Securities Market in India – An Overview

Introduction

The financial markets and institutions have, in recent years, undergone significant changes keeping in pace with the changing need of market participants. To a great extent the institutions that dominated global finance in earlier decades-commercial banks and supranational organizations like the International Monetary Fund (IMF)-have been displaced by disintermediated, private finance. There has been an enormous shift of expertise and market power away from banks and towards corporations. The latter increasingly issue securities like commercial paper, bonds and notes, and manage their financial risks internally. Some have created finance subsidiaries that have become powerful financial service firms in their own right. All successful market participants must have a far more sophisticated understanding of financial risks, and of the tools to manage them, than was once the case.

To keep pace with the global markets, the financial markets in India has gone through various stages of liberalization that has increased its degree of integration with the global markets. This has been possible with measures like opening up the economy for investment and trade, decontrol of interest rate and exchange rate, setting up sound regulatory institutions to ensure safety of the system, etc. The securities markets in India witnessed several policy initiatives during the year 2002-03 that further refined the market micro-structure, modernised operations and broadened investment choices for investors. The securities market has been thriving ahead keeping the experience of the irregularities in the securities transactions in the last quarter 2000-01 due to the introduction and implementation of several reforms. The Joint Parliamentary Committee (JPC) set up to look into the irregularities and manipulations in the securities market, including insiders 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 submitted its final report on December 19, 2002 with many recommendations like speeding up of the process of demutualisation and corporatisation of stock exchanges to implement the decision to separate ownership, management and operation of stock exchanges and to effect legislative changes for investor protection, and to enhance the effectiveness of SEBI as the capital market regulator, etc. The securities market moved to T+2 settlement system from April 2003. All deferral products such as carry forward were banned from July 2, 2002. Trading in index options commenced in June 2001 and trading in options on individual securities commenced in July 2001. Futures contracts on individual stock were launched in November 2001. The year 2002-03 has also been eventful for equities, debt as well as derivatives markets in India. The securities market reforms and other market developments during last one decade or so and ongoing policy debates have been discussed in detail in the following chapters. These developments in the securities market, which support corporate initiatives and facilitate management of financial risk, hold out necessary impetus for growth, development and strength of the emerging market economy of India.

Financial Assets and Participants

Financial markets facilitate the reallocation of savings from savers to entrepreneurs. 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 to include shares, bonds, scrips, stocks or other marketable securities of like nature in or of any incorporate company or body corporate, government securities, derivatives of securities, units of collective investment scheme, interest and rights in securities, security receipt or any other instruments so declared by the central government.

It is not that the users and suppliers of funds meet each other and exchange funds for securities. It is difficult to accomplish such 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

Market Participants	Number as on March 31	
	2002	2003
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	9,644	9,413
Brokers	9,687	9,519
Corporate Brokers	3,862	3,835
Sub-brokers	12,208	13,291
FIIs	490	502
Portfolio Managers	47	54
Custodians	12	11
Share Transfer Agents	161	143
Primary Dealers	18	19
Merchant Bankers	145	124
Bankers to an Issue	68	67
Debenture Trustees	40	35
Underwriters	54	43
Venture Capital Funds	34	43
Foreign Venture Capital Investors	2	6
Mutual Funds	37	38
Collective Investment Schemes	6	5

** DCA, DEA, RBI & SEBI.*

The securities market has essentially three categories of participants, namely the issuers of securities, investors in securities and the intermediaries and products include equities, bonds and derivatives. The issuers and investors are the consumers of services rendered by the intermediaries while the investors are consumers (they subscribe for and trade in securities) 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 primary and the secondary market. The primary market provides the channel for creation of new securities through issuance of financial instruments by public companies as well as Governments and Government agencies and bodies whereas the secondary market helps the holders of these financial instruments to sale for exiting from the investment. 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 primary market issuance is done either through public issues or private placement. A public issue does not limit any entity in investing while in private placement, the issuance is done to select people. 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, 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 (OTCEIL). 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, i.e. a day under rolling settlement, are settled together after a certain time (currently 2 working days). All the 23 stock exchanges in the country provide facilities for trading of equities. 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. Nearly 100% of the trades in capital market segment are settled through demat delivery. Today the market participants have the flexibility of choosing from a basket of products like:

- Equities
- Bonds issued by both Government and Companies
- Futures on benchmark indices as well as stocks
- Options on benchmark indices as well as stocks
- Futures on interest rate products like Notional 91-day T-Bills, 10 year notional zero coupon bond and 6% notional 10 year bond.

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 capitalization, 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 several institutional changes resulting in drastic reduction in transaction costs and overall improvements in efficiency, transparency, liquidity and safety. In a short span of time, Indian derivatives market has got a place in list of top global exchanges. In single stock futures category, the Futures Industry Association (FIA) placed NSE in second position in its Survey for the year 2002.

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.

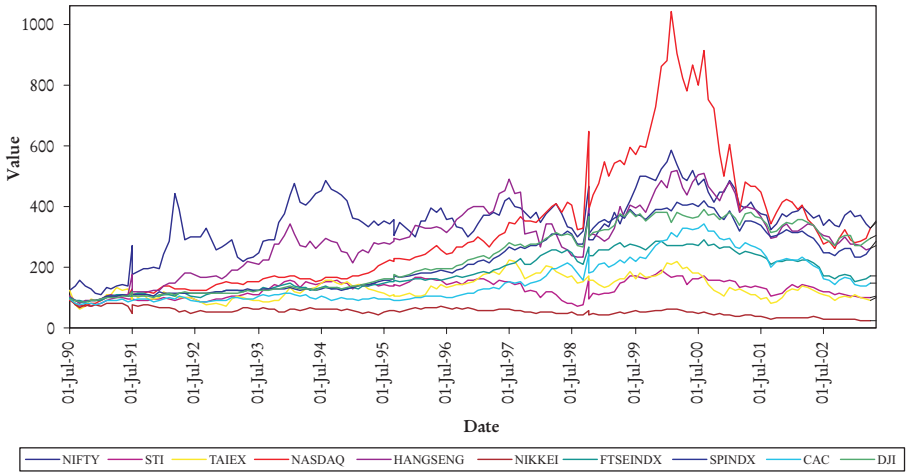
International Scenario

Global integration-the widening and intensifying of links between high-income and developing countries-have accelerated, especially in the past 20 years or so. This has been possible due to lower transport cost, lower barriers, faster communication, greater mobility of human capital and growing capital flows. Chart 1-1 gives the movements of different markets from July 1990 to May 2003. As can be seen from the Chart 1-1, all the markets have gone through many ups and downs during last one decade and the level of integration of these markets are apparent. The correlation of global markets over a period of time is presented in the table below.

Correlation of Global Markets (July 1990-May 2003)

	Nifty	Singa-pore	Taiwan	Nasdaq	Hang Seng	Nikkie	FTSE	SP500	CAC	DJIA
Nifty (India)	1									
Singapore	0.133	1								
Taiwan	0.088	0.333	1							
Nasdaq (US)	0.008	0.035	0.019	1						
HangSeng	0.140	0.646	0.299	0.019	1					
Nikkei (Japan)	0.102	0.364	0.241	-0.014	0.358	1				
FTSE (UK)	-0.003	-0.018	-0.003	0.365	-0.020	-0.060	1			
S&P500 (US)	-0.003	-0.013	-0.017	0.748	-0.012	-0.038	0.472	1		
CAC (France)	-0.021	-0.020	-0.012	0.375	-0.022	-0.053	0.773	0.482	1	
Dow Jones IA	0.011	-0.0003	-0.001	0.622	-0.003	-0.024	0.466	0.940	0.472	1

Chart 1-1: Movement of Different Markets



Over the past fifteen years, the financial markets have become increasingly global. The descriptive statistics of the major markets in terms of daily returns and daily volatility is presented below, which shows that the markets have a very strong bonding and are interlinked.

Descriptive Statistics of Daily Returns (July 1990-May 2003)

	CAC	DJIA	FTSE	HANG	NASDQ	NIFTY	NIKKIE	SING	SP500	TAI
Mean	0.0156	0.0433	0.0213	0.0328	0.0361	0.0505	-0.0593	0.0069	0.0385	0.0087
Median	0.0059	0.0470	0.0135	0.0000	0.0809	0.0262	-0.0051	-0.0315	0.0403	-0.0509
Maximum	10.2949	7.3793	7.2286	17.4615	13.2546	18.9006	9.4030	13.9638	7.0528	18.7381
Minimum	-11.9768	-9.2243	-6.3986	-14.7346	-11.4299	-12.5219	-9.4443	-11.3888	-7.2533	-14.1143
Std. Dev.	1.6151	1.1870	1.2312	1.9265	1.7824	1.9623	1.6425	1.5263	1.1934	2.1400
Skewness	0.0476	-0.0752	0.1505	0.3336	0.0078	0.4678	0.2463	0.3023	0.0897	0.2504
Kurtosis	7.1143	7.5101	6.4256	12.6081	7.9521	12.0202	6.0226	11.7881	6.2873	8.9704

Descriptive Statistics of Daily Volatility (July 1990-May 2003)

	CAC	DJIA	FTSE	NASD	HANG	NIFTY	NIKKIE	SP500	STI	TAI
Mean	1.5047	1.1120	1.1385	1.5827	1.7647	1.7992	1.5678	1.1122	1.4016	1.9700
Median	1.3194	1.0227	1.0451	1.3985	1.5782	1.6357	1.4771	1.0327	1.2713	1.7197
Maximum	3.6632	2.7915	3.0422	5.2986	6.8132	7.0662	3.6815	2.6120	5.0805	6.7271
Minimum	0.6247	0.4504	0.4921	0.5277	0.7058	0.6924	0.5937	0.4140	0.5074	0.7419
Std. Dev.	0.5838	0.4246	0.4631	0.8237	0.7819	0.8183	0.5316	0.4402	0.6253	0.9393
Skewness	1.4785	1.0118	1.3191	1.1384	2.1513	2.2647	1.0254	0.7474	1.5860	2.5493
Kurtosis	4.8496	3.8394	4.9078	4.1083	10.4585	11.2336	4.2644	3.1091	6.7988	10.6238

Cross boarder capital flows have shifted from public transfers to primarily private sector flows. Indian market has gained from foreign inflows through investment of Foreign Institutional Investment (FII) route and in June 2003, the FII investment was at US$ 17.39 billion with 509 registered FIIs. As it can be seen from Table 1-2, there are very few countries, which have higher turnover ratio than India. At the end of 2002, Standard and Poor's (S&P) ranked India 19th in terms of market capitalization (25th in 2001), 17th in terms of total value traded in stock exchanges (15th in 2001) and 7th in terms of turnover ratio (6th in 2001). India

Table 1-2: International Comparison: end December 2002

Particulars	USA	UK	Japan	Germany	Singa-pore	Hong-kong	China	India
No. of Listed Companies	5,685	1,701	3,058	715	434	968	1,235	5,650
Market Capitalisation ($ Bn.)	11,052	1,864	2,126	686	102	463	463	131
Market Capitalisation Ratio (%)	113.0	126.2	47.0	35.4	114.7	271.9	40.9	27.4
Turnover ($ Mn.)	25,371	2,721	1,573	1,233	56	211	333	197
Turnover Ratio (%)	202.5	135.4	71.0	140.5	39.3	43.5	67.6	165.0

Source: S&P Emerging Stock Market Factbook, 2003

ranks second in number of listed securities on the Exchange after USA. These data, though quite impressive, do not reflect the full Indian market, as S&P (even other international publications) does not cover the whole market. For example, India has 9,413 listed companies at the end of March 2003, while S&P considers only 5,650 companies. If whole market is taken into consideration, India's position vis-à-vis other countries would look much better.

