borrowings, a number of significant policy measures were undertaken during last few years.

Measures by RBI

The developments during 2000–01 include:

1. RBI initiated gradual implementation of a full-fledged Liquidity Adjustment Facility (LAF) in three phases. First, the Additional Collateralised Lending Facility (ACLF) for banks and level II liquidity support to PDs would be replaced by variable reverse repo auctions and the fixed rate repo will be replaced by variable repo auctions. In the second phase, Collateralised Lending Facility (CLF) for banks and level I support to PDs would be replaced by variable reverse repo rate auctions. With full computerisation of the Public Debt Office (PDO) and the introduction of Real Time Gross Settlement (RTGS), repo operations through electronic transfers will be introduced and in the final stage, it would operate the LAF at different timings of the same day, if necessary. RBI through this facility would meet primarily the day-to-day liquidity mismatches in the system and not the normal financing requirements of eligible institutions. LAF was introduced effective June 5, 2000.
2. The entities have been allowed to sell government securities allotted to them in primary issues on the same day. The restriction that no sale deal should be entered into without actually having securities in the investment portfolio at the time of sale was withdrawn and entities were permitted to sell the securities after allotment, thus enabling sale, settlement and transfer on the same day.
3. There have been instances of gridlock in the D*v*P system due to shortfall of funds on a gross basis in the current account of one or more SGL holders. To take care of such unusual occurrences, a scheme of special fund facility was introduced with effect from October 3, 2000 to provide intra-day funds to SGL holders for facilitating settlement of securities transactions in case of gridlock. The scheme provides for automatic invocation by the SGL account holder of undrawn refinance/liquidity support from RBI for facilitating smooth securities settlement. All transferable Government of India dated securities and T-bills (except 14-day T-bills) are eligible for automatic invocation of special intra-day fund facility from the RBI.
4. SGL account holders were provided a facility to maintain a second SGL account called Constituents' SGL account in the books of RBI to enable them to hold government securities on behalf of their constituents. RBI issued guidelines governing maintenance of Constituents' SGL Account to encourage investors to hold securities in scripless form and to ensure that entities holding securities in custody employ practices and procedures so that the constituents' securities are appropriately accounted and kept safe.
5. RBI issued new guidelines in respect of issue of Commercial Paper (CP). These are expected to provide considerable flexibility to participants and add depth and vibrancy to the CP market, while at the same time ensuring prudential safeguards and transparency. The guidelines will enable companies in the services sector to more easily meet their short-term working capital needs.

The policy initiatives during April–June 2001 include:

1. RBI announced that a national level Clearing Corporation, called the Clearing Corporation of India Ltd., is being set up with State Bank of India (SBI) as chief promoter for facilitating smooth clearing and settlement of transactions in foreign exchange, government securities and money markets.
2. RBI decided, in principle, to move over in due course to order-driven screen-based trading in government securities on the stock exchange. RBI would specify the date

of switch over to order-driven screen-based system in consultation with SEBI. An electronic negotiated dealing system is under development.

3. With a view to encouraging investors to hold securities in dematerialised form and to ensure that entities holding securities in custody employ practices and procedures so that the constituents' securities are appropriately accounted and kept safe, RBI issued a set of guidelines governing the maintenance of Constituents' SGL Accounts.
4. In order to provide another platform for trading in government securities, RBI permitted trading in government securities at BSE in October 2000. The trading, however, commenced on June 2001.
5. To provide a boost to the retail market, individuals and provident funds would be allowed to participate in the government securities market on non-competitive basis through PDs and SDs.
6. RBI would also introduce uniform price auction format for auctions of dated securities on a selective and experimental basis.
7. In order to prepare market participants for the proposed NDS, all transactions settled through D*v*P system will be on T+1 basis.
8. RBI discontinued auctions in the 14-day and 182-day T-bills. For activating the secondary market, 91-day and 364-day T-bills will become fungible floating stocks.
9. For encouraging dematerialised holding of debt instruments, it was decided that with effect from June 30, 2001, financial institutions (FIs), PDs and SDs will be permitted to make fresh investments and hold CPs only in dematerialised form. The outstanding investments in scrip form would have to be converted into demat form by October 2001. From October 31, 2001, banks, FIs, PDs and SDs will be permitted to make fresh investments and hold bonds and debentures, privately placed or otherwise, only in dematerialised form. The outstanding investments in these instruments should also be converted into demat form by June 2002.

Union Budget

In order to further develop a transparent and active debt market, in general, and the government securities market, in particular, following measures were proposed in the Union Budget for 2001–02:

- A Clearing Corporation will be set up under the active encouragement of the RBI, with SBI as the chief promoter. This is expected to be in place by June 2001.
- Trading of government securities through order-driven screen-based system will be implemented.
- An electronic Negotiated Dealing System (NDS) will be set up by the RBI by June 2001 to facilitate transparent electronic bidding in auctions and dealings in government securities on a real time basis.
- In order to ensure smooth and quick movement of funds, the Electronic Fund Transfer (EFT) and RTGS Systems are being put in place by the RBI within the next year.
- Clarifications are being issued by Central Board of Direct Taxes (CBDT) to promote the issuance of STRIPS, zero coupon bonds, deep discount bonds, and similar products.
- The old Public Debt Act will be replaced by Government Securities Act.

- Comprehensive legislation will be introduced on securitisation.

A small group comprising the RBI, SEBI, Stock Exchanges and the Ministry of Finance will be set up to monitor and implement these developments so that the debt market becomes active next year.

Market Design

Market Segments

The various segments in debt market in India are summarised below:

- Government securities form the oldest and most dominant part of the debt market in India.The market for government securities comprises the securities issued by the Central Government, State governments and state-sponsored entities. In the recent past, local bodies such as municipal corporations have also begun to tap the debt market for funds. The Central Government mobilises funds mainly through issue of dated securities and T-bills, while State Governments rely solely on dated securities. The major investors in sovereign papers are banks, insurance companies and financial institutions, which generally do so to meet statutory requirements.
- Bonds issued by government-sponsored institutions like DFIs, infrastructure-related institutions and the PSUs, also constitute a major part of the debt market. The gradual withdrawal of budgetary support to PSUs by the government since 1991 has increased their reliance on the bond market for mobilising resources. The preferred mode of raising capital by these institutions has been private placement, barring an occasional public issue. Banks, financial institutions and other corporates have been the major subscribers to these issues.
- The Indian corporate sector relies, to a great extent, on raising capital through debt issues, which comprise of bonds and CPs. Of late, most of the bond issues are being placed through the private placement route. These bonds are structured to suit the requirements of investors and the issuers, and include a variety of tailor-made features with respect to interest payments and redemption. Corporate bond market has seen a lot of innovations, including securitised products, corporate bond strips, and a variety of floating rate instruments with floors and caps. In the recent years, there has been an increase in issuance of corporate bonds with embedded put and call options. While some of these securities are traded on the stock exchanges, the secondary market for corporate debt securities is yet to fully develop.
- In addition to above, there is another segment, which comprises of short-term paper issued by banks, mostly in the form of Certificates of Deposit (CDs). This segment is, however, comparatively less dominant.
- The Indian debt market also has a large non-securitised, transactions-based segment, where players are able to lend and borrow amongst themselves. This segment comprises of call and notice money markets, inter-bank market for term money, market for inter-corporate loans, and market for ready forward deals (repos). Typically, short-term instruments are traded in this segment.

Participants in the Debt Markets

Debt markets are pre-dominantly wholesale markets, with institutional investors being major participants. Banks, FIs, mutual funds, provident funds, insurance companies and

corporates are the largest investors in debt markets. Many of these participants are also issuers of debt instruments. The small number of large players has resulted in the debt markets being fairly concentrated, and evolving into a wholesale negotiated dealings market. Most debt issues are privately placed or auctioned to the participants. Secondary market dealings are mostly done on telephone, through negotiations. In some segments, such as the government securities market, market makers in the form of primary dealers have emerged, which enable a broader holding of treasury securities. Debt funds of the mutual fund industry, comprising of liquid funds, bond funds and gilt funds, represent a recent mode of intermediation of retail investments into the debt markets.

The market participants in the debt market are described below:

(i) Central Government raises money through bond and T-bill issues to fund budgetary deficits and other short and long-term funding requirements.

(ii) RBI, as investment banker to the government, raises funds for the government through bond and T-bill issues, and also participates in the market through open-market operations in the course of conduct of monetary policy. RBI also regulates the bank rates and repo rates, and uses these rates as tools of its monetary policy. Changes in these benchmark rates directly impact debt markets and all participants in the market.

(iii) PDs, who are market intermediaries appointed by RBI, underwrite and make market in government securities, and have access to the call and repo markets for funds.

(iv) State Governments, municipal and local bodies issue securities in the debt markets to fund their developmental projects as well as to finance their budgetary deficits.

(v) PSUs and their finance corporations are large issuers of debt securities. They raise funds to meet the long term and working capital needs. These corporations are also investors in bonds issued in the debt markets.

(vi) Corporates issue short and long-term paper to meet their financial requirements. They are also investors in debt securities issued in the market.

(vii) DFIs regularly issue bonds for funding their financing requirements and working capital needs. They also invest in bonds issued by other entities in the debt markets.

(viii) Banks are the largest investors in the debt markets, particularly the government securities market. They are also the biggest participants in the call money and overnight markets. Banks arrange CP issues of corporates and are active in the inter-bank term markets and repo markets for their short term funding requirements. Banks also issue CDs and bonds in the debt markets.

(ix) Mutual funds have also emerged as important players in the debt market, owing to the growing number of debt funds that have mobilised significant amounts from the investors. Most mutual funds also have specialised debt funds such as gilt funds and liquid funds. Mutual funds are not permitted to borrow funds, except for meeting very short-term liquidity requirements. Therefore, they participate in the debt markets pre-dominantly as investors, and trade on their portfolios quite regularly.

(x) Foreign Institutional Investors (FIIs) are also permitted to invest in treasury and corporate bonds, within certain limits.

(xi) Provident funds are large investors in the debt markets. The prudential regulations governing the deployment of the funds mobilised by them mandate investments pre-dominantly in treasury and PSU bonds. They are, however, not very active traders in their portfolio, as they are not permitted to sell their holdings, unless

they have a funding requirement that cannot be met through regular accruals and contributions.

(xii) Charitable institutions, trusts and societies are also large investors in the debt markets. They are, however, governed by their rules and bye-laws with respect to the kind of bonds they can buy and the manner in which they can trade on their debt portfolios.

The matrix of issuers, investors, instruments in the debt market and their maturities are presented in Table 6.2.

Table 6.2. Participants and Products in Debt Market

Issuer	Instruments	Maturity	Investors
Central Government	Dated Securities	2–20 years	RBI, Banks, Insurance Companies, Provident Funds, Mutual Funds, PDs
Central Government	T-bills	14/364 days	RBI, Banks, Insurance companies, Provident Funds, PDs, Mutual Funds, Individuals
State Government	Dated Securities	5–10 years	Banks, Insurance Companies, Provident Funds
PSUs	Bonds, Structured Obligations	5–10 years	Banks, Insurance Companies, Provident Funds, Mutual Funds, Individuals, Corporates
Corporates	Debentures	1–12 years	Banks, Mutual Funds, Corporates, Individuals
Corporates, PDs	Commercial Papers	3 months to 1 year	Banks, Mutual Funds, FIs, Corporates, Individuals
Banks	Certificates of Deposits	3 months to 1 year	Banks, Corporates

Primary Issuance Process

Government Securities

The issuance process for government securities has undergone a marked change in the 1990s, with the introduction of auction mechanism, broad-basing of participation in the auctions through presence of PDs, and introduction of non-competitive bids. The auction mechanism helps in better price discovery. RBI announces the auction of government securities through a press notification, and invites bids. The sealed bids are opened at an appointed time, and the allotment is based on the cut-off price decided by the RBI. Successful bidders are those that bid at a higher price, exhausting the accepted amount at the cut-off price.

The design of auctions is an important issue in government borrowing. The auctions are designed aiming to generate higher auction volumes for meeting the target borrowing requirement, without recourse to underwriting and/or devolvement; broadening participation to ensure that bids are not concentrated or skewed; and ensuring efficiency through achieving the optimal (lowest possible) cost of borrowing for the government.

The two choices in treasury auctions, which are commonly used are:

- Discriminatory Price Auction (French Auction)

- Uniform Price Auction (Dutch Auction)

In both these kinds of auctions, the winning bids are those that exhaust the offered amount, beginning at the highest quoted price (or lowest quoted yield). However, in a uniform price auction, all successful bids pay a uniform price, which is usually the cut-off price (yield). In the case of the discriminatory price auction, all successful bids pay the price (yield) they bid for.

In India, discriminatory price auction is used for all bond issues of the government. RBI, in its Monetary and Credit Policy for 2001–02, announced that from this year onwards, the government would experiment with uniform price auctions in government securities. The notification of the auction will specify whether the auction will be Dutch or French.

RBI has the discretion to reject bids when the rates at which bids are received are higher than the rates at which RBI wants to place the debt. If the price objective that RBI wants to achieve does not match the bidding pattern of participants, the devolvement takes place. RBI also accepts non-competitive bids outside the notified amount. This is done to encourage participants who do not have sufficient expertise in bidding. In the recent years, with a view to moderating the market impact of the large borrowing programme on interest rates, RBI has accepted private placement of government stocks and released them to the market when interest rate expectations turned out favourable.

Government bonds are approved securities for the purposes of statutory liquidity requirements (SLR) of banks. Banks, therefore, have been traditionally the largest holders of government securities. Though the SLR has been progressively reduced to 25% of the net demand and time liabilities of banks, it is estimated that banks hold about 35% of their net demand and time liabilities in government bonds. The government is keen to ensure a more broad-based holding of its bonds, and has initiated a number of steps in this direction. Apart from banks, provident funds and insurance companies are also large holders of government bonds, to ensure compliance with prudential norms governing their portfolios. PDs and SDs hold government bonds either due to devolvement, or due to underwriting commitments, or to enable repo transactions and market making. They churn their portfolios very rapidly, which encourages liquidity in secondary markets. Apart from these, mutual funds also invest in government securities.

Treasury Bills

Treasury bills (T-bills) are short-term debt instruments issued by the Central Government. Until recently, four types of T-bills were issued: 14-day, 91-day, 182-day and 364-day, representing the types of tenors for which these instruments are issued. RBI did away with 14-day and 182-day T-bills in its Monetary and Credit Policy for 2001–02.

T-bills are sold through an auction process announced by the RBI. Banks and PDs are major bidders in the T-bill market. Non-competitive bids, where bidders need not quote the rate of yield at which they desire to buy these T-bills, are also allowed from provident funds and other investors. RBI allots bids to the non-competitive bidders at the weighted average yield arrived at on the basis of the yields quoted by accepted competitive bids at the auction. Allocations to non-competitive bidders are outside the amount notified for sale. Non-competitive bidders therefore do not face any uncertainty in purchasing the desired amount of T-bills from the auctions. RBI issues a calendar of T-bill auctions. It also announces the exact dates of auction, the amount to be auctioned and payment dates.

Since May 1999, devolvement in T-bill auctions on PDs has been done away with. Thus, devolvement, if any, takes place on RBI alone. This enables RBI to manage T-bill yields as a tool of interest rate policy. Each PD is required to make a minimum bidding commitment for auctions of T-bills so that together they absorb 100% of notified amount.

Both discriminatory and uniform price auction methods are used in issuance of T-bills. The auctions of 91-day T-bills are uniform price auctions, where all successful bidders are allotted amounts at the cut-off prices. In the case of 364-day bills, discriminatory price auction is followed, where the successful bidders have to pay the prices they have actually bid for. T-bills are available for a minimum amount of Rs. 25,000 and in multiples of Rs. 25,000.

Primary and Satellite Dealers

Primary dealers (PDs) are important intermediaries in the government securities markets. There are 16 PDs operating in the market. They act as underwriters in the primary market for government securities, and as market makers in the secondary market. PDs underwrite a portion of the issue of government security that is floated for a pre-determined amount. Normally, PDs are collectively offered to underwrite up to 100% of the notified amount in respect of all issues where amounts are notified. The underwriting commitment of each PD is broadly decided on the basis of its size in terms of its net owned funds, its holding strength, the committed amount of bids and the volume of turnover in securities.

Several facilities have been extended to PDs given their special role in the government debt market. RBI provides liquidity support to the PDs through LAF against collateral of government securities and through repo operations/refinance. PDs are also given favoured access to the RBI's open market operations. PDs are permitted to borrow and lend in the money market, including call money market. PDs can also raise funds through CPs and have access to finance from commercial banks as any other corporate borrower.

Following the introduction of the system of PDs in the government securities market, a need was felt to develop the supporting infrastructure. RBI, therefore, introduced a system of satellite dealers (SDs), with the objective of widening the scope of organised dealing and distribution arrangements in government securities market. SDs form the second tier of trading and distribution of government securities. They are expected to play an active role along with PDs in the government securities market, both in its primary and secondary segments.

Secondary Market

The secondary market for government securities is pre-dominantly wholesale market, with trades done on telephone. The WDM segment of NSE provides a trading platform for government securities and accounts for over 60% of all secondary market transactions in government securities.

Wholesale Debt Market of NSE

The wholesale debt market (WDM) segment of NSE provided the only formal trading platform for trading of a wide range of debt securities. Initially, government securities, T-bills and bonds issued by PSUs were made available for trading in this segment. This range has been widened to include non-traditional instruments like floating rate bonds, zero coupon bonds, index bonds, CPs, CDs, corporate debentures, state government loans, SLR and non-SLR bonds issued by financial institutions, units of mutual funds and securitised debt. The WDM trading system, known as NEAT (National Exchange for Automated Trading), is a fully automated screen-based trading system, which 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.

Trading system provides two market sub-types: continuous market and negotiated market. In continuous market, the buyer and seller do not know each other and they put their best buy/sell orders, which are stored in order book with price/time priority. If orders match, it results into a trade. The trades in WDM segment are settled directly between the participants, who take an exposure to the settlement risk attached to any unknown counter-party. In the NEAT-WDM system, all participants can set up their counter-party exposure limits against all probable counter-parties. This enables the trading member/participant to reduce/minimise the counter-party risk associated with the counter-party to trade. A trade does not take place if both the buy/sell participants do not invoke the counter-party exposure limit in the trading system.

In the negotiated market, the trades are normally decided by the seller and the buyer, and reported to the Exchange through the broker. Thus, deals negotiated or structured outside the exchange are disclosed to the market through NEAT-WDM system. In negotiated market, as buyers and sellers know each other and have agreed to trade, no counter-party exposure limit needs to be invoked.

The trades on the WDM segment could be either outright trades or repo transactions with flexibility for varying days of settlement (T+0 to T+5) and repo periods (3 to 14 days). For every trade, 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.

The Exchange facilitates trading members to report off-market deals in securities in cases where the repo period is more than the permissible days in the trading system (14 days) or where the securities cannot be listed on the Exchange as they do not meet the listing requirements. These trades are required to be reported to the Exchange within 24 hours of the issuance of contract note.

All government securities are 'deemed' listed as and when they are issued. The other debt securities are traded either under the 'permitted to trade' or 'listed' category. All eligible securities, whether publicly issued or privately placed, can be made available for trading in the WDM segment. Amongst other requirements, privately placed debt paper of banks, institutions and corporates requires an investment grade credit rating to be eligible for listing. The listing requirements for securities on the WDM segment are presented in Table 6.3.

Charges: NSE has specified the maximum rates of brokerage that can be levied by trading members for trades on WDM. The rate depends on the type of security and value of transactions. The rate for Central Government securities ranges from 5 paise to 25 paise for every Rs. 100 of transactions. Similarly, it ranges from 10 paise to 50 paise for State Government securities. It is 1% of the order value for debentures, securitised debt and commercial paper.

A trading member is required to pay transaction charges @ Rs. 0.25 per lakh of turnover subject to maximum of Rs. 1 lakh per year.

Negotiated Dealing System

RBI has taken up an integrated project on Negotiated Dealing Screen (NDS) System and Public Debt Office (PDO). The integrated solution envisages a dealing system linked to trade execution system, which will be a front-end system, and the Settlement and Servicing System, as a back-end system. NDS will be an interface between the members (SGL account holders) and the PDOs. The member terminals would facilitate the primary and secondary market operations. Pooled terminal facility would be provided at all PDOs for facilitating use by SGL account holders not having member terminal. Pooled terminal facility at regional PDOs will help non-members (registered with PDO) to submit bids in the auctions.

Table 6.3. Listing Criteria for Securities on WDM segment of NSE

Issuer	Listing Criteria	
	Public Issue	Private Placement
a. Central/State Government	——— Deemed listed ———	
b. Public Sector Undertakings/Statutory Corporations	– Eligible	– Credit rating, (if <51% is held by Govt.)
c. Financial Institutions	– Eligible	– Credit rating
d. Scheduled Commercial Banks	– Net worth of Rs. 50 crore or above	– Net worth of Rs. 50 crore or above, and – Credit rating
e. Corporates	– Minimum paid-up capital of Rs. 10 crore or market capitalisation of Rs. 25 crore (net worth in case of unlisted companies)	– Minimum paid-up capital of Rs. 10 crore or market capitalisation of Rs. 25 crore (net worth in case of unlisted companies) and – Credit rating
f. Infrastructure Companies	– Recognition as infrastructure company under related statutes/ regulations – Tax exemption – Credit rating	
g. Mutual Funds	– SEBI registered Mutual Fund/Scheme having an investment objective to invest predominantly in debt instruments	
h. Securitised Debt	– Minimum tranche of Rs. 20 crore. – Market making, distribution conducive to secondary market, and – Credit rating	

Note: Credit rating, wherever applicable, means minimum rating of investment grade.

The significant features of the integrated solution are as follows:

(a) NDS will facilitate screen-based trading in call money, notice/term money, government securities, including T-bills, repos, CDs and CPs in the first phase. In the second phase, Interest Rate Swaps (IRS) and Forward Rate Agreements (FRAs) will be covered. The system can also be used for daily repo and reverse repo auctions under LAF.

(b) The functional scope of the NDS would be giving/receiving a quote, placing a call and negotiation in respect of quotes (or without a reference to quote), and entering the deals successfully negotiated. The system would enable members to set up preferred counter-party list and exposure limits. The system would also facilitate reporting of trades executed through exchanges for information dissemination and settlement in addition to deals done through the system.

(c) The system will facilitate submission of bids/applications for auctions/floatation of government securities through member terminals and pooled terminal facility.

(d) On-line market information like last traded price, volume of transactions, yield curve, quote information on live quotes, *etc.* will be disseminated to participants.

(e) Banks, PDs and FIs having SGL and current accounts with RBI will be eligible to become members of the system.

(f) NDS would be integrated with Securities Settlement System of PDO to facilitate settlement of deals done in government securities and T-bills.

(g) The system would provide centralised SGL system with distributed servicing, which will help in increased geographical participation in government securities market. The system would also provide a centralised database, connectivity between regional PDOs and between participants, a centralised information system relating to primary issues and secondary market trade details.

The project is being developed in phases. Phase 1A covers NDS with basic data maintenance limited to participants and instruments. This phase will also provide for submission of bids and generation and submission of SGL transfer form for trade execution. Phase 1B would cover real time DvP settlement, including interface to payment system, SGL accounting modules and other phases of primary market operations. The submission of bids/applications in primary issues and their processing, including underwriting bids, will be included in this phase. The remaining functionality like Bond Ledger Accounts, securities lending and borrowing, integration with RTGS system, collateralised funding, *etc.* will be included in phase 2.

The NDS integrated with Securities Settlement System will lead to efficiency in trading, settlement, interest payments and other improvements in services to investors in government securities as the automated system will have very minimum response time. Market will have the advantage of up-to-date information. The trade information will be available on-line to the market.

Dematerialisation of Debt Instruments

Dematerialised trading was earlier restricted only to the equity shares and units of mutual funds. With the passage of Finance Bill 2000, stamp duty payable on transfer of debt instruments was waived, if the transfer takes place in the depository mode. Subsequently, NSDL and CDSL commenced admitting debt instruments to the depository. The debt instruments include debentures, bonds, CPs, CDs *etc.* irrespective of whether these debt instruments are listed, unlisted or privately placed.

Holding and trading in dematerialised form provides a number of benefits to the investors. These are:

- As securities in demat form can be held and transferred in any denomination, it is possible for the participant banks to sell securities to corporate clients, provident funds, trusts in smaller lots. This was not possible in the physical environment, as splitting of securities involves considerable amount of time.
- As most of the banks are depository participants (DPs) of NSDL, the cost of holding the securities in demat form is almost nil. The transaction charges in NSDL have a ceiling of Rs. 100 per transaction.
- In the demat form, it is possible for the participant banks to STRIP these securities and create a retail market for the same. It may be possible to create a special purpose vehicle and issue cosmetic securities, such as pass through certificates (PTCs) to retail holders. This can be another avenue for the banks to augment their retailing activity.

RBI announced that repos in PSU bonds will be permitted only in demat form. Further, with effect from June 30, 2001, banks, FIs, PDs and SDs will be permitted to make fresh investments in and hold CPs only in dematerialised form and outstanding investments should be converted into demat form by October, 2001. With effect from October 31, 2001, banks, FIs, PDs and SDs will be permitted to make fresh investments in and hold bonds and debentures, privately placed or otherwise, only in dematerialised form and outstanding investments should be converted into demat form by June, 2002.

Available data point towards growing interest by issuers and investors in debt dematerialisation. By June 2001, the number of investor accounts for debt dematerialisation with NSDL stood at around 55,000. 78 issuers have made 842 debt securities worth Rs. 18,000 crore available for demat. CPs for about Rs. 1,000 crore were issued in demat form every month. PTCs are also being issued in demat form; PTCs worth Rs. 671 crore have been issued in demat form.

Constituent SGL Accounts

Subsidiary General Ledger (SGL) account is a facility provided by RBI to large banks and financial institutions to hold their investments in government securities and T-bills in the electronic book entry form. Such institutions can settle their trades for securities held in SGL through a DvP mechanism, which ensures movement of funds and securities simultaneously. As all investors in government securities do not have an access to the SGL accounting system, RBI has permitted such investors to hold their securities in physical form. They are also permitted to open a constituent SGL account with any entity authorised by RBI for this purpose, and thus avail of the DvP settlement. Such client accounts are referred to as constituent SGL accounts or SGL II accounts. RBI has permitted NSCCL, banks, and PDs to offer constituent SGL account facility to an investor who is interested in participating in the government securities market. The facilities offered by the constituent SGL accounts are dematerialisation, re-materialisation, buying and selling of transactions, corporate actions, and subscription to primary market issues.

Clearing and Settlement

The settlement of transactions in the government securities market is pre-dominantly done in DvP mode, where funds and securities are transferred simultaneously. Central Government securities and T-bills are held as dematerialised entries in the SGL of RBI. In order to be able to trade in these securities, participants are required to have a current account and a SGL account with the RBI. The PDO, which oversees the settlement of transactions through the SGL, enables the transfer of securities from one participant to another. Transfer of funds is effected by crediting/debiting the current account of the seller/buyer, maintained with the RBI. Securities are transferred through credits/debits in the SGL account. In order to do this, the SGL form is filled by the seller, countersigned by the buyer, and sent to the RBI. The buyer transfers funds towards payment. The SGL form contains transfer instruction for funds and securities, signed by both counterparties, and has to be submitted to RBI within one working day after the date of signing the form. The SGL form provides details of the buyer and the seller, the security, the clean price, accrued interest and details of credit in the current account (without which securities will not be transferred).

