5 Secondary Market - Trading*

The stock exchanges are the exclusive centres for trading in equities and the trading platform of an exchange is accessible only to brokers. The regulatory framework heavily favors the recognised stock exchanges by almost banning trading activity outside the stock exchanges. Only spot trades can be executed outside the stock exchanges. Until recently stock exchanges enjoyed monopoly in the respective cities where they were established. These are called regional stock exchanges and are owned by brokers. However, the two newly set up de-mutualised exchanges, viz., OTCEI and NSE, were mandated to have nation-wide trading. It is only recently that SEBI ended the rule that precluded competition among the regional broker-owned stock exchanges with one another. Now, all regional stock exchanges can also freely expand their operations to any other geographical location of their choice. This newly granted freedom has not made much difference to the majority of the exchanges for the simple reason that they do not have the financial muscle to spread their trading network to places other than the areas of their current operations.

A security is listed on any number of stock exchanges in addition to listing on the regional exchange, which is compulsory. A security listed on an exchange is permitted for trading by other exchanges. Every stock exchange follows its own practices and procedures in respect of (a) listing and trading of securities (b) clearing and settlement of transactions, and (c) risk containmentmeasures. The norms and practices across stock exchanges are, however, being gradually standardised.

The broad structure of the secondary market as on March 31, 2000 is presented below:

Stock Exchanges	24
Exchanges with Screen Based Trading System	23
Exchanges having Clearing Corporation	1
Exchanges having Trade/Settlement Guarantee Fund	16
Exchanges with Internet Trading	1
Registered Members (brokers)	9,192
Registered Foreign Brokers	38
Registered Corporate Members	3,316
Registered Sub-Brokers	5,675
Registered FIIs	506
Listed Companies	9,871
Market Capitalisation	Rs.11,92,630 crore
Turnover during 1999-2000	Rs.20,67,031 crore

Policies and Programmes

The Government of India as well as the market regulators have taken several measures to improve the working of stock exchanges and market intermediaries, who together provide a platform for trading of securities. The measures are aimed at modernisation of market infrastructure and upgradation of risk containment measures so as protect the integrity of the market and interest of investors. The policy and regulatory initiatives during 1999-2000 having a bearing on trading of securities are discussed below.

Units of CIS

The Securities Laws (Amendment) Act, 1999, enacted on December 16, 1999, expanded the definition of "securities" in the SC(R)A to include

* This chapter deals with trading in equities in "cash" market, while next chapter deals with their clearing and settlement. The details of dematerialised settlement are discussed in Chapter 7. The trading, clearing and settlement of debt instruments and derivatives are discussed in Chapters 8 and 9 respectively.

units or any other instruments issued by CIS to investors in such schemes. This is aimed at an orderly development of market for these units while protecting the interests of investors therein. This Act empowers Central Government to make rules to provide for the requirements, which shall be complied with by CIS for the purpose of getting their units listed on any stock exchange.

Empowerment of RBI

Government had powers to delegate regulatory authority to SEBI only. To provide additional flexibility, the SC(R)A was amended to authorise Central Government to delegate powers under the SC(R)A to the Reserve Bank of India with a view to enabling the latter to regulate transactions in securities as may be specified by the government from time to time. Now the Central Government, the SEBI and the RBI depending on their jurisdiction can exercise powers under the Act.

In pursuance to this authorisation, Government issued a notification on March 2, 2000, delineating the areas of responsibility between RBI and SEBI. In terms of this notification, the contracts for sale and purchase of government securities, gold related securities, money market securities and securities derived from these securities and ready forward contracts in debt securities shall be regulated by RBI. Such contracts, if executed on stock exchanges, shall, however, be regulated by SEBI in a manner that is consistent with the guidelines issued by RBI.

RBI and SEBI have also issued notifications specifying the regulatory framework in their respective areas. In terms of RBI notification, no person can enter into any (a) contract for the sale or purchase of government securities, gold related securities and money market securities other than spot delivery contract or such other contract traded on a recongnised stock exchange as is permissible under the SC(R)A, rules and bye-laws of such stock exchange, and (b) ready forward contracts in bonds, debentures, debenture stock, securitised debt, and other debt securities. Ready forward contracts may, however, be entered into by permitted persons in all government securities put through the Subsidiary General Ledger Account held with RBI in accordance with the terms and conditions as may be specified by RBI. SEBI by its notification has prohibited all contracts in securities other than such spot delivery contracts or contracts in derivatives as are permissible under the SC(R)A or the SEBI Act and rules and regulations made thereunder and rules, regulations and bye-laws of a recognised stock exchange.

Prohibition on Forward Trading in Securities

By a notification issued on March 1, 2000, Government lifted the three-decade-old prohibition on forward trading in securities. This prohibition was imposed by Government in exercise of its powers under section 16 of the SC(R)A by a notification issued on June 27, 1969 in order to curb certain unhealthy trends that had developed in the securities markets at that time and to prevent undesirable speculation. In the changed financial environment, the relevance of this prohibition had greatly reduced in view of substantial improvements in the functioning of the securities market. Requirements of adequate capitalisation, margining and establishment of clearing corporations have reduced market and credit risks. Besides, while the notification was in force, exceptions had been carved out in course of time as market needs changed and some form of forward trading (carry forward/repo) was prevalent. The repeal of the 1969 notification would permit development of the forward trading in securities in accordance with the rules and guidelines of the relevant regulatory authorities.

Transfer of Appellate Functions

The SC(R)A provided for right of appeal before the Central Government against refusal, omission or failure by a stock exchange to list securities of any public company within fifteen days of such refusal, omission or failure. Since the powers of the Central Government to issue directions and to make rules under the SC(R)A, and to appoint members on the governing bodies of stock exchanges were perceived as compromising its appellate powers, the Securities Laws (Second Amendment) Act, 1999 transferred these appellate functions from Central Government to the Securities Appellate Tribunal (SAT). Henceforth, all appeals against decision of stock exchanges on listing of a security would be preferred before SAT. An obligation has also been cast on SAT to endeavour to dispose of the appeals within six months.

Similarly, under the SEBI Act, any person aggrieved by an order of SEBI under the SEBI Act and the Depositories Act and rules and regulations made thereunder could prefer an appeal before the central government. In addition, central government is empowered to issue directions on matters of policy to SEBI and appoint members on SEBI. These were perceived as compromising its appellate powers. In order to remove such misgivings and impart transparency and impartiality to the process of disposal of appeals, the law was amended to transfer appellate powers under these two Acts from Central Government to an independent body, SAT.

Relaxation in Requirement of Public Offer

In exercise of its powers under Rule 19(7) of the SC(R) Rules, SEBI relaxed the requirement of offering 25% of the securities to public for the purpose of listing under Rule 19(2)(b) of the SC(R) Rules, 1957 for companies in the information technology (IT) sector, subject to the following:

(a) at least 10% of securities issued by the company are offered to the public,

(b) at least twenty lakh securities are offered to the public (excluding reservation, firm allotment and promoters' contribution); and

(c) the size of the net offer to the public (i.e., the offer price multiplied by the number of securities offered to the public, excluding reservation, firm allotment and promoters' contribution) is at least Rs. 50 crore.

This relaxation was allowed in view of the factors like high, valuation enjoyed by IT companies coupled with low capital requirements, importance of employee stock options and attractiveness of ADR route for listing overseas with capital dilution as low as 10%.

Restriction on Hand Delivery Trade

SEBI decided that effective from January 15, 2000, all orders executed on behalf of foreign institutional investors (FIIs) and mutual funds (MFs) must necessarily be settled directly by custodians through clearing house/clearing corporation. This decision would be applicable in respect of transactions done in all securities in which settlement of trade is compulsorily required to be settled in dematerialised form by all investors.

However, in a meeting taken by SEBI on December 10, 1999 to review its decision regarding the restriction on hand delivery trades for FIIs and MFs, it was decided that:

1. The hand delivery trades may be continued beyond January 15, 2000.

2. The hand delivery trades would be subjected to the same restrictions and time frame as for the transactions settled through the clearing corporation/clearing house mechanism. These trades would also be subject to the rules, byelaws and regulations of the exchange where the transactions have been executed. In order to bring these transactions under similar time schedule as the transactions settled through clearing corporation/clearing house, all hand delivery trades will have to be compulsorily settled with the clients' custodians within two working days of the pay-out date for that settlement at that stock exchange. However, if the transaction is partly settled in the clearing corporation/clearing house

and therefore involves auction/close-out procedures, then such transactions should be settled with the clients' custodians within two working days of the completion of the auction/close-out process for that settlement at the respective stock exchange.

Negotiated Deals

Deals done as 'negotiated deals' militate against the basic concept of stock exchanges, which are meant to bring together a large number of buyers and sellers in an open and transparent manner. SEBI therefore decided that all negotiated deals would be permitted only if these are executed on the screens of exchanges following the price and order matching mechanism of the exchanges just like any other trade. All negotiated deals in listed corporate debt securities will also have to be executed on the basis of price and order matching mechanism of the stock exchanges as in the case of equities. However, the stock exchanges can grant exemptions only in cases where the scrips have reached FII investment limits. With effect from September 2000, SEBI can grant exemptions for dis-investment of public sector enterprises on a case to case basis.

Trading of Unlisted Securities

SEBI examined OTCEI's proposal to provide a trading mechanism and price discovery for securities of public limited companies, which are not listed or traded as permitted securities in any exchange. Only qualified participants (QPs) such as corporates/companies, banks and individuals, with a net worth of Rs. 2.5 crore, will be allowed to trade on the market. The scrips as well as the QPs will be selected by the exchange. The exchange will not guarantee the settlement of trade. The securities of the companies will be listed with suitable exemptions for which regulatory changes will be made. The above system will provide a transparent trading platform and exit opportunity for small capital companies, venture capital and private equity funds.

Revival of Small Exchanges

The declining volumes on small regional exchanges and consequently their financial health has been a cause for concern in the recent past. SEBI set up a group comprising of NSE, BSE, CSE and some of the small exchanges to discuss the suggestions/revival plans forwarded by the small exchanges for their revival. As regards financial viability, the group considered using existing infrastructure of the small exchanges for providing services such as depository participant, monitoring and surveillance on behalf of the larger exchanges, etc. It was agreed to explore the possibility of utilising the existing infrastructure facilities of the regional stock exchanges by the bigger exchanges. A small group comprising of representatives of small exchanges, SEBI and Forward Markets Commission would be formed to explore possibilities of utilising the infrastructure facilities of the regional stock exchanges for the purpose of futures trading in commodities.

As regards increasing business opportunities, the group discussed merger or alliances of small exchanges with larger ones. It was agreed that a stock exchange may be permitted to promote a subsidiary, which can acquire membership rights of a larger stock exchange, viz. NSE/BSE/CSE/DSE or any other exchange subject to usual conditions applicable to the other members. This would provide members of small exchanges access to the wider market for improving their trading volume. The subsidiary will be a member of a larger exchange and the members of the small stock exchange will be registering themselves as sub-brokers of the subsidiary. The subsidiary would have the entire settlement responsibility for the trades executed as a member of the larger stock exchange on behalf of the members of the small stock exchange. The subsidiary will collect margins from the sub-brokers and also enforce individual exposure/trading limits on them. It was also agreed that the deposit to be collected from the sub-brokers of the subsidiary promoted by the stock exchange would be in the form of 25% cash and 75% irrevocable bank guarantee. All the exchanges shall have freedom to increase the membership or dealership, subject to compliance of all the legal requirements, without the approval of SEBI.

Expansion of Stock Exchanges

Earlier a regional stock exchange needed to sign a Memorandum of Understanding (MoU) with the local stock exchange in whose area it wanted to operate a trading terminal. For example, BSE needed to sign a MoU with Hyderabad stock exchange, if the former wanted to set a trading terminal in Hyderabad. SEBI did away this requirement of MoU and made all exchanges free to set up terminals anywhere in the country.

Capital Stock Exchange, Trivandrum

A new stock exchange at Trivandrum, called the Capital Stock Exchange, was granted recognition by SEBI. It is the 24^{th} Stock Exchange in the country.

Year 2000 Compliance

A time bound schedule for implementation of a comprehensive plan, including a contingency plan, to combat the Y2K problem was drawn up by SEBI and was circulated to all the intermediaries functioning in the securities market. They were advised to test, validate and implement the systems by June 30, 1999. It was made mandatory for listed companies as well as the companies accessing market to disclose their Y2K preparedness status in their quarterly reports. Concerted efforts helped a smooth and disruption free roll over to the year 2000.

Market Making

SEBI had constituted a Committee on March 24, 1998 under the chairmanship of Shri G P Gupta, then Chairman, UTI and current Chairman and Managing Director of IDBI, with a view to study the concept of 'Market Making' and to draft operational procedures for market making, eligibility criteria for market makers, risk containment measures, etc. The Committee submitted its final report on October 4, 1999. SEBI approved the recommendations of the committee on October 8, 1999.

The committee observed that the introduction of electronic trading and order matching system in all the 23 stock exchanges have led to reduction in transaction costs, speedier execution of trades and gains in liquidity. The spreads have dropped by a factor of 10 and volumes have risen by a hundred fold in respect of many shares. Increase in trading volume on the exchanges, however, has not been reflected in the liquidity of all the listed shares. There are still a large number of shares that are not actively or frequently traded although many of them have some fundamental strength and intrinsic value. The introduction of market making facility for such shares could be a possible means to infuse liquidity in such shares.

As the market makers in most markets operate under an obligation to offer continuous two way quotes (except under certain circumstances), they are required to carry an inventory of stocks, which implies commitment of capital and exposure to market risks. An intermediary will naturally seek adequate compensation should it choose to act as market maker for a share. The Committee felt that this aspect needs to be kept in view while working out the operational parameters of market making system.

The Committee made following recommendations:

- All shares, excluding the shares satisfying the criterion given below, would be eligible for market making:
  - (a) Shares included in the BSE Sensex and in the Nifty;
  - (b) Shares where the average number of trades is more than 50;
  - (c) Shares where the value of trades on a daily basis is more than Rs. 10,00,000;

(d) Shares where the company is not in operation and the net worth erosion is beyond 50%.