A comparative study of concentration of market indices and indices stocks in different world markets is presented in the table below. It is seen that the index stocks' share of total market capitalization in India is 52.5% whereas US index accounted for 93.6%. The ten largest index stocks share of total market capitalization is 28.4% in India and 15.7% in case of US.

Market Concentration in the World Index as on End 2002

(In Percent)

Market	Index Stocks Share of Total Market Capitalization	10 largest Index Stocks' Share of total Market Capitalization
Japan	98.6	22.8
Singapore	87.8	61.0
France	91.6	42.5
Germany	82.0	42.6
Italy	96.5	55.5
United Kingdom	93.7	43.9
United States	93.6	15.7
India	52.5	28.4

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 from US $ 5.5 trillion in 1990 to US $ 38 trillion in 2002 ($42 trillion in 2001). It is significant to note that US alone accounted for about 66% of worldwide turnover in 2002. Despite having a large number of companies listed on its stock exchanges, India accounted for a meagre 0.51% in total turnover in 2002 down from 0.59% in 2001. The market capitalization of all listed companies taken together on all markets stood at US$23 trillion in 2002 ($28 trillion in 2001). The share of US in worldwide market capitalization decreased from 49.6% as at end-2001 to 47.25% in end-2002 while Indian listed companies accounted for 0.56% of total market capitalization in 2002.

There has also been an increase in market capitalization 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 capitalization as per cent of GDP was the highest at 103.9% for high-income countries as at end-2001 and lowest for low-income countries at 18.3%. Market capitalization as per cent of GDP for India stood at 23.1% as

Table 1-3 : Market Capitalisation and Turnover for Major Markets

(US $ million)

Country/Region	Market Capitalisation (end of period)			Turnover		
	2000	2001	2002	2000	2001	2002
Developed Markets	**29,614,264**	**25,246,554**	**20,955,876**	**43,912,999**	**39,676,018**	**36,098,731**
Australia	372,794	374,269	380,969	226,325	240,667	294,658
Japan	3,157,222	2,251,814	2,126,075	2,693,856	1,826,230	1,573,279
UK	2,576,992	2,217,324	1,864,134	1,835,278	1,871,894	2,721,342
USA	15,104,037	13,810,429	11,052,403	31,862,485	29,040,739	25,371,270
All Emerging Markets	**2,608,486**	**2,572,064**	**2,436,038**	**3,953,089**	**2,397,080**	**2,546,742**
China	580,991	523,952	463,080	721,538	448,928	333,369
India	148,064	110,396	131,011	509,812	249,298	197,118
Indonesia	26,834	23,006	29,991	14,311	9,667	13,042
Korea	148,649	220,046	249,639	1,067,669	703,960	873,692
Malaysia	116,935	120,007	123,872	58,500	20,772	27,623
Philippines	51,554	41,523	39,021	8,196	3,148	3,103
Taiwan	247,602	292,621	261,474	983,491	544,808	631,931
World Total	**32,222,750**	**27,818,618**	**23,391,914**	**47,869,867**	**42,076,862**	**38,645,472**
US as % of World	**46.87**	**49.64**	**47.25**	**66.56**	**69.02**	**65.65**
India as % of World	**0.46**	**0.40**	**0.56**	**1.06**	**0.59**	**0.51**

Source: S&P Emerging Stock Market Factbook, 2003.

Table 1-4: Select Stock Market Indicators

Country/Region	Market Capitalisation as % of GDP			Turnover Ratio (%)			Listed Domestic Companies		
	1990	2000	2001	1990	2001	2002	1990	2001	2002
High Income	**51.6**	**120.6**	**103.9**	**59.5**	**129.9**	**138.5**	**17,078**	**25,548**	**26,035**
Middle Income	**20.0**	**41.2**	**35.7**	**78.3**	**84.9**	**44.4**	**4,900**	**15,364**	**9,442**
Low & Middle Income	**18.8**	**38.7**	**33.1**	**70.7**	**90.1**	**58.0**	**8,346**	**23,097**	**17,284**
East Asia & Pacific	16.4	48.3	45.8	117.2	149.9	72.5	1,443	3,486	2,886
Europe & Central Asia	2.1	20.5	19.3	–	83.1	54.2	110	8,220	2,759
Latin America & Caribbean	7.6	34.0	33.4	29.7	26.9	21.6	1,734	1,567	1,570
Middle East & N. Africa	27.8	34.8	26.3	–	22.3	19.8	817	1,596	2,020
South Asia	10.8	27.0	19.7	54.0	161.6	180.3	3,231	7,159	7,010
Sub-Saharan Africa	52.0	102.3	103.9	–	22.5	23.8	1,011	1,069	1,039
Low Income	**9.8**	**23.6**	**18.3**	**53.8**	**121.3**	**53.8**	**3,446**	**7,733**	**7,842**
India	**12.2**	**32.4**	**23.1**	**65.9**	**191.4**	**225.8**	**2,435**	**5,795**	**5,650**
World	**48.0**	**105.1**	**90.7**	**57.2**	**122.3**	**57.2**	**25,424**	**48,645**	**43,319**

Source: World Development Indicators 2002, World Bank.

at end-2001. The turnover ratio, which is a measure of liquidity, was lower for low-income countries at 53.8% in 2002 as compared to 138.5% for high-income countries. The corresponding figure for India was only 225.8%. The total number of listed companies stood at 26,035 for high-income countries, 9,442 for middle-income countries and 7,842 for low-income countries as at end-2002.

Securities Market and Economic Development

Three main sets of entities depend on securities market. While the corporates and governments raise resources from the securities market to meet their obligations, the households invest their savings in the securities.

Corporate Sector: The 1990s witnessed emergence of the securities market as a major source of funding for trade and industry in india. A growing number of companies have been accessing the securities market rather than depending on loans from FIs/banks. The corporate sector is increasingly depending on external sources for meeting its funding requirements. However, such dependence depends on the state of primary and secondary markets in the country. According to CMIE data (Table 1-5), the share of capital market based instruments in resources raised externally increased to 53% in 1993-94, but declined thereafter to 33% by 1999-00 and further to 21% in 2001-02.

Table 1-6 presents sector-wise shareholding pattern of companies listed on NSE. It is observed that on an average the promoters hold more than 58% of total shares. Though the non-promoter holding is about 42%, Indian public held only 16.3% and the public float (holding by FIIs, MFs, FIs) is about 15.9%. There is not much difference in the shareholding pattern of companies in different sectors. About 61% of shares in companies in Finance sector are held by Indian promoters. The promoter holding is not strikingly high in respect of companies in the IT and telecom sectors. 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 (Table 1-5). 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 77.6% by 2002-03.

Households: According to RBI data, household sector accounted for 82.4% of gross domestic savings during 2001-02. They invested 38% of financial savings in deposits, 33% in insurance/ provident funds, 11% on small savings, and 8% in securities (out of which the investment in Gilts has been 5.7%), including government securities and units of mutual funds during 2001-02 (Table 1-7). 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

Table 1-5: Dependence on Securities Market

Year	Share (%) of Securities Market in			
	External Finance of Corporates	Fiscal Deficit of Central Government	Fiscal Deficit of State Government	Financial Savings of Households
1990-91	19.35	17.9	13.6	14.4
1991-92	19.17	20.7	17.5	22.9
1992-93	33.38	9.2	16.8	17.2
1993-94	53.23	48.0	17.6	14.0
1994-95	44.99	35.2	14.7	12.1
1995-96	21.67	54.9	18.7	7.7
1996-97	22.12	30.0	17.5	6.9
1997-98	28.16	36.5	16.5	4.5
1998-99	27.05	60.9	14.1	4.2
1999-00	33.58	67.1	13.9	7.3
2000-01	31.39	61.4	13.8	4.3
2001-02	20.60	69.4	15.2	8.0
2002-03	N. A	77.6	19.9	N.A

Source: Economic Intelligence Service - Corporate Sector, CMIE & RBI.

Table 1-6 : Shareholding Pattern at the end of March 2003 of Companies Listed on NSE

(In per cent)

Sectors	Non-Pomoters' 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	1.36	3.28	1.74	24.39	2.32	4.59	0.15	60.90	0.54	0.75
FMCG	10.96	10.91	2.19	21.75	0.29	1.24	0.35	7.05	44.91	0.35
Infrasturcture	10.24	0.83	1.64	25.97	1.77	6.29	5.21	37.44	3.93	6.68
IT	1.79	8.45	3.29	25.94	2.36	13.49	4.09	36.21	3.30	1.08
Manufacturing	8.39	3.15	4.50	13.85	1.15	3.41	2.63	54.56	4.90	3.46
Media & Entertainment	1.19	13.11	3.71	21.05	2.52	7.14	1.68	31.91	15.01	2.68
Petrochemicals	7.75	1.22	3.92	17.62	1.13	4.93	1.87	56.84	2.63	2.01
Pharmaceuticals	8.55	8.69	3.12	20.27	5.14	4.36	3.51	39.94	5.23	1.19
Services	7.75	2.30	3.93	19.99	1.36	4.27	4.60	50.54	1.97	3.30
Telecommunication	5.66	7.99	2.76	4.99	1.18	1.97	19.53	54.62	0.75	0.55
Miscellaneous	10.52	1.76	3.24	20.43	2.17	8.62	4.95	35.29	9.60	3.41
All Companies	**7.58**	**4.26**	**3.76**	**16.27**	**1.45**	**4.44**	**4.14**	**49.03**	**6.45**	**2.62**