Most transactions in government securities are placed through brokers. Buyers and sellers confirm transactions through phone and fax, after the deal is made. Brokers are usually paid a commission of 0.50 paise per market lot (of Rs. 5 crore), for deals upto Rs. 20 crore. Larger deals attract fixed commissions.

Though the SGL is computerised, the back-office operations for transactions in government securities are largely done manually. Trade confirmations take place on paper. SGL holders are expected to report their trades within 24 hours, due to which the time sequence of trades is not observed in debt markets. The creation of the NDS is expected to convert most of these manual transactions into real-time mechanical ones, driven by electronic connectivity between RBI's PDO, the clearing corporation, and the participants' dealing rooms. In the proposed NDS, all trades between participants will

have to be reported on the NDS, which will be directly linked to the settlement system. It would then be possible to achieve RTGS. A clearing corporation for government debt is being set up by SBI, which is expected to commence operations soon.

Market Developments

Primary Market

Resource Mobilisation

During 2000–01, the gross and net borrowings of Central Government amounted to Rs. 1,15,183 crore and Rs. 73,787 crore, respectively. The gross borrowings of Central Government increased by 15.6% during the year 2000–01. The primary issuance of State Government securities increased from Rs. 13,706 crore in 1999–00 to Rs. 13,300 crore in 2000–01. The gross borrowings of the Central and State Governments taken together increased by 13.4% from Rs. 1,13,336 crore in 1999–00 to Rs. 1,28,483 crore during 2000–01 (Table 6.4).

Table 6.4. Market Borrowings of Government

(Rs. crore)

Security	Gross			Repayment			Net		
	1999–00	2000–01	2001–02*	1999–00	2000–01	2001–02*	1999–00	2000–01	2001–02*
1. Central Government (a+b)	99,630	115,183	118,852	26,553	41,396	41,499	73,077	73,787	77,353
a) Dated Securities	86,630	100,183	99,352	16,353	28,396	26,499	70,277	71,787	72,853
b) 364-day T-Bills	13,000	15,000	19,500	10,200	13,000	15,000	2,800	2,000	4,500
2. State Government	13,706	13,300	12,648	1,301	420	1,446	12,405	12,880	11,201
Total (1 + 2)	113,336	128,483	131,500	27,854	41,816	42,945	85,482	86,667	88,554

* Budget Estimates.
Source: RBI Annual Report, 2000–01

The primary market for government securities was active during 2000–01 with RBI mopping up funds on behalf of the government. The Central Government mobilised Rs. 1,00,183 crore through issue of dated securities and Rs. 15,000 crore through issue of T-bills. After meeting repayment liabilities of Rs. 28,396 crore for dated securities, and redemption of 364-day T-bills of Rs. 13,000 crore, net market borrowing of Central Government amounted to Rs. 73,787 crore for the year 2000–01, which fell short of budget target by around 3%. The state governments collectively raised Rs. 13,300 crore during 2000–01 as against Rs. 13,706 crore in the preceding year. The net borrowings of State Governments in 2000–01 amounted to Rs. 12,880 crore after meeting repayment liabilities of Rs. 420 crore.

During April–June 2001, the Central Government made gross and net borrowings of Rs. 51,250 crore and Rs. 43,932 crore, respectively, against budget estimate of Rs. 1,18,852 crore and Rs. 77,353 crore for the full year.

Yields

During 2000–01, RBI undertook substantial devolvements and private placements to absorb market pressures.The year 2000–01 began on a note of comfortable liquidity positions, but pressures mounted from July 2000 onwards on account of pressures

in foreign exchange market and monetary tightening. RBI's support to Central Government's borrowing programme by way of private placement and devolvement amounted to Rs. 32,978 crore, i.e. 28.6% of primary issues during 2000–01. The yields on primary issues of dated government securities eased during the year with the cut-off yield varying between 9.5% to 11.7% during 2000–01 as against the range of 10.7% to 12.5% during the preceding year. The yields across maturities also came down signifying lower interest rates. The highest yield of 11.7% was recorded in the month of October 2000 for 12-year government paper. The weighted average yield on government dated securities declined from 11.8% in 1999–00 to 10.9% in 2000–01 (Table 6.5). Chart 6.1 presents primary market yield for government dated securities in recent years.

Table 6.5. Profile of Central Government Dated Securities

(Amount in Rs. crore)

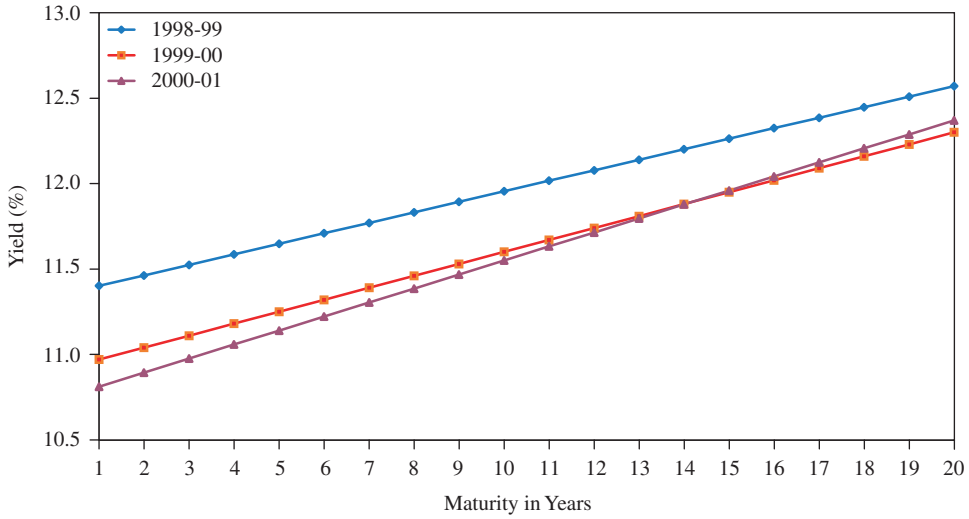
Items		1999–00	2000–01
1.	Gross Borrowing	86,630	100,183
2.	Repayments	16,353	28,396
3.	Net Borrowings	70,277	71,787
4.	Weighted Average Maturity (In years)	12.64	10.60
5.	Weighted Average Yield (Per cent)	11.77	10.95
6.	(A) Maturity Distribution (Amount)		
	a) Upto 5 years	—	12,500
	b) Above 5 and upto 10 years	30,000	35,000
	c) Above 10 years	56,630	52,683
	Total	86,630	100,183
	(B) Maturity Distribution (Per cent)		
	a) Upto 5 years	—	12.48
	b) Above 5 and upto 10 years	35.00	34.94
	c) Above 10 years	65.00	52.58
	Total	100.00	100.00
7.	Yield – (Per cent)		
	Minimum	10.72	9.47
		(8 years, 3 months)	(2 years, 11 months)
	Maximum	12.45	11.70
		(19 years, 8 months)	(11 years, 9 months)
8.	Yield – Maturity Distribution-wise		
	A. Less than 10 years		
	Minimum	10.72	9.47
		(8 years, 3 months)	(2 years, 11 months)
	Maximum	11.74	11.69
		(7 years, 11 months)	(9 years, 10 months)
	B. 10 years		
	Minimum	11.48	11.30
	Maximum	11.99	11.30
	C. Above 10 years		
	Minimum	10.76	10.47
		(14 years, 9 months)	(14 years)
	Maximum	12.45	11.70
		(19 years, 8 months)	(11 years, 9 months)

Note: Figures in brackets indicate residual maturity in years.
Source: RBI.

Maturity Structure

During 2000–01, government securities worth Rs. 12,500, accounting for 12.5% of total primary issuance of dated Central Government securities, were issued with maturities of

Chart 6.1. Primary Market Yield for Central Government Securities



less than 5 years. Around 53% of Central Government borrowing were effected through securities with maturities above 10 years. As a result, the weighted average maturity of dated securities issued during the year declined to 10.6 years from 12.6 years in 1999–00.

Secondary Market

Turnover

The secondary market transactions in debt securities (including government and non-government securities) increased by 29.6% to Rs. 7,12,662 crore in 2000–01, as against Rs. 5,49,751 crore during 1999–00 (Table 6.6). Non-government securities accounted for a meager 2% of total turnover in debt market. NSE accounted for 60.1% of total turnover in debt securities during 2000–01 as compared to 55.4% during 1999–00.

Table 6.6. Turnover of Debt Securities

(Rs. crore)

Securities	1999–00	2000–01	April–June 2001
Government Securities	539,232	698,121	335,331
WDM Segment of NSE	293,887	414,095	210,326
Rest of SGL	245,345	284,026	125,005
Non-Government Securities	10,519	14,541	3,890
CM Segment of NSE	104	12	1
WDM Segment of NSE	10,329	14,486	3,870
'F' Category of BSE	86	43	19
Total	549,751	712,662	339,221

Source: RBI, BSE and NSE.

The non-government securities are traded on the WDM and CM segments of the NSE and on the BSE. The secondary market for corporate debt is not yet fully developed in India. The volumes thus continue to remain low. The turnover in non-government securities was Rs. 14,541 crore in 2000–01, increasing by 38.2% during the year. The turnover on BSE was a negligible Rs. 43 crore during 2000–01 and Rs. 19 crore during

April–June 2001. NSE, with a turnover of Rs. 14,498 crore during 2000–01 accounted for over 99% of total turnover in non-government securities.

The aggregate turnover in (Central and State Government dated securities and T-bills through SGL (including outright and repo transaction) touched a level of Rs. 6,98,121 crore, recording an increase of 29.5% over Rs. 5,39,232 crore in the previous year. The volume of transactions in State Government securities was lower by 18.4% at Rs. 2,961 crore. The growing turnover of government securities reflects increasing depth of the market. The monthly turnover for the year 2000–01 ranged between Rs. 29,586 crore and Rs. 98,505 crore, with a monthly average of Rs. 58,178 crore. The turnover in government securities during April–June 2001 amounts to Rs. 3,35,331 crore as compared to Rs. 1,28,355 crore during the corresponding period of previous year. Such record volume is attributed to the fact that the commercial banks are flush with funds while the recent past has witnessed several cuts in bank rates. The collapse of the equity market has also led to increased interest in debt market. The improvement in trading of corporate debt instruments is attributed to RBI prescription of demat debt issues, which removes settlement risk. The setting up of clearing corporation and launch of NDS would enable greater participation/volumes in the days to come.

The bulk of transactions during 2000–01 were on outright basis. The outright transactions amounted to Rs. 5,72,145 crore, accounting for 82% of total turnover (Table 6.7) The share of outright transactions in government securities increased from 23.2% in 1995–96 to 82% in 2000–01, and stood at 80.9% during April–June 2001. The share of repo transactions declined correspondingly from 76.8% in 1995–96 to 18.1% in 2000–01. The details of transactions in government securities are presented in Annexure 6.1.

Table 6.7. Secondary Market Transactions in Government Securities

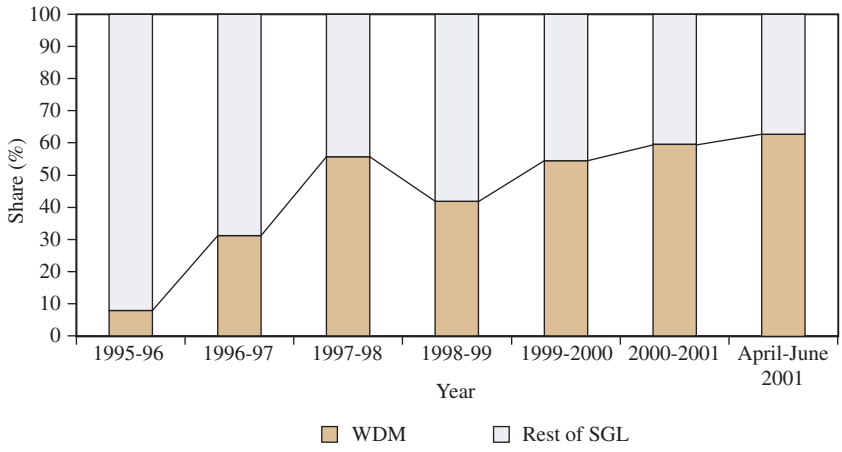
Year	Total SGL Turnover (Rs. cr.)	Share in Turnover (%)		Share in Turnover (%)	
		Outright	Repo	Dated Securities	T-Bills
1995–96	127,179	23.20	76.80	86.80	12.84
1996–97	122,941	76.40	23.60	30.12	30.12
1997–98	185,708	86.74	13.26	24.24	24.24
1998–99	227,228	82.53	17.47	19.59	19.59
1999–00	539,232	84.66	15.34	10.12	10.12
2000–01	698,121	81.95	18.05	11.02	11.02
April–June 2001	335,331	80.90	19.10	6.60	6.60

Source: RBI.

Government debt, which constitutes about three-fourth of the total outstanding debt, has the highest level of liquidity amongst fixed income instruments in the secondary market. The share of dated securities in total turnover of government securities increased from 69.4% in 1996–97 to 89.2% in 1999–00. It declined marginally to 88.6% in 2000–01 only to increase to 93% during April–June, 2001. T-bills accounted for 11% of total SGL turnover during 2000–01. Two-way quotes are available for active government securities from the PDs. Though many trades in government securities take place through telephone, a larger chunk of trades gets routed through NSE brokers.

The share of WDM segment of NSE in total turnover for government securities increased from 54.5% in 1999–00 to 59.3% in 2000–01, and improved further to 62.7% during April–June 2001 (Table 6.8). As compared to the increase in overall turnover of government securities by 29.5%, the same on WDM grew by 40.9% during 2000–01. Share of WDM in transactions of dated securities increased from 58.4% in 1999–00 to 63% in 2000–01 and further to 64.7% during April–June 2001. Its share in transactions of T-

Chart 6.2. Share of WDM in SGL



bills increased from 20.2% in 1999–00 to 30.1% in 2000–01, and further to 35.4% during April–June 2001. Share of WDM in outright and repo transactions was 72.4% and 1.3% respectively during 2000–01, and 76.9% and nil during April–June 2001. The share of WDM in total SGL turnover is presented in Table 6.8 and Chart 6.2.

Table 6.8. Share of WDM in Transactions of Government Securities

(Amount in Rs. crore)

Year	Turnover of Government Securities			Turnover of Dated Securities			Turnover of T-Bills		
	On SGL	On WDM	Share of WDM (%)	On SGL	On WDM	Share of WDM (%)	On SGL	On WDM	Share of WDM (%)
1995–96	127,179	9,988	7.85	110,387	7,552	6.84	16,327	2,260	13.84
1996–97	122,941	38,308	31.16	85,318	27,053	31.71	37,027	10,957	29.59
1997–98	185,708	103,585	55.78	139,352	83,789	60.13	45,008	18,866	41.92
1998–99	227,228	95,280	41.93	181,173	83,714	46.21	44,511	10,706	24.05
1999–00	539,232	293,887	54.50	481,010	280,827	58.38	54,591	11,007	20.16
2000–01	698,121	414,095	59.32	618,185	389,698	63.04	76,950	23,142	30.07
Apr–Jun 2001	335,331	210,326	62.72	312,124	202,020	64.72	22,137	7,826	35.35

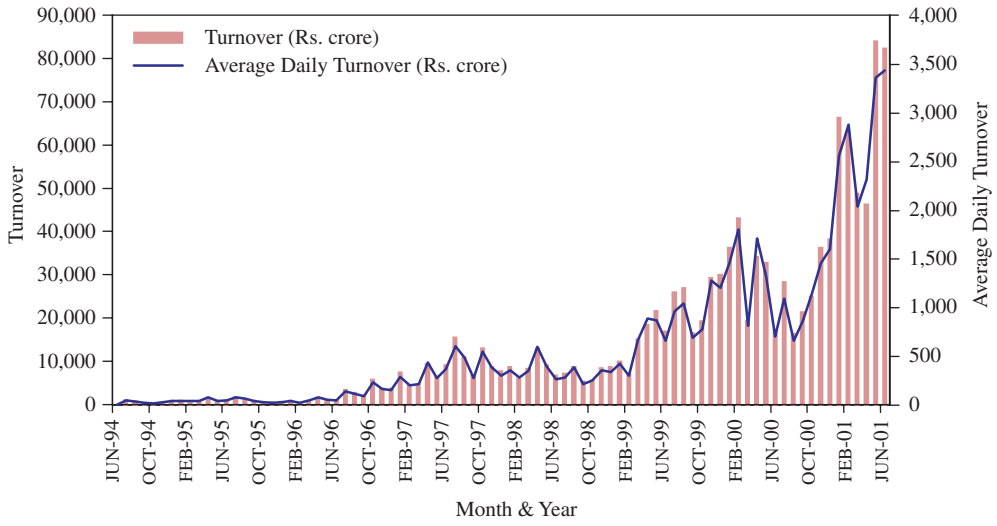
Source: RBI & NSE.

Developments in WDM

During 2000–01, 858 more securities with a total outstanding debt of Rs. 1,26,240 crore were made available for trading on WDM. The number of securities available for trading increased during the year from 1,412 to 1,534, which included 937 securities under the listed and deemed listed category and 597 securities under the permitted category. A total of 1,038 securities were active during 2000–01 as compared to 1,057 in the previous year.

The turnover on WDM segment has been growing rapidly over time. The turnover in WDM segment registered an increase of 41% from Rs. 3,04,216 crore during 1999–00 to Rs. 4,28,582 crore during 2000–01. The average daily turnover increased from Rs. 1,035 crore to Rs. 1,483 crore during the same period. The average number of trades per day increased from 160 in 1999–00 to 223 in 2000–01. The WDM segment registered a turnover

Chart 6.3. Business Growth of WDM Segment



of Rs. 2,12,596 crore during April–June 2001 with an average daily turnover of Rs. 9,103 crore. The business growth of WDM segment is presented in Table 6.9, Chart 6.3 and Annexure 6.2.

Table 6.9. Business Growth of WDM Segment of NSE

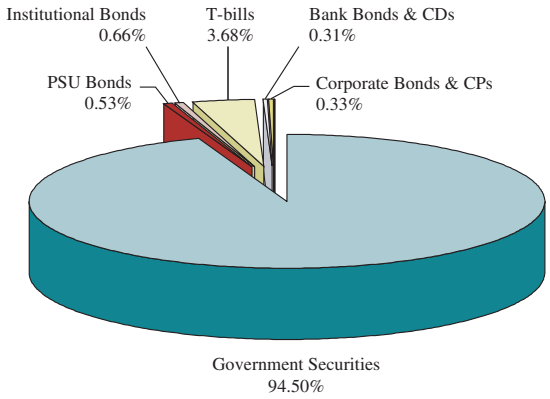
Parameter	Jun 94–Mar 95	1995–96	1996–97	1997–98	1998–99	1999–00	2000–01	April–June 2001
No. of Active Securities	183	304	524	719	1,071	1,057	1,038	378
No. of Trades	1,021	2,991	7,804	16,821	16,092	46,987	64,470	30,762
No. of Retail Trades	168	1,115	1,063	1,390	1,522	925	498	97
Turnover (Rs. cr.)	6,781	11,868	42,278	111,263	105,469	304,216	428,582	212,596
Average Daily Turnover (Rs. cr.)	35	41	145	385	365	1,035	1,483	9,103
Retail Turnover (Rs. cr.)	31	207	201	289	308	218	131	19
Share of Retail Trades (%)	0.45	1.74	0.47	0.26	0.29	0.07	0.03	0.01
Average Trade Size (Rs. cr.)	6.64	3.97	5.42	6.61	6.55	6.47	6.65	6.91
Average Size of Retail Trade (Rs. lakh)	18.21	18.58	18.91	20.79	20.23	23.56	26.31	19.59

Source: NSE.

The market remained highly active throughout the year. The highest turnover of Rs. 66,400 crore was witnessed in January 2001. The average daily turnover, which was as low as Rs. 658 crore in August 2000, touched the high of Rs. 2,873 crore in February 2001. During the initial months of the current financial year, the turnover on WDM segment has steadily gone up. The average daily turnover reached the peak of Rs. 3,430 crore in June 2001. The average size of a WDM trade, increased from Rs. 6.47 crore in 1999–00 to Rs. 6.65 crore in 2000–01 and further to Rs. 6.91 crore in April–June 2001. Such large average size of trades only proves the wholesale nature of the market.

Retail Trades: The number of retail trades (trade value of less than Rs. 1 crore) had been increasing till 1998–99, but started declining afterwards. The number of retail trades declined to 498 in 2000–01 from 925 in the previous year. April–June 2001 reported only

Chart 6.4. Security-wise Distribution of Turnover, April–June 2001



97 trades. The share of retail trades in total turnover declined further from 0.07% in 1999–00 to 0.03% in 2000–01 and further to 0.01% in April–June 2001. The efforts made by policy makers to broaden the investor base by retailing government securities does not seem to yield much results.

Securities Profile: Dated government securities dominated the market during 2000–01, accounting for the bulk of trading. The turnover in government securities increased by 38% during 2000–01. Its share in total turnover, however, declined marginally to 91.2% from 93% in the previous year, but increased to 94.5% during April–June 2001 (Table 6.10). The share of T-bills in WDM turnover has been declining over time. During 2000–01, however, the turnover in T-bills more than doubled, with its share in total turnover increasing from 3.6% in 1999–00 to 5.4% in 2000–01. The share of T-bills in total turnover, however, declined to 3.7% in April–June 2001.

Table 6.10. Security-wise Distribution of Turnover

	Turnover (Rs. crore)			% of Turnover		
Securities	1999–00	2000–01	April–June 2001	1999–00	2000–01	April–June 2001
Government Securities	282,880	390,952	200,901	92.99	91.22	94.50
T-bills	11,007	23,143	7,826	3.62	5.40	3.68
PSU Bonds	1,528	3,617	1,119	0.50	0.84	0.53
Institutional Bonds	3,345	4,270	1,402	1.10	1.00	0.66
Bank Bonds & CDs	805	2,027	655	0.26	0.47	0.31
Corporate Bonds & CPs	4,615	4,516	694	1.52	1.05	0.33
Others	36	57	—	0.01	0.01	—
Total	304,216	428,582	212,597	100.00	100.00	100.00

Source: NSE.

The PSU bonds witnessed a turnover of Rs. 3,617 crore in 2000–01 as against Rs. 1,528 crore in 1999–00. The share of PSU bonds in the total turnover increased from 0.5% in 1999–00 to 0.8% in 2000–01. The demand for institutional bonds and corporate bonds decreased, with their share declining from 1.1% and 1.5%, respectively, in 1999–00 to 1% and 1.1%, respectively, in 2000–01. Security-wise distribution of turnover in WDM is presented in Annexure 6.3. Chart 6.4 presents security-wise distribution of turnover in April–June 2001.

The share of top 'N' securities in turnover of WDM segment is presented in Table 6.11. The share of top '10' securities in turnover increased from 55.6% in 1999–00 to 58.3% in 2000–01, and further to 65.4% in April–June 2001. This implies that trading is getting concentrated in fewer securities.

Table 6.11. Share of Top 'N' Securities/Trading Members/Participants in Turnover in WDM Segment

	In per cent				
Year	Top 5	Top 10	Top 25	Top 50	Top 100
Securities					
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
1999–00	37.11	55.57	82.12	90.73	95.28
2000–01	42.20	58.30	80.73	89.97	95.13
April–June 2001	46.59	65.36	87.42	94.90	97.98
Trading Members					
1994–95	51.99	73.05	95.37	100.00	—
1995–96	44.36	68.58	96.10	100.00	—
1996–97	30.02	51.27	91.57	99.96	100.00
1997–98	27.17	47.85	83.38	99.82	100.00
1998–99	29.87	50.45	86.55	99.98	100.00
1999–00	32.38	53.41	84.46	100.00	—
2000–01	35.17	54.25	86.82	100.00	—
April–June 2001	38.18	63.28	91.91	100.00	—
Participants					
1994–95	18.37	27.38	38.40	42.20	—
1995–96	29.66	47.15	70.49	76.32	76.58
1996–97	25.27	44.92	67.00	76.33	77.10
1997–98	23.60	38.96	65.59	77.96	80.22
1998–99	22.47	37.39	62.79	79.27	84.51
1999–00	15.54	27.87	52.51	74.76	81.32
2000–01	17.51	28.85	50.64	69.72	76.78
April–June 2001	17.78	30.59	54.17	74.14	80.45

Source: NSE.

Participant Profile: Indian banks, foreign banks and PDs, together accounted for over 73% of WDM turnover during 2000–01 (Table 6.12). The share of Indian banks in turnover declined sharply from 42.7% in 1999–00 to 33.5% in 2000–01. This was compensated by increase in share of trading members from 18.8% to 23.2% over the same period. PDs contributed 22.1% of turnover during 2001–01 as against 19.4% in 1999–00. The share of Indian banks, primary dealers and trading members stood at 39.2%, 24.3% and 19.5% respectively during April–June 2001. Participant-wise distribution of turnover in WDM is presented in Annexure 6.3. Participant-wise distribution of turnover in WDM during April–June 2001 is presented in Chart 6.5.

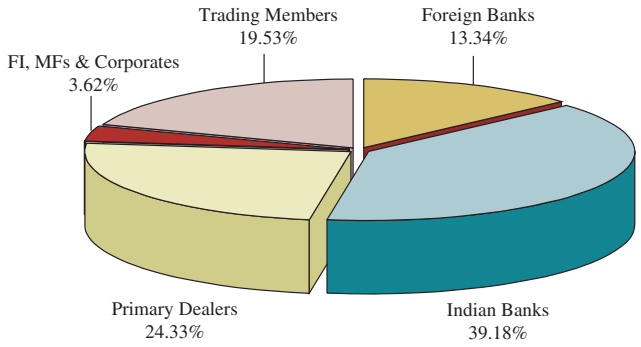
Contribution of top 'N' trading members/participants in total turnover is presented in Table 6.11. Top '50' trading members accounted for total turnover of WDM in 2000–01, which is indicative of the narrow membership structure of WDM segment. As at June 30, 2001, there were 93 members of WDM segment. However, only 48 members were active during 2000–01. The share of top 'N' participants has reduced over time indicating diffusion of trades among participants. Top '10' members/participants accounted for about 63%/31% of turnover, during April–June 2001.

Table 6.12. Participant-wise Distribution of Turnover

Participants	Percentage Share in Turnover		
	1999–00	2000–01	April–June 2001
Indian Banks	42.72	33.54	39.18
Foreign Banks	15.05	16.90	13.34
Primary Dealers	19.42	22.14	24.33
Trading Members	18.75	23.24	19.53
FI, MFs & Corporates	4.06	4.18	3.62
Total	100.00	100.00	100.00

Source: NSE.

Chart 6.5. Participant-wise Distribution of Turnover, April–June 2001



Market Capitalisation: Market capitalisation of the WDM segment has witnessed a constant increase, reflecting an increase in the number of securities available for trading on this segment. Total market capitalisation of securities available for trading on WDM segment stood at Rs. 5,80,836 crore as at end-March 2001, registering a growth of 17.6% over end-March 2001. The relative shares of different securities in market capitalisation changed marginally during 2000–01. Government securities accounted for 68.4% of total market capitalisation at the end of March 2001. The composition of market capitalisation of various securities on WDM in the recent past is presented in Table 6.13. The market capitalisation of securities on WDM at the end of June 2001 is presented in Chart 6.6. The growth of market capitalisation of WDM is presented in Annexure 6.4.