- The market making activity would be voluntary in nature.
- The market maker shall provide two-way quotes for the shares in which he or she has committed to undertake market making, at regular intervals of thirty minutes, with a minimum depth of Rs. 5000/- or one market lot whichever is higher, within five days of the registration.
- The obligation of the market maker to make market, i.e., to give two-way quotes, would end at 1% less than the price band in that share.
- The market maker would operate in exclusively quote driven system. The market maker would, however, compete with other market makers on the exchange for trading in the share.
- The member brokers of the exchanges would be allowed to act as market maker.
- If a market maker fails to provide two-way quotes for more than three consecutive days, his registration, as market maker, would stand cancelled.
- There would be a maximum of five market makers for a scrip on an exchange.
- The Committee felt that in case of IPOs, introduction of the market making could help the investors by giving them the assurance of liquidity. The detailed procedure for this would be worked out by SEBI.
- Margins would be applicable to the market maker as in the normal market.
- The exchanges would prescribe the capital adequacy norms to be commensurate with the type of shares, number of shares undertaken by the member for making market, infrastructure and volume of business of the member.
- The spreads between the bid and ask price would be as follows:

For shares priced	Maximum Spread (%)
Upto Rs. 10	No limit
> Rs. 10 ≤ Rs. 20	10
> Rs. 20 ≤ Rs. 50	5
> Rs. 50 ≤ Rs. 100	4
> Rs. 100	3

The Committee recommended that the guidelines enumerated above may be reviewed by SEBI from time to time keeping the operational experience in view.

- The market maker would be eligible to avail of lending/borrowing facilities under the Stock Lending Scheme 1997. The market maker may also draw shares from the promoters in a fair and transparent manner.
- The Committee urged the investment institutions to encourage their broking subsidiaries to take up market making in order to aid and strengthen the activity.
- The exchanges have been asked to pursue with their clearing banks to open special cells for lending to the market makers with adequate safeguards. Committee strongly recommended the RBI to encourage banks to participate in lending to market makers.

The Committee recommended that all the stock exchanges should adhere to the recommendations regarding selection of shares, capital adequacy and price bands. The stock exchanges may, however, mould the scheme to make it more attractive to the market makers.

Following the acceptance the recommendations of the committee on market making, SEBI issued guidelines to the exchanges to allow the brokers to take up market making activity in shares of a company where the average number of daily trades is more than 50 and the value of trade on daily basis is more than Rs. 10 lakh. However, market making did not take off as brokers are apprehensive of replication of the experience of market making on OTCEI. Further, informal market making already exists as practically most brokers place both buy and sell orders for each scrip in which they are trading. Thus, brokers do not have incentive to engage formally in market making and subject themselves to regulatory requirements.

On-line Trading Terminals abroad

With the rapid expansion of the Indian capital market and with the fund managers all over the world evincing keen interest in investing in the Indian markets, a need was felt to provide a facility to eligible overseas investors to place orders on a real-time basis. The Government of India, in its budget 1999-2000, unveiled a scheme to encourage brokers of stock exchanges to open on-line trading terminals abroad. In pursuance to this, SEBI issued guidelines for opening and maintaining the trading terminals abroad. The salient features of the guidelines are:

- Such trading terminals shall be opened only by the stock brokers registered with SEBI, and only after obtaining permission from the respective stock exchange.
- Such terminals abroad would be opened subject to the guidelines laid down by RBI from time to time.
- Such terminals shall be subject to prior permission of the concerned regulatory authorities of the respective foreign countries, wherever required.
- Any eligible investor (NRIs/OCBs/FIIs/PIOs) shall be able to place orders on the trading terminal of the stock exchange available at the office of the Indian broker maintained abroad. The order fed on the live terminal shall be executed on the computer of the concerned exchange in India.
- The contract note in favour of the client abroad shall be issued in India, however the same could be printed in the broker's office abroad.
- All such trades would be subject to usual margins, capital adequacy, intra-day trading limits and such other requirements fixed for the brokers by the exchange. The respective stock exchange shall ensure that investors do not pay brokerage on such trades exceeding the maximum brokerage permitted under rules, regulations and byelaws of the exchange.
- No negotiated deals shall be permitted through these terminals and only screen-based order matching system shall be available on these terminals.
- All trades shall be settled in India in dematerialised form only. Clients with status of FIIs shall settle the trade through their registered custodian/designated bank. Clients with the status of NRIs/PIOs/OCBs shall settle the trade through a designated bank. Such a designated bank shall be responsible for repatriation of funds.
- The respective exchange shall ensure that there is adequate monitoring and surveillance mechanism for such overseas terminals in order to oversee trades.
- The investors' grievance for such cases shall be resolved by the respective exchange through the existing arbitration mechanism.
- The parties to such trade shall be deemed to have submitted to the jurisdiction of the courts in India for the purpose of giving effect to the provisions of the rules, byelaws and regulations of the exchange.

However, trading terminals abroad did not materialise in view of prohibitive cost of connectivity. In the meantime, internet trading, a good alternative through which investors can trade from any location, has become available.

Long-term Capital Gains Tax

The long-term capital gains tax for resident Indians was 20% linked to a notional value of capital gains, computed with reference to the cost of inflation index. However, the long-term capital gains for non-resident Indians was only 10%. In view of perceived discrimination in the rate between residents and non-residents, the Finance Act, 1999 amended the law to cap the long-term capital gains tax for resident Indians on transfer of shares and securities at the rate of 10%.

Corporate Governance

SEBI had set up a committee under the Chairmanship of one of its members, Mr. Kumar Mangalam Birla, to suggest changes in the listing agreement to promote corporate governance. SEBI accepted the recommendations of Committee on corporate governance. The recommendations have been broadly grouped as mandatory and non-mandatory. Mandatory recommendations include, composition of board of directors, formation and structure of audit committees, remuneration of directors, board procedures, additional information regarding management discussion and analysis as part of the annual report, disclosure of directors' interest, shareholders' rights and disclosures regarding compliance level of corporate governance in the annual report. Non-mandatory recommendations include, issues concerning chairman of the Board, setting up of remuneration committee, half-yearly information to the shareholders, use of postal ballots in certain key decisions, appointment of nominee directors and obligations of institutional shareholders. While many non-mandatory recommendations deserve to be made mandatory, they are considered non-mandatory because most of these could be implemented only by amendment of existing laws, by RBI, Department of Company Affairs and Institute of Chartered Accountants of India. SEBI will pursue these recommendations with these bodies.

The applicability and schedule of implementation of corporate governance norms was approved by SEBI. Accordingly, on February 21, 2000, SEBI issued directions to stock exchanges to amend the listing agreement to implement new recommendations. The amendments to the listing agreement are to be implemented as per schedule of implementation given below:

- At the time of listing by all entities seeking listing for the first time.
- Within financial year 2000-2001, but not later than March 31, 2001 by all entities, which are included either in Group 'A' of the BSE or in S&P CNX Nifty index as on January 1, 2000.
- Within financial year 2001-2002, but not later than March 31, 2002 by all the entities which are presently listed, with paid up share capital of Rs. 10 crore and above, or net worth of Rs.25 crore or more any time in the history of the company.
- Within financial year 2002-2003, but not later than March 31, 2003 by all the entities which are presently listed, with paid up share capital of Rs.3 crore and above.

The first phase to be completed by March 31, 2001 would cover more than 80% of the market capitalisation. The amendments effected in the listing agreement in pursuance to this decision of SEBI are given in Box V-1.

In regard to listed entities such as banks, financial institutions, etc., which are incorporated under other statutes, the recommendations would apply to the extent that they do not violate the existing statutes or guidelines or directions issued by the relevant regulatory authority.

BOX V-1

Corporate Governance

The following provisions relating to corporate governance have been incorporated in the listing agreement of stocks exchanges:

Board of Directors

The board of directors of the company shall have an optimum combination of executive and non-executive directors with not less than fifty percent of the board of directors comprising of non-executive directors. In case of a non-executive chairman, at least one-third of board should comprise of independent directors and in case of an executive chairman, at least half of board should comprise of independent directors.

All pecuniary relationship or transactions of the non-executive directors vis-a-vis the company should be disclosed in the annual report.

Audit Committee

1. A qualified and independent audit committee shall be set up consisting of minimum three members, all being non- executive directors, with the majority of them being independent, and with at least one director having financial and accounting knowledge. The chairman of the committee shall be an independent director; who shall be present at Annual General Meeting to answer shareholder queries.
2. The audit committee shall meet at least thrice a year.
3. The audit committee shall have the powers to :
   - (a) investigate any activity within its terms of reference,
   - (b) seek information from any employee,
   - (c) obtain outside legal or other professional advice, and
   - (d) secure attendance of outsiders with relevant expertise, if it considers necessary.
4. The role of the audit committee shall include:
   - (a) oversight of the company's financial reporting process and the disclosure of its financial information,
   - (b) recommending the appointment and removal of external auditor,
   - (c) reviewing with management the annual financial statements before submission to the board,
   - (d) reviewing the adequacy of internal control systems,
   - (e) reviewing the adequacy of internal audit function, and
   - (f) reviewing the company's financial and risk management policies.

Remuneration of Directors

The remuneration of non-executive directors shall be decided by the board of directors. The details of elements of remuneration package of directors, fixed component and performance linked incentives, service contracts, and stock options shall be disclosed in the annual report.

Board Procedure

The board meeting shall be held at least four times a year, with a maximum time gap of four months between any two meetings. A director shall not be a member in more than 10 committees or act as Chairman of more than five committees across all companies in which he is a director.

Management

A Management Discussion and Analysis report should form part of the annual report to the shareholders. Disclosures must be made by the management to the board relating to all material financial and commercial transactions, where they have personal interest.

Shareholders

1. In case of the appointment of a new director or re-appointment of a director the shareholders must be provided with details of his directionship and expertise.
2. Information like quarterly results, presentation made by companies to analysts shall be put on company's web-site.
3. A board committee under the chairmanship of a non-executive director shall be formed to specifically look into the redressing of shareholder and investors complaints.
4. The company shall attend to share transfer formalities at least once in a fortnight

Report on Corporate Governance

There shall be a separate section on Corporate Governance in the annual reports of company, with a detailed compliance report on corporate governance. Non compliance of any mandatory requirement, i.e., which is part of the listing agreement, with reasons thereof and the extent to which the non-mandatory requirements have been adopted should be specifically highlighted.

Compliance

The company shall obtain a certificate from the auditors of the company regarding compliance of conditions of corporate governance and annexe the same with the directors' report.

Internet-based Securities Trading

A Committee on internet-based securities trading and services was set up by SEBI to develop regulatory parameters for use of internet in securities business and effective enforcement of internet trading. The committee suggested use of internet as an order routing system for communicating client orders to the exchange through brokers. This would be compatible with screen based trading system available in exchanges and with the existing legal framework. SEBI approved the report of the committee and took note of the recommended minimum technical standards for ensuring safety and security of transactions between clients and brokers, which would be enforced by the respective stock exchanges.

FII Regulations

SEBI modified the criteria for broad-based funds to mean a fund, which has at least 20 investors (instead of 50) and with no single investor holding more than 5% (instead of 10%) of the shares or units in the fund. SEBI permitted:

(a) Foreign corporates and individuals to invest in the Indian capital market through registered FIIs. The total investment made by all investors in this category shall not exceed 5% of the total capital of that company within the aggregate limit of FII portfolio investment of 24/30%. NRIs and OCBs are excluded from this category as they have separate investment limit of 10%. The FIIs will undertake due diligence about the legitimacy of source of funds as well as confirm that the investing entity is registered with the relevant tax authorities and is filing its returns regularly.

(b) Domestic Asset Management Companies and registered domestic Portfolio Managers to manage foreign investment in the Indian capital market through the portfolio investment route subject to the same regulatory and reporting requirements as stipulated in Regulations.

(c) FIIs to directly participate in the public offer of takeover and buyback offer of companies.

Disclosure by Listed Companies

SEBI had appointed an Accounting Standards Committee under the Chairmanship of Mr. Y. H. Malegam to review, inter alia, the continuous disclosure requirements of listed companies. Major recommendations of the Committee, which have been implemented are:

(a) With a view to harmonise the disclosure requirements under the listing agreement and the Accounting Standards issued by the Institute of Chartered Accountants of India, the cash flow statement being disclosed in terms of listing agreement will be prepared in accordance with the relevant Accounting Standard.

(b) The quarterly unaudited financial results of the companies will include certain additional disclosures to make these more transparent and meaningful. The half-yearly results will be subject to a limited review by the auditors with effect from the half year ending on March 31, 2000.

(c) In order to avoid excessive volatility in stock prices due to announcements regarding dividend, rights, etc. during market hours, such announcements shall be made only after the close of the market hours.

Union Budget, 2000-2001

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

(a) 100% tax exemption to the income of Investor Protection Funds of Stock exchanges to give them incentives for setting up of such funds,

(b) To give best companies greater access to foreign portfolio investment, upper limit for FII investments increased from 30% to 40%, and

(c) The rate of tax on dividends distributed by domestic companies increased from 10% to 20%.

Measures initiated during 2000-2001 (April-September) include:

Relaxation in the Requirement of Public Offer

SEBI relaxed the requirement of offering 25% of the securities to public for the purpose of listing under Rule 19(2)(b) of the SC(R) Rules, 1957 in respect of the companies in the media (including advertisement), entertainment and telecommunication sectors, subject to the condition that:

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

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

This relaxation is available if not less than 75% of the company's revenue and profit emanate from these sectors.

Withdrawal/Suspension of Dealings

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

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

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

Listing of Units of CIS

A collective investment management company (CIMC) desirous of getting units/any other instrument of any CIS listed on a stock exchange has to comply with a number of requirements similar to the ones prescribed for companies for listing their securities on the stock exchanges. The CIMC has to satisfy the stock exchange that at least 25% of the units or any other instrument of a CIS were offered to public for subscription through advertisement for a period of not less than two days and not more than ninety days and that the applications received in pursuance to such offer were allotted fairly and unconditionally. The CIMC also has to comply with the terms and conditions as may be laid down by the stock exchange.

Interest from IPF

In order to promote investor education and to create greater investor awareness, permission has been given to all the stock exchanges to utilise interest income earned on Investor Protection Fund (IPF) for investor education, awareness and research. IPF has been formed to compensate the investors for loss in the event of the broker being declared defaulter. Over the period, there has been a sharp increase in the corpus of this fund in comparison to the disbursement from the fund due to improved risk management.

Bank Financing of Equities

RBI finalised the guidelines on bank financing of equities and investment in shares. The main features of these guidelines are follows:

i. The maximum amount of advance that can be extended by a bank to an individual for IPOs should be Rs.10 lakh. Banks should not extend credit to corporates for investment in other companies' IPOs.

ii. A minimum margin of 25%, inclusive of cash margin, should be obtained by banks for issue of guarantees on behalf of share brokers.

iii. The Board of Directors of banks may lay down a prudential ceiling on the bank's exposure to capital market, keeping in view its overall risk profile.

iv. A bank's total exposure to capital market by way of investment in shares, convertible debentures and units of mutual funds (other than debt funds) should not exceed 5% of the banks' total outstanding credit as on March 31 of the previous year.

Market Developments

While an attempt has been made in the following paragraphs to analyse the entire market, an in-depth analysis of issues is based primarily on data relating to NSE and BSE. This is because of easy availability of data in respect of these two exchanges which together account for nearly three fourth of the total market.