Table 1-7: 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	2000-01	2001-02
Currency	**10.6**	**12.0**	**8.2**	**12.2**	**10.9**	**13.3**	**8.6**	**7.4**	**10.4**	**8.6**	**6.4**	**9.5**
Fixed income investments	**74.9**	**65.1**	**74.6**	**73.9**	**77.0**	**79.1**	**84.5**	**88.0**	**85.3**	**84.2**	**89.4**	**82.4**
Deposits	33.3	28.9	42.5	42.6	45.5	42.5	48.1	46.6	39.2	39.2	44.3	37.9
Insurance/Provident/Pension Funds	28.4	28.6	27.2	25.4	22.5	29.2	29.4	30.1	33.3	34.0	33.5	33.4
Small Savings	13.2	7.6	4.9	5.9	9.0	7.4	7.0	11.3	12.8	11	11.6	11.1
Securities Market	**14.4**	**22.9**	**17.2**	**14.0**	**12.1**	**7.7**	**6.9**	**4.5**	**4.2**	**7.3**	**4.3**	**8.0**
Mutual Funds	9.1	16.4	8.6	5.5	3.8	0.5	2.7	1.4	1.9	4.9	1.3	1.7
Government Securities	0.2	-0.4	0	0.4	0.1	0.4	0.4	1.6	0.6	0.9	1.6	5.7
Other Securities	5.1	6.9	8.6	8.1	8.2	6.8	3.8	1.5	1.7	1.5	1.4	0.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: RBI.

an increasing trend in the recent past and is estimated at 82.4% in 2001-02. In contrast, the share of financial savings of the household sector in securities (shares, debentures, public sector bonds and units of UTI and other mutual funds and government securities) is estimated to have gone down from 22.9% in 1991-92 to 4.3% in 2000-01, which increased to 8% in 2001-02.

Though there was a major shift in the saving 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 mutual funds. The portfolio of household sector remains heavily weighted in favour of physical assets and fixed income bearing instruments.

Investor Population

The Society for Capital Market Research and Development (SCMRD) 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 share owners at 90-100 lakh. Their second survey estimated the number of share owners at around 140-150 lakh as of mid-1993. Their latest survey estimates the number of shareowners at around 2 crore at 1997 end, after which it remained stagnant up to the end of 1990s. The bulk of increase in number of investors took place during 1991-94 and tapered off thereafter. 49% of the share owners at the end of 2000 had, for the first time, entered the market before the end of 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.

Distribution of Investors: The SCMRD estimates that 15% of urban households and only 0.5-1.0% of semi-urban and rural households own shares. It is estimated that 4% of all households own shares.

An indirect, but very authentic source of information about distribution of investors is the data base of beneficial accounts with the depositories. By February 2002, there were 3 million beneficial accounts with the National Securities Depository Limited (NSDL). The state-wise distribution of beneficial accounts with NSDL is presented in Table 1-8. As expected Maharashtra and Gujarat account for nearly 45% of total beneficial accounts.

Investors' Perception

SCMRD Survey: An all-India survey of household investors, conducted by the SCMRD during September-October 2002, has thrown up some interesting findings. These findings can be helpful in understanding the recent changes in the household investors' general attitude towards participation in the equity market and also their problems.

Foremost Worry: Fraudulent Company Managements

The most noteworthy revelation made by the survey is that the foremost cause of worry for household investors, as identified by over one-fourth of household heads, is "*fraudulent company managements*." An analysis by income-class shows a high degree of consistency of results across

income classes as presented in Table 1-9. Such consistency is indicative of fairly high reliability of the data generated by the survey. In practical terms, this really means that, *in India today, the investor's confidence in the stock market is low primarily because of corporate malfeasance and mismanagement.*

Table 1-8: Distribution of Beneficial Accounts with NSDL at the end of February 2003

Sl. No.	States/ Union Territories	Beneficial Accounts	
		Number	% to Total
1	Andaman & Nicobar	109	0.00
2	Andhra Pradesh	194,405	6.08
3	Arunachal Pradesh	37	0.00
5	Bihar	27,340	0.85
6	Chandigarh	7,891	0.25
7	Daman & Diu	41	0.00
8	Delhi	323,693	10.12
9	Goa	11,374	0.36
10	Gujarat	536,720	16.78
12	Himachal Pradesh	3,706	0.12
13	Jammu & Kashmir	7,320	0.23
14	Karnataka	195,159	6.10
15	Kerala	76,793	2.40
16	Madhya Pradesh	71,158	2.23
17	Maharashtra	911,997	28.52
18	Manipur	102	0.00
19	Meghalaya	205	0.01
21	Nagaland	147	0.00
22	Orissa	14,701	0.46
23	Pondicherry	2,481	0.08
24	Punjab	52,434	1.64
25	Rajasthan	72,316	2.26
26	Tamil Nadu	230,407	7.20
27	Tripura	219	0.01
28	Uttar Pradesh	188,835	5.90
29	West Bengal	214,432	6.71
	Total	**3,197,964**	**100.00**

Source: NSDL.

Table 1-9: Greatest Worries of Household Investors About Stock Market

Sl. No.	Greatest Worry	All Sample House-holds	Household Monthly Income (Rs.)				
			Upto 10,000	10,001-15,000	15,001-20,000	20,001-25,000	Over 25,000
		Percent of respondents					
1.	Fraudulent company managements	27.5 *(17.4)*	20.7	26.7	33.0	27.2	29.5
2.	Too much price volatility	22.6 *(30.0)*	29.3	26.3	22.2	16.9	16.2
3.	Too much price manipulation	16.2 *(31.7)*	14.4	19.8	11.7	16.2	18.8

Note: Figures within brackets relate to the last years survey (April-June 2001). For income-classwise details about last year, see NSE News, December 2001, pp 8-13.

Volatility and Manipulation

In the second place after fraudulent managements is the worry on account of "*too much volatility*" and in the third place is "*too much price manipulation*". These two are also among the main worries affecting a relatively high proportion of investors but they have somewhat abated after the market reforms since 2001. However, the reduction on this account has been largely offset by aggravation of the problem of fraudulent managements.

Changes Since Last Year

A comparison of this year's survey (September-October 2002) with the last year's survey (April-July 2001) shows that the *investors' worry on account of "fraudulent company managements" has become definitely more acute than before.* Witness the fact that the percentage of respondents worried most on account of this particular reason has gone up from 17.4% last year to 27.5% this year (reference Table 1-9). That this particular cause has become more worrisome is also indicated by its shift from 3rd rank last year to 1st rank this year among the sources of worry.

Income-Class-wise Analysis of Investors' Worries

Income-class-wise analysis confirms that *investors' across almost all income-classes are now more worried due to fraudulent company managements.* The income-class-wise average percentage of respondents worried on this account varies between 20.7-33.0% according to this year's survey; i.e. above 20% in every income-class. It varied between 11.1-20.0% last year.

The results of the survey presented above leave no doubt that the investors' worry on account of fraudulent company managements has tended to become more acute compared to last year. It would be reasonable to infer from this that the existing regulatory measures against corporate malfeasance and mismanagement are absolutely inadequate.

Corporate Governance code can't tackle mismanagement

It may seem surprising that the problem of corporate mismanagement has worsened over the past year despite SEBI's attempt to enforce a corporate governance code with the object of strengthening the investors' confidence, both in corporate managements and in the stock market. However, a governance code can work only with gentlemen, not with determined crooks. It is a very feeble instrument for striking at corporate malfeasance or mismanagement. Tackling corporate malfeasance and mismanagement requires much sterner measures. Further, structural changes in corporate ownership should be a necessary part of corporate enterprise reform, except for small and mid-sized "entrepreneurial companies" i.e. companies under the control of first-generation entrepreneurs.

Relevance of Corporate Ownership Structure

In India, the ownership structure of companies is characterized by the existence of "controlling shareholding blocks". Such blocks often represent majority voting power in the hands of family groups. Given the existence of absolute or near-absolute power of family groups over the firms, there can be no effective check and balance in the Indian corporate management system. That is why siphoning of funds by controlling groups is rampant. This is well known in India. Lobbying by corporate houses has led the government to allow controlling blocks to be hiked, making the promoter's control of companies more absolute. This has worsened an already bad situation. It is to be noted in this connection that one hardly hears in India of

dismissal of chief executives belonging to controlling families, however poor his or her performance.

Another unique feature of family-controlled corporate enterprises in India is that most of them ultimately get broken up into separate companies, each controlled by the sons, nephews, grandsons, etc., of the original entrepreneur. Hence, after a generation or two, the growth of Indian-controlled enterprise is stunted: they never become truly world-class, non-family, professionally managed and controlled enterprises, as in the U.S., U.K. Europe, etc.

Vanishing and delisted companies

A visible evidence of rampant corporate malfeasance and mismanagement is provided by hundreds of companies which have vanished after making a public issue, or have been delisted from stock exchanges in the last few years.

Volatility and Price Manipulation: A Positive Change

A positive development over the year according to the recent survey is that "too much volatility" and "too much price manipulation" have both declined as sources of investors' worry. These two were the topmost worries in every income-class in the last year's survey but have declined significantly this year. The proportion of respondents worried most on account of "too much volatility" this year is 22.6% (against 30% last year); and the proportion on account of "too much price manipulation" is 16.2% (against 31.7% last year). Such reduction represents considerable improvement and can be attributed to the radical reforms of the stock market initiated after the crisis of March 2001.

When "too much volatility" and "too much price manipulation" are considered together, these were identified as the greatest worries by as many as 61.7% of the respondents last year but by only 39.2% of respondents this year. An income-class-wise analysis confirms the decline: the average percentage of investors worried on account of volatility and manipulation among income-classes varied between 55-60% among income-classes last year but only between 34-46% this year.

Primary Market

A total of Rs. 2,520,179 million were raised by the government and corporate sector during 2002-03 as against Rs. 2,269,110 million during the preceding year. Government raised about two third of the total resources, with central government alone raising nearly Rs. 1,511,260 million.

Corporate Securities

Average annual capital mobilisation from the primary market, which used to be about Rs.700 million in the 1960s and about Rs.900 million in the 1970s, increased manifold during the 1980s, with the amount raised in 1990-91 being Rs. 43,120 million. It received a further boost during the 1990s with the capital raised by non-government public companies rising sharply to Rs. 264,170 million in 1994-95. The capital raised which used to be less than 1% of gross domestic saving (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 1-10. Issuers have shifted focus to other avenues for raising resources like private placement. Available data (Table 1-11), 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 93% of total resources mobilised through domestic issues by the corporate sector during 2002-03. 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 considers offer of securities to more than 50 persons as made to public.