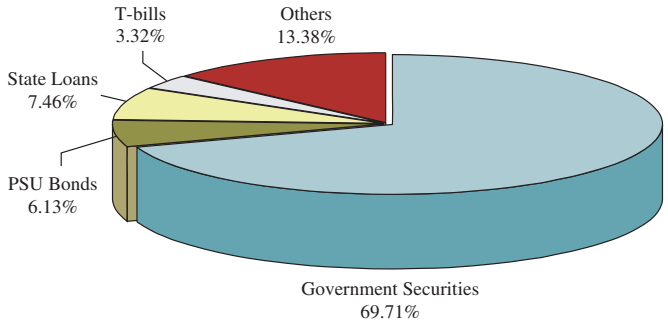
Table 6.13. Market Capitalisation of WDM Segment

(Amount in Rs. crore)

Security	Market Capitalisation (end of period)			% to Total		
	March-00	March-01	June-01	March-00	March-01	June-01
Government Securities	319,865	397,228	442,290	64.75	68.39	69.71
PSU Bonds	39,357	36,365	38,865	7.97	6.26	6.13
State Loans	39,477	44,624	47,302	7.99	7.68	7.46
T-bills	15,345	17,725	21,056	3.11	3.05	3.32
Others	79,989	84,894	84,917	16.19	14.62	13.38
Total	494,033	580,836	634,430	100.00	100.00	100.00

Source: NSE.

Chart 6.6. Market Capitalisation of WDM Segment at the end of June 2001



Yields

The yields (yield-to-maturity) on government and corporate securities of different maturities of 0–1 year, 5–6 years, 9–10 years and above 10 years are presented in Table 6.14. It is observed that yield on corporate debt is generally higher than on government debt for securities of similar maturity. The yields were higher for securities of higher maturities. The yields on government and corporate securities of different maturities peaked between August 2000 and September 2000, and started declining thereafter.

Table 6.14. Yields on Government and Corporate Securities

(In per cent)

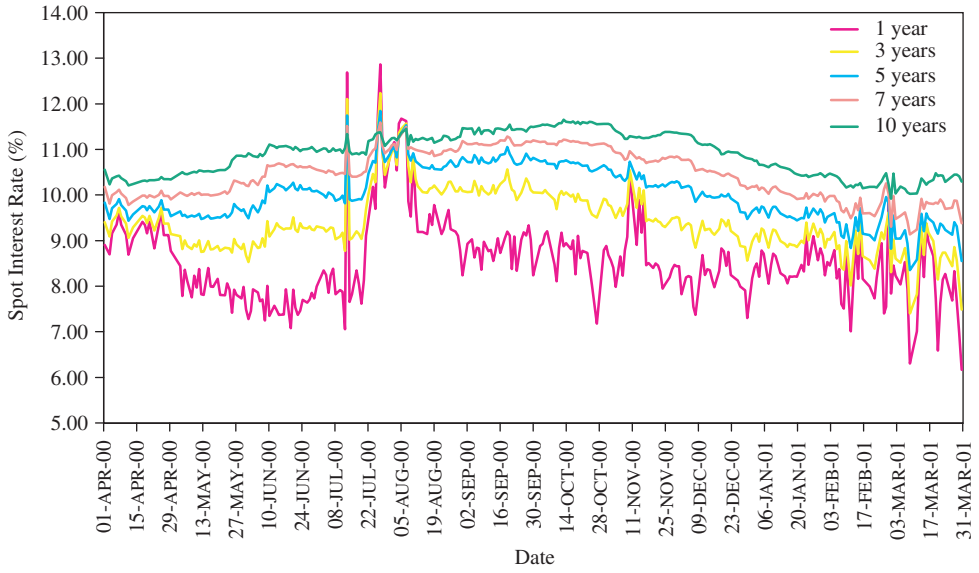
	Government Securities				Corporate Securities			
Month	0–1 year	5–6 years	9–10 years	Above 10 years	0–1 year	5–6 years	9–10 years	Above 10 years
Apr-00	9.35	9.87	10.30	10.58	10.29	13.42	12.98	—
May-00	9.11	9.95	10.56	10.63	10.25	11.10	—	—
Jun-00	9.79	10.38	11.02	11.10	10.00	11.38	11.59	—
Jul-00	9.85	10.34	11.03	11.07	10.60	11.43	—	—
Aug-00	11.09	11.07	11.44	11.50	11.13	12.20	13.39	—
Sep-00	10.69	11.13	11.49	11.49	11.71	12.45	—	—
Oct-00	10.37	11.01	11.61	11.69	9.46	12.51	—	12.06
Nov-00	10.18	10.81	11.35	11.51	10.71	11.68	—	11.96
Dec-00	9.97	10.62	11.04	11.60	10.32	11.77	—	—
Jan-01	9.80	10.21	10.60	10.94	9.14	11.23	—	11.65
Feb-01	9.28	9.81	10.28	10.84	10.64	11.12	11.68	11.41
Mar-01	8.93	9.62	10.07	10.76	10.75	12.20	—	—
Apr-01	8.80	9.46	10.17	10.65	—	10.69	—	—
May-01	8.53	9.16	9.94	10.50	9.85	10.32	11.17	—
Jun-01	8.03	8.96	9.71	10.18	9.37	10.25	10.94	—

Source: NSE.

Zero Coupon Yield Curve

In its strive to introduce innovative products and services and in line with its focus on development of debt market, NSE launched a 'Zero Coupon Yield Curve' (ZCYC) to help in valuation of securities across all maturities irrespective of their liquidity in the market. This has been developed keeping in mind the requirements of the banking industry, financial institutions, mutual funds, insurance companies, *etc.* that have substantial investment in sovereign papers. The product has been developed by using Nelson-Siegel

Chart 6.7. Zero Coupon Yield Curve, 2000–01



model to estimate the term structure of interest rate at any given point of time and been successfully tested by using daily WDM trades data. This is being disseminated daily.

The ZCYC depicts the relationship between interest rates in the economy and the associated term to maturity. It provides daily estimates of the term structure of interest rates using information on secondary market trades in government securities from the WDM segment of the NSE. The term structure forms the basis for the valuation of all fixed income instruments. Modelled as a series of cashflows due at different points of time in the future, the underlying price of such an instrument can be calculated as the net present value of the stream of cash flows. Each cash flow, in such a formulation, is discounted using the interest rate for the associated term to maturity; the appropriate rates are read off the estimated ZCYC. Once estimated, the interest rate-maturity mapping is used to compute underlying valuations even for securities that do not trade on a given day. Changes in the economy cause shifts in the term structure, changing the underlying valuations of fixed income instruments. The daily ZCYC captures these changes, and can be used to track the value of portfolios of government securities on a day-to-day basis.

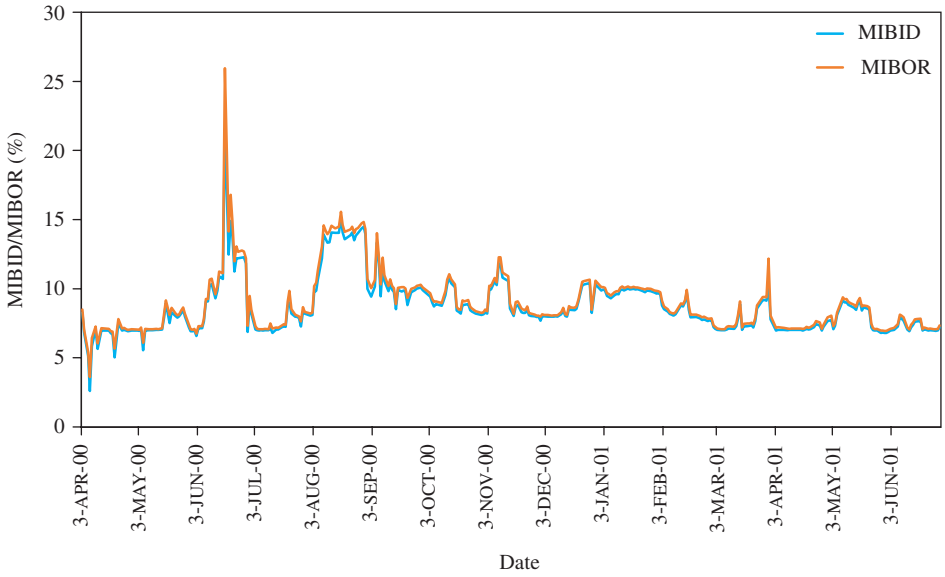
The estimates of daily ZCYC are available from February 1998. Chart 6.7 plots the spot interest rates at different maturities for the year 2000–01. The rates have been plotted for the following maturities—1-year, 3-years, 5-years, 7-years and 10-years.

MIBID/MIBOR

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

NSE MIBID/MIBOR are based on rates polled by NSE from a representative panel of 31 banks/institutions/primary dealers. Currently, quotes are polled and processed daily by the Exchange at 09.40 (IST) for overnight rate and at 11.30 (IST) for the 14-day, 1-month

Chart 6.8. Overnight MIBID/MIBOR Rates, April 2000–June 2001



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 overnight rates are disseminated daily to the market at 09.55 (IST) and the 14-day, 1-month and 3-month rates at 12.15 (IST).

The NSE MIBID/MIBOR is used as a benchmark rate for majority of deals struck for IRS, FRAs, floating rate debentures and term deposits. 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 rates to the overnight 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. A number of organisations are benchmarking IRSs to MIBID/MIBOR.

The overnight MIBID/MIBOR rates ruled fairly steady within a narrow range during the year 2000–01 and also during the current financial year except for bouts of volatility during June 2000. The overnight MIBID and MIBOR touched the peak of 21.6% and 25.9% respectively on June 17, 2000 and the low of 2.6% and 3.6% respectively on April 7, 2000. The rates have been particularly stable during the current financial year, reflective of a stable interest rate environment, and have been hovering around 7–8%. Chart 6.8 presents overnight NSE MIBID/MIBOR from April 2000 to June 2001. The rates since their launch till September 2000 were presented in the last issue of this publication. The rates from October 2000 till end of June 2001 are presented in Annexure 6.5.

Bond Index

Market benchmarks provide information to the market participants about price trends in the market. Bond indices besides capturing returns, also incorporate liquidity criteria. This is specifically required to meet the needs of active traders and investment managers.

A widely tracked benchmark in this context is the ICICI Securities (i-SEC) bond index (i-BEX), which measures the performance of the bond markets by tracking returns on government securities. It is a benchmark against which fund managers and investment managers can measure their performance. i-SEC computes a Principal Return Index (PRI) and Total Return Index (TRI). The PRI tracks the price movements of bonds or capital gains/losses since the base date. It is the movement of prices quoted in the market and could be seen as the mirror image of yield movements. During 2000–01, the PRI increased by 2.4%. It increased further by 4% during the first quarter of the current financial year. The TRI tracks the total returns available in the bond market. It captures both interests accruals and capital gains/losses. In a declining interest rate scenario, the index gains on account of interest accrual and capital gains, while losing on reinvestment income. As against this, during rising interest rate periods, the interest accrual and reinvestment income is offset by capital losses. Therefore, the TRI typically has a positive slope except during periods when the drop in market prices is higher than the interest accrual. During 2000–01 and April–June 2001, the TRI registered gains of 13.6% and 6.6%, respectively.

Policy Debates

Trading of Securities

The secondary debt market in India has not developed at the desired pace. While policy makers have taken many steps for developing the debt market, several hurdles still remain. The trading framework faces following deficiencies:

1. The four key principles of anonymity, price-time priority, nation-wide market and settlement guarantee do not apply to trading of debt markets in India. An efficient and transparent price discovery mechanism with complete audit trail of activities is an essential pre-requisite for a liquid and vibrant secondary debt market.
2. A large number of deals in the debt market are still done on the telephone. As such, there is no regulatory requirement for market participants to route their orders through a common trading platform, like stock exchanges.
3. The secondary debt market is highly fragmented. A buyer from Chennai or New Delhi can not trade in the Mumbai market since securities held in his account with RBI books cannot be easily transferred to Mumbai and vice-versa. T-bills cannot be traded outside Mumbai. Since the order book is geographically fragmented, the quality of price discovery process is very poor.
4. The settlement system is not efficient, unless the buyers and sellers have both SGL and cash accounts with RBI. Since RBI provides these account facilities to only a limited number of entities, non-transferable city-wise settlement facilities are available only to these entities.
5. Traditionally, brokers are main intermediaries in the securities market. They trade on behalf of investors and on their own account. In case of debt market, brokers provide only intermediation services and they do not trade in their own right. They do not provide continuous two-way positions due to absence of any funding mechanism for them. PDs and SDs, who are the new entrants in the market with the responsibility 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 also 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.

NSE introduced automated screen-based trading in debt securities, which is an anonymous order matching system. However, banks and institutions have shown little interest to use NSE's trading platform for executing their debt securities transactions. In our country, regulatory fiat is needed to enforce transparency in financial deals. 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.

A major change in the trading mechanism for debt market would occur when NDS system would become operational. NDS will facilitate screen-based trading in various instruments like call money, notice/term money, government securities, including T-bills, repos, CDs and CPs.

Clearing Corporation of India

Nation-wide clearing and settlement is a primary pre-requisite for creation of a retail order flow in the debt markets. The prevailing system is fraught with many shortcomings, like limited access to the SGL account facility of government, predominance of physical holdings of debt paper, lack of inter-connectivity between PDOs in various locations. Some steps for improving the clearing and settlement system for government securities have been initiated by the RBI. A significant development in this context is the decision to set up a clearing corporation for clearing of money, government securities and forex markets transactions. The main features of the proposed clearing corporation, which is being set by SBI as the main promoter are:

- The clearing corporation has been registered as a limited liability company under the Indian Companies Act, 1956. It is known as 'The Clearing Corporation of India Ltd.' and has an authorised capital of Rs. 50 crore.
- The Clearing Corporation of India (CCI) will be owned by the market participants and promoted by SBI. The other core promoters of the company will be Bank of Baroda, HDFC Bank, ICICI, IDBI and LIC.
- The Clearing Corporation is managed by a Board of Directors headed by a non-executive Chairman.
- The Clearing Corporation will address the need for efficient securities settlement system covering money, government securities and forex markets.
- The Clearing Corporation will:
    - facilitate extension of repos market to non-government securities and enlargement of market participants.
    - act as a tri-party agent for efficient management of collateral in consonance with internationally accepted best practices,
    - act as a central counter-party through novation, thereby minimising counter-party risk, and
    - manage a Settlement Guarantee Fund, thereby minimising settlement risk.

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.

The market for securitisation has not appreciably developed in India because of lack of legal clarity and conducive regulatory environment. A RBI working group has identified various impediments, *viz.*, lack of investor base, capital market infrastructure, regulatory framework, legal provisions, accounting and taxation issues and standardisation and recommended a number of measures for securitisation to take off in the country. The recommendations include rationalisation/reduction of stamp duties, inclusion of securitised instruments in the definition of 'securities' under the SCRA, removal of prohibition on investment in mortgage-backed securities by mutual fund schemes, tax neutrality of SPV, *etc.* The group has suggested, as medium-term measure, increased flow of information through credit bureau, standardisation of documents, improvement in the quality of assets, upgradation of computer skills and exploring the possibilities of securitising non-performing assets. The need to develop some insurance/guarantee institutions to give comfort to investors, especially in infrastructure and mortgage sectors has been underscored by the Working Group as a long-term measure. These recommendations need to be quickly translated into policy and regulations.

Debt Derivatives

In the fixed income markets, an investor is exposed to several kinds of risks. These risks may arise due to any factor that influences the potential streams of returns from holding a fixed income security. There are three sources of income from a fixed income security — coupon or interest payments, capital gains/losses, and re-investment income, which is income from the intermediate cash flows that are re-invested. An investor faces considerable risk from an adverse movement in interest rates. In debt markets, there exits an inverse relationship between interest rates and the price of the bond. In situations of rise in interest rates, the price of the bond declines, posing the risk of capital loss to an investor who wants to sell off his security prior to maturity. The risk arising out of variations in interest rates could be hedged by use of interest rate derivatives. The commonly used interest rate derivatives are forwards, futures, swaps and options. Of these, interest rate swaps (IRSs) are the most popular derivative instruments and account for the largest share of turnover in interest rate derivatives all over the world.

An IRS is a contractual agreement entered into between two counter-parties for exchanging interest payment for a specified period based upon a notional amount of principal. The principal amount is notional because there is no need to exchange actual amounts of principal. A notional amount of principal is only required in order to compute the actual cash amounts that will be periodically exchanged. Under the commonest form of IRS, a series of payments calculated by applying a fixed rate of interest to a notional principal amount is exchanged for a stream of payments similarly calculated but using a floating rate of interest. This is a fixed-for-floating IRS. Alternatively, both series of cash flows to be exchanged could be calculated using floating rates of interest, but floating rates that are based upon different underlying instruments. Internationally, IRSs are widely used by commercial banks, investment banks, non-financial companies, insurance companies, investment vehicles and trusts, and government agencies.

Another popular derivative instrument is forward rate agreements (FRAs). The FRA is an off-balance sheet contract between two parties under which one party agrees on the start date (or trade date) that on a specified future date (the settlement date) it would lodge a notional deposit with the other for a specified sum of money for a specified period of time (the FRA period) at a specified rate of interest (the contract rate). The party that

has agreed to make the notional deposit has, thus, sold the FRA to the other party who has bought it.

In India, IRSs/FRAs were introduced in June 1999 with a view to further deepening the money market as also to enable banks, PDs and FIs to hedge interest rate risks. FRAs/IRS transactions increased from 216 contracts amounting to Rs. 4,249 crore as on March 24, 2000 to 1,521 contracts for Rs. 21,504 crore as on March 23, 2001. The IRS has emerged as the more popular of the two instruments in the Indian market. The overnight call money rates and the forex forward rates have emerged as the most popular benchmark rates. Though there was a significant increase in the number and amount of contracts, the participation in the market remained restricted to a few foreign and private sector banks, PDs and all-India financial institutions.

ZCYC vs. YTM

Fixed income instruments, both government securities and corporate paper, constitute sizeable proportion of the investment portfolios of most financial sector entities. The change in the value of these portfolios arising out of shifts in the interest rate structure is of immense concern — both for the purpose of ascertaining the mark-to-market value of the portfolio and in view of concerns related to risk management. This in turn underscores the need for a sound and consistent norms for valuation of fixed income instruments.

Unlike equities for which prices are available on a daily basis which can be used to value any portfolio, the secondary debt market does not provide market quotes for all securities on a regular basis for valuation of fixed income portfolios. Traditionally, the valuation norms for such instruments have been announced from time to time by the regulator for the particular segment, for instance, by SEBI for mutual funds and RBI for banks. These are yield to maturity (YTM)-based norms, with pre-specified credit spreads distinguishing between sovereign and corporate paper. With the objective of moving towards more market-determined — as opposed to mandated — valuation norms, RBI recently discontinued its practice of prescribing year-end YTMs for unquoted government securities; these are now put out by PDAI/FIMMDA.

A sound valuation methodology should: (i) have a firm conceptual base, (ii) provide a framework that allows consistent valuation of all similar instruments, and (iii) be available at high frequency (preferably daily) so as to enable players to constantly value and, if required, reshuffle their portfolios.

YTM is the single rate, which equates the quoted price of a security to the sum of the present discounted value of its cash flows. For a given market price, cash flows and time to cash flows, the YTM of a security can be computed from the present value (PV) relation. Conversely, one could derive the price of a security for given cash flows, discounting them using the YTM. However, the latter would involve the assumption of a constant discount rate for all cash flows from a security, irrespective of when they fall due, violating the notion of 'time value of money'. Further, the corollary to this is that two cash flows due at the same time, but coming from two different instruments, are discounted at different (security-specific) YTM rates. This makes it difficult to conceptualise a unique relation between YTM and maturity alone, the so-called Yield Curve. From the perspective of a user, this, in turn, makes it difficult to derive the YTM for a new security with a different coupon rate, even if its maturity matches that of an existing security. Similarly, it is difficult to interpolate the YTM for a new security with a different maturity, even if its coupon rate matches that of an existing security. Hence, there exists a need for an alternative to YTM for valuation of portfolios of fixed income securities that is invariant

to security-specific characteristics and provides a unique discount rate–maturity relation. The Zero Coupon Yield Curve (ZCYC) provides such an alternative.

The ZCYC, also referred to as the term structure of interest rates, depicts the relationship between interest rates in the economy and the term to maturity. On any particular day, the ZCYC is estimated using the PV relation. However, unlike in derivation of PVs using YTMs, the discount rate used for computing the PV of each cash flow is the interest rate associated with the time to maturity of the given cash flow. Derivation of the entire set of interest rates requires prior specification of an interest rate–maturity relation (the model) that is estimated using market prices and corresponding PVs for all traded securities. Once estimated, the ZCYC can be used to derive the underlying 'fundamental' price of any fixed income instrument, including non-traded instruments, by discounting its cash flows using the interest rate for the associated 'time to cash flow'. Further, with interest rates being a function of maturity alone, cash flows due at the same time are discounted using the same rate even if they were due from two different instruments.

A usually held argument against ZCYC *vis-à-vis* YTM is that the former is more complicated both in terms of computation and interpretation. While the computation of YTMs is certainly less time-consuming, it takes far more time and ingenuity to use YTMs as a pricing/valuation methodology for portfolios of securities that include non-traded instruments. In addition, YTM would have limited applicability as the debt market develops and new instruments like STRIPS and other derivative products are introduced. ZCYC, on the other hand, is eminently suitable for valuation of such instruments. With sufficient number of secondary market trades in Government securities available to estimate a chosen model, it is possible to estimate the sovereign term structure daily, thus making it a useful valuation methodology to track changes in the value of portfolios of Government securities on a day-to-day basis. Once the ZCYC parameters are available, suitably designed software, such as the NSE Zero Curve Calculator, can easily handle the bond pricing calculations that a treasury would be interested in. Finally, the ZCYC can be used to price all non-sovereign fixed income instruments after adding an appropriate credit spread related to the credit rating and tenor of the instrument. A readily available database of ZCYC would be of immense help for primary dealers, banks and other entities to compute Value at Risk (VaR) of their fixed income portfolios in a consistent manner.

In view of the above, the regulatory authority should consider ZCYC as an alternative to the YTM in setting valuation and risk management systems for fixed income portfolios.

STRIPS

Separate Trading of Registered Interest and Principal of Securities (STRIPS) involves stripping a conventional security into a number of zero coupon securities, which can be traded separately. Such newly created securities are called STRIPS. For example, a 10-year government security, can be stripped into 21 zero coupon securities — 20 carrying half-yearly coupons with maturities of 6 months, 12 months, 18 months and so on and 1 carrying final redemption amount with maturity of 10 years. A Rs. 100 crore government security carrying a coupon of 12% with 10 year maturity has cash flows of 20 semi-annual payments of Rs. 6 crore each and the repayment of principal of Rs. 100 crore after ten years. Each of these 21 cash flows can be treated as a zero coupon instrument which can be traded at varying yields. These 21 instruments are STRIPS of the underlying government security.

As one underlying security can be converted to 21 zero coupon securities, the breadth of the debt market would expand considerably. Increased supply of securities across maturities would provide a continuous market and consequently improve liquidity. The introduction of STRIPS in government securities would be a good bait for small investors,

as these are comparable to other fixed income instruments, which are their favourites. Besides, it would allow the issuer to issue securities with long-term maturity for any amount and allow stripping of these securities to meet the market appetite for short-term securities in convenient amounts.

The participants in the debt market normally purchase the securities and hold till maturity. This results in reduced supply of securities for secondary market activity. Further, some participants, like provident funds, bear the reinvestment risk due to the interest receipts every six months. STRIPS would provide a solution to both these problems. Banks can issue STRIPS against the securities held by them. Thus, they will earn returns against their investment and also increase the supply of securities to boost the secondary market activity. The provident funds can invest in STRIPS, which will mature on the specified date. Thereby, the provident funds will be able to invest in government securities as required by law and also achieve the desired cash flow, without bearing the reinvestment risk.

The government security market in India has the necessary size to make STRIPS a success. The secondary market volumes in government securities were Rs. 6,98,121 crore during 2000–01. Government and RBI have repeatedly expressed their intention to develop markets for STRIPS and are preparing ground for the same. RBI is consolidating outstanding government securities to ensure sufficient volumes and liquidity in any one issue, which would facilitate the emergence of benchmarks and development of STRIPS.

However, a few legal clarifications/relaxations are needed for issuance and trading of STRIPS. The Negotiable Instruments Act, 1881 does not permit transfer of only a part of the amount appearing due on an instrument. Thus, a part of a security, for example, interest component of a security cannot be transferred unless the whole security along with other future interest payments are transferred simultaneously. STRIPS require the principal and the interest coupons to be uniquely identified as distinctive securities. Clarifications are required if the issuance and transfer of STRIPS, even though derived from government securities, would attract any stamp duty and at what rates. CBDT needs to clarify taxation issues to promote issuance of STRIPS.

Annexure 6.1. Secondary Market Transactions in Government Securities

(Rs. crore)

	SGL Transactions									WDM Transactions in Government Securities							
	Outright Transactions				Repo Transactions					Outright Transactions				Repo Transactions			
Month/Year	Dated Securities	State Govt. Securities	Treasury Bills	Total (2 + 3 + 4)	Dated Securities	State Govt. Securities	Treasury Bills	Total (6 + 7 + 8)	Grand Total (5 + 9)	Dated Securities	State Govt 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	10	11	12	13	14	15	16	17
1994–95	11,383	203	9,721	21,306	15,190	–	14,073	29,263	50,569	2,947	79	2,634	5,660	0	0	0	5,660
1995–96	17,553	464	11,513	29,531	92,834	–	4,814	97,648	127,179	6,813	176	2,255	9,243	739	5	744	9,988
1996–97	59,903	596	33,422	93,921	25,415	–	3,605	29,020	122,941	26,891	298	10,912	38,101	162	45	207	38,308
1997–98	118,541	1,348	41,201	161,090	20,811	–	3,807	24,619	185,708	79,564	931	17,021	97,515	4,225	1,845	6,070	103,585
1998–99	143,097	1,544	42,890	187,531	38,076	–	1,621	39,697	227,228	78,973	860	10,586	90,419	4,741	120	4,861	95,280
1999–00	405,285	3,631	47,575	456,491	75,725	–	7,016	82,741	539,232	278,531	2,053	10,644	291,229	2,296	363	2,659	293,887
Apr-00	39,536	127	4,195	43,858	6,187	0	0	6,187	50,045	31,538	99	1,496	33,132	30	0	30	33,162
May-00	39,099	184	4,066	43,349	5,099	0	277	5,376	48,724	30,245	93	1,073	31,412	25	0	25	31,437
Jun-00	18,801	33	2,398	21,233	7,856	0	498	8,354	29,586	15,763	9	718	16,490	65	0	65	16,555
Jul-00	43,285	165	4,317	47,768	5,591	0	837	6,428	54,196	26,119	121	1,043	27,283	125	0	125	27,408
Aug-00	18,245	607	4,903	23,755	5,102	0	1,320	6,422	30,176	13,590	253	1,316	15,159	470	0	470	15,629
Sep-00	22,830	87	5,206	28,123	8,494	0	1,097	9,591	37,714	17,410	23	2,742	20,174	135	0	135	20,309
Oct-00	25,465	193	5,135	30,793	9,003	6	3,264	12,273	43,066	20,690	22	2,863	23,575	115	0	115	23,690
Nov-00	53,848	348	4,500	58,695	13,142	10	1,609	14,761	73,456	32,496	162	2,023	34,681	50	0	50	34,731
Dec-00	43,502	366	5,068	48,935	11,417	0	2,066	13,483	62,418	34,596	227	2,058	36,881	75	0	75	36,956
Jan-01	75,749	366	4,732	80,847	15,272	0	2,385	17,657	98,505	62,246	161	2,156	64,563	145	0	145	64,708
Feb-01	70,897	225	7,294	78,415	10,697	0	2,129	12,826	91,242	59,273	38	2,716	62,027	50	0	50	62,077
Mar-01	57,855	270	8,249	66,375	11,212	0	1,407	12,619	78,993	44,132	48	2,938	47,118	315	0	315	47,433
2000–01	509,113	2,971	60,062	572,145	109,072	16	16,888	125,976	698,121	388,098	1,256	23,142	412,495	1,600	0	1,600	414,095
Apr-01	57,267	499	6,473	64,239	10,082	7	1,222	11,311	75,550	42,110	292	2,888	45,290	—	—	—	45,290
May-01	94,513	404	6,006	100,923	26,738	10	964	27,712	128,635	79,516	133	2,594	82,243	—	—	—	82,243
Jun-01	100,059	151	5,924	106,134	23,465	0	1,548	25,012	131,146	78,794	55	2,344	81,193	—	—	—	81,193
Apr–Jun 01	251,839	1,053	18,403	271,296	60,285	17	3,734	64,035	335,331	200,420	480	7,826	208,726	—	—	—	208,726

Source: RBI and NSE.