Listing on Stock Exchanges

The number of companies listed on various stock exchanges declined marginally during 1999-2000 from 9,877 to 9,871. Many of these companies are 'primarily' listed on a few exchanges, i.e., the company is listed on the stock exchange of the region where it is located. These companies are, however, permitted for trading on some other stock exchanges. The Calcutta Stock Exchange had the highest number of companies primarily listed on it, accounting for more than 19% of primary listings across all stock exchanges.

Registration of Brokers

As at end-March 2000, there were 9,192 brokers (including multiple registrations) registered with SEBI. Of these, 3,316 brokers, accounting for 36% of total, were corporate entities. Nearly 87% of brokers on NSE were corporatised, followed by OTCEI with 75% corporate brokers. Some of the brokers hold multiple memberships of exchanges, i.e. they trade on more than one exchange. As at end-March 2000, 7961 brokers had single membership, while 493 double, 61 triple and 10 quadruple memberships. Two members each held membership on five and six exchanges.

Turnover

Trading volumes at the stock exchanges have been witnessing phenomenal growth for last few years. It increased from Rs. 1,64,057 crore in 1994-95 to Rs. 10,23,382 core in 1998-99. During 1999-2000, the turnover on all stock exchanges taken together more than doubled to Rs. 20,67,031 crore. Turnover ratio increased from 34 in 1994-95 to 245 in 1999-2000, which is now one of the best in the world. As volumes during April-September 2000 indicate, the turnover will more than double during 2000-2001.

The increase in turnover has not been uniform across exchanges, as may be seen from Table 5-1. Despite doubling of turnover, as many as eight exchanges recorded decline in turnover during 1999-2000. Only five exchanges, namely NSE, BSE, CSE, OTCEI and ICSE improved their market share during the year. The increase in turnover took place mostly at big exchanges and

Table 5-1: Turnover on Stock Exchanges in India

Stock Exchange	Turnover (Rs. crore)		Share in Turnover (%)	
	1998-99	1999-00	1998-99	1999-00
NSE	414,383	839,052	40.49	40.59
Mumbai	311,999	685,028	30.49	33.14
Calcutta	171,780	357,166	16.79	17.28
Delhi	51,759	93,289	5.06	4.51
Ahmedabad	29,734	37,566	2.91	1.82
Uttar Pradesh	18,627	24,048	1.82	1.16
Bangalore	6,779	11,147	0.66	0.54
Ludhiana	5,978	7,741	0.58	0.37
Pune	7,453	6,087	0.73	0.29
OTCEI	142	3,588	0.01	0.17
Hyderabad	1,276	1,237	0.12	0.06
ICSE	1	545	0.00	0.03
Chennai	370	250	0.04	0.01
Vadodara	1,749	159	0.17	0.01
Bhubaneshwar	77	70	0.01	0.00
Coimbatore	395	39	0.04	0.00
Madhya Pradesh	1	10	0.00	0.00
Magadh	0	8	0.00	0.00
Jaipur	65	2	0.01	0.00
Mangalore	11	0	0.00	0.00
Guwahati	30	0	0.00	0.00
Cochin	773	0	0.08	0.00
SKSE	0	0	0.00	0.00
Total	**1,023,382**	**2,067,031**	**100.00**	**100.00**

Source: SEBI.

it was partly at the cost of small exchanges. Of the 23 operative stock exchanges (Capital Stock Exchange is yet to start operations), 16 exchanges together reported less than 1% share in total turnover. Top four exchanges accounted for 96% of turnover. NSE continued to be market leader with over 40% of market share.

NSE and BSE are the major exchanges having nation-wide operations. While NSE operates through 2,919 VSATs in 356 cities, BSE operates through around 1,100 VSATs in around 300 cities as at end September 2000. The turnover from non-Mumbai locations accounted for 56% of NSE's turnover, while VSAT turnover accounted for 40% of turnover of BSE.

The sectoral distribution of turnover has undergone significant change over last few years. Table 5-2 presents the share of top '50' companies at NSE, classified according to different sectors, in turnover and market capitalisation. A drastic change in the importance of different sectors is observed over last five years. The share of manufacturing companies in turnover of top '50' companies, which was nearly 80% in 1995-96, declined sharply to less than 19% in 1999-2000. During the same period the share of information technology (IT) companies in turnover increased sharply from nil to 50% in 1999-2000. This shows uneven growth in volumes in different sectors.

Regional Exchanges

As stated earlier, there are 24 exchanges today in the country. These were recognised over a period of time to enable investors across the length and breadth of the country to access the market. In order to provide an opportunity to investors to invest in the securities of local companies, listing of companies on the local exchange was made mandatory. However, with the advent of nation-wide trading network of the NSE, both issuers and investors preferred to list and trade on exchanges providing nation-wide network. The huge liquidity and order depth of large exchanges sucked liquidity of other stock exchanges. This impacted the fortunes of regional stock exchanges and reduced their relevance. Table 5-3 presents the comparative picture of turnover of regional stock exchanges and turnover of NSE terminals at different cities. It is observed that NSE now reports higher turnover from its trading terminals in most of the cities than the corresponding regional exchange. BSE also has 40% of its turnover through VSATs. The turnover on many exchanges is too low to justify their continued viability. The mandatory listing of a company on the regional exchange has kept smaller exchanges clinically alive.

With fall in turnover, the financial health of the regional exchanges is deteriorating, as may be seen from Table 5-4. While the income of the regional exchanges is reducing, their expenditure is increasing because of increasing administrative and maintenance cost and increased investment on setting up on-line trading system, as prescribed by the regulator. As may be seen from Table 5-5, most of the regional exchanges are surviving on listing fees and interest income. In 1998-99, the share of income from listing fees in total income of 17 regional stock exchanges was 42% and that of interest income was 30%. These two sources accounted for nearly three-fourth of total income of regional stock exchanges in 1998-99.

Protecting viability of smaller regional stock exchanges has been engaging the minds of the policymakers, because these exchanges have been recognised by them on being satisfied of the need for them and their viability. However, in the competitive environment of today, it is difficult to imagine survival of all 24 exchanges. The

Table 5-2: Distribution of Turnover and Market Capitalisation of Top '501' companies at NSE

Item	Turnover									
	Amount (Rs. crore)					% to total				
	1995-96	1996-97	1997-98	1998-99	1999-00	1995-96	1996-97	1997-98	1998-99	1999-00
Manufacturing	49,909	131,109	132,678	88,224	139,742	79.29	45.88	37.43	23.13	18.78
Financial Services	10,859	100,037	54,071	26,500	34,308	17.25	35.01	15.25	6.95	4.61
F.M.C.G	704	43,818	155,148	94,240	38,011	1.12	15.33	43.77	24.71	5.11
I.T.	0	159	2,579	138,148	369,315	0.00	0.06	0.73	36.22	49.63
Pharmaceuticals	158	408	1,976	9,029	48,230	0.25	0.14	0.56	2.37	6.48
Others	1,313	10,229	8,048	25,285	114,481	2.09	3.58	2.27	6.63	15.39
TOTAL	**62,943**	**285,762**	**354,500**	**381,427**	**744,088**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
Item	**Market Capitalisation (as at end of period)**									
	Amount (Rs. crore)					% to total				
	1995-96	1996-97	1997-98	1998-99	1999-00	1995-96	1996-97	1997-98	1998-99	1999-00
Manufacturing	139,546	162,188	177,371	106,572	151,692	62.05	62.18	54.95	34.39	20.53
Financial Services	25,655	29,083	34,061	18,334	36,209	11.41	11.15	10.55	5.92	4.90
F.M.C.G	22,648	29,888	59,199	90,773	79,522	10.07	11.46	18.34	29.29	10.76
I.T.	0	0	8,434	45,742	306,418	0.00	0.00	2.61	14.76	41.48
Pharmaceuticals	4,168	4,728	8,176	24,221	19,324	1.85	1.81	2.53	7.82	2.62
Others	32,880	34,934	35,545	24,272	145,609	14.62	13.39	11.01	7.83	19.71
TOTAL	**224,897**	**260,821**	**322,786**	**309,912**	**738,774**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

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

Table 5-3: Turnover on Regional Exchanges vs. NSE Terminals in the City

(Rs. crore)

Regional Exchange/ Exchange City	1998-99 NSE	1998-99 Regional Exchange	1999-2000 NSE	1999-2000 Regional Exchange
Calcutta	42,812	171,780	82,671	357,166
Delhi	78,701	51,759	149,135	93,289
Ahmedabad	10,549	29,734	22,295	37,566
Uttar Pradesh (Kanpur)	4,133	18,627	5,325	24,048
Bangalore	8,327	6,779	11,951	11,147
Ludhiana	1,205	5,978	1,784	7,741
Pune	4,941	7,453	10,487	6,087
Hyderabad	12,648	1,276	20,709	1,237
Chennai	17,317	370	32,590	250
Vadodara	3,458	1,749	6,794	159
Bhubaneshwar	409	77	365	70
Coimbatore	3,793	395	4,961	39
Madhya Pradesh (Indore)	3,287	1	8,904	10
Magadh (Patna)	624	0	685	8
Jaipur	4,344	65	10,271	2
Mangalore	493	11	863	0
Guwahati	787	30	741	0
Cochin	2,680	773	6,186	0
SKSE ((Rajkot)	2,124	0	3,860	0

Source: SEBI and NSE.

Table 5-4: Financial Health of Regional Stock Exchanges

(Rs. lakh)

Exchange	1997-98 Income	1997-98 Expenditure	1998-99 Income	1998-99 Expenditure
Ahmedabad	903.58	628.76	910.30	796.61
Bangalore	353.20	532.29	348.25	471.23
Bhubaneshwar	117.69	78.06	111.68	77.32
Calcutta	2,018.09	1,316.73	2,074.40	2,026.41
Chennai	334.03	226.40	349.59	228.87
Cochin	209.42	178.69	157.40	182.54
Coimbatore	220.47	339.66	116.40	240.07
Delhi	1,982.74	1,411.51	1,793.33	1,667.45
Gauhati	58.47	56.10	56.59	73.19
Hyderabad	238.66	359.30	207.20	287.51
Jaipur	217.66	127.38	226.14	226.74
Ludhiana	379.87	289.58	394.94	310.73
Magadh	46.07	51.29	54.46	52.87
MPSE	102.02	121.99	75.92	102.69
SKSE	121.15	147.95	117.15	188.19
Uttar Pradesh	281.76	265.18	273.16	316.60
Vadodara	294.19	122.01	248.34	151.65

Source: Annual Reports of various Stock Exchanges.

existence of different exchanges to some extent also leads to market fragmentation and dispersion of liquidity, resulting in same security trading at widely different prices in different exchanges. Internationally, most small stock exchanges have either merged with larger ones, worked out alliances or have developed niche markets, which they can profitably serve.

In a novel experiment, NSE has been working with SEBI to help in the revival of regional stock exchanges. In accordance with the arrangement, a regional stock exchange has been allowed to promote a subsidiary, which acquires membership rights of NSE and the members of the regional stock exchange are registering themselves as sub-brokers of the subsidiary. The subsidiary undertakes the settlement responsibility for the trades executed as a member of NSE on behalf of the members of the regional stock exchange. The securities are delivered only in demat form. Six stock exchanges, viz, OTCEI, ICSE, Bangalore Stock Exchange, Hyderabad Stock Exchange, Ludhiana Stock Exchange and Pune Stock Exchange have so far taken membership of NSE through this route. In addition, NSE has cleared the applications of two more stock exchanges, i.e., those at Ahmedabad and Cochin. However, only OTCEI, ICSE and Bangalore Stock Exchange have commenced trading through this route so far. As members of NSE, these three stock exchanges recorded turnover of Rs. 2,243 crore during April-September 2000. In the course of next one year or so, it is expected that most of the smaller stock exchanges would end up as satellites of NSE. It is also expected that over the next five years only about four to five stock exchanges will survive as independent stock exchanges. After about a decade only about two to three stock exchanges may survive in India.

Table 5-5: Sources of Income of Regional Stock Exchanges

(% to total)

Exchange	1997-98				1998-99			
	Listing Fees	Membership Fees	Interest Income	Misc. Charges	Listing Fees	Membership Fees	Interest Income	Misc. Charges
Ahmedabad	61.07	16.70	20.86	1.37	60.27	8.52	26.13	5.08
Bangalore	32.82	2.12	31.58	33.48	32.01	2.04	14.25	51.71
Bhubaneshwar	24.20	6.26	65.32	4.22	27.34	6.30	62.95	3.40
Calcutta	23.48	1.56	22.97	51.99	25.28	1.43	23.08	50.20
Chennai	72.97	4.12	1.63	21.28	63.71	6.83	13.77	15.69
Cochin	25.39	20.08	19.72	34.80	32.99	21.05	23.65	23.31
Coimbatore	—	—	—	—	10.05	36.87	4.95	48.13
Delhi	44.81	1.52	47.41	6.26	48.49	1.10	45.10	5.31
Guwahati	74.71	8.65	10.55	6.09	77.84	6.89	9.76	5.51
Hyderabad	67.56	8.98	17.13	6.34	63.95	11.51	18.34	6.21
Jaipur	70.92	9.10	18.99	0.99	68.55	8.65	19.71	3.09
Ludhiana	36.36	3.84	36.30	23.50	34.89	3.72	37.13	24.25
Magadh	—	—	—	—	30.41	15.13	25.36	29.09
MPSE	—	—	—	—	78.31	5.01	13.41	3.28
SKSE	18.76	7.15	69.10	5.37	20.69	7.41	61.20	10.70
Uttar Pradesh	40.31	11.23	31.90	16.56	40.86	9.42	30.84	18.84
Vadodara	43.61	2.46	46.93	6.99	50.26	3.47	38.03	8.24
Total	**41.50**	**5.21**	**31.50**	**21.79**	**42.28**	**4.77**	**29.88**	**23.08**

Source: Annual Reports of various Stock Exchanges.

Market Concentration

Trades concentrate not only on a few exchanges, but also on a few scrips/brokers, though decreasing concentration of trades is observed in the recent years. The concentration of trading among top 'N' scrips/brokers on NSE is presented in Table 5-6. It is observed that the share of top '5' scrips in turnover has reduced over the years and accounted for about 40% of turnover during 1999-2000. Trading in top '100' scrips accounted for nearly 94% of turnover during 1999-2000. Broker-wise distribution of turnover as presented in Table 5-6 indicates increasing diffusion of trades among a large number of trading members over the years. During 1999-2000, top '5' brokers accounted for only 7.9% of turnover, while top '100' brokers accounted for 50% of total turnover. Market concentration among top 'N' scrips/brokers has, however, marginally gone up during April-September 2000.