ADR/GDR issues have substantially contributed to Indian market. Since 1992, when they were permitted access, Indian companies have raised about Rs. 34,264 million through ADRs/GDRs. FIIs also have invested heavily in Indian market. By the end of March 2003, 502 FIIs were registered with SEBI. They had net cumulative investments over US $ 15.8 billion by the end of March 2003. 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 people prefer mutual funds as their investment vehicle, thanks to evolution of a regulatory framework for mutual funds, 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. 199,530 million during 1999-00. This declined to Rs. 111,350 million during 2000-01 which may be attributed to increase in rate of tax on income distributed by debt oriented mutual funds and lacklustre secondary market. The total collection of mutual funds for 2002-03 has been Rs. 105,378 million. Starting with an asset base of Rs. 250 million in 1964, the total assets under management at the end of March 2003 was Rs. 794,640 million. The number of households owning units of MFs exceeds the number of households owning equity and debentures. At the end of financial year March 2003, according to a SEBI press release 23 million unit holders had invested in units of MFs,

Table 1-10: Resources Mobilised through Public Issues

(Amount in Rs. million)

Year	Resources Raised by non-government companies	% of GDS	% of disbursements by FIs	Index in Real Terms	Mobilisation by Mutual Funds
1990-91	43,120	3.32	33.66	100.00	750,800
1991-92	61,930	4.38	38.08	126.27	112,530
1992-93	198,030	12.76	85.54	366.88	130,210
1993-94	193,300	9.98	74.85	330.51	112,430
1994-95	264,170	10.48	78.69	401.14	112,750
1995-96	160,750	5.34	41.59	226.04	–583,30
1996-97	104,100	3.28	24.40	139.93	–203,70
1997-98	31,380	0.84	5.85	40.40	40,640
1998-99	50,130	1.27	8.59	60.92	36,110
1999-00	51,530	1.11	7.51	60.64	199,532
2000-01	49,490	1.01	6.89	54.34	111,350
2001-02	56,924	1.17	10.18	60.34	71,370
2002-03	18,777	0.74	18.37	48.24	45,800

Table 1-11: Resource Mobilisation from the Primary Market

(Rs. mn.)

Issues	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03
Corporate Securities	**142,190**	**163,660**	**235,370**	**444,980**	**480,840**	**366,890**	**371,470**	**421,250**	**601,920**	**724,500**	**783,956**	**744,032**	**700,389**
Domestic Issues	142,190	163,660	232,860	370,440	419,740	361,930	338,720	377,380	590,440	689,630	741,986	720,612	666,125
Non-Govt. Public Companies	43,120	61,930	198,030	193,300	264,170	160,750	104,100	31,380	50,130	51,530	48,900	56,920	18,777
PSU Bonds	56,630	57,100	10,620	55,860	30,700	22,920	33,940	29,820	–	–	–	–	–
Govt. Companies	–	–	4,300	8,190	8,880	10,000	6500	430	–	–	–	3,500	–
Banks & FIs	–	–	3,560	38,430	4,250	34,650	43,520	14,760	43,520	25,510	14,720	10,700	29,890
Private Placement	42,440	44,630	16,350	74,660	111,740	133,610	150,660	300,990	496,790	612,590	678,360	649,500	617,458
Euro Issues	–	–	7,020	78,980	67,430	12,970	55,940	40,090	11,480	34,870	41,970	23,420	34,264
Government Securities	**115,580**	**122,840**	**176,900**	**545,330**	**432,310**	**467,830**	**426,880**	**673,860**	**1,060,670**	**1,133,360**	**1,284,830**	**1,525,080**	**1,819,790**
Central Government	89,890	89,190	138,850	503,880	381,080	405,090	361,520	596,370	939,530	996,300	1,151,830	1,338,010	1,511,260
State Governments	25,690	33,640	38,050	41,450	51,230	62,740	65,360	77,490	121,140	137,060	133,000	187,070	308,530
Total	**257,770**	**286,500**	**412,270**	**990,310**	**913,150**	**834,720**	**798,350**	**1,095,110**	**1,662,590**	**1,857,860**	**2,068,786**	**2,269,112**	**2,520,179**

Source: RBI.

while 16 million individual investors invested in equity and or debentures. The unit holding pattern of mutual fund industry is presented in table below.

Unit Holding Pattern of Mutual Funds Industry as on March 31, 2003

Category	Rest of Public Sector MFs (including UTI MF)		Private Sector MFs		Total			
	No. of Investors (million)	NAV (Rs. mn.)	No. of Investors (million)	NAV (Rs. mn.)	No. of Investors (million)	% to total Investor	NAV (Rs. mn.)	% to Total NAV
Individuals	11.56	147,346.4	4.0	179,564.8	15.56	97.4	326,911.2	41.1
NRIs/OCBs	0.05	1,554.9	0.04	7,230.2	0.08	0.5	8,785.1	1.1
FIIs	0.0	331.6	0.0	5,285.1	0.0	0.0	5,616.7	0.7
Corporates/ Institutions/ Others	0.07	80,036.2	0.25	374,659.1	0.32	2.0	454,695.3	57.1
Total	**11.7**	**229,269.1**	**4.3**	**566,739.2**	**15.9**	**100.0**	**796,008.3**	**100.0**

Source: SEBI Website

Government Securities

The primary issues of the Central Government have increased many-fold during the decade of 1990s from Rs. 89,890 million in 1990-91 to Rs. 1,511,260 million in 2002-03 (Table 1-11). The issues by state governments increased by about twelve times from Rs. 25,690 million to Rs. 308,530 million during the same period. The Central Government mobilised Rs. 1,250,000 million through issue of dated securities and Rs. 261,260 million through issue of T-bills. After meeting repayment liabilities of Rs. 274,200 million for dated securities, and redemption of T-bills of Rs. 195,880 million, net market borrowing of Central Government amounted to Rs. 1,041,180 million for the year 2002-03. The state governments collectively raised Rs. 305,830 million during 2002-03 as against Rs. 187,070 million in the preceding year. The net borrowings of State Governments in 2002-03 amounted to Rs. 290,640 million.

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 SLR and 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 7.34% in 2002-03. 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 2002-03. About 64% of primary issues were raised through securities with maturities above 5 years and up to 10 years. As a result the weighted average maturity of dated securities increased to 13.83 years from 6.6 years in 1997-98.

Secondary Market

Corporate Securities

Selected indicators in the secondary market are presented in Table 1-12. The number of stock exchanges increased from 11 in 1990 to 23 now. All the exchanges are fully computerised and

Table 1-12: Secondary Market - Selected Indicators

(Amount in Rs. mn.)

At the End of Financial Year	Capital Market Segment of Stock Exchanges								Turnover of Govt. Securities		Turnover of Derivatives Segment of Exchanges
	No. of Brokers	No. of Listed Companies	S&P CNX Nifty	Sensex	Market Capitalis-ation	Market Capitalis-ation Ratio (%)	Turnover	Turnover Ratio (%)	On WDM Segment of NSE	On SGL	
1990-91	–	6,229	366.45	1167.97	1,102,790	20.6	–	–	–	–	–
1991-92	–	6,480	1261.65	4285.00	3,541,060	57.4	–	–	–	–	–
1992-93	–	6,925	660.51	2280.52	2,287,800	32.4	–	–	–	–	–
1993-94	–	7,811	1177.11	3778.99	4,000,770	45.6	2,037,030	50.9	–	–	–
1994-95	6,711	9,077	990.24	3260.96	4,733,490	45.6	1,629,050	34.4	56,600	505,690	–
1995-96	8,476	9,100	985.30	3366.61	5,722,570	47.0	2,273,680	39.7	99,880	1,271,790	–
1996-97	8,867	9,890	968.85	3360.89	4,883,320	34.6	6,461,160	132.3	383,080	1,229,410	–
1997-98	9,005	9,833	1116.65	3892.75	5,898,160	37.7	9,086,810	154.1	1,035,850	1,857,080	–
1998-99	9,069	9,877	1078.05	3739.96	5,740,640	34.1	10,233,820	178.3	952,800	2,272,280	–
1999-00	9,192	9,871	1528.45	5001.28	11,926,300	84.7	20,670,310	173.3	2,938,870	5,392,320	–
2000-01	9,782	9,954	1148.20	3604.38	7,688,630	54.5	28,809,900	374.7	4,140,960	6,981,214	40,180
2001-02	9,687	9,644	1129.55	3469.35	7,492,480	36.4	8,958,180	119.6	9,276,040	15,738,930	1,038,480
2002-03	9,519	9,413	978.20	3048.72	6,319,212	28.5	9,689,098	153.3	10,328,290	19,557,313	4,423,333

Note: Turnover figures for the respective year.
-- Not Available.
Source: SEBI & NSE.

offer 100% on-line trading. 9,413 companies were available for trading on stock exchanges at the end of March 2003. The trading platform of the stock exchanges was accessible to 9,519 members from over 358 cities on the same date.

The market capitalization 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 capitalization is estimated at Rs. 6,319,212 million at the end of March 2003. The market capitalization ratio, which indicates the size of the market, increased sharply to 57.4% in 1991-92 following spurt in share prices. The ratio further increased to 85% by March 2000. It, however, declined to 55% at the end of March 2001 and to 29% by end March 2003.

The trading volumes on exchanges have been witnessing phenomenal growth during the 1990s. The average daily turnover grew from about Rs.1500 million in 1990 to Rs. 120,000 million in 2000, peaking at over Rs. 200,000 million. One-sided turnover on all stock exchanges exceeded Rs. 10,000,000 million during 1998-99, Rs. 20,000,000 million during 1999-00 and approached Rs. 30,000,000 million during 2000-01. However, the trading volume substantially depleted to Rs. 9,689,098 million in 2002-03. 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 the NSE. The turnover ratio for the year 2002-03 increased to 375% but fell substantially due to bad market conditions to 119% during 2001-02 regaining its position accounted 153% in 2002-03.

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 big 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 more 85% of total turnover (volumes on all segments) in 2002-03. Top 5 stock exchanges accounted for 99.88% of turnover, while the rest 18 exchange for less than 0.12% during 2002-03 (Table 1-13). About ten exchanges reported nil turnover during the year.