Annexure 6.2. Business Growth of WDM Segment

Month/Year	All Trades					Retail Trades		
	No. of Active Securities	Number of Trades	Average Daily Turnover (Rs. cr.)	Turnover (Rs. cr.)	Average Trade Size (Rs. cr.)	Number of Trades	Turnover (Rs. cr.)	Share in Total Turnover (%)
1994–95								
(June-March)	183	1,021	35	6,781	6.64	168	31	0.45
1995–96	304	2,991	41	11,868	3.97	1,115	207	1.74
1996–97	524	7,804	145	42,278	5.42	1,063	201	0.47
1997–98	719	16,821	385	111,263	6.61	1,390	289	0.26
1998–99	1,071	16,092	365	105,469	6.55	1,522	308	0.29
1999–00	1,057	46,987	1,035	304,216	6.47	925	218	0.07
Apr-00	207	4,978	1,709	34,183	6.87	35	8	0.02
May-00	236	4,653	1,315	32,875	7.07	20	7	0.02
Jun-00	158	2,771	698	17,445	6.30	31	10	0.06
Jul-00	176	4,275	1,089	28,311	6.62	18	6	0.02
Aug-00	175	2,682	658	16,440	6.13	112	21	0.13
Sep-00	175	3,404	857	21,419	6.29	69	13	0.06
Oct-00	203	3,910	1,137	25,019	6.40	31	11	0.04
Nov-00	222	5,519	1,451	36,285	6.57	31	8	0.02
Dec-00	217	6,092	1,593	38,222	6.27	17	6	0.02
Jan-01	221	10,095	2,554	66,400	6.58	39	14	0.02
Feb-01	225	9,080	2,873	63,212	6.96	38	12	0.02
Mar-01	243	7,011	2,032	48,771	6.96	57	15	0.03
2000–01	1,038	64,470	1,483	428,582	6.65	498	131	0.03
Apr-01	213	6,606	2,314	46,285	7.00	17	6	0.01
May-01	220	12,220	3,359	83,982	6.87	52	8	0.01
Jun-01	200	11,936	3,430	82,329	6.89	28	5	0.01
Apr–Jun 01	633	30,762	9,103	212,596	6.91	97	19	0.01

Source: NSE.

Annexure 6.3. Security-wise and Participant wise Distribution of WDM Trades

(In per cent)

Month/Year	Security-wise Distribution				Participant-wise Distribution				
	Government Securities	T-Bills	PSU/ Inst. Bonds	Others	Trading Members	FIs/MFs/ Corporates	Primary Dealers	Indian Banks	Foreign Banks
1994–95									
(June-March)	44.63	38.84	11.17	5.36	59.67	4.58	0.02	14.16	21.57
1995–96	65.12	19.04	8.39	7.45	25.67	5.41	1.16	30.07	37.69
1996–97	64.70	25.92	4.66	4.73	23.85	2.91	6.10	30.01	37.13
1997–98	76.14	16.96	2.27	4.63	20.21	3.84	12.06	41.24	22.65
1998–99	80.19	10.15	4.75	4.91	15.84	4.57	14.64	42.12	22.83
1999–00	92.99	3.62	0.50	2.89	18.75	4.06	19.42	42.72	15.05
Apr-00	92.64	4.38	0.50	2.48	20.25	3.82	23.14	38.68	14.11
May-00	92.36	3.27	1.42	2.95	22.21	4.41	22.41	35.84	15.13
Jun-00	90.78	4.12	2.43	2.67	24.90	5.23	22.28	29.94	17.65
Jul-00	93.13	3.68	0.44	2.75	23.38	4.73	21.23	31.71	18.95
Aug-00	87.06	8.01	1.37	3.56	23.85	4.35	22.27	26.96	22.57
Sep-00	82.02	12.80	1.33	3.85	24.68	3.66	22.32	25.52	23.82
Oct-00	83.24	11.44	0.79	4.53	22.33	4.60	24.04	27.96	21.07
Nov-00	90.14	5.57	2.18	2.11	22.94	3.62	23.79	33.98	15.67
Dec-00	91.30	5.39	0.93	2.38	23.68	3.14	21.69	38.03	13.46
Jan-01	94.20	3.25	0.79	1.76	24.66	4.99	21.55	33.08	15.72
Feb-01	93.91	4.30	0.65	1.14	23.54	4.36	22.56	34.15	15.39
Mar-01	91.23	6.02	0.91	1.84	22.51	3.40	20.04	35.35	18.70
2000–01	91.22	5.40	1.84	1.54	23.24	4.18	22.14	33.54	16.90
Apr-01	91.61	6.42	0.84	1.31	18.82	3.01	25.17	36.81	16.19
May-01	94.84	3.09	0.70	1.37	19.55	3.99	25.28	38.40	12.78
Jun-01	95.77	2.85	0.51	0.87	19.92	3.58	22.88	41.31	12.31
April–June 2001	94.50	3.68	1.19	0.64	19.53	3.62	24.33	39.18	13.34

Source: NSE.

Annexure 6.4. Market Capitalisation of WDM Securities

Month/Year (end of period)	(In Rs. crore) Govt. securities	PSU bonds	State loans	T-bills	Others	Total	(In per cent) Govt. securities	PSU bonds	State loans	T-bills	Others
Mar-95	86,175	25,675	5,867	17,129	23,334	158,181	54.48	16.23	3.71	10.83	14.75
Mar-96	125,492	30,074	13,890	8,452	29,915	207,783	60.40	14.47	6.67	4.07	14.40
Mar-97	169,830	36,211	18,891	13,460	54,380	292,772	58.01	12.37	6.45	4.60	18.57
Mar-98	196,290	35,323	23,989	17,497	70,091	343,191	57.20	10.29	6.99	5.10	20.42
Mar-99	260,002	34,994	30,516	11,292	74,666	411,470	63.19	8.50	7.42	2.74	18.15
Mar-00	319,865	39,357	39,477	15,345	79,989	494,033	64.75	7.97	7.99	3.11	16.19
Apr-00	334,429	39,153	40,111	15,249	81,409	510,351	65.53	7.67	7.86	2.99	15.95
May-00	345,393	38,591	40,411	15,562	81,935	521,892	66.18	7.39	7.74	2.98	15.70
Jun-00	349,027	38,815	41,203	15,641	81,690	526,376	66.31	7.37	7.83	2.97	15.52
Jul-00	350,380	39,729	41,261	15,661	82,061	529,092	66.22	7.51	7.80	2.96	15.51
Aug-00	349,544	38,975	42,241	15,681	83,586	530,027	65.95	7.35	7.97	2.96	15.77
Sep-00	346,284	38,499	42,411	15,710	83,777	526,681	65.75	7.31	8.05	2.98	15.91
Oct-00	351,570	39,229	43,488	15,845	84,198	534,330	65.80	7.34	8.14	2.97	15.76
Nov-00	369,594	39,084	43,519	15,785	84,997	552,979	66.84	7.07	7.87	2.85	15.37
Dec-00	378,668	39,198	43,806	16,351	85,149	563,172	67.24	6.96	7.78	2.90	15.12
Jan-01	390,132	38,168	44,093	16,991	84,494	573,878	67.98	6.65	7.68	2.96	14.72
Feb-01	397,605	37,517	44,550	17,306	84,737	581,715	68.35	6.45	7.66	2.97	14.57
Mar-01	397,228	36,365	44,624	17,725	84,894	580,836	68.39	6.26	7.68	3.05	14.62
Apr-01	424,161	36,199	45,095	18,667	85,251	609,373	69.61	5.94	7.40	3.06	13.99
May-01	438,203	36,315	46,940	18,538	85,374	625,370	70.07	5.81	7.51	2.96	13.65
Jun-01	442,290	38,865	47,302	21,056	84,917	634,430	69.71	6.13	7.46	3.32	13.38

Source: NSE.

Annexure 6.5. NSE MIBID/MIBOR Rates for October 2000 to June 2001

	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	
Date	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.
3-Oct-00	9.90	0.0266	10.09	0.0156	10.13	0.1019	10.99	0.1127	10.28	0.1322	11.26	0.1223	10.58	0.1160	11.57	0.1046
4-Oct-00	9.43	0.0200	9.68	0.0219	9.81	0.1513	10.69	0.1791	10.08	0.1274	11.00	0.1672	10.41	0.1393	11.31	0.1464
5-Oct-00	8.99	0.0171	9.25	0.0272	9.70	0.1774	10.65	0.2145	10.02	0.1391	11.04	0.1640	10.49	0.1536	11.38	0.1367
6-Oct-00	8.71	0.0476	9.06	0.0342	9.58	0.1491	10.39	0.1716	9.78	0.1466	10.71	0.1758	10.25	0.1284	11.21	0.1250
9-Oct-00	8.88	0.0238	9.09	0.0187	9.33	0.1763	10.00	0.1632	9.67	0.1689	10.52	0.1918	10.22	0.1334	11.10	0.1146
10-Oct-00	8.76	0.0193	8.96	0.0168	9.28	0.1677	9.98	0.1746	9.60	0.1532	10.46	0.1798	10.28	0.1220	11.08	0.1069
11-Oct-00	9.10	0.0289	9.38	0.0281	9.52	0.1185	10.33	0.1235	9.83	0.1325	10.82	0.1169	10.48	0.0922	11.37	0.0844
12-Oct-00	9.56	0.0353	9.84	0.0253	9.55	0.1195	10.28	0.1403	9.86	0.1281	10.66	0.1251	10.55	0.0767	11.31	0.0906
13-Oct-00	10.30	0.0438	10.65	0.0312	10.12	0.2033	11.14	0.2460	10.20	0.1934	11.22	0.1848	10.64	0.1111	11.61	0.1405
14-Oct-00	10.77	0.0283	11.04	0.0208	10.05	0.2066	10.89	0.1746	10.23	0.1825	11.08	0.1468	10.63	0.1106	11.47	0.0979
16-Oct-00	10.38	0.0319	10.69	0.0285	10.25	0.1468	11.07	0.1478	10.32	0.1274	11.24	0.0876	10.56	0.1197	11.42	0.0922
17-Oct-00	10.11	0.0292	10.30	0.0287	10.12	0.1378	10.94	0.1685	10.32	0.1353	11.19	0.1077	10.56	0.1251	11.39	0.1028
18-Oct-00	8.43	0.0285	8.69	0.0248	9.57	0.1713	10.42	0.1887	10.02	0.1620	10.78	0.1637	10.48	0.1021	11.26	0.1051
19-Oct-00	8.32	0.0219	8.50	0.0169	9.50	0.1771	10.28	0.1593	9.67	0.2120	10.73	0.1759	10.09	0.2013	11.17	0.1525
20-Oct-00	8.19	0.0421	8.47	0.0300	9.29	0.1628	10.10	0.1531	9.78	0.1453	10.61	0.1464	10.27	0.1101	11.11	0.0754
21-Oct-00	8.81	0.0425	9.16	0.0247	9.39	0.1617	10.16	0.1414	9.60	0.1412	10.45	0.1253	10.15	0.1663	10.99	0.1209
23-Oct-00	8.85	0.0240	9.09	0.0202	9.34	0.1139	10.13	0.1169	9.61	0.1033	10.47	0.1070	10.15	0.0998	10.98	0.0797
24-Oct-00	8.88	0.0207	9.18	0.0177	9.48	0.1074	10.21	0.0935	9.75	0.1121	10.59	0.1127	10.25	0.1294	11.04	0.0979
25-Oct-00	8.44	0.0203	8.68	0.0241	9.34	0.1325	10.08	0.1571	9.66	0.1068	10.49	0.1433	10.24	0.1056	11.05	0.1098
27-Oct-00	8.35	0.0184	8.58	0.0219	9.11	0.1089	10.04	0.0991	9.47	0.0829	10.40	0.1226	10.08	0.1359	10.88	0.1143
30-Oct-00	8.19	0.0175	8.37	0.0138	9.09	0.1211	9.93	0.1413	9.54	0.0692	10.42	0.1215	9.99	0.1277	10.87	0.1231
31-Oct-00	8.10	0.0145	8.26	0.0082	8.77	0.1160	9.48	0.1483	9.34	0.0890	10.16	0.1607	9.89	0.1262	10.73	0.1378
1-Nov-00	8.15	0.0222	8.29	0.0159	9.03	0.1191	9.89	0.1383	9.48	0.0707	10.37	0.1237	9.99	0.1242	10.89	0.1133
2-Nov-00	8.28	0.0261	8.50	0.0171	8.91	0.1179	9.63	0.1501	9.37	0.0871	10.25	0.1506	9.97	0.1276	10.79	0.1367
3-Nov-00	8.20	0.0377	8.38	0.0316	8.95	0.1098	9.71	0.1299	9.45	0.0853	10.34	0.1193	10.07	0.1366	10.85	0.1216
4-Nov-00	9.91	0.0391	10.22	0.0347	9.17	0.1002	9.93	0.1128	9.60	0.1081	10.39	0.1147	10.28	0.0994	10.96	0.0840
6-Nov-00	9.94	0.0274	10.18	0.0181	9.51	0.1522	10.34	0.1142	9.67	0.0894	10.50	0.0750	10.22	0.0791	11.00	0.0835
7-Nov-00	10.52	0.0362	10.78	0.0305	9.69	0.1140	10.53	0.1089	9.87	0.1101	10.71	0.0897	10.18	0.0770	10.98	0.0925
8-Nov-00	10.27	0.0174	10.47	0.0213	9.83	0.0804	10.61	0.1015	9.95	0.0924	10.74	0.0740	10.19	0.1120	11.05	0.0669
9-Nov-00	11.82	0.0814	12.27	0.0378	10.07	0.1474	10.89	0.0760	10.08	0.0820	10.91	0.0700	10.21	0.1166	11.11	0.0808
10-Nov-00	11.83	0.0501	12.27	0.0457	10.11	0.1087	11.14	0.1264	10.07	0.0772	10.93	0.0972	10.23	0.1113	11.17	0.0895
13-Nov-00	10.81	0.0478	11.17	0.0437	10.11	0.1070	10.98	0.1032	10.06	0.0674	10.95	0.0746	10.28	0.0995	11.19	0.0801
14-Nov-00	10.56	0.0347	10.89	0.0233	9.93	0.0708	10.89	0.0824	9.99	0.0602	10.94	0.0601	10.19	0.1304	11.18	0.0977
16-Nov-00	8.58	0.0406	8.91	0.0302	9.38	0.1540	10.17	0.1753	9.75	0.1159	10.51	0.1196	10.17	0.1062	11.03	0.0995
17-Nov-00	8.03	0.0343	8.17	0.0180	9.28	0.1609	10.10	0.1643	9.63	0.1320	10.46	0.1083	10.10	0.1279	10.98	0.1023
18-Nov-00	8.72	0.0323	9.04	0.0319	9.15	0.1422	10.03	0.1484	9.57	0.1364	10.44	0.1131	10.15	0.1071	11.02	0.0993
20-Nov-00	8.81	0.0184	9.09	0.0208	9.09	0.1124	9.89	0.1334	9.51	0.1238	10.32	0.0962	10.05	0.1094	10.91	0.0854
21-Nov-00	8.30	0.0252	8.57	0.0312	9.05	0.1101	9.83	0.1492	9.47	0.1235	10.26	0.1233	9.98	0.0891	10.84	0.0875
22-Nov-00	8.25	0.0278	8.49	0.0257	9.03	0.0901	9.83	0.1088	9.43	0.1057	10.26	0.0897	9.89	0.1095	10.78	0.0891
23-Nov-00	8.25	0.0175	8.45	0.0199	9.01	0.0986	9.79	0.1209	9.46	0.0973	10.18	0.1188	9.96	0.0843	10.82	0.0928
24-Nov-00	8.47	0.0313	8.71	0.0243	8.99	0.0934	9.81	0.1192	9.42	0.0969	10.24	0.0828	9.97	0.0869	10.80	0.0577

Continued

Annexure 6.5. NSE MIBID/MIBOR Rates for October 2000 to June 2001

	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	
Date	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.
25-Nov-00	8.07	0.0171	8.24	0.0157	8.88	0.1487	9.55	0.1562	9.33	0.1118	9.95	0.1478	10.05	0.0942	10.61	0.1335
27-Nov-00	8.03	0.0125	8.21	0.0142	8.89	0.1200	9.58	0.1403	9.37	0.1170	10.05	0.1282	9.96	0.0729	10.79	0.0891
28-Nov-00	8.00	0.0078	8.12	0.0085	8.81	0.1198	9.51	0.1527	9.24	0.0893	10.04	0.1065	9.84	0.0761	10.75	0.0890
29-Nov-00	7.96	0.0094	8.06	0.0113	8.82	0.1058	9.63	0.1401	9.20	0.0864	10.07	0.1036	9.83	0.0528	10.75	0.0778
30-Nov-00	7.98	0.0072	8.06	0.0067	8.68	0.0931	9.33	0.1086	9.12	0.0734	9.82	0.1010	9.73	0.0690	10.54	0.1073
1-Dec-00	7.69	0.0642	7.97	0.0363	8.70	0.0875	9.41	0.1090	9.13	0.0774	9.84	0.1134	9.75	0.0764	10.58	0.0942
2-Dec-00	8.01	0.0090	8.14	0.0135	8.71	0.1053	9.31	0.1434	9.15	0.0884	9.84	0.1345	9.77	0.0901	10.51	0.1294
4-Dec-00	8.00	0.0092	8.11	0.0091	8.71	0.1023	9.37	0.1352	9.15	0.0904	9.97	0.1051	9.75	0.0841	10.63	0.0847
5-Dec-00	7.99	0.0067	8.09	0.0075	8.56	0.0775	9.30	0.0930	9.07	0.0682	9.81	0.0826	9.69	0.0750	10.55	0.0837
6-Dec-00	7.98	0.0078	8.07	0.0059	8.58	0.0658	9.22	0.0819	9.03	0.0710	9.78	0.0871	9.68	0.0834	10.50	0.0763
7-Dec-00	7.98	0.0083	8.06	0.0054	8.52	0.0875	9.22	0.1007	8.99	0.0794	9.76	0.0830	9.65	0.0687	10.50	0.0745
8-Dec-00	7.98	0.0074	8.07	0.0072	8.45	0.0663	9.06	0.0737	8.96	0.0805	9.65	0.0792	9.66	0.0883	10.47	0.0579
9-Dec-00	8.00	0.0055	8.07	0.0070	8.36	0.0626	9.06	0.1135	8.85	0.0619	9.50	0.0925	9.61	0.1031	10.31	0.0970
11-Dec-00	7.99	0.0088	8.08	0.0073	8.43	0.0719	9.13	0.0959	8.94	0.0887	9.66	0.0848	9.69	0.0879	10.44	0.0536
12-Dec-00	8.15	0.0140	8.31	0.0170	8.45	0.0606	9.09	0.0600	8.95	0.0872	9.63	0.0663	9.75	0.1035	10.51	0.0605
13-Dec-00	8.42	0.0192	8.61	0.0164	8.44	0.0677	9.12	0.0553	8.96	0.0865	9.63	0.0541	9.76	0.0994	10.48	0.0530
14-Dec-00	8.02	0.0127	8.15	0.0086	8.48	0.0708	9.15	0.0610	8.99	0.0842	9.69	0.0688	9.67	0.0876	10.45	0.0569
15-Dec-00	7.99	0.0131	8.09	0.0090	8.49	0.0668	9.18	0.0686	8.98	0.0696	9.71	0.0653	9.68	0.0902	10.43	0.0554
16-Dec-00	8.51	0.0128	8.75	0.0296	8.55	0.0589	9.31	0.1296	8.98	0.0738	9.73	0.1038	9.62	0.1185	10.33	0.0984
18-Dec-00	8.46	0.0121	8.63	0.0142	8.62	0.0828	9.25	0.0853	9.07	0.0910	9.75	0.0758	9.69	0.1017	10.43	0.0870
19-Dec-00	8.44	0.0170	8.62	0.0133	8.59	0.0612	9.26	0.0760	8.94	0.0712	9.68	0.0673	9.55	0.0980	10.34	0.0809
20-Dec-00	8.54	0.0169	8.73	0.0127	8.67	0.0565	9.29	0.0676	8.97	0.0727	9.65	0.0673	9.52	0.0726	10.28	0.0898
22-Dec-00	9.09	0.0430	9.24	0.0315	8.89	0.1840	9.66	0.1141	9.27	0.1104	9.94	0.1033	9.60	0.1096	10.43	0.0967
23-Dec-00	10.24	0.0496	10.5	0.0311	9.13	0.2126	9.80	0.1775	9.38	0.1507	10.10	0.1190	9.82	0.1174	10.63	0.0548
26-Dec-00	10.32	0.0369	10.55	0.0286	9.45	0.1653	10.24	0.1370	9.56	0.1326	10.37	0.1058	9.88	0.0954	10.63	0.0555
27-Dec-00	10.40	0.0258	10.65	0.0216	9.36	0.1729	10.13	0.1319	9.55	0.1355	10.32	0.0891	9.88	0.1085	10.67	0.0672
29-Dec-00	8.24	0.0292	8.46	0.0246	9.21	0.1750	9.96	0.1536	9.49	0.1377	10.20	0.1126	9.85	0.1238	10.64	0.0870
1-Jan-01	10.31	0.0308	10.57	0.0239	9.45	0.1752	10.07	0.1412	9.47	0.1229	10.26	0.1023	9.89	0.1029	10.64	0.0799
2-Jan-01	9.87	0.0261	10.12	0.0216	9.41	0.1052	10.24	0.1103	9.52	0.0996	10.39	0.0753	9.91	0.1118	10.75	0.0751
3-Jan-01	9.94	0.0146	10.12	0.0209	9.36	0.1205	10.20	0.1064	9.48	0.1117	10.35	0.0580	9.94	0.1223	10.73	0.0819
4-Jan-01	9.88	0.0182	10.07	0.0114	9.28	0.1267	10.02	0.1204	9.35	0.1217	10.20	0.0751	9.77	0.1123	10.56	0.0701
5-Jan-01	9.47	0.0269	9.67	0.0256	9.27	0.1548	9.93	0.1136	9.44	0.0970	10.14	0.0664	9.78	0.1151	10.48	0.0699
6-Jan-01	9.41	0.0309	9.63	0.0189	9.11	0.1102	9.84	0.0845	9.50	0.1003	10.18	0.0662	9.86	0.1138	10.47	0.0782
8-Jan-01	9.31	0.0149	9.51	0.0145	9.07	0.0726	9.81	0.0778	9.32	0.0862	10.11	0.0655	9.72	0.1070	10.46	0.0805
9-Jan-01	9.52	0.0208	9.74	0.0164	9.20	0.0793	9.95	0.0630	9.38	0.0710	10.18	0.0569	9.82	0.1074	10.58	0.0777
10-Jan-01	9.62	0.0164	9.83	0.0110	9.25	0.0958	10.12	0.0854	9.42	0.0899	10.25	0.0630	9.86	0.1212	10.63	0.0787
11-Jan-01	9.61	0.0211	9.81	0.0107	9.23	0.0756	10.04	0.0828	9.38	0.0668	10.24	0.0818	9.76	0.0891	10.59	0.0792
12-Jan-01	9.90	0.0360	10.06	0.0425	9.45	0.1027	10.30	0.1011	9.48	0.084	10.39	0.0845	9.81	0.1087	10.66	0.0721
13-Jan-01	9.94	0.0236	10.16	0.0165	9.40	0.1283	10.16	0.0974	9.51	0.1156	10.36	0.0759	9.79	0.1100	10.64	0.0743
15-Jan-01	9.86	0.0231	10.05	0.0163	9.48	0.1029	10.21	0.1007	9.56	0.0893	10.34	0.0754	9.90	0.0883	10.65	0.0685
16-Jan-01	10.02	0.0169	10.17	0.0226	9.52	0.1045	10.28	0.0815	9.58	0.0912	10.39	0.0624	9.90	0.0871	10.66	0.0766
17-Jan-01	9.94	0.0143	10.09	0.0106	9.48	0.1016	10.15	0.0836	9.56	0.0864	10.31	0.0676	9.97	0.0844	10.65	0.0738
18-Jan-01	9.97	0.0135	10.09	0.0089	9.49	0.1016	10.19	0.0688	9.55	0.0907	10.33	0.0548	9.99	0.0857	10.70	0.0628