'A' group shares on BSE, which are about 150 in number, accounted for 94.1% of turnover on the BSE during 1998-99. It reduced to 89.3% and 90.6% during 1999-2000 and April-September 2000 respectively (Table 5-7).

Turnover in India seems to be more concentrated in comparison to that in other comparable markets as may be seen from Table 5-8. Ten most active scrips accounted for 54% of turnover in India and top ten scrips in terms of equity base accounted for 31% of market capitalisation at the end of 1999.

Liquidity

Many companies listed on stock exchanges are not traded. Trading in many stocks is also negligible, suggesting illiquidity in such stocks. Table 5-9 gives a comparative picture of number of companies listed/available for trading and those actually traded at BSE and NSE during 1999-2000. The percentage of companies traded on BSE was very low at 37% in April 1999. It increased to 41% in March 2000. Further, many of the companies whose companies were traded experienced very thin trading, as may be seen from Table 5-10. Only 28% of companies traded on BSE were traded for more than 100 days during 1999-2000. In case of 72% of companies traded at BSE during the year, trading took place for less than 100 days. The situation at NSE is, however, quite different. On an average 95% of companies available for trading

Table 5-6: Percentage Share of Top 'N' Scrips/Brokers in Turnover

	No. of Scrips/Brokers				
	5	**10**	**25**	**50**	**100**
Scrips					
1994-95 (Nov-Mar)	48.77	55.92	68.98	81.14	91.07
1995-96	82.98	86.60	90.89	93.54	95.87
1996-97	84.55	91.96	95.70	97.03	98.19
1997-98	72.98	85.17	92.41	95.76	97.90
1998-99	52.56	67.11	84.71	92.03	95.98
1999-2000	39.56	59.22	82.30	88.68	93.65
April-September 2000	54.25	76.70	91.48	96.05	98.34
Brokers					
1994-95 (Nov-Mar)	18.19	26.60	44.37	61.71	81.12
1995-96	10.65	16.56	28.61	41.93	58.59
1996-97	5.94	10.08	19.67	30.57	45.95
1997-98	6.29	10.59	18.81	29.21	44.24
1998-99	7.73	11.96	20.77	31.66	47.02
1999-2000	7.86	12.99	22.78	34.41	49.96
April-September 2000	9.16	14.21	24.93	36.49	51.63

Source: NSE.

Table 5-7: Distribution of Turnover on BSE

Year	(Rs. crore) Specified Securities	Unspecified Securities	Total	(%) Share of Specified Securities	Share of Unspecified Securities
1994-95	15,456	52,292	67,748	22.81	77.19
1995-96	26,696	22,724	49,420	54.02	45.98
1996-97	118,763	5,427	124,190	95.63	4.37
1997-98	205,957	1,156	207,113	99.44	0.56
1998-99	292,248	18,501	310,749	94.05	5.95
1999-00	611,556	73,473	685,029	89.27	10.73
April-September 2000	431,311	44,800	476,111	90.59	9.41

Note: Specified securities include securities belonging to 'A' + 'B_1' Groups for 1996-97 and 1997-98. For other years, specified securities include only 'A' Group securities.
Source: BSE.

were traded every month during 1999-2000. Over 89% of companies traded on NSE were traded for more than 100 days during 1999-2000. There was no trade in companies listed on few exchanges, like Cochin, Gauhati, Saurastra and Kutch. This indicates that trading is concentrated among only a limited number of stocks and is very thin in a large number of stocks.

Market Capitalisation

The market capitalisation data are available only for BSE and NSE. The market capitalisation increased sharply at both the stock exchanges during 1999-2000 (Table 5-11). The market capitalisation of securities available for trading on NSE (CM segment) increased by 107.8% to Rs.1,020,426 crore as at end-March 2000 from Rs.491,175 crore as at end-March 1999. The market capitalisation of companies listed at BSE increased by 47.3% to Rs. 9,12,842 crore as at end-March 2000 from Rs. 619,532 crore the year before. All India market capitalisation is estimated at Rs. 11,92,630 crore at the end of March 2000 as against Rs. 5,74,064 crore at the end of March 1999. During April-September 2000, the market capitalisation at both NSE and BSE suffered declines and stood at Rs. 7,30,350 crore and Rs.6,92,657 crore at the two exchanges, respectively, as at end-September 2000. The market capitalisation on NSE has been higher than that on BSE since November 1999.

The sectoral distribution of market capitalisation on NSE is presented in Table 5-2. A sharp change in the shares of different sectors in market

Table 5-8: Concentration in Asian Emerging Markets: end 1999

Market	Index Stock's Share of Market Cap.	Index Stock's Share of Turnover	Share of 10 Largest Index Stocks in Market Cap.	Share of 10 Most Active Index Stocks in Turnover
China	55.3	36.1	30.3	10.2
Thailand	74.2	68.0	46.8	39.3
Taiwan	67.8	61.1	36.4	29.6
Korea	86.4	73.3	59.1	24.1
Malaysia	66.1	60.3	33.4	23.0
India	63.3	84.8	31.2	54.0

Source: Emerging Stock Markets Factbook 2000.

Table 5-9: Trading Frequency on NSE and BSE

Month/ Year	NSE			BSE		
	Available for Trading	Traded	% of Traded to Available for Trading	Listed	Traded	% of Traded to Listed
Apr-99	1,251	1,173	93.76	7,383	2,719	36.83
May-99	1,246	1,168	93.74	7,438	2,631	35.37
Jun-99	1,247	1,158	92.86	7,472	2,642	35.36
Jul-99	1,238	1,181	95.40	7,506	2,855	38.04
Aug-99	1,239	1,179	95.16	7,549	2,964	39.26
Sep-99	1,245	1,181	94.86	7,584	2,992	39.45
Oct-99	1,233	1,188	96.35	7,650	3,171	41.45
Nov-99	1,237	1,180	95.39	7,725	3,030	39.22
Dec-99	1,211	1,162	95.95	7,845	3,347	42.66
Jan-00	1,203	1,164	96.76	7,845	3,376	43.03
Feb-00	1,204	1,155	95.93	7,966	3,285	41.24
Mar-00	1,152	1,099	95.40	8,027	3,318	41.34

Source: SEBI and NSE.

capitalisation is observed over the years. Traditionally, manufacturing companies and financial services sector accounted for major share of market capitalisation. However, in the recent past, the importance of these traditional sectors has declined and new sectors like, information technology, pharmaceuticals and fast moving consumer goods have picked up. In particular, the market capitalisation of IT companies has risen to dizzy heights.

Trend in Prices

The year 1999-2000 witnessed a sharp increase in stock prices, as reflected by movement of select Indian and foreign indices in Table 5-12. NSE Nifty and BSE Sensex recorded increase of 41.8% and 33.7% respectively during the year on a point-to-point basis. Large FII inflows provided a push to the market on many occasions during the year. Several other factors like, government's

Table 5-10: Frequency Distribution of Companies Traded at NSE and BSE

No. of Days Traded	No. of Companies Traded at NSE		No. of Companies Traded at BSE	
	1999-2000	% to total	1999-2000	% to total
Above 100 days	1,134	89.29	2,210	27.56
91 to 100 days	7	0.55	110	1.37
81-90 days	10	0.79	95	1.18
71-80 days	22	1.73	110	1.37
61-70 days	6	0.47	121	1.51
51-60 days	8	0.63	108	1.35
41-50 days	10	0.79	167	2.08
31-40 days	18	1.42	160	2.00
21-30 days	10	0.79	214	2.67
11- 20 days	17	1.34	262	3.27
1-10 days	28	2.20	4,463	55.65
Total	**1,270**	**100.00**	**8,020**	**100.00**

Source: SEBI and NSE.

commitment to second-generation reforms, passage of a few important economic reform bills, signs of industrial recovery, better corporate results and improved macro-economic fundamentals contributed to the improvement in market sentiment. The equity prices started picking up in May 1999 and remained buoyant till September 1999. The stock markets made positive gains in October again after formation of new Government and upgradation of India's international credit rating. During January and February 2000, the stock prices touched the highs not witnessed before. The S&P CNX Nifty reached the record high of 1818.15 on February 23, 2000.

Another significant feature of the year 1999-2000 was a more broad-based recovery in stock prices. While the market capitalisation of NSE stocks increased by 108%, the Nifty reported an increase of only 42%, indicating that non-Nifty stocks achieved better gains than Nifty stocks. The information technology companies continued to perform well as reflected in an increase of 363.3% in CNX IT Index during the year. During April-September 2000, the stock markets did not perform that well. Between end March 2000 and end September 2000, the S&P CNX Nifty declined by 16.8%, while BSE Sensex registered losses of 18.2%. The markets suffered due to slowing down of FII investments, volatility in foreign exchange market, uncertainty about international oil prices and bearish trend in international stock markets. The monthly averages of S&P CNX Nifty and Sensex are presented in Table 5-13.

Returns in Indian Market

The performance of S&P CNX Nifty and various indices over different periods of last 1 month to 18 months is presented in Table 5-14. An analysis

Table 5-11: Stock Market Indicators - Monthly Trends on NSE and BSE

(Rs. crore)

Month/ Year	Turnover		Avg. Daily Turnover		Market Cap. (end of period)	
	NSE	BSE	NSE	BSE	NSE	BSE+
Apr-99	35,933	27,003	1,797	1,421	445,380	488,229
May-99	50,263	36,235	2,393	1,725	503,911	560,965
Jun-99	40,473	33,239	1,840	1,511	529,468	584,788
Jul-99	55,455	46,639	2,521	2,120	593,651	648,932
Aug-99	53,699	49,997	2,441	2,273	668,187	710,956
Sep-99	55,878	46,578	2,661	2,218	686,740	704,568
Oct-99	72,216	57,699	3,439	2,885	670,062	673,462
Nov-99	66,331	49,121	3,159	2,456	726,419	709,613
Dec-99	98,585	78,448	4,481	3,566	852,985	803,353
Jan-00	85,939	73,164	4,297	3,658	951,712	927,383
Feb-00	118,694	101,842	5,652	4,850	1,069,770	1,029,257
Mar-00	105,584	85,063	5,028	4,051	1,020,426	912,842
Apr-00	57,229	44,601	3,179	2,478	846,391	755,914
May-00	79,037	57,891	3,593	2,631	790,478	702,777
Jun-00	119,373	86,277	5,426	3,922	852,554	793,230
Jul-00	110,056	80,346	5,241	3,826	746,402	720,884
Aug-00	125,347	92,563	5,698	4,207	794,516	766,642
Sep-00	142,480	114,432	7,124	5,722	730,350	692,657

+ Estimated ($A+B_1+B_2$).
Source: SEBI, NSE and BSE.

Table 5-12: Movement of Select Indices on Indian/Foreign Markets

Index	end March 1999	end March 2000	end Sept 2000	Change during 1999-2000 (%)	Change During April-Sept 2000(%)
S&P CNX Nifty	1078.05	1528.45	1271.65	41.77	-16.80
BSE Sensex	3739.96	5001.28	4090.38	33.72	-18.21
Hang Seng	10942.20	17406.54	15648.98	59.07	-10.10
Dow Jones	9786.16	10921.92	10650.92	11.60	-2.48
Nikkie	15836.59	20337.32	15747.26	28.41	-22.57
FTSE	6295.30	6540.20	6294.20	3.89	-3.76

of monthly, quarterly, half yearly, yearly and one and half yearly performance of the indices as at end-September reveals that all indices have performed well over the longer period of one and half years. They have suffered largest declines over the 6-month period. For example, a basket of Nifty stocks acquired 1 month ago suffered decline of 8.8%, but that acquired 18 months earlier offered a return of 20%. It may also be observed that the basket of IT companies, captured by the CNX IT index, offered highest return over the longer period of one and half years (157.7%) and also earned good return of 61% over the one year period. However, it did not offer returns matching its past performance in the more recent period and suffered largest declines during 1 month to 6 month period.

The comparative performance of five major sectoral indices, viz. S&P CNX Petrochemicals Index, S&P CNX Finance Index, CNX FMCG Index, S&P CNX Pharma Index, and CNX IT Index, with that of S&P CNX Nifty Index since April 1999 is presented in Chart 5-1. It may be

Table 5-13: Stock Market Index, Volatility and P/E Ratio

Month/Year	S&P CNX Nifty			BSE Sensex		
	Index*	Volatility (%)**	P/E Ratio*	Index*	Volatility (%)**	P/E Ratio*
Apr-99	994.28	3.26	15.26	3449.77	3.17	13.77
May-99	1109.55	2.02	17.25	3880.37	2.17	15.76
Jun-99	1165.01	1.35	17.79	4066.84	1.43	16.53
Jul-99	1295.31	1.59	19.60	4526.25	1.60	18.40
Aug-99	1343.73	1.39	20.38	4662.84	1.33	19.87
Sep-99	1384.80	1.31	21.37	4724.96	1.16	20.41
Oct-99	1434.26	2.05	22.34	4835.47	2.11	21.01
Nov-99	1364.81	1.68	21.28	4588.53	1.52	19.99
Dec-99	1480.45	1.43	23.16	4802.02	1.45	20.91
Jan-00	1607.80	2.56	26.16	5407.14	1.90	23.34
Feb-00	1686.58	1.84	27.12	5650.66	2.51	24.32
Mar-00	1605.66	1.99	25.69	5261.77	1.72	22.69
Apr-00	1469.03	3.51	22.81	4905.30	3.93	27.79
May-00	1312.65	2.64	20.33	4253.11	2.89	27.68
Jun-00	1451.74	1.48	23.68	4675.40	1.50	29.39
Jul-00	1445.26	1.76	22.33	4647.34	2.16	28.51
Aug-00	1350.94	1.07	20.53	4330.31	1.16	25.27
Sep-00	1371.27	2.05	20.83	4416.61	2.20	24.47

* Monthly average of closing values.

** Volatility is calculated as standard deviation of daily returns of the indices for the respective months.

Source: SEBI, NSE and BSE.