The movement of the S&P CNX NIFTY, the most widely used indicator of the market, is presented in Chart 1-2. 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

Chart 1-2: Movement of S&P CNX Nifty and its Volatility

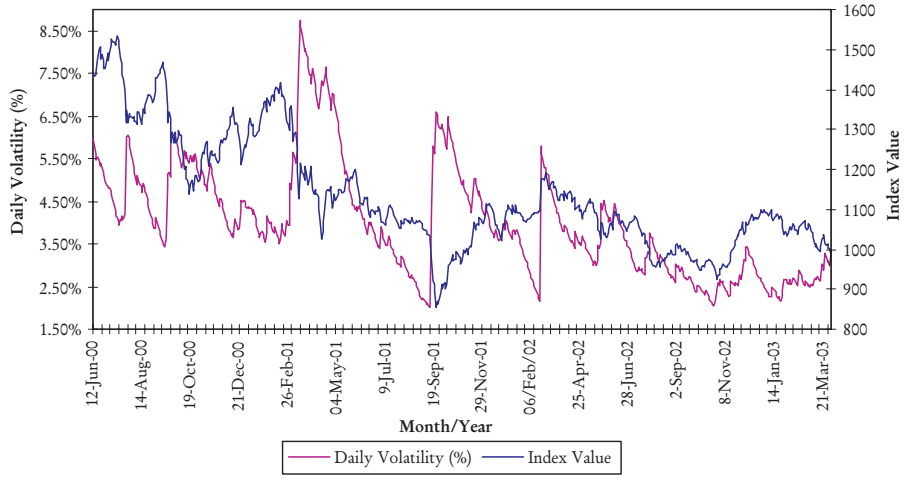


Table 1-13: Growth and Distribution of Turnover on Stock Exchanges

(Rs. mn.)

Sl. No.	Stock Exchanges	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03
1	NSE	85,090	800,090	3,367,820	4,811,970	5,198,520	11,432,680	17,704,580	15,622,830	21,265,445
2	Mumbai	677,480	500,640	1,242,840	2,073,830	3,119,990	6,850,282	10,016,190	3,093,156	3,165,516
3	Calcutta	528,720	621,280	1,056,640	1,787,780	1,717,804	3,571,655	3,550,354	270,747	65,228
4	Delhi	90,827	100,760	486,310	678,400	517,593	932,889	838,711	58,280	111
5	Ahmedabad	56,508	87,860	205,330	307,710	297,342	375,656	540,352	148,435	154,586
6	Uttar Pradesh	78,230	23,730	160,700	153,900	186,267	240,478	247,467	252,373	147,634
7	Ludhiana	24,880	48,490	52,740	83,150	59,779	77,405	97,322	8,566	0
8	Pune	36,720	70,710	99,030	86,240	74,528	60,868	61,705	11,710	0
9	Bangalore	7,120	8,900	43,980	86,360	67,790	111,474	60,328	703	0
10	Hyderabad	13,752	12,850	4,800	18,600	12,759	12,365	9,778	413	46
11	ICSE	-	-	-	-	7	5,452	2,331	554	531
12	Cochin	5,970	18,030	14,010	17,830	7,730	0	1,866	0	0
13	OCTEI	3,650	2,180	2,210	1,250	1,422	35,879	1,259	38	1
14	Madras	30,327		23,150	12,280	3,696	2,502	1,092	241	756
15	Madhya Pradesh	1,182	2,040	120	10	9	97	24	235	0
16	Magadh	7,968	16,290	27,550	3,230	0	80	16	0	2
17	Vadodara	16,210	12,590	42,680	45,760	17,491	1,593	9	101	26
18	Gauhati	2,853	6,190	4,840	200	302	0	0	1	1
19	Bhubaneshwar	1,434	2,260	2,310	2,020	770	701	0	0	0
20	Coimbatore	13,095	25,030	23,980	21,360	3,947	388	0	266	0
21	Jaipur	8,786	10,470	15,190	4,310	648	21	0	0	0
22	Mangalore	615	390	3,730	3,080	112	1	0	0	0
23	SKSE	5,447	5,640	3,980	170	0	0	0	0	0
	Total	**1,696,864**	**2,376,420**	**6,883,940**	**10,199,440**	**11,288,506**	**23,712,466**	**33,133,385**	**19,468,650**	**24,799,883**

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

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 3.47% during 1998-99 under the pressure of economic sanctions following detonation of nuclear device, continuing woes 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 1999-2000 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 introduction of rolling settlement and withdrawal of deferral products in July 2002, suspension of repurchase facility under UTI's US-64 scheme, terrorist attack on World Trade Centre in September 2002, etc. which caused a further decline in S&P CNX Nifty by 1.6% during 2001-02. During 2002-03, S&P CNX Nifty balanced its movement in the first half of the year closing at 978.20, a decline of 13.39%.

Government Securities

The trading in government securities exceeded the combined trading in equity segments of all the exchanges in the country during 2002-03. The aggregate trading in central and state government dated securities, including treasury bills, through SGL transactions increased by manifold between 1994-95 and 2002-03. During 2002-03 it reached a level of Rs. 19,557,312 million, recording about 24.3% growth over Rs.15,738,927 million in the previous year. Such growing turnover reflects further deepening of the market (Table 1-12). The bulk of transactions during 2002-03 were on outright basis. The share of outright transactions in government securities increased from 23.2% in 1995-96 to 71.2% in 2002-03. The share of repo transactions declined correspondingly from 76.8% in 1995-96 to 28.8% in 2002-03.

The share of WDM segment of NSE in total turnover for government securities decreased marginally from 58.9% in 2000-01 to 53.7% in 2002-03. As compared to the increase in overall turnover of government securities by 24%, the same on WDM grew by 11% during 2002-03. Share of WDM in transactions of dated securities decreased from 61.1% in 2001-02 to 55.6% in 2002-03. Its share in transactions of T-bills decreased from 27.4% in 2001-02 to 21.5% in 2002-03.

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. 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 2000. 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 in July 2001 while trading in futures of individual stocks started from November 2001. In June 2003, SEBI/RBI approved the trading on interest rate derivative instruments and NSE introduced trading in futures contracts on June 24, 2003 on 91-day Notional T-Bills and 10-year Notional 6% coupon bearing as well as zero coupon Bonds.

The total exchange traded derivatives witnessed a value of Rs. 4,423,333 million during 2002-03 as against Rs. 1,038,480 million during the preceding year. While NSE accounted for about 99.5% of total turnover, BSE accounted for less than 1% in 2002-03. The market witnessed higher trading levels from June 2001 with introduction of index options, and still higher volumes with the introduction of stock options in July 2001. There was a spurt in volumes in November 2001 when stock futures were introduced. It is believed that India is the second largest market in the world for stock futures.

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 channel 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 channeled 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 also to penalise them in case of violations of the provisions of the Act, Rules and Regulations made there under. 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 to 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 standard 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 SROs like stock exchanges have also laid down their rules and regulations.

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 corporate 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 coordinated by a High Level Committee on Capital Markets. The orders of SEBI under the securities laws are appellable before a Securities Appellate Tribunal.

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 Indian Securities Markets

Corporate Securities Market

With the objectives of improving market efficiency, enhancing transparency, preventing unfair trade practices and bringing the Indian market up to international standards, a package of reforms consisting of measures to liberalize, 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 issuers complying with the eligibility criteria were allowed freedom to issue the securities at market determined rates. The secondary market overcame the geographical barriers by moving to screen based trading. Trades enjoyed counter-party guarantee. The trading cycle shortened to a day and trades are settled within 3 working days, while all deferral products were banned. Physical security certificates almost disappeared. A variety of derivatives were permitted. The following paragraphs discuss the principal reform measures undertaken in the last decade.

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. In a recent amendment to the SEBI Act, the regulator has also been given search and seizure powers.

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 SC(R)A. 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 fulfill 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. 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 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, 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. 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. As a result, manual trading disappeared from India.

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. Rolling settlement on T+5 basis was introduced in respect of specified scrips reducing the trading cycle to one day. It was made mandatory for all exchanges to follow a uniform weekly trading cycle in respect of scrips not under rolling settlement. All scrips moved to rolling settlement from December 2001. T+5 gave way to T+3 from April 2002 and T+2 in April 2003. 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.

Derivatives Trading: To assist market participants to manage risks better through hedging, speculation and arbitrage, SC(R)A 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 SC(R)A 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 and index options on two indices and stock options and stock futures on individual stocks (in NSE 49 as of August 2003) and futures in interest rate products like notional 91-day T-Bills and notional 10-year bonds.

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. The regulators, therefore, focused 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. Government has offered a variety of tax incentives to facilitate corporatisation and demutualization of stock exchanges.

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, 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. In order to promote dematerialisation, the regulator mandated trading and settlement in demat form in an ever-increasing number of securities in a phased manner. The stamp duty on transfer of demat securities was waived. Two depositories, *viz.* NSDL and CDSL, have come up to provide instantaneous electronic transfer of securities. At the end of March 2003, 4,761 and 4,628 companies were connected to NSDL and CDSL respectively. The number of dematerialised securities increased to 76.9 billion at the end of March 2003. As on the same date, the value of dematerialsied securities was Rs. 5,875 billion and the number of investor accounts was 4,042,973. All actively traded scrips are held, traded and settled in demat form. 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 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. 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 developed a comprehensive risk management system, which is constantly monitored and upgraded. It 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.

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 assures the counterparty risk of each member and guarantees financial settlement. Counterparty 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. 27,870 million at NSCCL (both CM segment- Rs. 14,868 million and F&O segment - Rs.13,002 million) as on March 31, 2003, provides the cushion for any residual risk. 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 the trading volumes on exchanges.

Traditionally, brokerage firms in India have been proprietary 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, many brokerage firms reorganised themselves into corporate entities. At the end of March 2003, 3,835 brokers out of 9,519 were corporate bodies.

Investor Protection: The SEBI Act established 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 issues 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. The Central Government has established a fund called Investor Education and Protection Fund (IEPF) in October 2001 for the promotion of awareness amongst investors and protection of the interest of investors. The Government issued the following guidelines for the purpose of financial assistance from IEPF:

i. Any organisation/entity/person with a viable project proposal on investors' education and protection would be eligible for assistance from the fund.

ii. The entity should be registered under the Societies Registration Act or formed as Trusts or incorporated Companies; should be in existence for a minimum period of 2 years prior to its date of application for registration for assistance; should have a minimum of 20 members and a proven record of 2 years; and should have rules, regulations and or by-laws for its governance and management.

iii. No profit making entity shall be eligible for financial assistance from the fund.

iv. Notwithstanding the above, the Committee on IEPF can give a project to any organisation.

v. The limit for each entity for assistance would be subject to 5% of the budget of IEPF during that financial year and not exceeding 50% of the amount to be spent on the proposed programme/activity.

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. In January 2003, SEBI launched a nation-wide Securities Market Awareness Campaign that aims at educating investors about the risks of the market as well as the rights and obligations of investors.

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, FCCBs and ECBs. 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. 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 up to the sectoral cap/statutory ceiling, as applicable, provided this has the approval of the Indian company's board of directors and also its general body. 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. Mutual Funds (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.

The two-way fungibility for ADRs/GDRs has been permitted by RBI, which meant that the investors (foreign institutional or domestic) in any company that has issued ADRs/GDRs can freely convert the ADRs/GDRs into underlying domestic shares. They could 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.