Continued

Annexure 6.5. NSE MIBID/MIBOR Rates for October 2000 to June 2001

	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	
Date	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.
19-Jan-01	9.99	0.0112	10.14	0.0121	9.48	0.0987	10.17	0.0686	9.56	0.0789	10.33	0.0550	10.05	0.0917	10.75	0.0705
20-Jan-01	9.94	0.0159	10.09	0.0109	9.54	0.0902	10.25	0.0983	9.59	0.0890	10.40	0.0585	10.12	0.1270	10.75	0.0682
22-Jan-01	9.96	0.0124	10.08	0.0108	9.48	0.0939	10.26	0.0700	9.62	0.0962	10.40	0.0509	10.07	0.0777	10.71	0.0398
23-Jan-01	9.87	0.0175	10.01	0.0103	9.38	0.0841	10.22	0.0767	9.52	0.0869	10.37	0.0583	9.96	0.0729	10.73	0.0518
24-Jan-01	9.82	0.0137	9.99	0.0075	9.43	0.0733	10.22	0.0806	9.55	0.0859	10.35	0.0662	9.92	0.0827	10.66	0.0485
25-Jan-01	9.75	0.0317	9.94	0.0213	9.38	0.0771	10.18	0.0808	9.55	0.0705	10.34	0.0517	9.92	0.0838	10.64	0.0596
27-Jan-01	9.86	0.0178	10.02	0.0089	9.31	0.0777	10.08	0.0773	9.50	0.0895	10.30	0.0587	9.89	0.0798	10.61	0.0468
29-Jan-01	9.83	0.0259	9.98	0.0129	9.39	0.0782	10.10	0.0743	9.60	0.0832	10.37	0.0646	9.93	0.0948	10.69	0.0614
30-Jan-01	9.71	0.0205	9.86	0.0113	9.37	0.0835	10.06	0.0613	9.55	0.0947	10.34	0.0535	9.98	0.0877	10.70	0.0583
31-Jan-01	9.66	0.0150	9.85	0.0136	9.41	0.1064	10.05	0.0844	9.63	0.0960	10.28	0.0697	10.00	0.0927	10.57	0.1088
1-Feb-01	9.68	0.0160	9.82	0.0103	9.54	0.0624	10.21	0.0500	9.63	0.0705	10.38	0.0325	10.00	0.0883	10.65	0.0642
2-Feb-01	9.60	0.0174	9.75	0.0131	9.55	0.0571	10.25	0.0502	9.63	0.0683	10.33	0.0351	9.94	0.0795	10.60	0.0486
3-Feb-01	8.80	0.0402	9.13	0.0368	9.20	0.0986	10.03	0.0671	9.47	0.0754	10.22	0.0514	9.87	0.0706	10.55	0.0657
5-Feb-01	8.51	0.0259	8.72	0.0207	8.84	0.1161	9.59	0.0965	9.31	0.0931	10.00	0.0838	9.84	0.0743	10.51	0.0694
6-Feb-01	8.34	0.0286	8.53	0.0168	8.67	0.0658	9.39	0.0968	9.07	0.0663	9.93	0.0717	9.67	0.0520	10.48	0.0762
7-Feb-01	8.18	0.0214	8.30	0.0160	8.49	0.0740	9.24	0.1102	8.94	0.0875	9.76	0.0979	9.61	0.0735	10.37	0.1023
8-Feb-01	8.12	0.0121	8.26	0.0093	8.55	0.0785	9.21	0.0920	8.88	0.0826	9.62	0.0982	9.58	0.0928	10.30	0.1148
9-Feb-01	8.06	0.0226	8.19	0.0175	8.55	0.0875	9.19	0.1006	8.92	0.0897	9.68	0.0961	9.57	0.1292	10.19	0.1361
10-Feb-01	8.14	0.0213	8.31	0.0135	8.55	0.1004	9.21	0.1217	8.97	0.0864	9.77	0.0953	9.49	0.1043	10.29	0.1189
12-Feb-01	8.34	0.0214	8.50	0.0209	8.60	0.0667	9.21	0.0651	8.95	0.0769	9.69	0.0767	9.57	0.1262	10.29	0.0968
13-Feb-01	8.78	0.0173	8.94	0.0145	8.72	0.0628	9.36	0.0606	9.06	0.0892	9.83	0.0695	9.65	0.1000	10.43	0.0913
14-Feb-01	8.72	0.0139	8.86	0.0206	8.68	0.0611	9.35	0.0483	8.98	0.0878	9.78	0.0621	9.72	0.0848	10.49	0.0755
15-Feb-01	9.04	0.0208	9.19	0.0163	8.92	0.0634	9.68	0.0822	9.21	0.0895	10.02	0.0678	9.77	0.0931	10.50	0.0708
16-Feb-01	9.74	0.0161	9.93	0.0171	9.06	0.1006	9.83	0.1133	9.24	0.0888	10.03	0.0699	9.83	0.0897	10.61	0.0828
17-Feb-01	8.47	0.0438	8.80	0.0402	8.48	0.1385	9.33	0.1719	8.96	0.1045	9.70	0.1323	9.43	0.2050	10.22	0.1775
20-Feb-01	7.94	0.0371	8.13	0.0316	8.18	0.0715	8.94	0.1180	8.55	0.0888	9.34	0.1229	9.07	0.1280	9.85	0.1262
22-Feb-01	7.96	0.0229	8.12	0.0183	8.28	0.0813	9.04	0.1206	8.78	0.0872	9.52	0.0979	9.35	0.1298	10.13	0.1248
23-Feb-01	7.86	0.0369	8.04	0.0202	8.26	0.0853	8.96	0.1097	8.79	0.0901	9.52	0.0968	9.40	0.1317	10.12	0.1141
24-Feb-01	7.73	0.0232	7.94	0.0156	8.13	0.1072	8.78	0.1111	8.64	0.1006	9.32	0.1021	9.25	0.1321	10.00	0.1247
26-Feb-01	7.78	0.0186	7.97	0.0538	8.14	0.0916	8.85	0.0962	8.73	0.1220	9.46	0.0971	9.45	0.1277	10.19	0.0870
27-Feb-01	7.65	0.0174	7.82	0.0148	8.09	0.0749	8.81	0.0962	8.65	0.0877	9.37	0.1052	9.35	0.1036	10.09	0.0825
28-Feb-01	7.71	0.0139	7.84	0.0143	8.11	0.0883	8.80	0.1148	8.67	0.0895	9.38	0.0911	9.40	0.1589	10.10	0.0918
1-Mar-01	7.72	0.0160	7.86	0.0124	7.92	0.0685	8.60	0.0645	8.44	0.0907	9.17	0.0792	9.12	0.1510	9.84	0.0902
2-Mar-01	7.21	0.0206	7.34	0.0141	7.69	0.1188	8.47	0.1373	8.15	0.0668	8.92	0.0948	8.90	0.1154	9.76	0.1119
3-Mar-01	7.10	0.0127	7.23	0.0127	7.69	0.0774	8.39	0.0991	8.24	0.0667	8.91	0.0854	8.93	0.0803	9.69	0.1451
5-Mar-01	7.02	0.0098	7.13	0.0100	7.48	0.0642	8.17	0.0915	8.22	0.0646	8.91	0.0724	8.85	0.0484	9.61	0.0846
7-Mar-01	6.99	0.0089	7.08	0.0065	7.39	0.0660	8.04	0.1125	8.00	0.0876	8.73	0.1021	8.68	0.0947	9.47	0.1042
8-Mar-01	6.99	0.0112	7.07	0.0079	7.32	0.0318	7.94	0.0759	8.06	0.0919	8.76	0.1225	8.67	0.0982	9.45	0.0991
9-Mar-01	7.05	0.0249	7.24	0.0716	7.42	0.0661	8.09	0.1024	8.05	0.0920	8.85	0.1068	8.62	0.1087	9.47	0.0901
12-Mar-01	7.13	0.0154	7.28	0.0102	7.39	0.0615	8.09	0.0934	8.04	0.0980	8.77	0.1108	8.65	0.1195	9.37	0.1331
13-Mar-01	7.10	0.0098	7.23	0.0105	7.44	0.0694	8.16	0.1040	8.05	0.0920	8.88	0.1070	8.68	0.1189	9.52	0.1035
14-Mar-01	7.29	0.0276	7.49	0.0230	7.63	0.0892	8.37	0.0997	8.40	0.1090	9.20	0.0820	9.02	0.1592	9.78	0.1888
15-Mar-01	7.84	0.0416	8.09	0.0389	7.84	0.1318	8.55	0.1407	8.44	0.0906	9.23	0.0979	8.95	0.1180	9.81	0.1132

Continued

Annexure 6.5. NSE MIBID/MIBOR Rates for October 2000 to June 2001

	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	
Date	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.
16-Mar-01	8.88	0.0255	9.08	0.0232	8.39	0.1373	9.13	0.1276	8.71	0.1081	9.53	0.1184	9.09	0.0729	9.88	0.1080
17-Mar-01	7.03	0.0167	7.19	0.0175	7.94	0.2216	8.70	0.2114	8.54	0.1377	9.22	0.1688	8.81	0.1690	9.68	0.1660
19-Mar-01	7.27	0.0227	7.47	0.0281	7.84	0.1514	8.63	0.1475	8.39	0.1126	9.14	0.1135	8.80	0.1111	9.65	0.1258
20-Mar-01	7.30	0.0202	7.49	0.0164	7.96	0.1092	8.75	0.1120	8.50	0.0784	9.38	0.0912	8.97	0.0822	9.80	0.0784
21-Mar-01	7.31	0.0158	7.48	0.0123	8.06	0.1169	8.81	0.1173	8.50	0.1089	9.28	0.0925	9.03	0.0968	9.76	0.0813
22-Mar-01	7.37	0.0167	7.53	0.0136	8.42	0.1946	9.26	0.1778	8.79	0.1384	9.65	0.1080	9.11	0.1190	9.96	0.0828
23-Mar-01	7.20	0.0284	7.41	0.0269	8.45	0.2008	9.34	0.1690	8.80	0.1430	9.64	0.1163	9.30	0.1203	10.13	0.0850
24-Mar-01	7.66	0.0444	7.88	0.0429	8.06	0.1614	9.00	0.1630	8.74	0.1426	9.55	0.1313	9.04	0.0952	9.97	0.0898
27-Mar-01	8.56	0.0357	8.79	0.0217	8.83	0.1814	9.62	0.1588	8.95	0.1255	9.88	0.1166	9.26	0.1053	10.28	0.1334
28-Mar-01	9.17	0.0291	9.40	0.0322	8.96	0.1701	9.78	0.1561	9.09	0.1311	10.06	0.1124	9.39	0.1123	10.38	0.1093
29-Mar-01	9.18	0.0372	9.41	0.0348	8.95	0.1536	9.73	0.1467	9.09	0.1433	10.04	0.1236	9.32	0.1148	10.26	0.0896
30-Mar-01	9.14	0.0444	9.38	0.0386	8.93	0.1359	9.81	0.1879	9.05	0.1484	9.96	0.1363	9.33	0.1508	10.39	0.1013
31-Mar-01	10.22	0.2087	12.18	0.5023	9.03	0.1846	9.89	0.1815	9.08	0.2053	9.86	0.1515	9.26	0.1457	10.25	0.1229
3-Apr-01	7.78	0.0542	8.06	0.0387	8.31	0.1762	9.21	0.1667	8.64	0.1259	9.47	0.1320	9.13	0.0963	9.96	0.1037
4-Apr-01	6.98	0.0219	7.18	0.0158	8.10	0.1807	8.96	0.1729	8.69	0.1214	9.48	0.0958	9.10	0.1014	9.98	0.0900
7-Apr-01	7.02	0.0142	7.21	0.0155	7.78	0.1517	8.55	0.1865	8.35	0.1561	9.14	0.1749	8.89	0.1037	9.75	0.1117
9-Apr-01	7.02	0.0129	7.17	0.0196	7.62	0.1016	8.38	0.0879	8.30	0.1087	9.01	0.1084	8.79	0.1058	9.59	0.0875
10-Apr-01	7.00	0.0085	7.11	0.0120	7.65	0.0934	8.32	0.0943	8.33	0.0827	9.01	0.0874	8.91	0.0709	9.68	0.0824
11-Apr-01	7.01	0.0091	7.09	0.0076	7.59	0.0953	8.28	0.1104	8.29	0.0876	8.92	0.1028	8.86	0.0670	9.53	0.0961
12-Apr-01	7.01	0.0100	7.11	0.0116	7.67	0.0954	8.45	0.0909	8.31	0.0914	9.07	0.0993	8.91	0.0673	9.72	0.0761
16-Apr-01	7.01	0.0114	7.13	0.0139	7.43	0.0892	8.18	0.1008	8.04	0.1487	8.80	0.1258	8.74	0.1380	9.55	0.1095
17-Apr-01	7.02	0.0137	7.11	0.0109	7.50	0.0666	8.18	0.0865	8.18	0.0927	8.86	0.0821	9.00	0.0708	9.54	0.1263
18-Apr-01	6.98	0.0147	7.09	0.0095	7.53	0.0879	8.25	0.1176	8.07	0.1033	8.83	0.0933	8.86	0.0938	9.62	0.0752
19-Apr-01	7.01	0.0097	7.11	0.0091	7.57	0.0795	8.22	0.1011	8.18	0.0448	8.82	0.0737	8.87	0.0643	9.54	0.0761
20-Apr-01	7.09	0.0231	7.25	0.0279	7.55	0.0640	8.25	0.0775	8.07	0.0804	8.77	0.0657	8.78	0.0779	9.52	0.0756
21-Apr-01	7.05	0.0107	7.18	0.0161	7.59	0.1125	8.27	0.1488	8.13	0.0494	8.82	0.0884	8.94	0.0651	9.60	0.0869
23-Apr-01	7.06	0.015	7.22	0.0104	7.54	0.0854	8.19	0.1016	7.99	0.0714	8.71	0.0677	8.71	0.0648	9.47	0.0689
24-Apr-01	7.21	0.0238	7.38	0.0186	7.55	0.0773	8.20	0.1042	8.04	0.0892	8.71	0.0930	8.70	0.0498	9.45	0.0767
26-Apr-01	7.44	0.0243	7.65	0.0184	7.70	0.0736	8.42	0.1044	8.13	0.0809	8.84	0.0874	8.79	0.0644	9.53	0.0652
27-Apr-01	7.35	0.0239	7.55	0.0233	7.68	0.0881	8.42	0.1188	8.15	0.0816	8.87	0.0905	8.77	0.0790	9.52	0.0749
28-Apr-01	6.96	0.0204	7.09	0.0085	7.64	0.0843	8.32	0.1131	8.04	0.0847	8.72	0.0854	8.73	0.0934	9.47	0.0904
30-Apr-01	7.25	0.0238	7.39	0.0320	7.55	0.0862	8.33	0.1318	8.15	0.0799	8.83	0.1221	8.83	0.0791	9.54	0.1168
2-May-01	7.67	0.0293	7.93	0.0346	7.65	0.0511	8.23	0.0683	8.27	0.0835	8.88	0.1018	8.94	0.0728	9.65	0.0986
3-May-01	7.73	0.0537	8.05	0.0470	7.63	0.0712	8.23	0.0751	8.18	0.0791	8.82	0.0920	8.81	0.0843	9.51	0.0999
4-May-01	7.06	0.0235	7.29	0.0291	7.48	0.0462	8.17	0.0892	8.17	0.0883	8.79	0.0969	8.83	0.1089	9.48	0.0986
5-May-01	7.31	0.0240	7.48	0.0162	7.50	0.0557	8.21	0.0992	8.20	0.0771	8.88	0.1025	8.85	0.0800	9.60	0.0929
8-May-01	8.09	0.0231	8.28	0.0221	7.84	0.0942	8.54	0.0697	8.38	0.0954	9.03	0.0779	8.99	0.0756	9.63	0.0822
9-May-01	9.15	0.0409	9.39	0.0292	8.23	0.1227	8.87	0.1322	8.55	0.1176	9.21	0.1192	9.10	0.0922	9.86	0.1220
10-May-01	9.00	0.0334	9.22	0.0237	8.33	0.1132	8.96	0.1059	8.50	0.1203	9.20	0.1097	8.96	0.1063	9.75	0.0829
11-May-01	9.00	0.0321	9.26	0.0210	8.32	0.1245	9.05	0.1175	8.46	0.1116	9.22	0.1131	8.93	0.0994	9.72	0.0846
12-May-01	8.84	0.0292	9.07	0.0335	8.34	0.1376	9.04	0.1254	8.64	0.1055	9.36	0.0603	8.96	0.1004	9.72	0.0686
14-May-01	8.76	0.0260	8.95	0.0224	8.25	0.1076	8.94	0.1117	8.55	0.0950	9.23	0.1083	9.00	0.1170	9.68	0.0891
15-May-01	8.61	0.0268	8.83	0.0258	8.19	0.1324	8.87	0.1276	8.47	0.1227	9.18	0.1134	8.93	0.1052	9.64	0.0934

Continued

Annexure 6.5. NSE MIBID/MIBOR Rates for October 2000 to June 2001

	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	
Date	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.	RATE	STD.DEV.
16-May-01	8.48	0.0245	8.70	0.0295	8.03	0.0880	8.75	0.1049	8.32	0.0871	9.07	0.0944	8.81	0.0822	9.52	0.0905
17-May-01	8.88	0.0259	9.09	0.0218	8.17	0.1078	8.93	0.1446	8.41	0.0894	9.15	0.0915	8.82	0.0814	9.57	0.0896
18-May-01	9.11	0.0502	9.34	0.0383	8.34	0.1103	9.03	0.1327	8.48	0.0922	9.15	0.1142	8.97	0.0839	9.62	0.0989
19-May-01	8.41	0.0448	8.72	0.0301	8.29	0.1003	9.08	0.1025	8.47	0.1035	9.18	0.1229	8.91	0.0865	9.64	0.1053
21-May-01	8.63	0.0247	8.80	0.0207	8.26	0.1036	8.95	0.1109	8.43	0.1031	9.05	0.1099	8.95	0.0848	9.63	0.0886
22-May-01	8.56	0.0172	8.73	0.0161	8.24	0.0883	8.93	0.0856	8.42	0.0938	9.11	0.0988	8.88	0.0964	9.51	0.0854
23-May-01	8.46	0.0243	8.65	0.0165	7.97	0.1233	8.74	0.1047	8.31	0.0926	9.08	0.0907	8.79	0.0850	9.51	0.0624
24-May-01	7.20	0.0317	7.47	0.0279	7.80	0.1130	8.61	0.1210	8.20	0.0773	8.98	0.0839	8.67	0.0753	9.45	0.0590
25-May-01	7.00	0.0181	7.14	0.0140	7.54	0.1098	8.26	0.1214	8.04	0.0936	8.74	0.1107	8.60	0.0906	9.34	0.0774
26-May-01	6.98	0.0118	7.07	0.0093	7.45	0.1008	8.17	0.1026	8.07	0.0853	8.76	0.1141	8.63	0.1093	9.33	0.1188
28-May-01	6.99	0.0096	7.09	0.0087	7.49	0.1063	8.17	0.1254	8.10	0.0984	8.71	0.1052	8.55	0.0840	9.24	0.0857
29-May-01	6.80	0.0196	6.96	0.0177	7.43	0.1137	8.18	0.1277	7.98	0.1128	8.66	0.1341	8.50	0.0898	9.16	0.0904
30-May-01	6.83	0.0179	6.98	0.0150	7.36	0.0941	8.03	0.1044	7.87	0.0842	8.55	0.0997	8.39	0.0686	9.07	0.0992
31-May-01	6.79	0.0237	6.95	0.0158	7.40	0.0857	8.04	0.1216	7.89	0.0733	8.57	0.1034	8.41	0.0688	9.08	0.0987
1-Jun-01	6.79	0.0329	6.94	0.0170	7.29	0.0946	8.04	0.1232	7.86	0.0869	8.60	0.1024	8.40	0.0717	9.17	0.0812
2-Jun-01	6.87	0.0155	7.02	0.0139	7.35	0.0968	8.09	0.1127	7.95	0.0884	8.65	0.1063	8.46	0.0708	9.16	0.1022
4-Jun-01	6.97	0.0138	7.10	0.0113	7.44	0.0974	8.04	0.0967	7.96	0.0864	8.57	0.0950	8.47	0.0732	9.07	0.0911
6-Jun-01	7.02	0.0213	7.16	0.0107	7.35	0.0678	7.98	0.0746	7.88	0.0613	8.50	0.0862	8.45	0.0713	9.12	0.0959
7-Jun-01	7.26	0.0225	7.43	0.0198	7.44	0.0935	8.15	0.1149	8.01	0.0880	8.66	0.1080	8.46	0.0729	9.12	0.0939
8-Jun-01	7.92	0.0348	8.13	0.0210	7.68	0.1281	8.37	0.1519	8.13	0.0963	8.78	0.1341	8.57	0.0806	9.24	0.1043
9-Jun-01	7.82	0.0247	8.05	0.0404	7.44	0.0984	8.14	0.1282	7.94	0.0782	8.64	0.0970	8.51	0.0751	9.16	0.0948
11-Jun-01	7.69	0.0405	7.94	0.0228	7.58	0.1162	8.22	0.1152	7.97	0.0754	8.63	0.0877	8.50	0.0819	9.10	0.0948
12-Jun-01	7.05	0.0132	7.19	0.0108	7.35	0.0656	8.04	0.0808	7.92	0.0583	8.64	0.0723	8.38	0.0606	9.08	0.0789
13-Jun-01	6.92	0.0166	7.05	0.0103	7.28	0.0632	7.97	0.0828	7.87	0.0735	8.59	0.0928	8.38	0.0606	9.03	0.0788
14-Jun-01	7.20	0.0328	7.38	0.0389	7.34	0.0659	8.03	0.0830	7.86	0.0664	8.57	0.0788	8.42	0.0735	9.07	0.0786
15-Jun-01	7.39	0.0295	7.57	0.0203	7.33	0.0614	8.01	0.0925	7.85	0.0625	8.57	0.0853	8.40	0.0652	9.12	0.0837
16-Jun-01	7.60	0.0229	7.79	0.0148	7.31	0.0698	8.03	0.1024	7.89	0.0471	8.62	0.0664	8.49	0.0774	9.20	0.1027
18-Jun-01	7.63	0.0238	7.81	0.0166	7.52	0.0598	8.15	0.0641	7.98	0.0932	8.64	0.0879	8.42	0.0735	9.04	0.0676
19-Jun-01	7.67	0.0219	7.82	0.0143	7.43	0.0658	8.18	0.0844	7.94	0.0667	8.67	0.0625	8.43	0.0801	9.13	0.0882
20-Jun-01	6.98	0.0091	7.08	0.0083	7.30	0.0422	7.98	0.0715	7.82	0.0640	8.55	0.0651	8.32	0.0854	9.01	0.0977
21-Jun-01	7.06	0.0133	7.20	0.0104	7.34	0.0522	7.99	0.0887	7.82	0.0745	8.53	0.0886	8.32	0.1053	9.03	0.0927
22-Jun-01	7.03	0.0142	7.15	0.0096	7.30	0.0487	7.96	0.0904	7.80	0.0638	8.57	0.0830	8.28	0.0935	9.04	0.0814
23-Jun-01	6.98	0.0113	7.09	0.0092	7.25	0.0535	7.88	0.0872	7.73	0.0798	8.46	0.0879	8.29	0.0968	8.98	0.0826
25-Jun-01	7.00	0.0106	7.12	0.0063	7.25	0.0535	7.88	0.0585	7.88	0.0873	8.51	0.0688	8.34	0.1004	8.96	0.0748
26-Jun-01	6.96	0.0103	7.06	0.0091	7.17	0.0424	7.75	0.0406	7.80	0.0744	8.33	0.0632	8.26	0.1058	8.89	0.0708
27-Jun-01	6.94	0.0099	7.06	0.0081	7.15	0.0419	7.75	0.0379	7.69	0.0648	8.38	0.0630	8.23	0.0987	8.93	0.0668
28-Jun-01	6.99	0.0121	7.10	0.0101	7.20	0.0447	7.85	0.0537	7.66	0.0563	8.41	0.0790	8.16	0.1247	8.95	0.0905
29-Jun-01	7.20	0.0458	7.34	0.0346	7.25	0.0507	7.85	0.0481	7.69	0.0513	8.41	0.0534	8.16	0.0900	8.87	0.0687

MIBID/MIBOR rates till September 2000 are available in the previous issue of the Indian Securities Market—A Review.
Source: NSE:.

7. Derivatives Market

The emergence of the market for derivative products, most notably forwards, futures and options, can be traced back to the willingness of risk-averse economic agents to guard themselves against uncertainties arising out of fluctuations in asset prices. By their very nature, the financial markets are marked by a very high degree of volatility. Through the use of derivative products, it is possible to partially or fully transfer price risks by locking-in asset prices. As instruments of risk management, derivative products generally do not influence the fluctuations in the underlying asset prices. However, by locking-in asset prices, derivative products minimise the impact of fluctuations in asset prices on the profitability and cash flow situation of risk-averse investors.

Derivative products initially emerged as hedging devices against fluctuations in commodity prices and commodity-linked derivatives remained the sole form of such products for almost three hundred years. The financial derivatives came into spotlight in post-1970 period due to growing instability in the financial markets. However, since their emergence, these products have become very popular and by 1990s, they accounted for about two-thirds of total transactions in derivative products. In recent years, the market for financial derivatives has grown tremendously both in terms of variety of instruments available, their complexity and also turnover. In the class of equity derivatives, futures and options on stock indices have gained more popularity than on individual stocks, especially among institutional investors, who are major users of index-linked derivatives. Even small investors find these useful due to high correlation of the popular indices with various portfolios and ease of use. The lower costs associated with index derivatives *vis-à-vis* derivative products based on individual securities is another reason for their growing use.

The following factors have generally been identified as the major driving force behind growth of financial derivatives:

1. Increased volatility in asset prices in financial markets.
2. Increased integration of national financial markets with the international markets.
3. Marked improvement in communication facilities and sharp decline in their costs.
4. Development of more sophisticated risk management tools, providing economic agents a wider choice of risk management strategies.
5. Innovations in the derivatives markets, which optimally combine the risks and returns over a large number of financial assets, leading to higher returns, reduced risk as well as transaction costs as compared to individual financial assets.

Products, Participants and Functions

Derivative contracts have several variants. The most common variants are forwards, futures, options and swaps:

- *Forward* contract is a customised contract between two entities, where settlement takes place on a specific date in the future at today's pre-agreed price.

- *Futures* contract is an agreement between two parties to buy or sell an asset at a certain time in the future at a certain price. Futures contracts are special types of forward contracts in the sense that the former are standardised exchange-traded contracts.
- *Option* contract gives the right, but not the obligation, to buy or sell a specified quantity of the underlying at a fixed exercise price on or before the expiration date. A call option gives the right to buy and a put option gives the right to sell.
- *Swaps* are private agreements between two parties to exchange cash flows in the future according to a pre-arranged formula. The two commonly used swaps are interest rate swaps and currency swaps.

The following three broad categories of participants—hedgers, speculators, and arbitrageurs – trade in the derivatives market:

- *Hedgers* face risk associated with the price of an asset. They use futures or options markets to reduce or eliminate this risk.
- *Speculators* wish to bet on future movements in the price of an asset. Futures and options contracts can give them an extra leverage; that is, they can increase both the potential gains and potential losses in a speculative venture.
- *Arbitrageurs* are in business to take advantage of a discrepancy between prices in two different markets. If, for example, they see the futures price of an asset getting out of line with the cash price, they will take offsetting positions in the two markets to lock in a profit.

The derivatives market performs a number of economic functions. First, prices in an organised derivatives market reflect the perception of market participants about the future and lead the prices of underlying to the perceived future level. The prices of derivatives converge with the prices of the underlying at the expiration of derivative contract. Thus derivatives help in discovery of future as well as current prices. Second, the derivatives market helps to transfer risks from those who have them but may not like them to those who have appetite for them. Third, derivatives, due to their inherent nature, are linked to the underlying cash markets. With the introduction of derivatives, the underlying market witnesses higher trading volumes because of participation by more players who would not otherwise participate for lack of an arrangement to transfer risk. Fourth, speculative trades shift to a more controlled environment of derivatives market. In the absence of an organised derivatives market, speculators trade in the underlying cash markets. Margining, monitoring and surveillance of the activities of various participants become extremely difficult in these kind of mixed markets. Fifth, an important incidental benefit that flows from derivatives trading is that it acts as a catalyst for new entrepreneurial activity. The derivatives have a history of attracting many bright, creative, well-educated people with an entrepreneurial attitude. They often energise others to create new businesses, new products and new employment opportunities, the benefit of which are immense. Sixth, derivatives markets help increase savings and investment in the long run. Transfer of risk enables market participants to expand their volume of activity.

Global Derivatives Markets

The derivatives markets have grown manifold in the last two decades. According to Bank for International Settlements (BIS), the approximate size of global derivatives market was US$ 109.5 trillion as at end-December 2000 (Table 7.1). The total estimated notional

amount of outstanding over-the-counter (OTC) contracts stood at US$ 95.2 trillion as at end-December 2000, an increase of 7.9% over end-December 1999. Growth in OTC derivatives market is mainly attributable to the continued rapid expansion of interest rate contracts, which reflected growing corporate bond markets and increased interest rate uncertainty at the end of 2000. The amount outstanding in organised exchange markets increased by 5.8% from US$ 13.5 trillion as at end-December 1999 to US$ 14.3 trillion as at end-December 2000.