Table 5-14: Performance of Select Indices as at end September 2000

(In per cent)

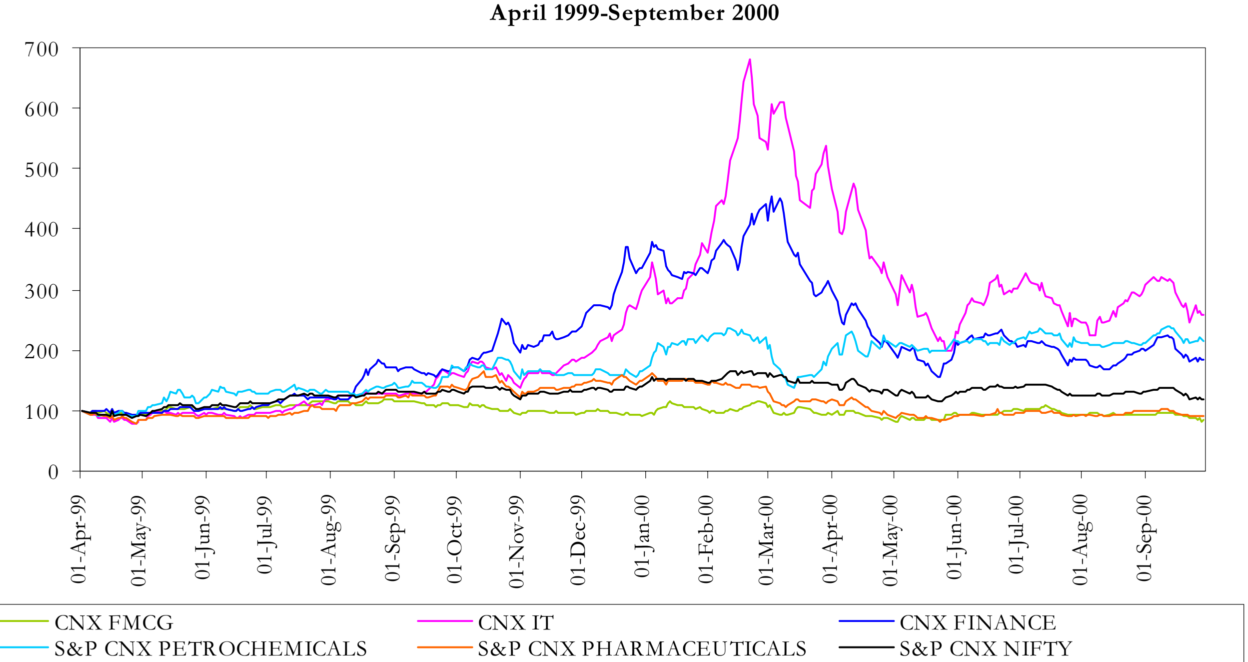
	1 month	3 month	6 month	1 year	1 & half year
S&P CNX Nifty	-8.78	-13.58	-16.80	-10.01	17.96
CNX Nifty Junior	-7.02	-11.34	-35.89	-14.27	14.50
S&P CNX Defty	-9.40	-16.26	-21.29	-14.92	8.57
CNX Midcap 200	-5.85	-11.45	-30.28	-15.13	16.39
S&P CNX 500	-9.85	-13.81	-30.05	-9.73	22.04
CNX IT index	-15.57	-14.44	-44.38	61.04	157.69

Source: IISL.

observed that during the larger part of the period, CNX IT Index outperformed the Nifty Index. CNX finance index also performed better than Nifty. CNX FMCG Index and S&P CNX Pharma Index were generally the worst performers. The monthly closing prices of these sectoral indices are presented in Table 5-15.

L. C. Gupta in the study titled "Returns on Indian Equity Shares" has estimated past returns on Indian equities over different holding periods of 1-year, 5-years, 10-years and 15-years. The returns have been estimated for two different portfolios – an index portfolio comprising the 30 companies belonging to Sensex and another general portfolio comprising a large sample of several hundred listed companies. The returns mean total return both dividend and capital appreciation. The study covers the period 1980-99. The main findings of the study are: (i) the index portfolio has generally provided higher returns than the general portfolio over long periods, (ii) the periods of high returns prevailed right from the beginning of 1980s and upto mid-1990s in case of index portfolio; (iii) the lowest returns (even negative returns) were earned for periods beginning in years during 1992-94

Chart 5-1: Movement of Nifty and Sectoral Indices: April 1999-September 2000



implying that those who entered the market during the boom years of 1992-94 suffered losses later. Broadly, the period from 1980 to 1995 witnessed a long and strong bull market. The period after this witnessed the market's collapse.

Volatility

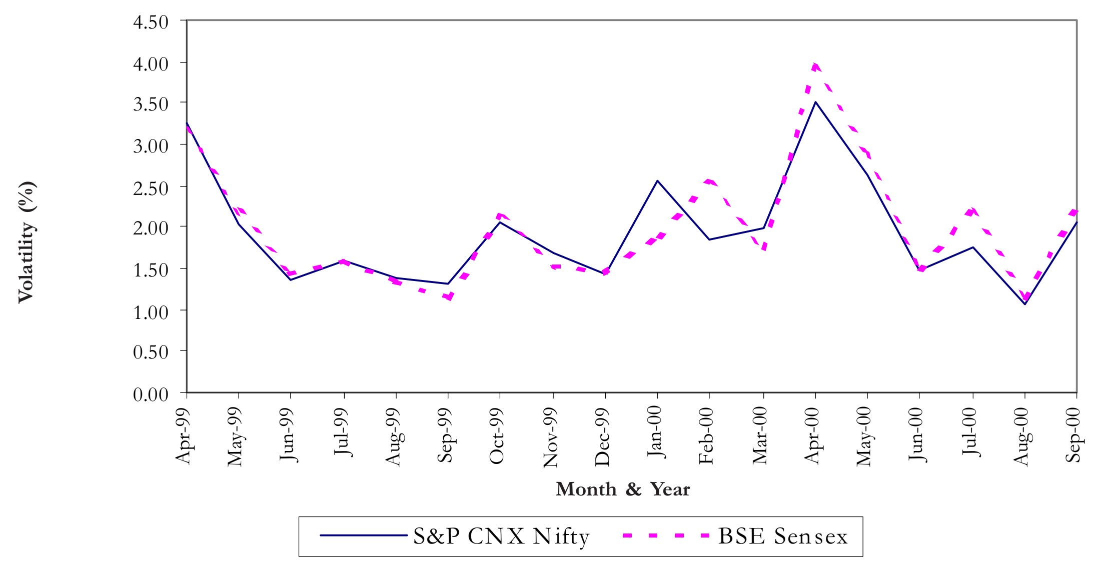
Table 5-13 also presents volatility movement of S&P CNX Nifty and Sensex since April 1999. The stock markets witnessed highest volatility in April 1999 when volatility of Nifty as well as Sensex exceeded 3%. During the year, SEBI took a number of measures like, imposition of volatility margins and application of circuit filters to keep orderly conditions in the market. The volatility of S&P CNX Nifty and Sensex came down to 1.3% and 1.2% respectively by September 1999. During the year 1999-2000, Sensex and Nifty moved beyond 5% in a day on eight and five occasions respectively. April 2000 witnessed high volatility again with volatility in both S&P CNX Nifty and Sensex exceeding 3%. It has, however, come down subsequently. The volatility of S&P CNX Nifty and Sensex are also presented in Chart 5-2.

The volatility across different sectoral indices varied widely. For the month of April 1999, while the Nifty volatility was 3.3%, the volatility of CNX IT Index and S&P CNX Petrochemicals Index was 3.7% and 4.3% respectively. Similarly in March 2000, while Nifty volatility was 2%, that of CNX IT Index and S&P CNX petrochemicals Index was 5% and 5.4% respectively. The volatility of sectoral indices is presented in Table 5-15.

Foreign Institutional Investors

Though the volume of trades done by FIIs is not relatively very high, they are the driving force in determination of market sentiments and price trends. This is so because they do only delivery-based trades and they are perceived to be infallible in their assessment of the market. During 1999-2000, the FIIs invested heavily in the Indian stock markets with a net investment of Rs.11,674 crore. The FII net investment was highest during the month of February 2000 when they brought in Rs. 3,084 crore. Trends in purchases and sales by FIIs are presented in Table 5-16. During the current financial year, FIIs inflows were quite high in April 2000, but came down thereafter. FIIs recorded net outflows in June and July 2000. Total inflows during April-September 2000 are

Chart 5-2: Stock Market Volatility since April 1999



estimated at Rs.1,980 crore. The cumulative net FII investment touched US $ 11.7 billion by end-September 2000.

Internet Based Trading

SEBI Committee on Internet-Based Securities Trading and Services favoured the use of internet as an Order Routing System (ORS) for communicating clients' orders to the exchanges through brokers. This is compatible with screen-based trading system available on exchanges. It would enable investors to place orders with his broker and have control over the information and quotes and to hit the quote on an on-line basis. Once the broker's system receives the order, it would check the authenticity of the client electronically and then route the order to the appropriate exchange for execution. On execution of the order, it would be confirmed on real time basis. Investor would receive reports on margin requirement, payments and delivery obligations through the system. His ledger and portfolio account would also be updated online.

NSE launched internet trading in early February this year. It is the only stock exchange in the country to provide web-based access to investors to trade directly on the exchange. The orders originating from the PCs of investors are routed through the Internet to the trading terminals of the designated brokers with whom they have relations and further to the exchange for trade execution. Soon after these orders get matched and result into trades, the investors get confirmation about them on their PCs through the same internet route. This has made a huge difference in a geographically vast country like India and assuaged the grouse of small investors in far-flung locations who do not have proper access to a stock-broker and the market. It has significantly expanded the reach of the exchange to the homes of ordinary investors. Soon NSE is proposing to provide access to its order book through the hand held devices, which use WAP technology. This would serve primarily retail investors who are mobile and want to trade from any place when the market prices for stocks of their choice are attractive.

As on March 31, 2000, 4 members were granted permission to commence internet trading. This number stands at 18 at the end of September 2000.

Table 5-15: Performance of Sectoral Indices

Month/Year	Monthly Closing Prices						Average Daily Volatility					
	S&P CNX Nifty	CNX FMCG	CNX IT	CNX Finance	S&P CNX Petrochem	S&P CNX Pharma	S&P CNX Nifty	CNX FMCG	CNX IT	CNX Finance	S&P CNX Petrochem	S&P CNX Pharma
Apr-99	978.20	2983.07	11357.50	151.76	681.38	1293.53	3.26	3.17	3.65	2.95	4.28	3.66
May-99	1132.30	3264.32	13318.37	162.51	828.39	1400.17	2.02	1.63	2.79	1.71	4.25	2.26
Jun-99	1187.70	3324.99	13575.23	174.33	867.23	1365.53	1.35	1.36	1.92	1.41	2.98	1.26
Jul-99	1310.15	3586.30	16489.64	192.85	893.94	1572.43	1.59	1.09	2.77	1.95	2.34	1.99
Aug-99	1412.00	3648.57	17911.89	272.22	987.86	1896.63	1.39	1.28	1.59	3.61	2.00	1.72
Sep-99	1413.10	3439.87	22528.22	270.55	1173.19	2157.05	1.31	1.13	2.73	1.97	2.81	2.12
Oct-99	1325.45	3042.60	20330.09	336.36	1130.88	1989.49	2.05	2.15	3.42	3.81	3.01	3.15
Nov-99	1376.15	2960.92	25468.88	368.03	1071.53	2166.90	1.68	1.39	2.95	2.90	2.94	2.40
Dec-99	1480.45	2837.14	41742.03	534.57	1113.64	2275.85	1.43	1.68	2.46	3.75	2.45	2.07
Jan-00	1546.20	3087.37	50705.62	522.99	1468.27	2183.37	2.56	3.24	4.53	3.21	3.66	2.63
Feb-00	1654.80	3303.59	74537.88	657.16	1373.22	2000.86	1.84	2.83	4.43	3.85	2.77	2.42
Mar-00	1528.45	2934.80	65240.55	475.58	1380.07	1789.15	1.99	3.09	4.98	4.17	5.41	2.85
Apr-00	1406.55	2962.54	45085.80	335.84	1466.70	1430.66	3.51	3.39	5.35	4.45	5.25	3.52
May-00	1380.45	3007.06	32394.06	343.49	1468.83	1402.01	2.64	3.55	6.07	4.83	2.15	2.90
Jun-00	1471.45	3227.16	42411.04	329.35	1471.69	1458.07	1.48	1.59	3.40	2.03	1.84	2.09
Jul-00	1332.85	2961.34	34587.23	293.15	1443.26	1407.37	1.76	2.00	4.23	3.22	2.79	1.89
Aug-00	1394.10	2910.87	42979.41	319.78	1445.04	1507.96	1.07	1.47	3.73	2.09	0.86	1.01
Sep-00	1271.65	2634.84	36285.95	294.62	1461.90	1357.40	2.05	2.04	4.07	3.28	2.59	1.67

Source: IISL.

Table 5-16: Trends in FII Investment

Month/ Year	Purchases (Rs. crore)	Sales (Rs. crore)	Net Investment (Rs. crore)	Cumulative Net Investment (Rs. crore)	Net Investment (US$ mn.)	Cumulative Net Investment (US$ mn.)
1994-95	**7,631**	**2,835**	**4,796**	**4,796**	**1,528**	**3,167**
1995-96	**9,694**	**2,752**	**6,942**	**11,738**	**2,036**	**5,202**
1996-97	**15,554**	**6,979**	**8,575**	**20,313**	**2,432**	**7,634**
1997-98	**18,695**	**12,737**	**5,957**	**26,270**	**1,650**	**9,284**
1998-99	**16,115**	**17,699**	**-1,584**	**24,686**	**-386**	**8,898**
1999-00	**56,856**	**46,734**	**11,674**	**36,360**	**2,356**	**11,254**
Apr-99	2,519	1,566	954	25,640	223	9,121
May-99	4,108	2,389	1,719	27,359	402	9,523
Jun-99	2,670	2,581	89	27,448	21	9,544
Jul-99	4,311	2,807	1,504	28,952	349	9,893
Aug-99	2,714	2,836	-122	28,830	-28	9,865
Sep-99	2,726	3,466	740	29,570	-170	9,695
Oct-99	3,535	4,142	-607	28,963	-140	9,555
Nov-99	4,054	2,755	1,299	30,262	299	9,854
Dec-99	4,556	2,939	1,618	31,880	373	10,227
Jan-00	6,130	5,933	197	32,077	45	10,272
Feb-00	9,762	6,678	3,084	35,161	707	10,979
Mar-00	9,890	8,691	1,199	36,360	275	11,254
Apr-00	8,355	5,768	2,587	38,947	593	11,847
May-00	6,307	6,055	253	39,200	58	11,905
Jun-00	5,399	6,334	-935	38,265	-213	11,692
Jul-00	5,858	7,259	-1,402	36,863	-314	11,378
Aug-00	5,134	3,875	1,259	38,122	281	11,659
Sep-00	7,150	6,931	218	38,340	48	11,707

Source: SEBI.

During first six months of current financial year, trades worth Rs.767 crore have been routed and executed through the internet. The first internet trade was executed on February 1, 2000 with the use of software developed by NSE.IT, a wholly owned subsidiary of NSE. NSE.IT has launched NEATiXS to help brokerage firms to conduct internet trading. This software can be accessed through internet from India and abroad using standard browsers. It provides real time on-line market information including stock quotes and order screens, allowing investors to place orders from their personal computers. The success of internet trading in India will, however, depend on expansion of internet bandwidth, which is necessary for faster execution of trades.