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 (uniform price and multiple price method) for primary issuance of T-bills and central government dated securities, a system of primary dealers and non-competitive bids 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 bonds, bonds with embedded derivatives, availability of full range (91-day and 382-day) of T-bills, etc. The reforms in the secondary market include Delivery versus Payment system for settling scripless SGL transactions to reduce settlement risks, SGL Account II 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 upto T+3 days for 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 TDS on government securities and stamp duty on transfer of demat debt securities.

Market Infrastructure: As part of the ongoing efforts to build debt market infrastructure, two new systems, the Negotiated Dealing System (NDS) and the Clearing Corporation of India Limited (CCIL) commenced operations on February 15, 2002. NDS, interalia, facilitates screen based negotiated dealing for secondary market transactions in government securities and money market instruments, online reporting of transactions in the instruments available on the NDS and dissemination of trade information to the market. Government Securities (including T-bills), call money, notice/term money, repos in eligible securities, Commercial Papers and Certificate of Deposits are available for negotiated dealing through NDS among the members. The CCIL facilitates settlement of transactions in government securities (both outright and repo) on Delivery versus Payment (D*v*P-II) basis which provides for settlement of securities on gross basis and settlement of funds on net basis simultaneously. It acts as a central counterparty for clearing and settlement of government securities transactions done on NDS. The major reforms planned include strengthening and modernizing legislative framework through a government securities Act and switching over to order-driven screen based trading in government securities on the stock exchanges to impart efficiency and transparency.

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. Its monthly magazine has been now carrying research articles pertaining to issues related to Indian capital market. In order to improve market efficiency further and to set international benchmarks in the securities industry, NSE supports a scheme called the NSE Research Initiative with a view to develop an information base and a 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 NSE Research Initiative has so far come out with 27 Working Papers.

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. 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 a 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 offers nine securities market related 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. As a result of these reforms, the market design has changed drastically for better as may be seen from Annexure 1-1.

Role of NSEIL in Indian Securities Market

National Stock Exchange of India Limited (NSE) was given recognition as a stock exchange in April 1993. NSE was set up with the objectives of (a) establishing a nationwide trading facility for all types of securities, (b) ensuring equal access to all investors all over the country

through an appropriate communication network, (c) providing a fair, efficient and transparent securities market using electronic trading system, (d) enabling shorter settlement cycles and book entry settlements, and (e) meeting the international benchmarks and standards. Within a short span of life, above objectives have been realized and the Exchange has played a leading role as a change agent in transforming the Indian Capital Markets to its present form.

NSE has set up infrastructure that serves as a role model for the securities industry in terms of trading systems, clearing and settlement practices and procedures. The standards set by NSE in terms of market practices, products, technology and service standards have become industry benchmarks and are being replicated by other market participants. It provides screen-based automated trading system with a high degree of transparency and equal access to investors irrespective of geographical location. The high level of information dissemination through on-line system has helped in integrating retail investors on a nation-wide basis. The Exchange currently operates three market segments, namely Capital Market Segment, Wholesale Debt Market Segment and Futures an Options segment.

NSE has been playing the role of a catalytic agent in reforming the market in terms of microstructure and market practices. Right from its inception, the exchange has adopted the purest form of demutualised set up whereby the ownership, management and trading rights are in the hands of three different sets of people. This has completely eliminated any conflict of interest and helped NSE to aggressively pursue policies and practices within a public interest framework. It has helped in shifting the trading platform from the trading hall in the premises of the exchange to the computer terminals at the premises of the trading members located country-wide and subsequently to the personal computers in the homes of investors and even to hand held portable devices for the mobile investors. Settlement risks have been eliminated with NSE's innovative endeavors in the area of clearing and settlement viz., reduction of settlement cycle, professionalisation of the trading members, fine-tuned risk management system, dematerialisation and electronic transfer of securities and establishment of clearing corporation. As a consequence, the market today uses the state-of-art information technology to provide an efficient and transparent trading, clearing and settlement mechanism.

NSE provides a trading platform for of all types of securities-equity and debt, corporate and government and derivatives. On its recognition as a stock exchange under the Securities Contracts (Regulation) Act, 1956 in April 1993, it commenced operations in the Wholesale Debt Market (WDM) segment in June 1994, in the Capital Market (CM) segment in November 1994, and in Futures & Options (F&O) segment in June 2000. The Exchange started providing trading in retail debt of Government Securities in January 2003. During the year 2002-03, it accounted for over 86% of total trading value (debt, derivatives and equity) in the stock exchanges and 64% in equities and more than 99% in derivatives.

The ***Wholesale Debt Market*** segment provides the trading platform for trading of a wide range of debt securities. Its product, which is now disseminated jointly with FIMMDA, the ***FIMMDA NSE MIBID/MIBOR*** is used as a benchmark rate for majority of deals struck for Interest Rate Swaps, Forwards Rate Agreements, Floating Rate Debentures and Term Deposits in the country. Its 'Zero Coupon Yield Curve' as well as NSE-VaR for Fixed Income Securities have also become very popular for valuation of sovereign securities across all maturities irrespective of its liquidity and facilitated the pricing of corporate papers and GOI Bond Index. Its ***Capital Market*** segment offers a fully automated screen based trading system, known as the National Exchange for Automated Trading (NEAT) system, which operates on a strict price/time priority. It enables members from across the country to trade

simultaneously with enormous ease and efficiency. Its ***Futures & Options*** segment provides trading of a wide range of derivatives like Index Futures, Index Options, Stock Options and Stock Futures.

The dimensions of these segments are presented below:

Market Segments – Selected Indicators

Segment	At the end of March 2003			2002-03		1995-96 to 2002-03
	No. of Members	No. of Securities Available	Market Capitalistaion (Rs. mn.)	Trading Volume (Rs. mn.)	Market Share (%)	Annual Compound Growth Rate (%)
CM	887	788	5,371,330	61,798,86	64	44.71
WDM	78	1,990	8,644,810	106,87,011	53[b]	111.71
F&O	553	1,938 [c]	–	4,398,548[d]	99	–
Total	**895**[e]	**4,716**	**14,016,140**	**21,265,445**	**86**[f]	**73.06**

a Excludes suspended securities.
b Share in SGL.
c Includes 3 futures, 60 index options, 123 stock futures and 1,752 stock option contracts
d Includes notional turnover [(Strike Price + Premium) × Quantity] in case of index options and stock options.
e Do not add up to total because of multiple membership.
f Share in turnover on all exchanges

Technology and Application Systems in NSEIL

NSE is the first exchange in the world to use satellite communication technology for trading. It uses satellite communication technology to energize participation from about 2,800 VSATs from nearly 358 cities spread all over the country.

Its trading system, called National Exchange for Automated Trading (NEAT), is a state of-the-art client server based application. 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. It has uptime record of 99.7%. The system also ensures data integrity with past record of a single error in 10 million bits. For all trades entered into NEAT system, there is uniform response time of less than 1.5 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, NSE can handle up to 2.5 million trades per day. 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 at Chennai along with its entire infrastructure, including the satellite earth station and the high-speed optical fibre link with its main site at Mumbai. This site at Chennai is a replica of the 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.

NSEIL is a technology driven exchange and since its inception it has been harnessing technology to provide the best possible and efficient service to all market participants and

stake holders. The various application systems that it uses for trading as well clearing and settlement and other operations are the backbone of the Exchange. The application systems used for the day-to-day functioning of the Exchange can be divided into (a) Front end applications and (b) Back office applications.

In the front end, there are 5 applications: (i) NEAT – CM system takes care of trading of securities in the Capital Market segment that includes equities, debentures/notes as well as retail Gilts. The NEAT-CM application has a split architecture wherein the split is on the securities and users. The application runs on two Stratus systems with Open Strata Link (OSL). The application has been benchmarked to support 15000 users and handle 2 million trades. This application also provides data feed for processing to some other systems like Index, OPMS through TCP/IP. This is a direct interface with the Trading members of the CM segment of the Exchange for entering the orders into the main system. There is a two way communication between the NSE main system and the front end terminal of the Trading Member. (ii) NEAT – WDM system takes care of trading of securities in the Wholesale Debt Market (WDM) segment that includes Gilts, Corporate Bonds, CPs, T-Bills, etc. This is a direct interface with the Trading members of the WDM segment of the Exchange for entering the orders/trades into the main system. There is a two way communication between the NSE main system and the front end terminal of the Trading Member. (iii) NEAT – F&O system takes care of trading of securities in the Futures and Options (F&O) segment that includes Futures on Index as well as individual stock and Options on Index as well as individual stocks. This is a direct interface with the Trading members of the F&O segment of the Exchange for entering the orders into the main system. There is a two way communication between the NSE main system and the front end terminal of the Trading Member. (iv) NEAT – IPO system is an interface to help the initial public offering of companies which are issuing the stocks to raise capital from the market. This is a direct interface with the Trading members of the CM segment who are registered for undertaking order entry on behalf of their clients for IPOs. NSE uses the NEAT IPO system that allows bidding in several issues concurrently. There is a two way communication between the NSE main system and the front end terminal of the Trading Member. (v) NEAT – MF system is an interface with the Trading members of the CM segment for order collection of designated Mutual Funds units.

In the back office, the following important application systems are operative: (a) NCSS (Nationwide Clearing and Settlement System) is the clearing and settlement system of the NSCCL for the trades executed in the CM segment of the Exchange. The system has 3 important interfaces – OLTL (Online Trade loading) that takes each and every trade executed on real time basis and allocates the same to the clearing members, Depository Interface that connects the depositories for settlement of securities and Clearing Bank Interface that connects the 10 clearing banks for settlement of funds. It also interfaces with the clearing members for all required reports. Through collateral management system it keeps an account of all available collaterals on behalf of all trading/clearing members and integrates the same with the position monitoring of the trading/clearing members. The system also generates base capital adequacy reports. (b) FOCASS is the clearing and settlement system of the NSCCL for the trades executed in the F&O segment of the Exchange. It interfaces with the clearing members for all required reports. Through collateral management system it keeps an account of all available collaterals on behalf of all trading/clearing members and integrates the same with the position monitoring of the trading/clearing members. The system also generates base capital adequacy reports. (c) OPMS – the online position monitoring system that keeps track of all trades

executed for a trading member vis-à-vis its capital adequacy, (d) PRISM is the parallel risk management system for F&O trades using Standard Portfolio Analysis (SPAN). It is a system for comprehensive monitoring and load balancing of an array of parallel processors that provides complete fault tolerance. It provides real time information on initial margin value, mark to market profit or loss, collateral amounts, contract-wise latest prices, contract-wise open interest and limits. (e) Data warehousing that is the central repository of all data in CM as well as F&O segment of the Exchange, (f) Listing system that captures the data from the companies which are listed in the Exchange for corporate governance and integrates the same to the trading system for necessary broadcasts for data dissemination process and (g) Membership system that keeps track of all required details of the Trading Members of the Exchange.