Table 7.1. Global Derivatives Markets

(US $ billion)

	Notional amounts outstanding as at year-end							
	1993	1994	1995	1996	1997	1998	1999	2000
OTC Instruments, of which:	8,475	11,303	17,713	25,453	29,035	80,317	88,201	95,199
A. Interest Rate Swaps and Options	7,575	10,388	16,515	23,894	27,211	44,259	53,316	58,244
B. Currency Swaps and Options	900	915	1,197	1,560	1,824	5,948	4,751	5,532
C. Other Instruments*	—	—	—	—	—	30,110	30,134	31,423
Exchange-traded Instruments, of which:	7,776	8,898	9,283	10,018	12,403	13,932	13,522	14,302
A. Interest Rate Futuresand Options	7,323	8,431	8,618	9,257	11,221	12,643	11,669	12,626
B. Currency Futuresand Options	110	96	154	171	161	81	59	96
C. Stock Market Index Futures and Options	343	371	511	591	1,021	1,208	1,793	1,580
Total	16,250	20,201	26,996	35,471	41,438	94,249	101,723	109,501

* Includes FRAs, foreign exchange forwards and swaps, equity and commodity instruments.
Source: Bank for International Settlements.

The turnover data are available only for exchange-traded derivative contracts. The turnover in derivative contracts traded on exchanges increased by 9.8% during 2000 to US$ 384 trillion as compared to US$ 350 trillion in 1999 (Table 7.2). While interest rate futures and options accounted for nearly 90% of total turnover during 2000, the popularity of stock market index futures and options grew modestly during the year. According to BIS, the turnover in exchange-traded derivative markets rose by a record amount in the first quarter of 2001, while there was some moderation in the OTC volumes.

Table 7.2. Turnover in Derivative Contracts Traded on Exchanges

(US $ trillion)

	1993	1994	1995	1996	1997	1998	1999	2000
Interest Rate Futures	177.3	271.9	266.4	253.6	274.8	296.6	263.8	292.3
Interest Rate Options	32.8	46.7	43.3	41	48.6	55.8	45.6	47.5
Currency Futures	2.8	3.3	3.2	2.6	2.7	2.5	2.6	2.4
Currency Options	1.4	1.4	1.3	1.3	0.9	0.5	0.3	0.2
Stock Market Index Futures	7.1	9.4	10.6	12.9	16.4	19.6	21.7	22.7
Stock Market Index Options	6.3	8	9.3	10.2	13.1	14.7	15.7	18.7
Total	227.7	340.7	334.1	321.6	356.5	389.7	349.7	383.8

Source: Bank for International Settlements.

Exchange-traded vs. OTC Markets

The OTC derivatives markets have witnessed rather sharp growth over the last few years, which has accompanied the modernisation of commercial and investment banking and globalisation of financial activities. The recent developments in information technology have contributed to a great extent to these developments. While both exchange-traded and OTC derivative contracts offer many benefits, the former have rigid structures

compared with the latter. It has been widely discussed that the highly leveraged institutions and their OTC derivative positions were the main cause of turbulence in financial markets in 1998. These episodes of turbulence revealed the risks posed to market stability originating in features of OTC derivative instruments and markets.

The OTC derivatives markets have the following features, compared to exchange-traded derivatives:

1. The management of counter-party (credit) risk is decentralised and located within individual institutions;
2. There are no formal centralised limits on individual positions, leverage, or margining;
3. There are no formal rules for risk and burden-sharing;
4. There are no formal rules or mechanisms for ensuring market stability and integrity, and for safeguarding the collective interests of market participants; and
5. The OTC contracts are generally not regulated by both a regulatory authority and the exchange's self-regulatory organisation, although they are affected indirectly by national legal systems, banking supervision and market surveillance.

Some of the features of OTC derivatives markets embody risks to financial market stability. The following features of OTC derivatives markets can give rise to instability in institutions, markets, and the international financial system: (i) the dynamic nature of gross credit exposures; (ii) information asymmetries; (iii) the effects of OTC derivative activities on available aggregate credit; (iv) the high concentration of OTC derivative activities in major institutions; and (v) the central role of OTC derivatives markets in the global financial system. Instability arises when shocks, such as counter-party credit events and sharp movements in asset prices that underlie derivative contracts, occur which significantly alter the perceptions of current and potential future credit exposures. When asset prices change rapidly, the size and configuration of counter-party exposures can become unsustainably large and provoke a rapid unwinding of positions.

There has been some progress in addressing these risks and perceptions. However, the progress has been limited in implementing reforms in risk management, including counter-party, liquidity and operational risks, and OTC derivatives markets continue to pose a threat to international financial stability. The problem is more acute as heavy reliance on OTC derivatives creates the possibility of systemic financial incidents, which fall outside the more formal clearing house structures. Moreover, those who provide OTC derivative products, hedge their risks through the use of exchange traded derivatives. In view of the inherent risks associated with OTC derivatives, and their dependence on exchange traded derivatives, Indian law considers them illegal.

Derivatives Market in India

Approval for Derivatives Trading

The first step towards introduction of derivatives trading in India was the promulgation of the Securities Laws (Amendment) Ordinance, 1995, which withdrew the prohibition on options in securities. The market for derivatives, however, did not take off, as there was no regulatory framework to govern trading of derivatives. SEBI set up a 24-member Committee under the Chairmanship of Dr. L. C. Gupta on November 18, 1996 to develop appropriate regulatory framework for derivatives trading in India. The Committee submitted its report on March 17, 1998 prescribing necessary pre-conditions

for introduction of derivatives trading in India. The Committee recommended that derivatives should be declared as 'securities' so that regulatory framework applicable to trading of 'securities' could also govern trading of securities. SEBI also set up a group in June 1998 under the Chairmanship of Prof. J. R. Varma, to recommend measures for risk containment in derivatives market in India. The Report, which was submitted in October 1998, worked out the operational details of margining system, methodology for charging initial margins, broker net worth, deposit requirement and real-time monitoring requirements.

The SCRA was amended in December 1999 to include derivatives within the ambit of 'securities' and the regulatory framework was developed for governing derivatives trading. Derivatives were formally defined to include: (a) a security derived from a debt instrument, share, loan whether secured or unsecured, risk instrument or contract for differences or any other form of security, and (b) a contract which derives its value from the prices, or index of prices, or underlying securities. The Act also made it clear that derivatives shall be legal and valid only if such contracts are traded on a recognised stock exchange, thus precluding OTC derivatives. The Government also rescinded in March 2000 the three-decade old notification, which prohibited forward trading in securities.

Derivatives trading commenced in India in June 2000 after SEBI granted the final approval to this effect in May 2001. SEBI permitted the derivative segments of two stock exchanges, *viz.*, NSE and BSE, and their clearing house/corporation to commence trading and settlement in approved derivative contracts. To begin with, SEBI approved trading in index futures contracts based on S&P CNX Nifty Index and BSE-30 (Sensex) Index. This was followed by approval for trading in options based on these two indices and options on individual securities. The trading in index options commenced in June 2001 and trading in options on individual securities is scheduled to commence in July 2001. Trading and settlement in derivative contracts is done in accordance with the rules, byelaws, and regulations of the respective exchanges and their clearing house/ corporation duly approved by SEBI and notified in the official gazette.

Risk Containment Measures for Index Futures

The main features of risk containment measures for index futures approved by SEBI in July 1999 are given below:

1. *Initial Margin Computation*: The initial margin would be computed based on 99% Value at Risk (VaR).
2. *Margins for Calendar Spreads*: A calendar spread is a position at one maturity which is hedged by an offsetting position at a different maturity, *e.g.*, a short position in six month contract matched by a long position in nine month contract.
   (i) The margin on calendar spreads shall be at a flat rate of 0.5% per month of spread on the far month contract subject to a minimum margin of 1% and a maximum margin of 3% on the far side of the spread with legs upto 1 year apart.
   (ii) A calendar spread should be treated as a naked position in the far month contract as the near month contract approaches expiry.
   (iii) The derivatives exchange should explore the possibility that the trading system could incorporate the ability to place a single order to buy or sell spreads without placing two separate orders for the two legs.

3. *Margin Collection and Enforcement*: The mark to market (MTM) margins need to be collected before start of the next day's trading. If MTM margins cannot be collected before start of the next day's trading, the clearing corporation/house shall collect correspondingly higher initial margin to cover the potential for losses over the time elapsed in the collection of margins. The clearing corporation/clearing house should lay down operational guidelines for collection of margin and standard guidelines for back office accounting at the level of clearing and trading member to facilitate the detection of non-compliance at each level. The accounting guidelines shall be in conformity with the guidelines, if any, issued by SEBI from time to time.
4. *Liquid Net Worth and Exposure Limits*: The liquid net worth is defined as total liquid assets deposited with the exchange/clearing corporation/house towards initial margin and capital adequacy, *less* initial margin applicable to the total gross open positions at any given point of time on all trades to be cleared through the clearing member. The clearing member's liquid net worth must not be less than Rs. 50 lakh at any point of time. The MTM value of gross open positions at any point of time of all trades cleared through the clearing member shall not exceed $33\frac{1}{3}$ times his liquid net worth.
   Exposure limit for calendar spreads: The calendar spread shall be regarded as an open position of one third ($1/3^{rd}$) of the MTM value of the far month contract. As the near month contract approaches expiry, the spread shall be treated as a naked position in the far month contract in a phased manner. If the closing out of one leg of a calendar spread causes the members' liquid net worth to fall below the minimum levels specified, his terminal shall be disabled and the clearing corporation/house shall take steps to liquidate sufficient positions to restore the members' liquid net worth to the levels mandated.
   Liquid Assets: At least 50% of the total liquid assets shall be in the form of cash equivalents, *viz.*, cash, bank guarantee, fixed deposits, T-bills and dated government securities.
5. *Position Limits:*
   (i) Customer Level: Instead of prescribing position limits at the client level, a self-disclosure requirement similar to that in the Takeover Regulations is prescribed :
      (a) Any person or persons acting in concert who together own 15% or more of the open interest shall be required to report this fact to the exchange. Failure to do so shall attract a penalty as laid down by the exchange/clearing corporation/SEBI.
      (b) This requirement may not be monitored by the exchange on a real time basis, but if during any investigation or otherwise, any violation is proved, penalties can be levied.
      (c) This would not mean a ban on large open positions but only a disclosure requirement.

   (ii) Trading Member Level: There shall be a position limit on the near month contract at the trading member level of 15% of the open interest or Rs. 100 crore, whichever is higher. This will be reviewed after six months of index futures trading.

   (iii) Clearing Member Level: No separate position limit is prescribed at the level of clearing member. However, the clearing member shall ensure that his own trading position and the positions of each trading member clearing through him is within the limits.

(iv) Market Level:

(a) No limits are prescribed at this stage on the total market-wide open interest (as a percentage of the underlying market capitalisation).

(b) This will be reviewed at the end of six months of index futures trading to determine whether position limits are required at this level to guard against situations where a very large open interest leads to attempts to manipulate the underlying market.

6. *Reporting and Disclosure:* The derivatives exchange and clearing corporation shall submit quarterly reports to SEBI regarding the functioning of the risk estimation methodology highlighting the specific instances where price moves have been beyond the estimated 99% VaR limits. The clearing corporation/clearing house shall disclose the details of incidences of failures in collection of margin and/or the settlement dues on a quarterly basis. Failure for this purpose means a shortfall for three consecutive trading days of 50% or more of the liquid net worth of the member.

Risk Containment Measures for Index Options

SEBI outlined the risk management framework for index options in December 2000, with following salient features:

1. The index option contracts to be traded on the derivative exchange/segments shall have prior approval of SEBI. The contract should comply with the disclosure requirements, if any, laid down by SEBI.
2. Initially, the Exchanges shall introduce premium style index options.
3. Initially, the Exchanges shall introduce European style index options, which shall be settled in cash.
4. The index option contract shall have a minimum contract size of Rs. 2 lakh at the time of its introduction in the market.
5. The index option contract shall have maximum maturity of 12 months and shall have a minimum of 3 strikes (in-the-money, near-the-money and out-of-the-money).
6. The initial margin requirements shall be based on worst case loss of a portfolio of an individual client to cover a 99% VaR over a one day horizon. The initial margin requirement shall be netted at level of individual client and it shall be on gross basis at the level of trading/clearing member. The initial margin requirement for the proprietary position of trading/clearing member shall also be on net basis.
7. A portfolio-based margining approach shall be adopted, which takes an integrated view of the risk involved in the portfolio of each individual client comprising of his positions in index futures and index options contracts. The parameters for such a model should include:

Worst Scenario Loss:

- The worst case loss of a portfolio would be calculated by valuing the portfolio under several scenarios of changes in the index and changes in the volatility of the index.
- The price range is defined to be three standard deviations as calculated for VaR purposes in the index futures market for the near month contract. The volatility range would be taken at 4% for an initial period of six months, after which it shall be reviewed.

- While computing the worst scenario loss, it shall be assumed that the prices of futures of all maturities on the same underlying index move up or down by the same amount.
- For the purpose of the calculation of option values the exchanges may use any of the following standard Option Pricing Models – Black-Scholes, Binomial, Merton, Adesi-Whaley.
- The maximum loss under any of the scenario is referred to as the worst scenario loss. Subject to the additions and adjustments mentioned below, the worst scenario loss is the margin requirement for the portfolio.

Calendar Spread:

- The margin for calendar spread would be the same as specified for the index futures contracts. However, the margin shall be calculated on the basis of delta of the portfolio in each month. Thus, a portfolio consisting of a near month option with a delta of 100 and a far month option with a delta of -100 would bear a spread charge equal to the spread charge for a portfolio which is long 100 near month futures and short 100 far month futures. The calendar spread margin would be charged in addition to the worst scenario loss of the portfolio.
- As in the index futures market, a calendar spread would be treated as a naked position in the far month contract as the near month contract approaches expiry. Currently, in the index futures market, this is done in gradual steps over five trading days. For the sake of computational ease, it is now decided that when options are introduced, the gradual steps would be eliminated. Therefore, a calendar spread would be treated as a naked position in the far month contract three trading days before the near month contract expires.

Short Option Minimum Margin: The short option minimum margin equal to 3% of the notional value of all short index options shall be charged if sum of the worst scenario loss and the calendar spread margin is lower than the short option minimum margin. Notional value of option positions shall be calculated by applying the last closing price of the index futures contract.

Net Option Value: The net option value shall be calculated as the current market value of the option times the number of options (positive for long options and negative for short options) in the portfolio. This shall be added to the liquid net worth of the clearing member. This means that the current market value of short options will be deducted from the liquid net worth and the market value of long options will be added thereto. Thus, MTM gains and losses on option positions will get adjusted against the available liquid net worth. Since the options are premium style, MTM gains and losses will not be settled in cash for option positions.

Cash Settlement of Premium: For option positions, the premium shall be paid in by the buyers in cash and paid out to the sellers in cash on T+1 day.

Unpaid Premium: Until the buyer pays in the premium, the premium due shall be deducted from the available liquid net worth on a real time basis.

Cash Settlement of Futures: The MTM gains/losses for index futures position shall continue to be settled in cash.

Position Limits: The existing position limits in the index futures market shall be applicable to index options also on the basis of notional value.

Real Time Computation: The computation of worst scenario loss has two components. The first is the valuation of each option contract under sixteen scenarios using an appropriate option pricing model. The second is the application of these scenario contract values to the actual positions in a portfolio to compute the portfolio values and the worst scenario loss. For computational ease, exchanges are permitted to update the scenario contract values only at discrete time points each day. However, the latest available scenario contract values would be applied to member/client portfolios on a real time basis.

Risk Containment Measures for Stock Options

In June 2001, SEBI specified the following risk containment measures to be adopted by the derivatives exchange/segment and the clearing house/corporation for the trading and settlement of stock options:

1. The stock option contracts shall have prior approval of SEBI and should comply with the disclosure requirements, if any, laid down by SEBI.
2. The exchanges shall have premium settled American style stock options, which shall be settled in cash at exercise, for an initial period of six months, thereafter, the stock options, at exercise, shall be settled by delivery. The stock option contract shall have a minimum contract size of Rs. 2 lakh at the time of its introduction in the market and a maximum maturity of 12 months with a minimum of 3 strikes (in the money, near the money and out of the money).
3. The initial margin requirements shall be based on worst case loss of a portfolio of an individual client to cover 99% VaR over a one day horizon.
4. A portfolio-based margining approach shall be adopted which will take an integrated view of the risk involved in the portfolio of each individual client comprising of his positions in derivative contracts. The approach should include the following parameters:
   (a) The worst case scenario loss would be calculated by valuing the portfolio under several scenarios for changes in the stock prices and changes in the volatility of the stock. The price range for generating the scenarios would be 3.5σ.
   (b) A short option minimum margin equal to 7.5% of the notional value based on the previous day's closing value of the underlying stock, of all short stock options shall be charged if sum of worst case scenario loss is lower than the short option minimum margin for the given underlying.
   (c) The net option value shall be calculated as the current market value of the option times the number of options in the portfolio which will be added to the liquid net worth of the clearing member. Thus, MTM gains and losses on option positions will get adjusted against the available liquid net worth.
   (d) For all stock option positions, the premium shall be paid in by the buyers in cash and paid out to the sellers in cash on T+1 day.
   (e) The notional value of gross open positions at any point in time for index futures and all short index option contracts shall not exceed $33\frac{1}{3}$ times the liquid net worth of a member, and in case of stock option contracts, the notional value of gross short open position at any point in time shall not exceed 20 times the liquid net worth of a member.

(f) The existing member-wise position limits in the index futures and index options market shall be applicable to stock options also on the basis of notional value of the contract. In addition, a market-wide limit on the open position on stock option contract is also prescribed which shall be lesser of:

- 20 times the average number of shares traded daily, during the previous calendar month, in the cash segment of the Exchange, *or*
- 10% of the number of shares held by non-promoters, *i.e.*, 10% of the free float, in terms of number of shares of a company.

The stocks to be eligible for options trading should satisfy the following criteria:

1. The stock should be amongst the top 200 scrips, on the basis of average market capitalisation during the last six months and the average free float market capitalisation should not be less than Rs. 750 crore. The free float market capitalisation means the non-promoter holding in the stock. The non-promoter holding in the company should be at least 30%.
2. The stock should be amongst the top 200 scrips on the basis of average daily volume (in value terms), during the last six months. Further, the average daily volume should not be less than Rs. 5 crore in the underlying cash market.
3. The stock should be traded on at least 90% of the trading days in the last six months.
4. The ratio of the daily volatility of the stock *vis-à-vis* the daily volatility of the Index (either Sensex or S&P CNX Nifty) should not be more than 4, at any time during the previous six months.

Based on these criteria, SEBI approved trading in option contracts in 31 stocks.

Market Design[1]

Trading Mechanism

The derivatives trading system at NSE, called NEAT-F&O trading system, provides a fully automated screen-based trading for derivatives on a nation-wide basis. It supports an anonymous order driven market, which operates on strict price/time priority. It provides tremendous flexibility to users in terms of kinds of orders that can be placed on the system. Various time and price-related conditions like Good-till-Day, Good-till-Cancelled, Good-till-Date, Immediate or Cancel, Limit/Market Price, Stop Loss, *etc.* can be built into an order. Trading in derivatives is essentially similar to that of trading of securities in the CM segment.

Two types of users access the NEAT-F&O trading system. The trading user (or trading member) has access to functions such as, order entry, order matching, order and trade management. The clearing user (or clearing member) uses the trader workstation for the purpose of monitoring the trading member(s) for whom he clears the trades. Additionally, he can enter and set limits to positions, which a trading member can take.

[1] The market design has been discussed taking derivative segment of NSE as an example.

Membership Criteria

NSE admits members on its derivatives segment (more popularly referred to as F&O segment) in accordance with the rules and regulations of the Exchange and the norms specified by SEBI. NSE follows 2-tier membership structure stipulated by SEBI to enable wider participation. Those interested in taking membership on F&O segment are required to take membership of 'CM and F&O segment' or 'CM, WDM and F&O segment'. Trading and clearing members are admitted separately. Essentially, a clearing member (CM) does clearing for all his trading members (TMs), undertakes risk management and performs actual settlement. There are two types of CMs:

- Trading Member Clearing Member (TM–CM) — A CM who is also a TM. TM–CM may clear and settle his own proprietary trades and clients' trades as well as clear and settle for other TMs.
- Professional Clearing Member (PCM) — A CM who is not a TM. Typically, banks or custodians could become a PCM and clear and settle for TMs.

The eligibility criteria for membership on F&O segment is summarised in Tables 7.3A and 7.3B. The trading members are required to have qualified users and sales persons, who have passed a certification programme approved by SEBI.

As at end of June 2001, 346 members were granted membership of NSE's F&O segment.

Contract Specification

Contract specification for derivatives are summarised in Table 7.4.

Index Futures

The futures contract on NSE is based on S&P CNX Nifty Index. All Nifty futures contracts expire on the last Thursday of the expiry month and have a maximum of 3-month expiration cycle. A new contract is introduced on the next trading day following the expiry of the near month contract. At a point of time, three contracts are available for trading, with 1 month, 2 months and 3 months to expiry.

Index Options

The trading in index options on NSE is based on S&P CNX Nifty with a maximum of 3 months expiration cycle. The options contracts are European style and are cash settled. There are a minimum of 5 strike prices, two 'in-the-money', one 'at-the-money' and two 'out-of-the-money' for every call and put option. The 'strike price' is the price at which the buyer has a right to purchase or sell the underlying. Upon expiry of a contract, the new index options contract is introduced in the same manner as index futures contract. At any point of time, there are contracts at different strike prices and options types for each month available for trading in the market.

Stock Options

NSE is scheduled to commence trading in stock options in 31 securities as specified by SEBI from July 2001. These contracts would be American style and settled in cash for an initial period of 6 months. The expiration cycle for stock options would be the same as for index futures and index options. A new contract would be introduced on the trading day following the expiry of the near month contract. NSE will provide a minimum of five strike prices for every option type (*i.e.*, call and put) during the trading month. There

Table 7.3A. Eligibility Criteria for Membership on F&O Segment of NSE

Particulars	New Members		Existing Members
	CM and F&O Segment	CM, WDM and F&O Segment	
Net Worth[1]	Rs. 100 lakh	Rs. 200 lakh	Rs. 100 lakh
Interest Free Security Deposit (IFSD)[2]	Rs. 125 lakh	Rs. 275 lakh	Rs. 8 lakh
Collateral Security Deposit (CSD)[2]	Rs. 25 lakh	Rs. 25 lakh	—
Annual Subscription	Rs. 1 lakh	Rs. 2 lakh	Rs. 1 lakh

[1] Net worth of Rs. 300 lakh is required for clearing membership.
[2] Additional Rs. 25 lakh is required for clearing membership. In addition, the clearing member is required to bring in IFSD of Rs. 2 lakh and CSD of Rs. 8 lakh per trading member in the F&O segment.

Table 7.3B. Requirements for Professional Clearing Membership

Particulars	F&O Segment	CM and F&O Segment
Eligibility	Trading members of NSE/SEBI registered custodians/recognised banks	
Net Worth	Rs. 300 lakh	
Interest Free Security Deposit (IFSD)	Rs. 25 lakh	Rs. 34 lakh
Collateral Security Deposit (CSD)	Rs. 25 lakh	Rs. 50 lakh
Annual Subscription	Nil	Rs. 2.5 lakh

Note: The PCM is required to bring in IFSD of Rs. 2 lakh and CSD of Rs. 8 lakh per trading member in the F&O segment.
Source: NSE.

shall be two in-the-money (ITM) contracts, two out-of-the-money contracts (OTM) and one at-the-money (ATM) contract.

Charges

The maximum brokerage chargeable by a TM in relation to trades effected in the contracts admitted to dealing on the F&O segment of NSE is fixed at 2.5% of the contract value in case of index futures and 2.5% of notional value of the contract [(Strike price + Premium) × Quantity)] in case of index options, exclusive of statutory levies.

The transaction charges payable by a TM for the trades executed by him on the F&O segment are fixed at Rs. 2 per lakh of turnover (0.002%) (each side) or Rs. 1 lakh annually, whichever is higher. These charges were waived by NSE upto end-June 2001.

The TMs contribute to Investor Protection Fund of F&O segment at the rate of Rs. 10 per crore of turnover (0.0001%) (each side).

Basket Trading Facility

In order to provide a facility for easy arbitrage between futures and cash markets, NSE introduced basket-trading facility. This enables generation of portfolio offline order files in the derivatives trading system and its execution in the cash segment. A trading member can buy or sell a portfolio through a single order, once he determines its size. The system automatically works out the quantity of each security to be bought or sold in proportion to their weights in the portfolio.

Table 7.4. Contract Specification for Derivatives at NSE

Particulars	Index Futures	Index Options	Individual Stock Options
Security Description	N FUTIDX NIFTY	N OPTIDX NIFTY	N OPTSTK ___
Style of Option	NA	European	American
Option Type	NA	Call and Put	
Underlying	S&P CNX Nifty Index		Individual securities available for trading in cash market
Contract Size	200 or multiples thereof (minimum value of Rs. 2 lakh)		100 or multiples thereof (minimum value of Rs. 2 lakh)
Price Steps	Rs. 0.05		
Price Bands	NA		
Expiration Months	3 near month contracts		
Trading Cycle	A maximum of three month trading cycle - the near month (one), the next month (two) and the far month (three). New contract is introduced on the next trading day following the expiry of near month contract		
Last Trading/ Expiration Day	Last Thursday of the expiry month or the preceding trading day, if last Thursday is a trading holiday		
No. of Strike Prices	NA	Minimum of 5 (two 'in the money', one 'at the money' and two 'out of the money') for every option type (*i.e.*, call and put)	
Strike Price Interval (in Rs.)	NA	20	Between 5 and 100 depending on the price of underlying
Settlement	In cash on T+1 basis.		Daily settlement on T+1 basis and final settlement on T+3 basis
Daily Settlement Price	Closing price of futures contract	Premium Value (net)	
Final Settlement Price	Closing value of index on expiry day	Closing value of index on expiry day	Closing price of underlying on exercise day or expiry day
Settlement Day	Last trading day		
Margins	Up-front initial margin on daily basis		

NA: Not applicable
Source: NSE.

Nifty Futures at SGX-DT

With commencement of derivatives trading in India, foreign bourses have evinced interest to introduce trading in derivatives based on Indian indices. Under an agreement, Singapore Exchange Derivatives Trading Limited (SGX-DT) was granted a license to trade futures and options contracts based on the S&P CNX Nifty Index.

SGX-DT launched the SGX S&P CNX Nifty Index futures contract on September 25, 2000. The contract is based on the S&P CNX Nifty Index, which is owned by IISL, a subsidiary of NSE. The SGX S&P CNX Nifty Index futures is traded in US $, with a contract size equivalent to US $ 20 multiplied by the S&P CNX Nifty Index. Based on

Table 7.5. Trade Details of SGX-DT Nifty Futures

Month/Year	No. of Contracts traded	Turnover (Rs. crore)	Open Interest*
Sep-00	268	33	61
Oct-00	1,186	128	4
Nov-00	9,560	1,091	213
Dec-00	9,389	1,115	301
Jan-01	389	48	121
Feb-01	622	80	302
Mar-01	391	45	74
Apr-01	223	23	55
May-01	153	16	150
Jun-01	22	2	0

* As at end of the month.
Source: SGX-DT.

the closing index value of 1358.05 on August 18, 2000, the size of each futures contract is about US $ 27,161 (approximately 5 times that of the contract traded in NSE). The contract is cash settled and is traded on the Exchange's electronic trading platform (SGX ETS) from Monday to Friday. The trading of Nifty futures in SGX was introduced for enabling international market participants gain exposure to the Indian stock market in a highly cost-effective manner. With the growing number of global investors getting exposure to the Indian market place, especially in stocks related to technology, internet and pharmaceuticals, the contract will help participants to effectively trade as well as hedge their portfolios. The trade details of Nifty futures at SGX-DT are presented in Table 7.5.

Market Outcome

The derivatives trading on NSE commenced with S&P CNX Nifty index futures in June 2000. This was followed by trading in index options in June 2001. BSE also commenced trading in index futures and index options in June 2000 and June 2001 respectively.