Market Indices

India Index Services & Products Limited (IISL), promoted by NSE and CRISIL, is the only specialised organisation in the country to provide index services. It has developed and been maintaining scientifically an array of indices, in technical partnership with Standard & Poor's, USA. A large number of indices floated by IISL, stock exchanges and newspapers are also available. The most widely used index is S&P CNX Nifty, which comprises of most liquid stocks in India. It was launched in April 1996. It accounts for 36% of market capitalisation of stocks on NSE as on 31st March 2000. Annexures 5-1 to 5-4 present the market capitalisation, weightage, beta and monthly returns of the S&P CNX Nifty stocks since April 1999.

Issues in Secondary Market

Management of Stock Exchanges

Most of the exchanges are incorporated as "Association of Persons", which was considered beneficial in terms of tax benefits and matters of compliance. These are directly or indirectly owned and managed by brokers. Apart from facing the handicap of a perceived conflict of interests, this model of exchange governance is considered unsuitable for electronic exchanges, which have trading members spread all over the country. These are having a re-look at the way they conduct their business and are gearing up to demutualise themselves (Box V-2). NSE has been from day one the purest form of a demutualised stock exchange, where the brokers do not own the shares and its management is free from broker control. The right to trade is completely divorced from ownership and management. This has completely eliminated any conflict of interest. NSE, however continues to emphasise relationship building with all its participants, including trading members, investor community and the companies, whose securities are traded on the Exchange. This has enabled smooth conduct of business of the Exchange in a fair and non-partisan manner.

Listing Authority

Under the current dispensation, while it is mandatory to list a security on a regional exchange, it can be listed on any number of exchanges. Unless the regional exchange agrees to list a security, it can not be listed on any other exchange and even the issue cannot be made. The issue fails if the regional exchange refuses listing. The issue also fails if any of the exchanges, to which application for listing has been made, refuses to list the security. Further, a security can be delisted from all exchanges except the regional exchanges. The issuer seeking listing of a security is required to comply with the requirements specified in the Securities Contracts (Regulations) Rules, 1957 in addition to the listing criteria of the concerned exchange.

The above arrangement generates unhealthy competition among exchanges and wastage of resources in terms of duplication of efforts. A security not found suitable for listing on an exchange gets listed on a different exchange, as they follow different criteria for listing a security. As a result, a prospective issuer informally gets a feedback from an exchange if the latter would consider listing of his security favourably. If he does not get an encouraging response, he tries his luck with other lenient exchanges. With a view to reach larger investor base, the issuer tries to list a security on as many exchanges as possible. The lure of listing fee at times induces some exchanges to dilute their listing standards and grant listing to a security, which was rejected, by other exchanges.

This creates an anomalous situation that a security, which is not suitable for investors in one locality, is suitable for investors in another locality. Investor protection measures should not be confined to territorial jurisdiction of exchanges a security should either be suitable for listing on all exchanges or not suitable at all for listing on any exchange. The listing standards should be uniform and should be applied uniformly. There may be one central agency, which should consider all requests for listing and should grant listing if it finds a security suitable for investors. A security granted listing by the agency would be available for trading on all exchanges. The security should also be monitored, and suspended and withdrawn from trading centrally by the listing agency. Listing carries obligations. Many exchanges are too weak organisationally to monitor compliances of obligations. More the number of exchanges where a security is listed, the higher is the cost of compliance of obligations. If a security is centrally listed and monitored, this will avoid duplication of efforts by exchanges and unhealthy competition among them. All investor across the country would be treated equitably.

Box V-2

De-mutualisation of Stock Exchanges

Essentially, a 'mutual' organisation is an enterprise owned by its members, providing a variety of services to the members for their benefit. This also implies that mutuals are not for profit organisations; are restricted in their capacity to raise equity, and are characterised by diffused decision-making power. It is increasingly being believed that a de-mutualised organisation can adapt more quickly; can raise more capital; can attract better administrators; can centralise control in a smaller, better-equipped group; and as a result, can deliver higher profits to its owners, i.e. shareholders.

Traditionally, the stock exchanges were organised in the form of a "club", which implied ownership of the exchange by members who enjoy exclusive trading rights. In the broker-owned stock exchanges, brokers elect their representatives to regulate activities of the exchange, including the activities of the brokers themselves. Whenever there are disputes between brokers and the investors, there is no guarantee that investors interests will receive the same utmost objective treatment if there were to be no brokers in the management of the exchange. As one of the governing board members of NASDAQ said, the broker owned exchanges are self-regulatory bodies, where the self may sometimes get precedence over regulation. This model is increasingly proving to be inefficient as the interests of members (i.e., brokers) to maximise their profits and protect themselves from competition conflicts with the interests of the exchange as a business entity.

All the major traditional functions of a stock exchange, such as trading, clearing/settlement and listing, have undergone tremendous change over last few years. Some of these functions have even come under actual or potential competitive threat. The exchanges need to meet the demand from its customers for lower transaction costs, more efficient services and new products. This requires investing in new technology and may sometimes involve reduction in the role of brokers. The broker-owned exchanges are generally too slow to adopt systems and practices that enhance market efficiency unless they are forced by the regulators or because of competitive pressures that threaten their market share. In view of this, the stock exchanges are increasingly organising themselves as commercial entities and undergoing a process of "de-mutualisation". A demutualised stock exchange is one, which is a corporate entity with its share not necessarily being owned by the stockbrokers. The organisational transformation of stock exchanges is geared towards becoming highly cost-efficient and focussing on the need to satisfy their customers (i.e. investors and listed companies).

Many stock exchanges in Europe and other parts have become de-mutualised and have separated ownership of the exchange from the right to trade on it. The Stockholm Stock Exchange was the first major stock exchange in the world to become de-mutualised in 1993. Amsterdam, Australian and Singapore Stock Exchanges adopted demutualised governance structures in 1997, 1998 and 1999 respectively. The Australian Stock Exchange has gone one step further by becoming a listed company. The Toronto, Hong Kong and Paris Stock Exchanges are in the process of completing the demutualisation process. The members of London Stock Exchange approved the de-mutualisation plan on March 15, 2000. NYSE and NASDAQ have also announced their plans to become demutualised.

Of the 54 members in FIBV General Assembly in October 1999, 14 members had already de-mutualised, 15 had taken decision to do so, 15 others were studying the project, while 10 others were yet to take any step in the direction of de-mutualisation. In India, of the 23 stock exchanges, only two stock exchanges, i.e. OTCEI and NSE, are de-mutualised. NSE has been from day one the purest form of a demutualised stock exchange as its shares are not owned by the brokers and its management is free from broker control. This is based on the laudable concept of an organization that completely eliminates any conflicts of management. NSE kept before itself market efficiency and investors' interests as the two most important objectives.

Distribution of FIBV Stock Exchanges, end December 1999

(%)

Region	Profit-making	Non-Profit-making
North America	25.0	75.0
South America	20.0	80.0
Europe	62.5	37.5
Asia-Pacific	30.8	69.2
FIBV Average	34.6	65.4

Source: FIBV.

Stock Market Volatility

Stock market volatility has been a cause for concern for policy makers as well as investors not only in India, but also throughout the world. Because of serious implications which volatility has for the system as a whole, this issue has also attracted the attention of the researchers, making stock market volatility one of the well-researched issues. Recently, SEBI conducted a study titled "Stock Market Volatility- A Comparative Study of Selected Markets" to measure the volatility of the stock markets across countries and over time with a view to examine whether fragility of stock markets in general and Indian market in particular has increased over the years. The study has focussed on equity market volatility in 13 developed and emerging markets, including India, for a 15-year period from 1985 to 1999. The entire period is sub-divided into two sub-periods of 1985-91 and 1991-99. The main results of the study are presented below:

- The average returns for the entire period as well as for the sub-periods for the six developed markets show more stable conditions than emerging markets.
- The average returns for India are higher than most of the Asian markets, except China and are comparable to those for the developed markets.
- Asian markets are more volatile than the developed markets.
- For the developed markets, 1987 was most volatile year. Hong Kong has consistently been the most volatile market among the developed markets. For the emerging markets, the year 1997 was the year of highest volatility, with exception of India and Chile. India showed highest volatility in 1992 when the major irregularities took place in the banking system, which severely affected the securities markets.
- India exhibits lowest variation in stock prices among the emerging markets. The post-1995 period in India is a more stable period.
- Volatility is higher in the developed markets in the first sub-period. Among the emerging markets, for which data is available for the two sub-periods, the markets in Singapore, Malaysia and Thailand are much more volatile in the second sub-period, when these markets became globally linked. For the India, the volatility declined during the second sub-period as India remained relatively immune from global influences due to weak global linkages and rupee not being fully convertible.
- For both BSE Sensex and S&P CNX Nifty, the intra-day volatility (open-close) is less compared to inter-day volatility (close-close and open-open). Among the four parameters of volatility, for both the indices, consistently, the open-open volatility has been the highest, followed by close-close volatility, day's high-low volatility and day's open-close volatility. This is in conformity with some of the studies about the US, Japan and Hong Kong markets. The reason for this could be that a large amount of information is likely to be accumulated overnight.

In order to contain excessive volatility, the stock exchanges adopt various measures as part of their market surveillance mechanism. In this context, the imposition of price bands has received a lot of attention in public policy debate (Box V-3). In India, the price limits were first introduced by NSE in 1995. They were subsequently enforced on all stock exchanges by SEBI policy. Till recently, the price of any scrip was not allowed to move beyond 10% in a day and 25% in the weekly trading cycle. The price bands were, however, revised to 8% in day to provide flexibility to the market and the weekly band was abolished. With effect from May 2, 2000, the circuit filters were further revised by SEBI to allow price movement in either direction to the extent of 16% (upper limit) in a day for select 200 scrips.

BOX V-3

Managing Volatility: Imposition of Price Bands

The use of price bands/circuit filters/trading halts for managing market volatility has been a subject of debate for more than a decade now. Trading halts suspend trading in individual securities during normal market hours to allow for dissemination of information, news of an extraordinary corporate action, or in case of excess volatility. Circuit breakers are a market-wide approach to managing volatility by stopping trading in the entire market during normal business hours. Generally, investor protection is the main concern behind imposition of trading halts and circuit breakers. While stock exchanges have an obligation to maintain orderly conditions in the market, whether they should resort to putting specific scrip-wise or market-wide limits on price movements in order to contain volatility is debatable.

Traditionally, the price limits were first introduced on futures markets while spot markets were free of such limits. The circuit breakers were first introduced in 1987 when the Dow Jones Index fell by 23% in a single session. The US Securities and Exchange Commission was of the view that imposition of circuit breakers would have prevented the sharp fall of the market and losses for investors would have been contained. The circuit breakers were subsequently introduced in Canadian stock exchanges. So far, at least eleven other FIBV member exchanges have installed circuit breakers.

The trading halts and circuit filters are mainly of two types- information-based halts and rule-based halts.

- *Information-based halts* are used during normal trading hours to release information to the investors, clarify rumour regarding a company, suspend trading in security that has broken the rules of the regulator or the exchange, or communicate any other price-sensitive information. The logic behind these halts is that all market participants have the right to accurate information and are entitled to some time to absorb the information and then react.

- *Rule-based halts* are applied under pre-determined conditions and are linked to a percentage change in the market index or the price of scrip over a period of time. The rule-based trading halts are used by stock exchanges under the belief that they lower volatility and hence protect investors.

Normally, all stock exchanges would have a bias for keeping the market open for trading purely as a basic business sense. However, from the point of view of investor protection, it is the responsibility of stock exchanges to maintain orderly conditions in the market, while at the same time not coming in the way of healthy price formation process. How this can be achieved is a more difficult question to answer.

There is more or less unanimity of view that trading in a security should be halted to clarify a rumour or to disseminate other material information during normal trading hours. Such a consensus, however, does not prevail in case of rule-based trading halts. Putting aside the question of whether regulators/stock exchanges should come in the way of the normal trading process from moral point of view, the relevant question before regulators/ stock exchanges is whether rule-based trading halts and circuit breakers are effective. From the existing literature in this regard, one does not get a conclusive answer. Some studies have yielded the result that volatility is unusually high around a rule-based trading halt. Some other studies, which focussed on rule-based and information-based trading halts, have concluded that information-based halts are better. It is also argued that markets without circuit breakers make market users more cautious. The results of some studies infer that exchanges with circuit breakers have slightly higher average volatility than exchanges without circuit breakers. The higher volatility is, however, not attributed to circuit breakers. It is also argued that all that the circuit breaker does is convert price risk into liquidity risk as they trap investors who wish to either exit or enter a market during periods of high volatility.

In sum, there are two groups of views on circuit breakers; one believes that investors are served by circuit breakers, while another believes that circuit breakers are harmful to investors. Most stock exchanges recognise that breakers interrupt the flow of their business image and may be detrimental to their revenues; but at the same time they also believe that circuit breakers offer the best available tool for managing volatility. The latter follows from the belief that an economically sound and informed process of price discovery will occur naturally as market forces play themselves out, but only as long as confidence is held in the market. The act of stopping the market in times of excess volatility is seen as a tool in maintaining that confidence. The experience however varies widely between countries and stock exchanges.

Market Manipulation

There is a growing concern that stock markets are guided mainly by speculation and are concentrated among a few scrips and among a few members. There is clear evidence that on many stock exchanges, a small percentage of listed scrips are traded. The market is dominated by a few FIs, FIIs and a group of bulls and bears, some of who are primarily interested in unhealthy speculation rather than healthy trading. Large-scale sales/ purchases by some of them, at times in concert, does inject the market with a speculative overtone, as evidenced by manifold rise in prices of BPL, Videocon, Pentafour, Sterlite etc. during May-June 1998. Of the 56 cases taken up by SEBI for investigation during 1999-2000, 47 related to price manipulation and price rigging.

Incidence of price manipulation can be traced to large-scale unhealthy speculative trades. The extent of speculation can be gauged by the deliveries at the end of settlement. During 1999-00, delivery took place in respect of 11% of trades by value. The rest were squared up. It may be noted that delivery based trades are generally done by the investors while non-delivery based trades by the speculators including brokers. In advanced countries, transactions on customers' account constitute over 70% while on members account less than 30%. Though this is not strictly comparable, it gives an indication of the extent of speculation. Factors responsible for speculation in Indian market are: (a) squaring up facility in the settlement system, (b) long settlement period, (c) carry forward facility, (d) different settlement cycles on different stock exchanges, and (e) low margin requirement. For example, an operator may do any amount of short selling or accumulate a long position and square up the trades before the end of the settlement period. Even if he is required to give delivery, he has the option to carry forward to next settlement period or shift position from one exchange to another. The introduction of the on-line trading has also resulted in the sharp increase in speculative transactions. Since the orders are executed at quick pace, a large number of traders indulge in short term speculation in the active scrips. Some speculative demand may assist the liquidity and efficiency of market, but too much of speculation conflicts with allocational efficiency. If speculation is to be harnessed for socially beneficial purposes, the settlement period should be shortened by shifting to rolling settlement. Rolling settlement will, in effect, separate cash and futures transactions as all trades executed in a day will have to be squared up on the same day. The remaining trades will have to result in delivery.