NSEIL has been pioneering in the field of investor education through publication of brochures, booklets, factbooks, etc. as well as participating in Investment fairs throughout the country. It has also been using the print media to educate the investing community. It has also been participating in seminars and lecture series organized by market participants.

Agenda for Future

Reforms in the securities market, particularly establishment and empowerment of SEBI, allocation of resources by market, screen based nation-wide trading, dematerialisation and electronic transfer of securities, availability of derivatives of securities, etc. have greatly improved the regulatory framework and efficiency and safety of issue, trading clearing and settlement of securities. However, efforts are on to improve working of the securities market further. This section discusses international initiatives in the form of standards/guidelines/recommendations as well as domestic policy debates.

International Initiatives

Principles of Securities Regulation

In February 2002, IOSCO released a new version of the *Objectives and Principles of Securities Regulation*, which supersedes the one released in September 1998 and in November 2002 along with BIS, it issued another technical document titled "Assessment methodology for Recommendations for Securities Settlement Systems". It aims to provide advice and a yardstick against which progress towards effective regulation can be measured. IOSCO members, including SEBI, through their endorsement to these principles, intend to use their best endeavors within their jurisdiction to ensure adherence to these principles. These principles are discussed below:

Regulator

1. The responsibilities of the regulator should be clear and objectively stated. This requires a clear definition of responsibilities, preferably set out by law; strong cooperation among responsible authorities through appropriate channels; and adequate legal protection of regulators and their staff acting in bonafide discharge of their functions and powers. Any division of responsibility should avoid gaps and inequities in regulation.
2. The regulator should be operationally independent and accountable in the exercise of its functions and powers. Independence is enhanced by a stable source of funding for the

regulator. Accountability implies: a regulator that operates independently of sectoral interests; a system of public accountability of the regulator; and a system of permitting judicial review of decisions of the regulator.

3. The regulator should have adequate powers, proper resources and the capacity to perform its function and exercise its powers. The regulator should have powers of licensing, supervision, inspection, investigation and enforcement and also access to adequate funding.

4. The regulator should adopt clear and consistent regulatory processes. The regulator should have a process for consultation with the public including the regulated, publicly disclose its policies, observe standards of procedural fairness and have regard to the cost of compliance with the regulations. It should also play an active role in the education of investors and other participants in the capital market.

5. The staff of the regulator should observe the highest professional standards, including appropriate standards of confidentiality. They should be given clear guidance on conduct relating to conflict of interest, appropriate use of information obtained in course of duty, observance of confidentiality and secrecy provisions, observance of procedural fairness, etc.

Self-Regulation

6. The regulatory regime should make appropriate use of self-regulatory organisations (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. SROs should undertake those regulatory responsibilities which they incentive to perform efficiently.

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 regulator must ensure that no conflict of interest arises because of SRO's access to valuable information about market participants. The conflict may be acute when SRO is responsible both for supervision of its members and regulation of the market sector. Where powers of a SRO are inadequate to address a particular misconduct or conflict of interest necessitates it, the regulator should take over the responsibility. SROs should also follow similar professional standards as expected of the regulator.

Enforcement of Securities Regulation

8. The regulator should have comprehensive inspection, investigation and surveillance powers. It should have power to require the provision of information, or to carry out inspections of business operations to ensure compliance with relevant standards.

9. The regulator should have comprehensive enforcement powers, including regulatory and investigative powers to obtain data/information, to impose administrative sanctions and/or seek orders from court, to initiate or refer matters for criminal prosecution, to suspend trading in securities, to enter into enforceable settlements etc. It is, however, not necessary that all aspects of enforcement of securities law be given to a single body.

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. The powers of regulator should be sufficient to ensure its

effectiveness in cases of cross border misconduct. The regulator should require market intermediaries have in place policies and procedures to prevent use of their business as a vehicle for money laundering.

Co-operation in Regulation

11. The regulator should have authority to share both public and non-public information with domestic and foreign counterparts. Domestic laws need to remove impediments to international cooperation.
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.
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. There should be arrangements which identifies the circumstances under which assistance may be sought, identification of the types of information and assistance that can be provided, safeguards of confidentiality of information transmitted, and a description of permitted uses of information.

Issuers

14. There should be full, timely and accurate disclosure of financial results and other information which is material to investors' decisions. Disclosures should be clear, reasonably specific and timely.
15. Holders of securities in a company should be treated in a fair and equitable manner.
16. Accounting and auditing standards should be of a high and internationally acceptable quality.

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. The criteria may include honesty and integrity of the operator, competence to carry out the functions and duties of a scheme operator, financial capacity, internal management procedures, etc.
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.
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.
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.

Market Intermediaries

21. Regulation should provide for minimum entry standards for market intermediaries. It should reduce the risk to investors of loss caused by negligent or illegal behaviour or inadequate capital. The licensing process should require a comprehensive assessment of the applicant and the licensing authority should have power to withdraw or suspend the license. The regulator should ensure that the public have access to relevant information concerning the licensee.

22. There should be initial and on going capital and prudential requirements for market intermediaries that reflect the risks that the intermediaries undertake. The regulations should provide for right to inspection, investigation, enforcement, discipline and revocation of license.

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 of these matters.

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.

Secondary Market

25. The establishment of trading systems including securities exchanges should be subject to regulatory authorisation and oversight. The relevant factors for authorisation could be operator competence, operator oversight, admission of products to trading, admission of participants to trading, provision of trading information, etc.

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. Approval of trading system should be re-examined or withdrawn by the regulator when considered necessary.

27. Regulation should promote transparency of trading.

28. Regulation should be designed to detect and deter manipulation and other unfair trading practices. The regulation should prohibit market manipulation, misleading conduct, insider trading and other fraudulent or deceptive conduct which may distort price discovery system, distort prices and unfairly disadvantage investors. Such conduct may be addressed by direct surveillance, inspection, reporting, product design requirements, position limits, market halts, etc.

29. Regulation should aim to ensure the proper management of large exposures, default risk and market disruption.

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.

Recommendations for Securities Settlement Systems

BIS-IOSCO made a set of 19 recommendations in November 2002 covering legal risk, pre-settlement risk, settlement risk, operational risk and other issues relating to securities settlement system. India's readiness vis-à-vis BIS-IOSCO principles have been discussed in detail in Chapter 5. The 19 recommendations are discussed below:

Legal risk

1. *Legal framework:* Securities settlement systems should have a well founded, clear and transparent legal basis in the relevant jurisdictions.

Pre-settlement risk

2. *Trade confirmation:* Confirmation of trades between direct market participants should occur as soon as possible after trade execution, but no later than trade date (T+0). Where confirmation of trades by indirect market participants (such as institutional investors) is required, it should occur as soon as possible after trade execution, preferably on T+0, but no later than T+1.
3. *Settlement cycles:* Rolling settlement should be adopted in all securities markets. Final settlement should occur no later than T+3. The benefits and costs of a settlement cycle shorter than T+3 should be evaluated.
4. *Central counterparties (CCPs):* The benefits and costs of a CCP should be evaluated. Where such a mechanism is introduced, the CCP should rigorously control the risks it assumes.
5. *Securities lending:* Securities lending and borrowing (or repurchase agreements and other economically equivalent transactions) should be encouraged as a method for expediting the settlement of securities transactions. Barriers that inhibit the practice of lending securities for this purpose should be removed.

Settlement risk

6. *Central securities depositories (CSDs):* Securities should be immobilised or dematerialised and transferred by book entry in CSDs to the greatest extent possible.
7. *Delivery versus payment (DVP):* CSDs should eliminate principal risk by linking securities transfers to funds transfers in a way that achieves delivery versus payment.
8. *Timing of settlement finality:* Final settlement should occur no later than the end of the settlement day. Intraday or real-time finality should be provided where necessary to reduce risks.
9. *CSD risk controls to address participants' failures to settle:* CSDs that extend intraday credit to participants, including CSDs that operate net settlement systems, should institute risk controls that, at a minimum, ensure timely settlement in the event that the participant with the largest payment obligation is unable to settle. The most reliable set of controls is a combination of collateral requirements and limits.
10. *Cash settlement assets:* Assets used to settle the ultimate payment obligations arising from securities transactions should carry little or no credit or liquidity risk. If central bank money is not used, steps must be taken to protect CSD members from potential losses and liquidity pressures arising from the failure of the cash settlement agent whose assets are used for that purpose.

Operational risk

11. *Operational reliability:* Sources of operational risk arising in the clearing and settlement process should be identified and minimised through the development of appropriate systems, controls and procedures. Systems should be reliable and secure, and have adequate, scalable capacity. Contingency plans and backup facilities should be established to allow for timely recovery of operations and completion of the settlement process.

Custody risk

12. *Protection of customers' securities:* Entities holding securities in custody should employ accounting practices and safekeeping procedures that fully protect customers' securities.

It is essential that customers' securities be protected against the claims of a custodian's creditors.

Other issues

13. *Governance:* Governance arrangements for CSDs and CCPs should be designed to fulfill public interest requirements and to promote the objectives of owners and users.
14. *Access:* CSDs and CCPs should have objective and publicly disclosed criteria for participation that permit fair and open access.
15. *Efficiency:* While maintaining safe and secure operations, securities settlement systems should be cost-effective in meeting the requirements of users.
16. *Communication procedures and standards:* Securities settlement systems should use or accommodate the relevant international communication procedures and standards in order to facilitate efficient settlement of cross-border transactions.
17. *Transparency:* CSDs and CCPs should provide market participants with sufficient information for them to identify and evaluate accurately the risks and costs associated with using the CSD or CCP services.
18. *Regulation and oversight:* Securities settlement systems should be subject to transparent and effective regulation and oversight. Central banks and securities regulators should cooperate with each other and with other relevant authorities.
19. *Risks in cross-border links:* CSDs that establish links to settle cross-border trades should design and operate such links to reduce effectively the risks associated with cross-border settlements.

World Federation of Exchanges Trading Survey 2002

The World Federation of Exchanges conducted a survey in 2002 on trading practices at major stock exchanges through renowned Professor Maureen O'Hara of Cornell University. The report was released in March 2003. The survey covered 42 Exchanges focussed on 6 operational areas: Trading platform, Trading products, Orders and order routing, Execution, Transparency and Information and Other issues.