The performance of derivatives markets can be analysed on the basis of various parameters like prices, turnover, open interest and cost of carry. The interplay of prices, volumes and open interest indicates the health of the market. Generally, if prices, volumes and open interest are rising, the market is healthy. If the prices are rising, while volume and open interest are falling, then the market is weakening.

Turnover

The trading volume in the index futures market of NSE from June 2000 to March 2001 is presented in Table 7.6. This table also presents the trade details of index futures market at BSE and the size of total derivatives market in India. The first year (10 months) of derivatives trading witnessed a modest volume of Rs. 3,918 crore. The monthly turnover in index futures has risen from Rs. 91 crore in June 2000 to Rs. 629 crore in June 2001. The average daily turnover at NSE has risen from Rs. 2 crore in June 2000 to Rs. 28 crore in June 2001.

The trading in index options started in June 2001 with an encouraging trend. A total of 8,661 contracts with a notional turnover of Rs. 194 crore were traded during the month.

Table 7.6. Trade Details of Derivatives Market*

Month/Year	NSE		BSE		Total	
	No. of Contracts Traded	Turnover (Rs. cr.)	No. of Contracts Traded	Turnover (Rs. cr.)	No. of Contracts Traded	Turnover (Rs. cr.)
Jun-00	1,191	35	2,349	56	3,540	91
Jul-00	3,783	108	6,741	156	10,524	264
Aug-00	3,301	90	5,760	126	9,061	216
Sep-00	4,376	19	3,982	88	8,358	107
Oct-00	6,388	153	6,821	130	13,209	283
Nov-00	9,892	247	9,847	194	19,739	441
Dec-00	9,208	237	7,952	163	17,160	400
Jan-01	17,860	471	12,588	264	30,448	735
Feb-01	19,141	524	14,893	361	34,034	885
Mar-01	15,440	381	5,802	116	21,242	497
2000–01 (June–March)	90,580	2,265	76,735	1,653	167,315	3,918
Apr-01	13,274	292	1,617	28	14,891	320
May-01	10,048	230	656	12	10,704	242
Jun-01	26,805	590	2,261	39	29,066	629
April-June 2001	50,127	1,112	4,534	79	54,661	1,191

* Data pertains to Index Futures market.
Source: NSE and BSE.

Open Interest

Open interest is the total number of outstanding contracts that are held by market participants at the end of each day. Putting it simply, open interest is a measure of how much interest is there in a particular option or future. Increasing open interest means that fresh funds are flowing in the market, while declining open interest means that the market is liquidating. The highest open interest in index futures at NSE was recorded at 3,803 contracts on January 25, 2001. The daily open interest for near month index futures at NSE is presented in Chart 7.1.

Implied Interest Rate

In the futures market, implied interest rate or cost of carry is often used inter-changeably. Cost of carry is more appropriately used for commodity futures, as by definition it means the total costs required to carry a commodity or any other good forward in time. The costs involved are storage cost, insurance cost, transportation cost, and the financing cost. In case of equity futures, the carry cost is the cost of financing minus the dividend returns. Assuming zero dividend, the only relevant factor is the cost of financing.

One could work out the implied interest rate incorporated in futures prices, which is the percentage difference between the future value of an index and the spot value, annualised on the basis of the number of days before the expiry of the contract. Carry cost or implied interest rate plays an important role in determining the price differential between the spot and the futures market. By comparing the implied interest rate and the existing interest rate level, one can determine the relative cost of futures' market price. Implied interest rate is also a measure of profitability of an arbitrage position. Theoretically, if the futures price is less than the spot price plus cost of carry or if the futures price is greater than the spot price plus cost of carry, arbitrage opportunities exist.

The futures prices are available for different contracts at different points of time. Chart 7.2 presents Nifty futures close prices for the near month contracts, which are

Chart 7.1. Daily Open Interest for Near Month Nifty Futures

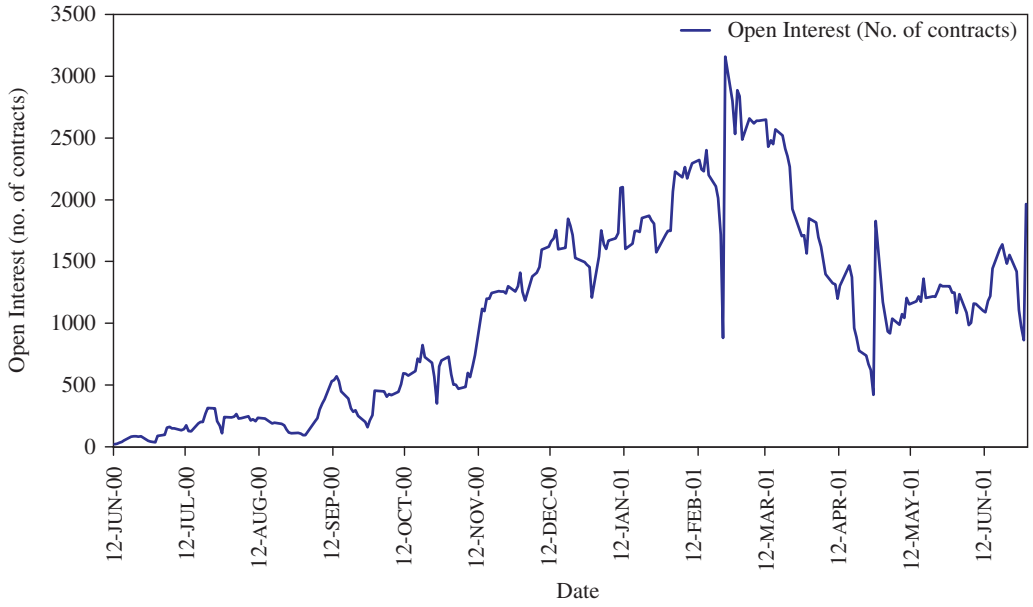
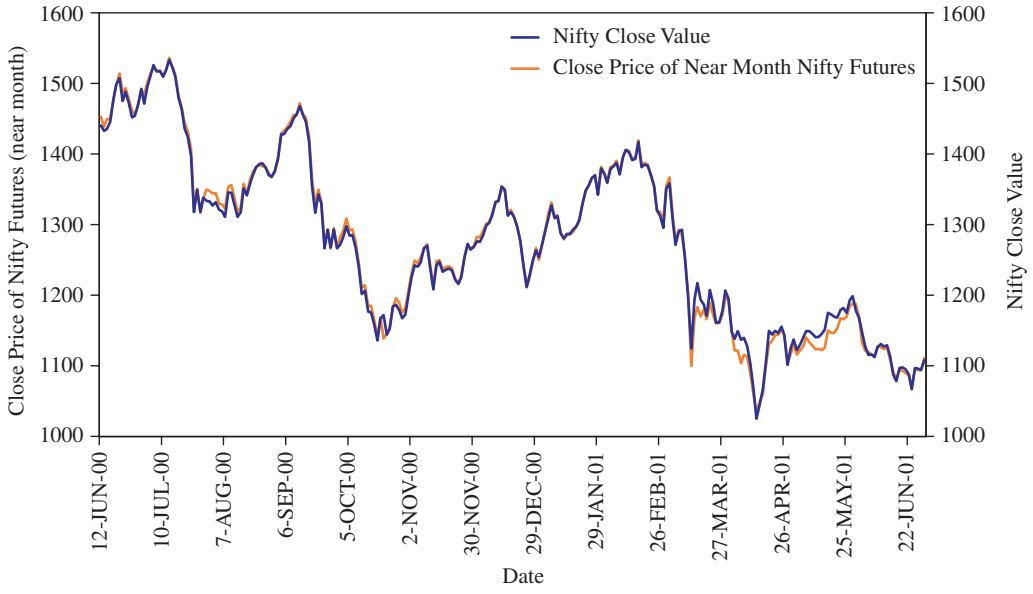


Chart 7.2. Nifty Futures and Spot Price



most liquid, and the spot Nifty close values from June 2000 to June 2001. The difference between the future price and the spot price is called *basis*. As the time to expiration of a contract reduces, the basis reduces. Daily implied interest rate for Nifty futures since inception is presented in Chart 7.3. The implied interest rate for near month Nifty futures as on last trading of the month is presented in Table 7.7.

Chart 7.3. Implied Interest Rate for Near Month Nifty Futures (June 12, 2000 to June 30, 2001)

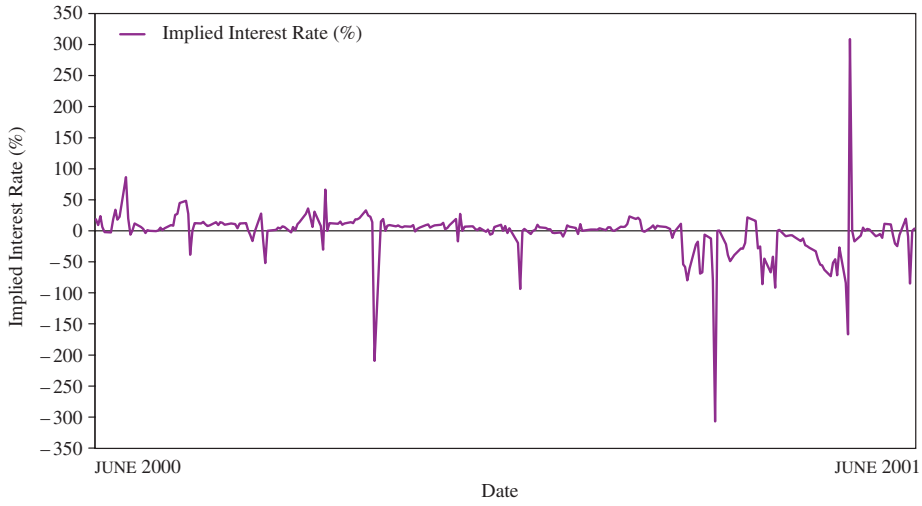


Table 7.7. Implied Interest Rate for Near Month Nifty Futures (June 2000–June 2001)

Month	Expiry Date of near month Contract	Closing Future Price	Closing Spot Price	Implied Interest Rate (%)
Jun-00	27-Jul-2000	1484.55	1471.45	11.98
Jul-00	31-Aug-2000	1347.75	1332.85	13.09
Aug-00	28-Sep-2000	1398.10	1394.10	3.73
Sep-00	25-Oct-2000	1282.80	1271.65	12.26
Oct-00	30-Nov-2000	1181.60	1172.75	9.15
Nov-00	28-Dec-2000	1271.05	1264.75	6.25
Dec-00	25-Jan-2001	1266.65	1263.55	3.31
Jan-01	22-Feb-2001	1373.20	1371.70	1.81
Feb-01	29-Mar-2001	1354.85	1351.40	3.21
Mar-01	26-Apr-2001	1148.45	1148.20	0.29
Apr-01	31-May-2001	1117.10	1125.25	−8.56
May-01	28-Jun-2001	1148.55	1167.90	−21.78
Jun-01	26-Jul-2001	1110.85	1107.90	3.59

Note: The implied interest rate is calculated on the last trading day of the month for Near Month Nifty Futures.
Source: NSE.

Implied Volatility

Volatility is one of the important factors, which is taken into account while pricing options. It is a measure of the amount and speed of price changes, in either direction. Everybody would like to know what future volatility is going to be. Since it is not possible to know future volatility, one tries to estimate it. One way to do this is to look at historical volatility over a certain period of time and try to predict the future movement of the underlying. Alternatively, one could work out implied volatility by entering all parameters into an option pricing model and then solving for volatility. For example, the Black Scholes model solves for the fair price of the option by using the following parameters—days to expiry, strike price, spot price, volatility of underlying, interest rate, and dividend. This model could be used in reverse to arrive at implied volatility by putting the current price of the option prevailing in the market.

Putting it simply, implied volatility is the market's estimate of how volatile the underlying will be from the present until the option's expiration, and is an important input for pricing options—when volatility is high, options premiums are relatively expensive; when volatility is low, options premiums are relatively cheap. However, implied volatility estimate can be biased, especially if they are based upon options that are thinly traded. Options trading was introduced at NSE only in June 2001. The data points are therefore quite limited to enable meaningful estimates of implied volatility.

Clearing and Settlement

NSCCL undertakes clearing and settlement of all deals executed on the NSE's F&O segment. It acts as legal counterparty to all deals on the F&O segment and guarantees settlement.

Clearing Mechanism

Open Position Computation

The first step in clearing process is working out open positions or obligations of members. A CM's open position is arrived at by aggregating the open position of all the TMs and all custodial participants clearing through him, in the contracts in which they have traded. A TM's open position is arrived at as the summation of his proprietary open position and clients' open positions, in the contracts in which they have traded. While entering orders on the trading system, TMs are required to identify the orders, whether proprietary (if they are their own trades) or client (if entered on behalf of clients). Proprietary positions are calculated on net basis (buy–sell) for each contract. Clients' positions are arrived at by summing together net (buy–sell) positions of each individual client. A TM's open position is the sum of proprietary open position, client open long position and client open short position.

MTM for Index Futures

All futures contracts for each member are marked-to-market to the daily settlement price of the relevant futures contract at the end of each day. This way, profit/loss for each member is computed for each contract. The profits/losses arising out of closing out of open positions on a particular day are also included in the MTM computation. After MTM processing, all the open positions are re-valued and taken to next day at the daily settlement price. (The *daily settlement price* for an index futures contract is the closing price of the relevant month index futures contract. It is computed by taking the weighted average price for the last half an hour trades in that month's futures contract. The *final settlement price* is the closing value of the underlying index, S&P CNX Nifty.)

The final profit/loss is the difference between the previous day's MTM price and the final settlement price of the relevant index futures contract. The net profit/loss of a member (after netting the profits/losses across all futures contracts) is the amount payable/receivable by a member.

Premium Settlement for Options

Buyer of an option is obligated to pay the premium towards the options purchased by him. Similarly, the seller of an option is entitled to receive the premium for the option sold by him. The premium payable amount and the premium receivable amount are

netted to compute the net premium payable or receivable amount for each client for each option contract.

Exercise Settlement for Options

Although most option buyers and sellers close out their options positions by an offsetting closing transaction, an understanding of exercise can help an option buyer determine whether exercise might be more advantageous than an offsetting sale of the option. There is always a possibility of the option seller being assigned an exercise. Once an exercise of an option has been assigned to an option seller, the option seller is bound to fulfill his obligation (meaning, pay the cash settlement amount in the case of a cash-settled option) even though he may not yet have been notified of the assignment.

Exercise Process

The period during which an option is exercisable depends on the style of the option. On NSE, index options are European style, *i.e.*, options are only subject to automatic exercise on the expiration day, if they are in-the-money.

As compared to this, options on securities are American style. In such cases, the exercise is automatic on the expiration day, and voluntary prior to the expiration day of the option contract, provided they are in-the-money.

Automatic exercise means that all in-the-money options would be exercised by NSCCL on the expiration day of the contract. The buyer of such options need not give an exercise notice in such cases.

Voluntary exercise means that the buyer of an in-the-money option can direct his TM/CM to give exercise instructions to NSCCL. In order to ensure that an option is exercised on a particular day, the buyer must direct his TM to exercise before the cut-off time for accepting exercise instructions for that day. Usually, the exercise orders will be accepted by the system till the close of trading hours. Different TMs may have different cut-off times for accepting exercise instructions from customers, which may vary for different options.

An option, which expires unexercised becomes worthless. Some TMs may accept standing instructions to exercise, or have procedures for the exercise of every option, which is in-the-money at expiration.

Once an exercise instruction is given by a CM to NSCCL, it cannot ordinarily be revoked. Exercise notices given by a buyer at anytime on a day are processed by NSCCL after the close of trading hours on that day.

All exercise notices received by NSCCL from the NEAT F&O system are processed to determine their validity. Some basic validation checks are carried out to check the open buy position of the exercising client/TM and whether option contract is in-the-money. Once exercised contracts are found valid, they are assigned.

Assignment Process

The exercise notices are assigned in standardised market lots to short positions in the option contract with the same series (*i.e.*, same underlying, expiry date and strike price) at the client level. Assignment to the short positions is done on a random basis. NSCCL determines short positions, which are eligible to be assigned and then allocates the exercised positions to any one or more short positions. Assignments are made prior to the commencement of trading on the business day following receipt of exercise instruction by NSCCL. It is possible that an option seller may not receive notification from its TM that an exercise has been assigned to him until the next day following the date of the assignment to the CM by NSCCL.

In case of index option contracts, on the expiration day of the option contracts, all open long positions at in-the money strike prices are automatically exercised and assigned to short positions in option contracts with the same series on a random basis.

For options on securities, where exercise settlement may be interim or final, interim exercise for an open long in-the-money option position can be effected on any day till the expiry of the contract. Final exercise is automatically effected by NSCCL for all open long in-the-money positions in the expiring month option contract, on the expiry day of the option contract.

The exercise settlement price is the closing price of the underlying (index or security) on the exercise day (for interim exercise) or the expiry day of the relevant option contract (final exercise). The exercise settlement value is the difference between the strike price and the final settlement price of the relevant option contract. For call options, the exercise settlement value receivable by a buyer is the difference between the final settlement price and the strike price for each unit of the underlying conveyed by the option contract, while for put options it is difference between the strike price and the final settlement price for each unit of the underlying conveyed by the option contract.

Risk Management

NSCCL has developed a comprehensive risk containment mechanism for the F&O segment. The salient features of risk containment mechanism on the F&O segment are:

1. The financial soundness of the members is the key to risk management. Therefore, the requirements for membership in terms of capital adequacy (net worth, security deposits) are quite stringent. These requirements have been explained earlier in this chapter.
2. NSCCL charges an upfront initial margin for all the open positions of a CM. It specifies the initial margin requirements for each Nifty index futures contract on a daily basis. It also follows VaR-based margining as stipulated by the J. R. Varma Committee. The CM in turn collects the initial margin from the TMs and their respective clients.
3. The open positions of the members are marked to market based on contract settlement price for each contract. The difference is settled in cash on a T+1 basis.
4. NSCCL's on-line position monitoring system monitors a CM's open positions on a real-time basis. Limits are set for each CM based on his base capital. The on-line position monitoring system generates alerts whenever a CM reaches a position limit set up by NSCCL. NSCCL monitors the CMs for MTM value violation, while TMs are monitored for contract-wise position limit violation.
5. CMs are provided a trading terminal for the purpose of monitoring the open positions of all the TMs clearing and settling through him. A CM may set exposure limits for a TM clearing and settling through him. NSCCL assists the CM to monitor the intra-day exposure limits set up by a CM and whenever a TM exceed the limits, it stops that particular TM from further trading.
6. A member is alerted of his position to enable him to adjust his exposure or bring in additional capital. Position violations result in disablement of trading facility for all TMs of a CM in case of a violation by the CM.
7. A separate Settlement Guarantee Fund for this segment has been created out of the base capital of members. The fund had a balance of Rs. 112 crore at the end of June, 2001.

The most critical component of risk containment mechanism for F&O segment is the margining system and on-line position monitoring. The actual position monitoring and margining is carried out on-line through Parallel Risk Management System (PRISM). PRISM uses SPAN® (Standard Portfolio Analysis of Risk) system for the purpose of computation of on-line margins, based on the parameters defined by SEBI. It is a portfolio-based margining system.

NSE-SPAN

The objective of NSE-SPAN is to identify overall risk in a portfolio of all futures and options contracts for each member. The system treats futures and options contracts uniformly, while at the same time recognising the unique exposures associated with options portfolios, like extremely deep out-of-the-money short positions, inter-month risk and inter-commodity risk.

Its over-riding objective is to determine the largest loss that a portfolio might reasonably be expected to suffer from one day to the next day based on 99% VaR methodology.

SPAN considers uniqueness of option portfolios. The following three factors affect the value of an option:

(i) Underlying market price,

(ii) Volatility (variability) of underlying instrument, and

(iii) Time to expiration.

As these factors change, the value of options maintained within a portfolio also changes. Thus, SPAN constructs scenarios of probable changes in underlying prices and volatilities in order to identify the largest loss a portfolio might suffer from one day to the next. It then sets the margin requirement to cover this one-day loss.

The complex calculations (*e.g.*, the pricing of options) in SPAN are executed by NSCCL. The results of these calculations are called risk arrays. Risk arrays, and other necessary data inputs for margin calculation are provided to members daily in a file called the SPAN Risk Parameter file. Members can apply the data contained in the Risk Parameter files, to their specific portfolios of futures and options contracts, to determine their SPAN margin requirements.

Hence, members need not execute complex option pricing calculations, which is performed by NSCCL. SPAN has the ability to estimate risk for combined futures and options portfolios, and also re-value the same under various scenarios of changing market conditions.

Margins

The margining system for derivatives is explained below:

Initial Margin: Margin in the F&O segment is computed by NSCCL upto client level for open positions of CMs/TMs. These are required to be paid up-front on gross basis at individual client level for client positions and on net basis for proprietary positions.

NSCCL collects initial margin for all the open positions of a CM based on the margins computed by NSE-SPAN. A CM is required to ensure collection of adequate initial margin from his TMs up-front. The TM is required to collect adequate initial margins up-front from his clients.

In case a TM wishes to take additional trading positions, his CM is required to provide additional base capital to NSCCL. This can be provided by the members in the form of cash, bank guarantee, fixed deposit receipts and approved securities.

Premium Margin: In addition to initial margin, premium margin is charged at client level. This margin is required to be paid by a buyer of an option till the premium settlement is complete.

Assignment Margin for Option Contracts on Securities: Assignment margin is levied in addition to initial margin and premium margin. It is required to be paid on assigned positions of CMs towards interim and final exercise settlement obligations for option contracts on individual securities, till such obligations are fulfilled.

The margin is charged on the net exercise settlement value payable by a CM towards interim and final exercise settlement.

The margin is charged as follows:

1. Exercise settlement value upto Rs. 100 lakh for an exercise settlement — 10% of the exercise settlement value for that settlement.
2. Exercise settlement value greater than Rs. 100 lakh for an exercise settlement — 15% of the exercise settlement value for that settlement.

Margin Violation

PRISM generates various alerts whenever a CM exceeds any limits set up by NSCCL. These are detailed below:

Initial Margin Violation: Initial margin limits are set by NSCCL for each CM based on the collateral deposited by the CM in accordance with SEBI recommendations. CMs are provided a F&O clearing member terminal for the purpose of monitoring the open positions of all the TMs and/or custodial participants clearing and settling through him. A CM may also set initial margin limits for a TM clearing and settling through him. NSCCL assists a CM to monitor the intra-day initial margin limits. Whenever a TM exceeds the limits, his trading facility is withdrawn.

Initial margin on positions taken by a CM is computed on a real time basis, *i.e.*, for each trade. The initial margin amount is reduced from the effective deposits of a CM with NSCCL. As the effective deposit is consumed up to 70%, 80%, and 90%, the member receives a warning message on his terminal. Once it is consumed 100%, the clearing facility provided to a CM is automatically withdrawn. The liquid net worth of a CM at any point of time should not be less than Rs. 50 lakh. Withdrawal of clearing facility of a CM in case of a violation leads to automatic withdrawal of trading facility for all TMs and/or custodial participants clearing and settling through such CM.

Similarly, the initial margin on positions taken by a TM is also computed on a real time basis and compared with the TM initial margin limits set by his CM. The initial margin amount is reduced from the TM initial margin limit set by a CM. As the TM limit is consumed up to 70%, 80%, and 90%, the member receives a warning message on his terminal. Once it is consumed 100%, the trading facility provided to the TM is automatically withdrawn.

A member is provided with adequate warnings on the violation before his trading/clearing facility is withdrawn. A CM may appropriately reduce his exposure to contain the violation or alternately bring in additional base capital.

Member-wise Position Limit Violation: The member-wise position limit check is carried out by PRISM on open position of a CM, TM or custodial participant (CP). The open positions of a CM, TM or CP cannot exceed 15% of the total open interest of the market or Rs. 100 crore, whichever is higher, in all the futures and option contracts on the same underlying, at any time, including during trading hours.

For option contracts on individual securities, open interest is equivalent to the open positions multiplied by the notional value. Notional value is the previous day's closing price of the underlying security.

Exposure Limit Violation: PRISM monitors intra-day exposure of members. The exposure for a CM to all futures and option contracts cannot exceed $33\frac{1}{3}$ times the liquid net worth for index options and index futures contracts, and 20 times the liquid net worth for option contracts on individual securities.

Market-wide Position Limit Violation for Options on Individual Securities: PRISM monitors market-wide position limits for option contracts on individual securities. The open position across all members, conveyed by the number of units of underlying security in an option contract on a security, cannot exceed lower of the following limits:

- 20 times the average number of shares traded daily, during the previous calendar month, in the relevant underlying security in the underlying segment of the relevant Exchange, or
- 10% of the number of shares held by non-promoters in the relevant underlying security, *i.e.*, 10% of the free float in terms of the number of shares of a company.

When the total open interest in an option contract, across all members, reaches 80% of the market-wide position limit for a contract, the price scan range and volatility scan range (for SPAN margin) are doubled.

NSCCL specifies the market-wide position limits once every month, on the expiration day of the near-month contract, which is applicable till the expiry of the subsequent month contract.

Violation Arising out of Misutilisation of TM/Constituent's Collateral and/or Deposit: A CM cannot utilise the collateral of one TM and/or constituent towards the exposure and/or obligations of another TM and/or constituent. Where such an act is detected, it is treated as a violation.

Violation of Exercised Positions: NSCCL verifies whether open long positions for such CM/TM and/or constituent exist in relation to option contracts, which are exercised by a CM/TM, before initiating exercise processing. Where contracts are exercised though there are no open positions, such cases are treated as violations.

Settlement Mechanism

All futures and options contracts are cash settled, *i.e.*, through exchange of cash. The underlying for index futures/options of the Nifty index cannot be delivered. These contracts, therefore, have to be settled in cash. For options on individual securities, the underlying is the individual security, which can be delivered as in spot market. However, it has been mandated that stock options will also be cash settled till December 2001. For the purpose of settlement, all CMs are required to open a separate bank account with NSCCL designated clearing banks for F&O segment. The settlement amount for a CM is netted across all their TMs/clients, across various settlements, like MTM settlement for futures, premium settlement for options or exercise settlement for options.

Settlement of Index Futures Contracts

CMs who have a MTM loss are required to pay the loss amount in cash to NSCCL on the scheduled day, which is in turn passed on to CMs who have made a MTM profit. This is known as daily MTM settlement. CMs are responsible to collect and settle daily MTM profits/losses incurred by the TMs and their clients clearing and settling through them. The pay-in and pay-out of the MTM settlement is on T+1 day. The losses or profits are directly debited or credited to CM's clearing bank accounts.

Final settlement is effected for expiring futures contracts and the process is similar to the daily MTM settlement. The price reckoned for final settlement is the closing value of the underlying index and not the closing price of the expiring futures contract. The loss/ profit amount for a CM is debited/credited to the relevant CM's clearing bank account on T+1 day.

Settlement of Option Contracts

Daily Premium Settlement (for index options and stock options): CMs who have a net premium payable position are required to pay the premium amount to NSCCL in cash, which is in turn passed on to the CMs who have a premium receivable position. This is known as daily premium settlement. CMs are required to collect the premium amount from their TMs/clients and pay-in to NSCCL towards premium settlement. In turn, NSCCL passes on such premium amount received to CMs who are due to receive the premium amount. CMs would in turn pass on such amount to their TMs, who shall in turn pass on the same to their clients, who are due to receive such premium amounts. The pay-in and pay-out of the premium settlement is on T+1 day. The premium payable amounts and premium receivable amounts are directly debited or credited to CMs' clearing bank accounts.