Compliance with Listing Agreement

Many listed companies do not comply, at times deliberately, with the conditions of listing. This normally invites suspension of trading which affects interests of investors adversely. BSE has created a new category called 'Z' group to which it shifts the companies who do not comply with conditions of the listing agreement. So far BSE has shifted about 1500 companies to the 'Z' category. The Securities Laws (Amendment) Act, 1995 obligates the person, on whose application securities are listed on an exchange, to comply with the conditions of listing agreement. This provision has hardly been used to take such person to task if he has failed to comply with the listing agreement. If investors are to be retained in the market, stock exchanges have to enforce listing agreement and through this, corporate governance can be improved.

Annexure 5-1: Market Capitalisation of S&P CNX Nifty Securities: April 1999 - September 2000 (end of period)

(Rs. crore)

Sl. No.	Security	Apr-99	May-99	Jun-99	Jul-99	Aug-99	Sep-99	Oct-99	Nov-99	Dec-99	Jan-00	Feb-00	Mar-00	Apr-00	May-00	Jun-00	Jul-00	Aug-00	Sep-00
1	ABB	1,209	1,234	1,478	1,679	1,873	1,652	1,671	1,474	1,046	1,096	1,156	903	683	782	857	833	1,015	879
2	ACC	1,920	3,100	2,947	3,592	4,279	3,550	3,448	3,264	4,338	3,056	2,741	2,421	2,405	1,952	2,030	1,833	2,130	1,585
3	ASIANPAINT	834	959	1,246	1,352	1,626	1,627	1,570	1,538	1,449	1,847	1,510	1,698	1,633	1,710	1,622	1,801	1,667	1,423
4	BAJAJAUTO	6,124	6,781	6,496	5,938	5,666	5,417	5,323	4,660	3,945	4,283	3,593	4,600	4,256	4,342	4,237	4,220	4,262	3,987
5	BHEL	4,430	4,981	6,071	6,416	7,753	6,706	6,662	5,844	5,133	4,286	3,561	3,075	2,473	2,984	3,248	2,883	3,261	2,547
6	BRITANNIA						* 2872	2,319	2,248	1,959	2,080	1,703	1,726	1,418	1,727	1,662	1,991	1,862	1,838
7	BSES	1,927	2,116	2,061	2,157	3,022	2,531	2,217	2,284	2,577	2,790	4,226	3,302	3,596	3,934	3,417	3,220	3,016	3,126
8	CASTROL	5,113	5,164	5,150	5,338	5,367	4,733	4,287	4,236	3,813	4,325	3,724	3,818	3,706	3,611	3,719	3,276	3,328	2,927
9	CIPLA	2,555	2,510	2,685	3,488	5,485	7,780	7,752	9,689	8,093	7,035	6,894	6,797	5,343	4,636	5,185	4,355	4,867	4,129
10	COCHINREFN	957	989	999	953	1,067	952	944	1,322	1,061	833	776	669	648	623	608	553	578	550
11	COLGATE	2,652	2,842	2,816	3,269	3,740	3,707	3,249	3,046	2,923	2,683	2,253	1,986	1,958	2,199	2,440	2,624	2,205	2,160
12	DABUR														* 2142	1,870	2,379	1,943	1,719
13	DIGITALEQP																		* 1579
14	DRREDDY		* 2220	2,216	2,394	3,305	3,897	2,804	2,979	3,699	3,620	4,106	4,324	3,412	3,691	3,459	3,049	3,495	3,314
15	GLAXO	4,047	4,616	4,363	4,275	4,151	4,666	4,434	4,584	4,367	3,765	2,870	2,688	2,313	2,037	2,572	2,864	2,754	2,670
16	GRASIM	850	1,242	1,608	2,593	3,871	3,629	3,893	4,063	3,721	3,526	2,969	2,819	3,273	2,461	2,634	2,333	2,504	1,967
17	GUJAMBCEM	2,023	2,141	2,360	2,810	3,881	3,672	3,987	4,183	4,760	4,090	4,086	3,131	2,909	2,855	2,887	2,923	2,879	2,300
18	HCL-INSYS														* 1126	1,368	1,013	1,098	995
19	HDFC	2,430	2,601	2,655	2,896	3,011	3,161	3,136	2,918	3,237	3,973	4,785	4,681	5,598	5,699	6,571	6,026	6,242	5,215
20	HDFCBANK	1,296	1,622	1,485	1,700	1,721	2,047	1,854	2,308	3,148	4,755	4,336	5,748	5,476	5,603	6,139	5,666	5,823	5,699
21	HEROHONDA	3,507	3,978	4,271	5,563	5,549	5,086	4,670	4,231	4,574	4,694	3,285	3,876	3,722	3,690	3,941	4,112	3,666	3,305
22	HINDALCO	4,208	4,275	4,700	6,333	6,704	6,665	5,477	6,319	6,058	5,755	5,638	5,490	5,267	5,385	5,896	5,951	5,966	6,054
23	HINDLEVER	45,330	50,391	52,281	59,944	58,635	56,189	50,928	50,254	46,913	53,575	62,889	52,969	52,477	56,623	62,307	52,861	52,466	45,791
24	HINDPETRO	4,191	5,348	5,656	5,744	5,719	5,756	5,458	7,202	6,215	5,765	4,861	4,489	3,806	4,640	4,157	3,896	4,136	3,695
25	ICICI	2,236	2,957	3,543	4,198	4,130	5,097	5,862	6,130	7,009	8,424	12,922	10,598	10,468	10,653	9,824	9,353	8,513	7,716
26	INDHOTEL	1,304	1,500	1,586	1,698	2,570	1,931	1,662	1,556	1,427	1,286	1,171	1,114	1,065	923	994	961	1,082	1,051
27	INFOSYSTCH	8,773	10,776	12,054	16,037	18,376	23,616	23,100	30,546	47,898	47,817	58,131	59,394	53,765	46,349	54,974	44,726	55,083	48,696
28	IPCL	2,391	2,527	2,586	2,941	3,379	3,408	2,835	2,960	2,639	2,480	2,012	1,515	1,182	1,327	1,538	1,393	1,560	1,375
29	ITC	23,508	25,929	26,904	24,669	24,931	20,406	17,345	17,070	16,099	16,988	18,329	18,196	13,986	17,807	19,432	18,209	19,043	17,503
30	L&T	4,871	6,093	7,113	8,054	9,678	9,119	9,812	9,636	13,584	10,011	8,718	7,223	5,840	4,703	6,080	4,832	5,088	4,135
31	M&M	2,308	2,291	2,608	3,937	4,234	3,543	3,919	4,422	4,556	5,511	5,233	3,450	2,952	2,750	2,343	2,164	2,036	2,046
32	MTNL	9,891	11,554	11,737	13,255	12,695	11,526	10,836	11,973	12,036	17,312	18,154	14,833	14,112	11,384	13,479	10,817	9,626	6,943
33	NESTLE	5,011	5,447	5,158	5,760	6,164	6,108	5,228	4,676	4,120	3,861	3,367	3,593	3,106	3,746	3,631	5,052	4,422	4,726
34	NIIT	6,447	7,285	7,902	8,377	8,173	10,921	8,366	8,966	13,090	10,408	8,587	7,794	7,826	7,621	8,465	6,263	7,261	5,531
35	NOVARTIS		* 3202	2,827	3,364	3,544	3,409	3,851	3,754	4,054	4,190	2,811	2,860	2,358	2,712	2,608	2,785	2,801	2,572
36	ORIENTBANK	525	655	688	778	765	705	802	814	885	892	730	710	647	651	642	609	610	584
37	P&G	1,894	2,348	2,493	2,641	2,886	2,548	1,976	1,771	1,515	1,457	1,477	1,283	1,201	1,582	1,452	1,563	1,431	1,366
38	RANBAXY	6,607	7,327	7,633	10,380	12,937	12,487	10,166	11,394	10,707	10,318	10,234	8,203	7,070	6,363	6,715	6,399	7,767	7,365
39	RECKCOLMAN		* 1560	1,481	1,516	1,459	1,458	1,186	1,120	1,048	960	880	699	688	707	681	850	768	894
40	RELIANCE	12,666	15,631	16,569	16,724	18,068	22,387	21,985	20,533	21,761	30,641	29,026	29,549	32,159	36,239	35,912	35,491	35,464	36,091
41	RELPETRO	2,113	2,922	3,543	3,938	5,248	6,304	6,886	7,327	25,561	24,342	26,103	26,348	23,786	21,311	23,205	21,978	20,687	24,066
42	SATYAMCOMP						* 5853	6,636	10,280	12,431	14,871	28,492	25,351	17,591	14,101	16,568	13,675	16,059	13,679
43	SBIN	8,331	12,950	12,379	13,036	12,587	11,705	12,929	12,265	11,873	12,879	12,039	10,776	10,881	10,726	11,968	10,560	10,444	9,339
44	SMITKLBECH	2,687	2,801	2,655	2,815	2,954	3,146	2,881	2,734	2,407	2,239	1,735	1,838	1,557	1,612	1,564	1,960	2,023	1,806
45	TATACHEM	1,095	1,173	1,413	1,197	1,518	1,264	1,105	1,004	1,068	1,008	897	944	787	796	758	682	685	628
46	TATAPOWER	755	889	895	938	1,052	932	860	824	844	958	986	782	549	634	941	904	947	795
47	TATATEA	1,836	1,984	1,850	1,961	2,776	2,946	2,639	2,351	2,567	2,345	2,448	1,869	1,662	1,772	1,617	1,122	1,115	981
48	TELCO	3,661	4,703	5,269	6,239	7,954	6,978	6,177	5,592	5,159	4,599	4,264	3,488	3,254	3,181	3,161	2,369	2,562	2,086
49	TISCO	3,256	4,037	5,125	5,112	6,113	5,388	5,465	5,206	5,240	5,130	4,438	4,239	3,976	4,499	4,361	4,342	4,013	3,472
50	ZEETELE														* 20267	16,827	16,823	20,310	17,407

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

Annexure 5-2: Weightage of S&P CNX Nifty Securities: April 1999 - September 2000

(Per cent)