Trading Platform: The study found that electronic systems prevail and are typically order driven. 32 Exchanges have order driven system and only 2 stock exchanges have a floor system. 14 Exchanges have introduced new trading platform in the past 12 months and 15 are planning to do so in next 12 months. About 86% of Exchanges have platforms that include stock watch or real time error alerts. About 88% of Exchanges have backup systems in place that are fully redundant.

Trading Products: The study finds that 33 exchanges report negative to flat value growth over the last year but derivatives growth has been stronger. The study finds significant growth of Exchange Traded Funds.

Order and Order Routing: The study finds that 12% of the Exchanges have the system that gives direct access for order routing and straight through processing is common place (55%)

Execution: The study finds that execution quality has generally improved with the electronic system in place in most of the Exchanges. The study finds that 49% of exchanges offer

automatic execution of small orders and 71% offer opportunities for price improvement and order processing times are typically less than a second.

Transparency and Information: The survey indicated that global markets become more and more transparent. The majority of exchanges disclose substantial market information and disseminate them through variety of ways: 90% through data feed, 74% through internet, 69% through trading system, 36% through special information system and 7% through satellite. 57% of exchange display the depths of all prices, another 26% display depth for specific price levels and 17% allow indicative quotes to be disclosed.

Other Issues: The survey finds that 76% of the Exchanges reported operating within a self-regulatory framework. As far as how regulatory functions are handled, in 40% of exchanges are handled internally, 14% are by a separate non-governmental entity, 21% are by Government regulator and 38% are handled jointly with a regulatory agency.

Domestic Policy Debates*

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

Primary Market

Safety Net: It is proposed to indemnify the investor for the losses that he may suffer on account of erosion in value of his holdings upto a period of say six months from the date of issue. If the liability on account of indemnity is borne by the issuer, it would prevent him from issuing/maintaining securities at unrealistic prices and consequently post issue prices would not be less than issue price. This would give investor confidence to subscribe to public issues as his loss is insured for at least six months. However, safety net is inconsistent with the nature of equity, as it supports prices at an artificial level by removing downside of equity. Further, it is illogical to provide such support, particularly if the price is market discovered such as through book building. The basic premise that the securities have lost value after the issue in the recent years may not be adequate justification for safety net, as securities across the board have lost their value during the same period.

Exchange Related

Business Continuity Plan: NSE has established a disaster back-up site at Chennai along with its entire infrastructure including the satellite earth station and the high speed optical fibre link with its main site at Mumbai. The site at Chennai 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.

* The views and approaches reflected in the policy debates are not necessarily of the NSE.

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 and futures are available only on 31 securities. In order to provide wider option to market participants, the index futures/options could be extended to some other popular indices, like Nifty Junior and Defty. The stock futures/options could be extended to all active securities. The possibility of introducing derivatives with exchange 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 Nikkei 200. These would provide wider option to market participants.

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 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 revolutionized the values 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 centralized legal counter-party, risk management would dictate that it nets all obligations vis-à-vis each counter-party to itself.

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 as 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. The 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.

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 89% resources mobilized domestically by corporate sector during 2002-03. 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.

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 immediately to that in the equity market.

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.

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 establishment of a clearing corporation for clearing of money, government securities and forex markets transactions. The CCIL settles trades on gross basis and acts as a central counterparty for clearing and settlement of government securities transactions done on NDS. This need to be extended to all trades in government securities irrespective of the trading platform and participants and trades should be settled on net basis.

STRIPS: Separate Trading of Registered Interest and Principal of Securities (STRIPS) involve 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 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. CBDT has clarified taxation issues relating to issuance of STRIPS. RBI is setting up a working group to suggest operational and prudential guidelines.

Primary Issuance: The Public Debt Office of RBI conducts auction for issue of government securities. The bidders have option to submit bids electronically and make payment for the securities by electronic fund transfer. However, the entire process of auction is carried out manually without use of information technology. As a result, the market is localised; it is not transparent; the bidders have no choice to revise their bids; and hence the price discovery is inefficient. What is required is the auction should be held electronically on an all India basis and participants should be able to see the building up of bids and revise their bids if they so feel.

The role of RBI as the manager of government debt conflicts with its role as manager of the monetary policy. In the interest of greater autonomy of monetary policy, the issuance of government securities should be managed outside RBI, that is, the decisions relating to debt management and interest rate should be taken independently to avoid perceived conflict of interest.

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 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.

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. And this piece of legislation should prevail over general laws like the Companies Act, the Consumer Protection Act, the Contracts Act, etc and the agency works in close coordination with regulators for other areas of financial market.

Investor Grievances: The consumer forum provides an expeditious remedy to a consumer who has suffered loss on account of deficiency in goods/services purchased by him. A similar arrangement is called for redressal of investor grievances, given the rate of disposal of our judicial system. The investor forum as well as other authorities should have power to dispose off the cases summarily and to award compensation to the investor. It is not enough if the culprit is punished. The culprit needs to be punished in an exemplary manner, while investor should have means to recover his loss caused by the culprit.

The depositors are protected up to Rs. 1 lakh in the event of liquidation/bankruptcy of a bank. This protects innocent depositors and thereby contributes to the stability of the financial system. A similar mechanism may be developed to compensate an investor up to Rs. 5 lakh if he suffers a loss on account of the failure of the system or mischief by any market participant. An organisation called Securities Investor Protection Corporation (SIPC) operates in the USA to provide similar protection to investors.

Department of Company Affairs, SEBI, Stock Exchanges, Depositories, Investor Associations and a number of NGOs are organizing investor education/awareness programmes. What is missing is co-ordination. The regulator may take initiative and co-ordinate the efforts of these agencies so that investors all over the country benefit from such programmes.

Central Information Depository: An investor normally deals in 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. The details may include the form of organization, management, capital adequacy, liabilities, defaults and penal actions taken by the regulator and self regulatory organizations against the intermediary in the past and other relevant information. Similarly the details about the issuer should be available to investors/public. If possible, the issuers/intermediaries may be rated and their ratings are disseminated. One way to do so would be to display the details of SEBI registered intermediaries and listed companies on an easily accessible user friendly central web site. This would enable the investor to make informed decisions not only about his investments but also the intermediaries through whom he should transact.

Quality Intermediation: Quality intermediation requires personnel providing intermediation services to follow a certain code of conduct and possess requisite skills and knowledge to service different constituents in the market. Whereas the former is achieved by regulation, the latter is generally acquired through a system of testing and certification. The testing and certification ensures that a person dealing with financial products has a minimum standard of knowledge about them, market and the regulations so as to assist the customers in their dealings and thereby builds a cadre of professionals whom the investor can trust. Such testing and certification needs to be made mandatory for employees working with intermediaries.

Plea Bargaining: The SEC lets off the offenders who simply pay up without admitting to an offence. This prevents every case being locked up in a court. Given the number of cases pending in the Indian courts and intangible nature of securities market offences (it is difficult to track evidence since the securities are issued, traded, cleared, settled and transferred electronically in demat form), SEBI requires similar facilities if the offenders are to be punished on priority. This would help to bring all the co-accused to book or solve difficult cases if one accused provides lead by agreeing to plea bargain in exchange of a lenient sentence.

Annexure 1-1: Elements of Market Design in Indian Securities Market, 1992 and 2002

Features	Corporate Securities		Government Securities	
	1992	2002	1992	2002
Regulator	No Specific Regulator, but Central Government oversight	A specialized regulator for securities market (SEBI) vested with powers to protect investors' interest and to develop and regulate securities market. SROs strengthened.	RBI participates in the market as well as regulates it.	Unchanged. SROs emerged.
Intermediaries	Some of the intermediaries (stock brokers, authorized clerks and remisiers) regulated by the SROs.	A variety of specialized intermediaries emerged. They are registered and regulated by SEBI (also by SROs). They as well as their employees are required to follow a code of conduct and are subject to a number of compliances.	Brokers / dealers with agency problems	Brokers of specified exchanges authorized to trade. Primary Dealers offer two-way quotes.
Access to Market	Granted by Central Government	Eligible issuers access the market after complying with the issue requirements.	Authorised by Parliament. Automatic monetization prevalent	Unchanged. Automatic monetization discontinued
Pricing of Securities	Determined by Central Government	Determined by market, either by the issuer through fixed price or by the investors through book building	Determined by RBI	Determined by market through a system of auctions (uniform /multiple price/yield). Small proportion available at prices determined by RBI
Integration with International market	No access	Corporates allowed to issue ADRs/ GDRs and raise ECBs. ADRs/GDRs have two way fungibilty. FIIs allowed trade in Indian market. MFs also allowed to invest overseas	No access except External borrowing by the Government.	Unchanged. FIIs permitted to invest in government securities
Trading Mechanism	Open outcry, Available at the trading rings of the exchanges, Opaque, Auction/ negotiated deals	Screen based trading system, Orders are matched on price-time priority, Transparent, Trading platform accessible from all over country	Negotiated deals over telephone	Negotiations over telephone and on screen, Also Screen based trading system where orders are matched on price-time priority.
Aggregation order flow	Fragmented market through geographical distance. Order flow unobserved.	Order flow observed. The exchanges have open electronic consolidated limit order book (OECLOB).	Fragmented market through geographical distance. Order flow unobserved.	Unchanged. Limited use of OECLOB
Anonymity in Trading	Absent	Complete	Absent	Absent except for OECLOB market
Settlement System	Bilateral	Clearing House of the Exchange or the Clearing Corporation is the central counter-party	Bilateral	Clearing corporation is counterparty to most of the trades. Bilateral settlement continues.
Settlement Cycle	14 day account period settlement, but not adhered to always	Rolling settlement on T+2 basis	Spot	Rolling settlement on T+0 to T+2 basis
Counterparty Risk	Present	Absent	Present	Absent for trades settled through clearing corporation
Form of Settlement	Physical	Mostly Electronic	Physical	Mostly Electronic through DvP
Basis of Settlement	Bilateral Netting	Multilateral Netting	Gross	Unchanged. However, net in funds in respect of settlement through clearing corporation.
Transfer of Securities	Cumbersome. Transfer by endorsement on security and registration by issuer	Securities are freely transferable. Transfers are recorded electronically in book entry form by depositories.	Transfer by endorsement	Securities are freely transferable. Transfers are recorded electronically in book entry form in SGL
Risk Management	No focus on risk management	Comprehensive risk management system encompassing capital adequacy, limits on exposure and turnover, VaR based margining, client level gross margining, on-line position monitoring etc.	No focus on risk management	Comprehensive risk management mechanism in respect of transactions settled through clearing corporation
Derivatives Trading	Absent	Exchange traded futures and Options available on two indices and select securities. Exchange traded interest rate derivatives on 91 day Notional T-bill and 10 year Notional 6% coupon bearing bond as well as zero coupon bonds.	Absent	Absent. Repo transactions permitted.