Interim Exercise Settlement (for stock options): Exercise settlement value is debited/ credited to relevant CM's clearing bank account on T+3 day.

Final Exercise Settlement (for index options and stock options): Final exercise settlement value is debited/credited to relevant CMs' clearing bank accounts on T+1 day for index options and T+3 day for stock options.

Settlement of Custodial Participant Deals

NSCCL provides a facility to institutions to execute trades through any TM, which may be cleared and settled by their own CM. Such entities are called custodial participants (CPs). To avail of this facility, a CP is required to register with NSCCL through his CM. A unique CP code is allotted to the CP by NSCCL. All trades executed by a CP through any TM are required to have the CP code in the relevant field on the trading system at the time of order entry. Such trades executed on behalf of a CP are confirmed by their own CM (and not the CM of the TM through whom the order is entered), within the time specified by NSE on the trade day through the on-line confirmation facility. Till such time the trade is confirmed by CM of concerned CP, the same is considered as a trade of the TM and the responsibility of settlement of such trade vests with CM of the TM. Once confirmed by CM of concerned CP, such CM is responsible for clearing and settlement of deals of such custodial clients.

Policy Debates

It has been more than a year since introduction of derivatives trading in India. The trading volumes in the derivatives segment have, however, been quite modest. This

could be attributed to several factors. One, very few members have been permitted by SEBI to trade in the derivatives segment. Some participants like, FIIs and MFs, have been permitted to have limited participation. Two, it has been made mandatory by SEBI that at least two dealers of the brokerage firm should have passed SEBI-approved certification test for derivatives. The process of attaining certification has been rather slow. Three, there is lack of clarity on taxation and accounting aspects pertaining to derivatives market. Fourth, the cash market combines some features of futures market in the account period settlement system. Members therefore have little incentive to trade in derivatives. The trading volumes are likely to pick up in July 2001 with introduction of rolling settlement for a wider range of securities.

Taxability of Income arising from Derivative Contracts

The Income Tax Act does not have any specific provision regarding taxability of income from derivatives. Only provisions, which have an indirect bearing on derivative transactions, are sections 73(1) and 43(5). Section 73(1) provides that any loss, computed in respect of a speculative business carried on by the assessee, shall not be set off except against profits and gains, if any, of any speculative business. Section 43(5) of the Act defines a speculative transaction as a transaction in which a contract for purchase or sale of any commodity, including stocks and shares, is periodically or ultimately settled otherwise than by actual delivery or transfer of the commodity or scrips. It excludes the following types of transactions from the ambit of speculative transactions:

1. A contract in respect of stocks and shares entered into by a dealer or investor therein to guard against loss in his holding of stocks and shares through price fluctuations.
2. A contract entered into by a member of a forward market or a stock exchange in the course of any transaction in the nature of jobbing or arbitrage to guard against loss, which may arise in ordinary course of business of such member.
3. A transaction is thus considered speculative if (i) it is in commodities, shares, stock or scrips, (ii) it is settled otherwise than by actual delivery, (iii) it is not for jobbing/arbitrage, and (iv) the participant has no underlying position.

In the absence of a specific provision, it is apprehended that the derivative contracts, particularly the index futures/options which are essentially cash-settled, may be construed as speculative transactions. Therefore, the losses, if any, will not be eligible for set off against other incomes of the assessee and will be carried forward and set off against speculative income only up to a maximum of eight years. The fact, however, is that derivative contracts are not for purchase/sale of any commodity, stock, share or scrip. Derivatives are a special class of securities under the Securities Contracts (Regulation) Act, 1956 and do not in any way resemble any other type of securities like shares, stocks or scrips. Derivative contracts are cash-settled, as these can not be settled otherwise. Derivative contracts are entered into by the hedgers, speculators and arbitrageurs. A derivatives contract has any of these two parties and hence some of the derivative contracts (not all) have an element of speculation. At least one of the parties is a hedger or an arbitrageur. It would, therefore, be unfair to treat derivative transactions as speculative. Otherwise it would be a penalty on hedging which the Securities Laws (Amendment) Act, 1999 seeks to promote. In view of these difficulties in applying the existing provisions, it is desirable to clarify or make special provision for derivatives of securities.

Every derivative contract has two parties, generally a hedger and a speculator. All types of participants need to be provided level playing field so that the market is

competitive and efficient. As regards taxability, the law should not treat income of the hedgers, speculators and arbitrageurs differently. Income of all the participants from derivatives need to be treated uniformly. This is all the more necessary as it is well neigh impossible to ascertain if a participant is trading for speculation, hedging or arbitrage.

A transaction is thus considered speculative if a participant enters into a hedging transaction in scrips outside his holdings. It is possible that an investor does not have all the 30 or 50 stocks represented by the index. As a result it is apprehended that an investor's losses or profits out of derivatives transactions, even though they are of hedging nature in real sense, may be treated as speculative. This is contrary to capital asset pricing model, which states that portfolios in any economy move in sympathy with the index although the portfolios do not necessarily contain any security in the index. The index derivatives are, therefore, used even for hedging the portfolio risk of non-index stocks. An investor who does not have the index stocks can also use the index derivatives to hedge against the market risk as all the portfolios have a correlation with the overall movement of the market (*i.e.*, index).

In view of (i) practical difficulties in administration of tax for different purposes of the same transaction, (ii) inherent nature of a derivative contract requiring its settlement otherwise than by actual delivery, (iii) need to provide level playing field to all the parties to derivatives contracts, and (iv) need to promote derivatives markets, the exchange-traded derivatives contracts need to be exempted from the purview of speculative transactions. These must, however, be taxed as normal business income.

Cross Margining

Cross-margining takes into account a member/client's combined position across products/market segments (like, cash and derivatives markets) and across all exchanges. Cross-margining thus results in reduction in total margin payable by a member trading in related products and in more than one market. For example, a clearing corporation can compute and levy a single net margin amount based upon offsetting positions in different products/markets/exchanges. Since this offers several benefits like, reduced collateral requirement, increased liquidity, improved collateral management and lower operational costs, the regulatory authorities should weigh the possibility of introducing cross-margining system.

Further Products

The derivatives trading in India has so far been introduced in a fairly limited range of products. Index futures and options are available only on two indices, *viz.*, S&P CNX Nifty and BSE Sensex. Stock options have been introduced on a few securities. However, there is no limit to the range of derivative products, which are available internationally. In this context, SEBI has already set up a Committee under the Chairmanship of Prof. J. R. Varma to consider the possibility of introducing futures on individual securities. After the market gains more familiarity with derivative products, one will have to consider introducing new derivative products based on various other instruments available in financial markets. For example, the index futures/options could be extended to some other popular indices, like Nifty Junior and Defty. The possibility of introducing derivatives with exchange rate, interest rate and gold as the underlying could also be explored. Other possible options are derivatives on MIBID/MIBOR and on key overseas stock indices, like Nasdaq 100 and Nikkie 200. These would provide wider option to market participants.

8. Knowledge Initiatives

Several initiatives have been taken over the last few years to promote the skills of market participants, to educate and protect the investors, and to generate high quality research about the working of the securities market. These knowledge initiatives aimed at professionalisation of the Indian securities industry are discussed in this Chapter.

Testing and Certification

Improving Quality of Intermediation

The intermediaries, of all shapes and sizes, who package and sell securities, compete with one another for the chance to handle investors'/issuers' money. How does an investor/issuer discriminate among them? How does he know that a particular intermediary really understands his needs? How does he know that a particular intermediary can handle his money in his best interest? He can have comfort if the intermediary as well as its employees (i) follow a certain code of conduct and behave properly, and (ii) are capable of providing professional services. All the intermediaries in the securities market are now registered and regulated by SEBI. A code of conduct has been prescribed for each intermediary as well as for their employees in the regulations; capital adequacy and other norms have been specified; a system of monitoring and inspecting their operations has been instituted to enforce compliance; and disciplinary actions are being taken against them for violating any regulation. Thus a reasonably satisfactory arrangement is in place to ensure good conduct of the intermediaries.

The development of capability of the intermediaries for providing professional services has been left, by and large, to market forces. In other segments of financial markets in India, there are arrangements to equip the personnel with the required expertise. A person is required to undergo specified hours of class room training and pass the prescribed examination before he can be licensed to act as an insurance agent. The employees of insurance companies upgrade their competence by taking licenciate, associate and fellow examinations of the Insurance Institute of India. Similarly bank employees take junior associate and certified associate examinations conducted by the Indian Institute of Bankers. The employees taking these examinations successfully are rewarded through monetary benefits as well as preference in promotions.

In developed markets and in some of the developing markets, this is ensured through a system of testing and certification of persons joining market intermediaries in the securities market. Most of the overseas securities markets have practices requiring personnel working with intermediaries to pass qualifying examinations and even continuously update his capability. This sort of arrangement ensures that a person dealing with financial products has a minimum standard of knowledge about them, market and regulations so as to assist the customers in their dealings. This allows market participants and intermediaries to build their own tailored staff development strategies and improves career prospectus of certified professionals, while maintaining

and enhancing the confidence of the investors in the market. Such arrangement is in a very nascent stage in the Indian securities market where it is needed most.

There is not adequate formal educational or training programme on securities markets especially in the area of operations. No academic course teaches how to maintain depository accounts, how to sell mutual fund products, how to issue contract notes or how to trade, clear and settle trades on a stock exchange. The securities market of this country certainly does not deserve such neglect from the educational system. In the absence of any formal qualification, which equips a person to operate in the securities market, the market employs chartered accountants, company secretaries, financial analysts, who are trained for some other work, but can also handle the work in the securities market if they are given adequate on-the-job training. They acquire expertise by doing the job and by attending short-term courses/seminars. They also continuously acquire newer and newer capabilities to meet the changing requirements of the securities market, which is transforming continuously. In fact, the personnel working in the securities market have admirably acquired the skills required in the changing environment of 1990s. The transformation can be sustained and further reforms can be facilitated if there are adequately trained personnel who are willing to continuously update their professional competence. This fact is being, fortunately increasingly, realised by the regulators and industry associations who are prescribing certifications in their respective areas. The markets are also rapidly adopting certification programmes and are soon becoming a turf of certified professionals because of regulatory compulsions and/or initiatives of the industry.

Initiatives in India

With a view to improve investor protection through better quality intermediation, SEBI set up a Committee for certification and testing of persons joining capital market intermediaries. The Committee was mandated to prescribe standards of knowledge necessary for different types of specialised functions in the securities industry at operational and supervisory levels. SEBI approved the recommendations of the Committee in September 1998. The committee recommended that an examination based certification system is ideal to meet the needs of the Indian capital markets. The test may be offered on a voluntary basis in the initial period and may be made a mandatory requirement after a period of two years from the date of the first test. After the date on which test becomes mandatory, every person regardless of the qualifications he possesses should be required to pass the certification test within a period of 12 months from the date of employment with a capital market intermediary. Of the existing staff with the intermediary, two persons or 20%, whichever is higher, shall have to obtain the certificate within 12 months from the date on which the test becomes mandatory. The intermediary that violates the minimum number of certified employees norm should be deemed to be automatically de-registered from the date of the said violation. Initially there may be a single common test for all market intermediaries and specialised tests may be introduced for different participants at a later date, as required by the market conditions. The examination can be taken by anyone, irrespective of qualifications, age, employment or experience. The Committee also designed an exhaustive syllabus for the examination to test the candidate's understanding of the securities market and his ability to provide sound advice to investors. Though the recommended testing and certification system is yet to be operationalised, it created awareness of and need for certification among the market participants.

The L. C. Gupta Committee set up by SEBI to develop appropriate regulatory framework for derivatives trading in India recommended that the broker-members,

sales persons/dealers in the derivatives market must pass a certification programme, which is considered adequate by SEBI. The Parliamentary Standing Committee on Finance, which examined derivatives bill, also recommended that SEBI should in consultation with the stock exchanges endeavour to conduct the certification programme on derivatives trading with a view to educate investors and market players. In pursuance to this recommendation, SEBI has mandated that trading members must have qualified approved users and sales persons who have passed an approved certification programme.

The Association of Mutual Funds in India (AMFI) has launched a major initiative to build a cadre of trained professional distributors of mutual fund products and to facilitate the move towards the mutual fund industry employing trained and certified professionals in the interest of investors. SEBI Advisory Committee on Mutual Funds has recently decided that mutual funds should adopt the certification of agents and distributors for mutual fund schemes by the AMFI on a voluntary basis. Over a period of time, such certification may be made mandatory. The National Securities Depositories Limited (NSDL) has also launched an initiative to accelerate the pace of professionalisation of the depository services. They have prescribed that all the branches of the depository participants must have at least one person who has obtained the prescribed certification. In order to improve the level of knowledge of market participants, only persons who have passed the prescribed examination are authorised to use its trading system by NSE. The Association of Merchant Bankers in India, Association of Financial Planners, Fixed Income Money Market Dealers Association *etc.* are working towards a certification mechanism for their members.

Certification in Financial Markets

A testing and certification mechanism that has become extremely popular and is sought after by the candidates as well as employers is an unique on-line testing and certification programme called National Stock Exchange's Certification in Financial Markets (NCFM). It is an on-line fully automated nation-wide testing and certification system where the entire process from generation of question paper, invigilation, testing, assessing, scores reporting and certifying is fully automated — there is absolutely no scope for human intervention. It allows tremendous flexibility in terms of testing centres, dates and timing and provides easy accessibility and convenience to candidates as he can be tested at any time and from any location. It tests practical knowledge and skills, that are required to operate in financial markets, in a very secure and unbiased manner, and certifies personnel who have a proper understanding of the market and business and skills to service different constituents of the market.

It aims to develop capability in a niche area like depository operations or derivatives trading where the person intends to render service. Accordingly it offers a comprehensive range of modules covering many different areas of financial services. It offers, inter alia, eight securities market related modules as presented in Table 8.1. About 15,000 personnel have been certified in these modules.

The confidence of the investors can be maintained and enhanced by making provision for professional intermediation services through a system of certification. Industry/Self Regulatory Organisations (SROs)/Regulators have made a modest beginning, but not adequate given the dimensions of the market. SEBI regulations, which lay down various requirements for registration as an intermediary, should specify certification as a mandatory requirement for operational level employees. This sort of requirement has been mandated by the Insurance Regulatory and Development Authority (IRDA) in the regulations for life insurance agents and general insurance

Table 8.1. Modules of NCFM

Sl. No.	Names of the Modules	Primary Inspiration
1.	Derivatives Core Module	Regulatory Requirement
2.	Capital Market Basic Module	SRO's Prescription
3.	Depository Operations Module	NSDL's Initiative
4.	Surveillance in Stock Exchanges Module	Regulatory Persuasion
5.	Mutual Funds (Distributors) Module	AMFI Initiative
6.	Mutual Funds (Employees) Module	AMFI Initiative
7.	Capital Market (Dealers) Module	SRO's Prescription
8.	Debt Market Basic Module	Industry Initiative

agents. While this requirement should apply at the entry point for all new employees joining the intermediaries and all intermediaries joining the market, regulation may allow a breathing time for the existing intermediaries and employees to qualify the certification. These people should also be required to update their skills and expertise by seeking certification at intervals of five years. There should be an arrangement to maintain a database of certified professionals and enforce a code for them so as to enable prospective employers access the database to meet their personnel requirements.

Research Initiatives

The recent past has witnessed growing interest in the quality research into the working of securities market. The regulators, SROs, other market participants and academics are promoting and undertaking research. The initiatives by a few of them are presented below:

SEBI

In order to deepen the understanding and knowledge about Indian capital market, and to assist in policy-making, SEBI has been promoting high quality research in capital market. SEBI has set up an in-house research department, which brings out working papers on a regular basis. The papers released by SEBI in the recent past are presented in Table 8.2. In collaboration with National Council for Applied Economic Research (NCAER), SEBI brought out a 'Survey of Indian Investors', which estimated investor population in India and their investment preferences. The results of the survey are being further updated. SEBI has also tied up with reputed national and international academic and research institutions for conducting research studies/projects on various issues related to the capital market. SEBI has tied up with NCAER and Indian Institute of Management (IIM), Ahmedabad for taking up research studies/projects on capital market. In association with NCAER, SEBI has launched a study on 'Cost of Compliance by the Intermediaries in the Capital Market'.

NSE

In order to improve market efficiency further and to set international benchmarks in the securities industry, NSE launched a scheme called the NSE Research Initiative in January 2000 with a view to develop information base and better insight into the working

Table 8.2. Working Papers by SEBI

Sl. No.	Title of Study
1.	Transaction Cost for Equity Shares in India
2.	Stock Market Volatility — A Comparative Study of Selected Markets
3.	Transaction Cost for Equity Shares in India (Revised)
4.	Dematerialisation: A Silent Revolution in the Indian Capital Market
5.	Impact of Takeover Regulations on Corporate Sector in India — A Critical Appraisal

of securities market in India. The objective of this initiative is to foster research, which can support and facilitate:

(a) stock exchanges to better design market microstructure,

(b) participants to frame their strategies in the market place,

(c) regulators to frame regulations,

(d) policy makers to formulate policies, and

(e) expand the horizon of knowledge.

The Initiative has received tremendous response. Around 50 proposals have been received so far. The list of studies completed/under progress is provided in Table 8.3.

Table 8.3. Studies under the NSE Research Initiative

Sl. No.	Title of Study
1.	Achieving an Individual Investor Friendly System using the Power of the Internet
2.	Efficiency of the Market for Small Stocks
3.	Econometric Estimation of Systematic Risk of S&P CNX Nifty Constituents
4.	Stock Market Development and its Impact on the Financing Pattern of the Indian Corporate Sector
5.	Improved Techniques for using Monte Carlo in VaR estimation
6.	Corporate Performance Determinants Using Econometrics
7.	Should Pension Funds Invest in Equities? An Analysis of Risk-Return Tradeoff and Asset Allocation Decisions
8.	Stock Returns and the Credit Channel of Monetary Policy Transmission
9.	Changes in Liquidity following Exposure to Foreign Shareholders: The Effect of Foreign Listings, inclusion in Country Funds and Issues of American Depository Receipts
10.	Is the Spread Between E/P Ratio and Interest Rate Informative for Future Movement of Indian Stock Market?
11.	Empirical Investigation of Multi-factor Asset Pricing Models using Artificial Neural Network
12.	Merger Announcements and Insider Trading Activity in India: An Empirical Investigation
13.	Market Microstructure Effects of Transparency of Indian Banks.

Society for Capital Market Research and Development

The Society for Capital Market Research and Development is a unique non-profit research institution, dedicated to the object of helping the development and regulation of the Indian capital market on sound lines in the larger social interest. It attempts to promote a better understanding of problems and works in a public interest framework. In 1990, it conducted the first-ever all-India Household Investor Survey. It has been followed by three more surveys, the latest being in 2000. It has recently completed the following studies:

- Returns on Indian Equity Shares
- Indian Households' Investment Preferences
- How Good Are Mutual Funds: The Household Investors' Perceptions
- India's Stock Market Reform & Regulation: Where to Go From Here

Data Dissemination

Maintenance of a user friendly database is essential for research and dissemination of information. NSE compiles, maintains and disseminates high quality data to aid market participants, researchers and policy-makers in formulating market strategy, doing research and analysis and making policies. NSE has been maintaining historical database on every trade, which takes place at the exchange and every order, which is placed on its trading system. This data is disseminated through monthly CD releases. NSE's web-site is a storehouse of information.

The following information is available on CDs:

- Summary information about each security for each trading day like high price, low price, closing price and last traded price, turnover (value and volume), and number of trades.
- Database of stock market indices computed by IISL. Both end of day and intra day information is available for Nifty, Nifty Junior and Defty.
- Snapshots of limit order book of NSE at different points during a day.
- Database of every trade, which takes place at NSE, including the price of the trade and the number of shares transacted.
- Database of circulars issued during the month. Every development in the market in terms of market design is documented in these circulars.

Investor Awareness

Investors are the backbone of the securities market. It is the investor education and awareness that holds the key to reviving the interests of the investors in the securities market and to infuse confidence in them. Many of them do not possess adequate expertise/knowledge to take informed investment decisions. They are generally not aware of the complete risk-profile of the companies they are investing their money in. The regulators, SROs, non-government organisations (NGOs), and investor fora/ associations need to educate them.

Realising its importance, SEBI has launched an intensive investor education exercise aimed at protecting the interests of investors in securities market. It helps the investors in redressal of complaints regarding securities investments. It also disseminates through its website and press briefings the policy developments and enforcement actions for the information of investing community. It has published a number of booklets on policy and market developments for educating the investors. The booklet titled 'A Quick Reference Guide for Investors' contains helpful information for helping general investors as to how they should deal with securities-related complaints. SEBI has also laid down a framework under which it registers investors associations working for investor education and redressal of investor complaints.

During 2000–01, SEBI took the following steps for educating investors:

1. SEBI distributed the booklet titled 'A Quick Reference Guide for Investors' to the investors and also wrote to stock exchanges and various corporates to distribute this booklet to their shareholders/investors.
2. SEBI issued a series of advertisement/public notices in national as well as regional newspapers to educate and caution the investors about the risks associated with the collective investment schemes.
3. SEBI also broadcast message for investors in Collective Investment Schemes through National Hook-up and regional stations of Vividh Bharati.
4. SEBI also issued messages in the interest of investors on National Channel and Regional Stations on Doordarshan.

Recently, the Department of Company Affairs (DCA) informed the general public about the agency they should approach for redressal of their grievances. The investor complaints relating to deposits in banking companies and non-banking financial companies are dealt with by RBI, the complaints relating to non-banking non-financial companies (listed) are dealt with by SEBI and the complaints in respect of non-banking non-financial companies (unlisted) are dealt with by DCA. In the case of deposits from non-banking non-financial companies, the depositors should approach the Company Law Board and if the orders passed by the Board are not honoured then they should approach the concerned Registrar of Companies with a certified copy of the order. Investor complaints of unlisted companies are dealt with by DCA. These complaints relate to non-registration of transfer of shares, non-refund of share application money, non-receipt of dividends, non-receipt of duplicate shares, non-issue of share certificates, non-issue of debenture certificates, bonus shares, share certificates on conversion, after endorsement *etc.* The complaint is pursued with the company by DCA and in case of non-settlement of the complaint, the matter is referred to the Registrar of Companies for prosecution.

Investor Protection Fund

Some cushion to the interests of investors is provided by the Investor Protection Funds (IPFs) set up by the stock exchanges. Exchanges maintain an IPF to take care of investor claims, which may arise out of non-settlement of obligations by the trading members. The IPF is used to settle claims of such investors whose trading member has been declared a defaulter. The maximum amount of claim payable from the IPF to the investor (where the trading member through whom the investor has dealt is declared a defaulter) is Rs. 5 lakh. The IPF of the NSE had a balance of Rs. 65 crore at the end of March 2001. Other stock exchanges are also maintaining similar IPFs. In order to promote investor education and to create greater investor awareness, stock exchanges have been allowed to utilise interest income earned on IPF for investor education, awareness and research.

The Companies Act, 1956 provides for establishment of an investor education and protection fund to protect the interests of small shareholders. The fund will be utilised for conducting direct education programmes, organising seminars, symposia, conducting specific projects for investor protection, including research activities and providing legal assistance to genuine investor litigants through investor grievances forums. The fund would have an initial a corpus of Rs. 700 crore and would be managed by a committee comprising both government and non-government members. The money needed for the fund accrues from grants from the government and from the corporate sector by way of unclaimed dividends, share application money, matured deposits and unclaimed debentures.

Disclosure

Any information that affects investors must be available to all investors in a timely fashion. One major source of information about a company is the disclosures made by the company. The Companies Act has laid down detailed guidelines for disclosures to be made by all companies. These have been further supplemented by the Disclosure and Investor Protection Guidelines of SEBI, and the listing agreement. Under the Companies Act, all companies have to prepare statutorily audited annual accounts. These are sent to all shareholders and lodged with the Registrar of Companies, after being approved by the Board. The listed companies are also required to submit the annual accounts to every stock exchange where they are listed. In addition, listed companies have to prepare abridged unaudited financial summaries for every quarter and submit a cash flow statement. The most substantive financial disclosures of companies are found in the annual reports, particularly the balance sheet and profit and loss account.

The companies do not provide fair disclosures of related party transactions and consolidated accounts of subsidiaries and associate companies. The disclosures on related party transactions as required under law fall quite behind the international practices prevailing in this regard. It is only very recently that the Institute of Chartered Accountants of India (ICAI) has issued accounting standards in the areas of consolidation of accounts, segment reporting, deferred taxes, related party transactions and earning per share and their applicability to continuous disclosure requirements.

While the quantity and quality of financial disclosures is an important issue, how these disclosures are made is also important. Mostly companies have been making the disclosures through annual reports and quarterly reports. All other important announcements are made through the public media. It is, however, possible that such information reaches common investors later than it is made available to some others. To impart healthy practices in this regard, the companies are now required to make announcements regarding corporate actions, such as declaration of dividends and bonus, and financial results of the company, within 15 minutes from the close of Board meeting in which these decisions are taken. Companies should promote usage of information technology for dissemination of information. Some companies, however, may find it unaffordable to maintain web-sites. It would be better to have a common web-site for providing information on various companies at one place.

NSE has put in place systems to ensure that proper, up-to-date and correct information is available to the investors to enable them to take informed decisions and to ensure that their interests are protected. NSE ensures that critical and price-sensitive information is available to all classes of investor at the same point of time. Such price-sensitive information as bonus announcements, mergers, new line of business, *etc.* received from the companies is disseminated to all the market participants through the network of NSE terminals all over India. The Exchange initiates action where such price-sensitive information is not provided to the Exchange at the prescribed time. NSE conducts various seminars and programs for the investors all over the country with a view to educating them on their rights and obligations and precautions they should take while dealing in the securities market. NSE makes an audit trail available on request for all transactions executed on NSE to enable investors to counter-check the trade details, *viz.*, price, time, *etc.* for the trades executed on his behalf by the broker. It has also prescribed and makes effort to ensure the implementation of various safeguards like time schedules for issuing contract notes, for receiving funds and securities purchased by investors, segregation of client funds and securities from those of members, *etc.*

EDGAR

SEBI is working towards putting in place an integrated source of company information, which would be accessible through SEBI's website on lines similar to that of Electronic Data Gathering, Analysis and Retrieval (EDGAR) system of the US Securities Exchange Commission. It is expected that once the system is in place, the levels of disclosure in the Indian markets would be at par in the US.

At present, companies file various information with the stock exchanges as a part of the listing agreement. Under EDGAR, all company-related information, which is mandatorily required to be filed by companies will be available at one location in the electronic form. Electronic filing of information drastically reduces the paper work and physical filing of documents. SEBI would, however, have to ensure that the database is appropriately secured by devising systems for validation.

The content of disclosure on the website would include the information on all the material events that the companies are required to disclose in compliance with the listing agreement. The disclosures regarding shareholding pattern, specifically with regard to promoter holding, and disclosure of balance sheet items in periodical financial statements could also be included in the information database prepared by SEBI.

SEBI is working out the necessary systems for the database and development of software and applets. It is envisaged that after the software is ready it would be tested through dummy filings by top 100 listed companies to begin with. After stabilising the software, these companies will proceed with live electronic filing in the following quarter. The list will then be expanded in the next quarter to cover the top 500 companies, which account for more than 80% of the turnover and market capitalisation.

Major listed companies and industry chambers have welcomed the idea of electronic filing of news/reports and expressed their willingness and readiness to move into electronic filing rapidly. Exchanges would work with the SEBI on developing a system for electronic filing and retrieval to develop a secure link between stock watch database and the central database for filing. This would enable immediate updation of information with all exchanges, as soon as it was made public by companies through the central database.

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