Sl. No.	Security	Apr-99	May-99	Jun-99	Jul-99	Aug-99	Sep-99	Oct-99	Nov-99	Dec-99	Jan-00	Feb-00	Mar-00	Apr-00	May-00	Jun-00	Jul-00	Aug-00	Sep-00
1	ABB	0.56	0.49	0.55	0.57	0.59	0.51	0.54	0.46	0.29	0.29	0.29	0.24	0.20	0.22	0.22	0.24	0.28	0.26
2	ACC	0.89	1.22	1.10	1.22	1.34	1.09	1.12	1.02	1.21	0.82	0.68	0.65	0.70	0.54	0.53	0.53	0.59	0.48
3	ASIANPAINT	0.39	0.38	0.47	0.46	0.51	0.50	0.51	0.48	0.40	0.49	0.38	0.45	0.48	0.48	0.42	0.52	0.46	0.43
4	BAJAJAUTO	2.85	2.67	2.43	2.01	1.78	1.66	1.73	1.46	1.10	1.14	0.90	1.23	1.24	1.21	1.11	1.22	1.17	1.20
5	BHEL	2.06	1.96	2.28	2.17	2.43	2.06	2.17	1.83	1.43	1.14	0.89	0.82	0.72	0.83	0.85	0.83	0.90	0.77
6	BRITANNIA						* 0.88	0.75	0.70	0.55	0.56	0.42	0.46	0.41	0.48	0.43	0.57	0.51	0.55
7	BSES	0.90	0.83	0.77	0.73	0.95	0.78	0.72	0.71	0.72	0.75	1.05	0.88	1.05	1.09	0.89	0.93	0.83	0.94
8	CASTROL	2.38	2.03	1.93	1.81	1.68	1.45	1.40	1.33	1.06	1.15	0.93	1.02	1.08	1.00	0.97	0.94	0.92	0.88
9	CIPLA	1.19	0.99	1.01	1.18	1.72	2.39	2.52	3.03	2.26	1.88	1.72	1.82	1.56	1.29	1.35	1.25	1.34	1.24
10	COCHINREFN	0.45	0.39	0.37	0.32	0.33	0.29	0.31	0.41	0.30	0.22	0.19	0.18	0.19	0.17	0.16	0.16	0.16	0.17
11	COLGATE	1.23	1.12	1.06	1.11	1.17	1.14	1.06	0.95	0.82	0.72	0.56	0.53	0.57	0.61	0.64	0.76	0.61	0.65
12	DABUR														* 0.6	0.49	0.69	0.53	0.52
13	DIGITALEQP																		* 0.48
14	DRREDDY		* 0.87	0.83	0.81	1.04	1.20	0.91	0.93	1.03	0.97	1.02	1.16	0.99	1.03	0.90	0.88	0.96	1.00
15	GLAXO	1.88	1.81	1.64	1.45	1.30	1.43	1.44	1.43	1.22	1.01	0.72	0.72	0.67	0.57	0.67	0.82	0.76	0.80
16	GRASIM	0.40	0.49	0.60	0.88	1.22	1.11	1.27	1.27	1.04	0.94	0.74	0.75	0.95	0.68	0.69	0.67	0.69	0.59
17	GUJAMBCEM	0.94	0.84	0.88	0.95	1.22	1.13	1.30	1.31	1.33	1.09	1.02	0.84	0.85	0.79	0.75	0.84	0.79	0.69
18	HCL-INSYS														* 0.31	0.36	0.29	0.30	0.30
19	HDFC	1.13	1.02	0.99	0.98	0.95	0.97	1.02	0.91	0.90	1.06	1.19	1.25	1.63	1.58	1.71	1.74	1.72	1.57
20	HDFCBANK	0.60	0.64	0.56	0.58	0.54	0.63	0.60	0.72	0.88	1.27	1.08	1.54	1.59	1.56	1.60	1.63	1.60	1.71
21	HEROHONDA	1.63	1.56	1.60	1.89	1.74	1.56	1.52	1.32	1.28	1.25	0.82	1.04	1.08	1.03	1.03	1.18	1.01	0.99
22	HINDALCO	1.96	1.68	1.76	2.15	2.10	2.04	1.78	1.98	1.69	1.54	1.41	1.47	1.53	1.50	1.54	1.71	1.64	1.82
23	HINDLEVER	21.09	19.81	19.59	20.32	18.41	17.23	16.57	15.73	13.08	14.31	15.69	14.18	15.28	15.74	16.25	15.22	14.45	13.78
24	HINDPETRO	1.95	2.10	2.12	1.95	1.80	1.77	1.78	2.25	1.73	1.54	1.21	1.20	1.11	1.29	1.08	1.12	1.14	1.11
25	ICICI	1.04	1.16	1.33	1.42	1.30	1.56	1.91	1.92	1.95	2.25	3.22	2.84	3.05	2.96	2.56	2.69	2.34	2.32
26	INDHOTEL	0.61	0.59	0.59	0.58	0.81	0.59	0.54	0.49	0.40	0.34	0.29	0.30	0.31	0.26	0.26	0.28	0.30	0.32
27	INFOSYSTCH	4.08	4.24	4.52	5.44	5.77	7.24	7.52	9.56	13.36	12.77	14.50	15.90	15.65	12.89	14.34	12.88	15.17	14.65
28	IPCL	1.11	0.99	0.97	1.00	1.06	1.05	0.92	0.93	0.74	0.66	0.50	0.41	0.34	0.37	0.40	0.40	0.43	0.41
29	ITC	10.94	10.19	10.08	8.36	7.83	6.26	5.64	5.34	4.49	4.54	4.57	4.87	4.07	4.95	5.07	5.24	5.24	5.27
30	L&T	2.27	2.40	2.67	2.73	3.04	2.80	3.19	3.02	3.79	2.67	2.18	1.93	1.70	1.31	1.59	1.39	1.40	1.24
31	M&M	1.07	0.90	0.98	1.33	1.33	1.09	1.28	1.38	1.27	1.47	1.31	0.92	0.86	0.76	0.61	0.62	0.56	0.62
32	MTNL	4.60	4.54	4.40	4.49	3.99	3.53	3.53	3.75	3.36	4.62	4.53	3.97	4.11	3.16	3.52	3.12	2.65	2.09
33	NESTLE	2.33	2.14	1.93	1.95	1.94	1.87	1.70	1.46	1.15	1.03	0.84	0.96	0.90	1.04	0.95	1.45	1.22	1.42
34	NIIT	3.00	2.86	2.96	2.84	2.57	3.35	2.72	2.81	3.65	2.78	2.14	2.09	2.28	2.12	2.21	1.80	2.00	1.66
35	NOVARTIS		* 1.26	1.06	1.14	1.11	1.05	1.25	1.17	1.13	1.12	0.70	0.77	0.69	0.75	0.68	0.80	0.77	0.77
36	ORIENTBANK	0.24	0.26	0.26	0.26	0.24	0.22	0.26	0.25	0.25	0.24	0.18	0.19	0.19	0.18	0.17	0.18	0.17	0.18
37	P&G	0.88	0.92	0.93	0.89	0.91	0.78	0.64	0.55	0.42	0.39	0.37	0.34	0.35	0.44	0.38	0.45	0.39	0.41
38	RANBAXY	3.07	2.88	2.86	3.52	4.06	3.83	3.31	3.57	2.99	2.76	2.55	2.20	2.06	1.77	1.75	1.84	2.14	2.22
39	RECKCOLMAN		* 0.61	0.56	0.51	0.46	0.45	0.39	0.35	0.29	0.26	0.22	0.19	0.20	0.20	0.18	0.24	0.21	0.27
40	RELIANCE	5.89	6.14	6.21	5.67	5.67	6.87	7.15	6.43	6.07	8.18	7.24	7.91	9.36	10.07	9.37	10.22	9.76	10.86
41	RELPETRO	0.98	1.15	1.33	1.33	1.65	1.93	2.24	2.29	7.13	6.50	6.51	7.05	6.92	5.92	6.05	6.33	5.70	7.24
42	SATYAMCOMP						* 1.79	2.16	3.22	3.47	3.97	7.11	6.79	5.12	3.92	4.32	3.94	4.42	4.12
43	SBIN	3.88	5.09	4.64	4.42	3.95	3.59	4.21	3.84	3.31	3.44	3.00	2.88	3.17	2.98	3.12	3.04	2.88	2.81
44	SMITKLBECH	1.25	1.10	0.99	0.95	0.93	0.96	0.94	0.86	0.67	0.60	0.43	0.49	0.45	0.45	0.41	0.56	0.56	0.54
45	TATACHEM	0.51	0.46	0.53	0.41	0.48	0.39	0.36	0.31	0.30	0.27	0.22	0.25	0.23	0.22	0.20	0.20	0.19	0.19
46	TATAPOWER	0.35	0.35	0.34	0.32	0.33	0.29	0.28	0.26	0.24	0.26	0.25	0.21	0.16	0.18	0.25	0.26	0.26	0.24
47	TATATEA	0.85	0.78	0.69	0.66	0.87	0.90	0.86	0.74	0.72	0.63	0.61	0.50	0.48	0.49	0.42	0.32	0.31	0.30
48	TELCO	1.70	1.85	1.97	2.11	2.50	2.14	2.01	1.75	1.44	1.23	1.06	0.93	0.95	0.88	0.82	0.68	0.71	0.63
49	TISCO	1.51	1.59	1.92	1.73	1.92	1.65	1.78	1.63	1.46	1.37	1.11	1.13	1.16	1.25	1.14	1.25	1.10	1.04
50	ZEETELE														* 5.63	4.39	4.84	5.59	5.24

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

Annexure 5-3: Beta of S&P CNX Nifty Securities: April 1999 - September 2000

(Per cent)

Sl. No.	Security	Apr-99	May-99	Jun-99	Jul-99	Aug-99	Sep-99	Oct-99	Nov-99	Dec-99	Jan-00	Feb-00	Mar-00	Apr-00	May-00	Jun-00	Jul-00	Aug-00	Sep-00
1	ABB	0.68	0.69	0.70	0.74	0.84	0.84	0.91	0.91	0.92	0.85	0.82	0.93	0.69	0.77	0.76	0.72	0.68	0.64
2	ACC	1.26	1.24	1.20	1.23	1.26	1.25	1.24	1.26	1.29	1.25	1.22	1.32	1.01	1.17	1.09	1.11	1.06	1.05
3	ASIANPAINT	0.72	0.73	0.64	0.67	0.74	0.76	0.75	0.76	0.76	0.71	0.66	0.66	0.44	0.42	0.38	0.31	0.26	0.25
4	BAJAJAUTO	0.97	0.94	0.89	0.89	0.92	0.89	0.82	0.76	0.80	0.81	0.72	0.76	0.42	0.60	0.53	0.56	0.53	0.50
5	BHEL	1.36	1.38	1.30	1.29	1.29	1.30	1.27	1.24	1.24	1.20	1.13	1.20	0.96	1.07	1.00	1.02	1.00	0.96
6	BRITANNIA						* 0.72	0.69	0.67	0.67	0.69	0.59	0.55	0.35	0.56	0.47	0.52	0.50	0.45
7	BSES	1.02	1.04	0.97	0.99	1.07	1.06	1.08	1.08	1.08	1.05	0.96	1.13	1.03	1.00	0.99	1.00	0.92	0.91
8	CASTROL	0.83	0.79	0.76	0.74	0.73	0.73	0.73	0.72	0.74	0.78	0.64	0.78	0.46	0.64	0.57	0.61	0.58	0.54
9	CIPLA	0.75	0.68	0.57	0.56	0.61	0.64	0.78	0.78	0.77	0.80	0.80	0.70	0.69	0.84	0.86	0.90	0.88	0.84
10	COCHINREFN	0.99	0.99	0.96	1.01	1.07	1.09	1.09	1.07	0.98	0.88	0.83	0.84	0.58	0.63	0.59	0.54	0.47	0.46
11	COLGATE	0.98	0.98	1.01	1.07	1.08	1.08	1.11	1.09	1.08	1.03	0.94	0.99	0.64	0.73	0.70	0.57	0.55	0.51
12	DABUR														* 0.83	0.85	0.77	0.75	0.76
13	DIGITALEQP																		* 1.59
14	DRREDDY		* 1.22	1.19	1.15	1.12	1.15	1.17	1.20	1.13	1.14	1.09	0.98	0.91	1.05	0.98	1.04	1.07	1.04
15	GLAXO	1.00	0.98	0.90	0.90	0.94	0.94	1.00	0.98	0.98	0.99	0.89	0.79	0.54	0.70	0.71	0.75	0.72	0.69
16	GRASIM	1.06	1.13	1.19	1.27	1.32	1.34	1.32	1.27	1.25	1.11	0.92	0.95	0.69	0.71	0.69	0.67	0.60	0.61
17	GUJAMBCEM	1.08	1.05	0.99	0.98	0.96	0.95	0.98	0.93	0.97	0.93	0.86	0.92	0.79	0.85	0.78	0.87	0.84	0.82
18	HCL-INSYS														* 1.12	1.44	1.26	1.28	1.32
19	HDFC	0.84	0.84	0.76	0.80	0.85	0.84	0.90	0.90	0.90	0.83	0.74	0.73	0.47	0.47	0.35	0.35	0.32	0.33
20	HDFCBANK	1.03	1.05	1.08	1.10	1.15	1.14	1.11	1.02	1.06	0.99	0.90	0.78	0.75	0.61	0.55	0.61	0.59	0.56
21	HEROHONDA	0.93	0.86	0.79	0.80	0.79	0.80	0.74	0.75	0.78	0.76	0.64	0.61	0.51	0.56	0.52	0.50	0.47	0.45
22	HINDALCO	0.82	0.80	0.83	0.88	0.81	0.74	0.72	0.71	0.67	0.65	0.62	0.59	0.54	0.61	0.55	0.50	0.52	0.52
23	HINDLEVER	0.77	0.74	0.72	0.68	0.68	0.68	0.69	0.68	0.67	0.67	0.52	0.64	0.42	0.77	0.76	0.80	0.81	0.80
24	HINDPETRO	0.81	0.89	0.99	1.05	1.06	1.03	1.02	1.03	1.00	0.92	0.91	0.91	0.80	0.83	0.75	0.72	0.68	0.68
25	ICICI	1.11	1.16	1.13	1.18	1.15	1.17	1.17	1.11	1.04	1.01	0.86	0.95	0.89	0.97	0.92	0.95	0.98	0.95
26	INDHOTEL	0.72	0.71	0.63	0.66	0.69	0.70	0.78	0.78	0.79	0.74	0.65	0.69	0.50	0.57	0.61	0.52	0.49	0.46
27	INFOSYSTCH	1.04	0.99	0.88	0.92	0.91	0.93	0.91	0.97	0.97	1.10	1.08	1.12	1.20	1.35	1.36	1.40	1.51	1.51
28	IPCL	0.93	0.96	1.02	1.05	1.13	1.16	1.30	1.27	1.29	1.24	1.19	1.18	0.97	1.02	0.91	0.93	0.90	0.86
29	ITC	1.08	1.05	1.04	1.01	1.04	1.04	1.07	1.10	1.10	1.11	1.01	1.16	0.92	1.15	1.13	1.14	1.11	1.10
30	L&T	1.33	1.38	1.40	1.41	1.42	1.39	1.32	1.34	1.33	1.27	1.19	1.30	1.09	1.16	1.18	1.25	1.23	1.23
31	M&M	1.16	1.16	1.17	1.15	1.15	1.10	1.05	0.98	0.95	0.81	0.69	0.77	0.60	0.82	0.78	0.92	0.90	0.91
32	MTNL	1.23	1.25	1.27	1.28	1.29	1.29	1.34	1.33	1.36	1.30	1.26	1.37	1.19	1.26	1.27	1.20	1.16	1.17
33	NESTLE	0.88	0.87	0.83	0.82	0.83	0.85	0.82	0.80	0.80	0.73	0.58	0.64	0.38	0.55	0.49	0.47	0.43	0.44
34	NIIT	1.14	1.05	0.92	0.93	0.98	1.01	1.02	1.06	1.08	1.09	1.08	0.97	0.98	1.01	1.03	1.06	1.08	1.07
35	NOVARTIS		* 0.66	0.54	0.50	0.56	0.56	0.54	0.53	0.56	0.53	0.44	0.36	0.24	0.40	0.40	0.39	0.34	0.34
36	ORIENTBANK	0.96	0.96	0.99	1.07	1.15	1.16	1.12	1.10	1.11	1.05	0.92	0.95	0.63	0.66	0.63	0.55	0.50	0.47
37	P&G	0.93	0.90	0.79	0.79	0.80	0.82	0.83	0.87	0.89	0.86	0.73	0.81	0.48	0.57	0.58	0.48	0.49	0.49
38	RANBAXY	0.90	0.97	1.05	1.14	1.16	1.21	1.38	1.39	1.41	1.37	1.34	1.24	1.15	1.24	1.19	1.20	1.19	1.14
39	RECKCOLMAN		* 0.90	0.80	0.83	0.88	0.88	0.90	0.84	0.79	0.77	0.65	0.69	0.33	0.47	0.47	0.44	0.43	0.43
40	RELIANCE	1.12	1.18	1.28	1.31	1.31	1.29	1.23	1.25	1.24	1.24	1.11	1.21	0.98	1.11	1.00	1.03	1.02	1.01
41	RELPETRO	0.65	0.67	0.72	0.77	0.84	0.86	0.90	0.93	0.92	0.99	0.91	1.04	0.87	1.03	0.94	0.96	0.91	0.91
42	SATYAMCOMP						* 1.20	1.19	1.22	1.26	1.30	1.28	1.29	1.33	1.39	1.44	1.54	1.64	1.68
43	SBIN	1.22	1.30	1.41	1.44	1.44	1.42	1.39	1.38	1.38	1.35	1.21	1.24	0.96	1.05	0.97	1.02	1.01	0.99
44	SMITKLBECH	0.71	0.66	0.63	0.64	0.72	0.72	0.73	0.71	0.70	0.62	0.48	0.48	0.21	0.32	0.31	0.29	0.27	0.26
45	TATACHEM	1.03	1.08	1.19	1.23	1.29	1.29	1.27	1.24	1.20	1.14	1.00	1.09	0.84	0.84	0.74	0.72	0.68	0.67
46	TATAPOWER	0.69	0.78	0.78	0.84	0.93	0.95	0.97	0.96	0.96	0.92	0.85	0.89	0.64	0.66	0.73	0.70	0.64	0.65
47	TATATEA	0.99	1.05	1.07	1.08	1.12	1.10	1.15	1.20	1.19	1.17	1.12	1.12	0.82	0.86	0.75	0.82	0.77	0.78
48	TELCO	1.32	1.38	1.47	1.42	1.52	1.50	1.51	1.47	1.46	1.35	1.08	1.21	0.77	0.97	0.86	0.90	0.80	0.76
49	TISCO	1.03	1.12	1.17	1.15	1.24	1.25	1.24	1.28	1.27	1.22	1.01	1.21	0.82	0.91	0.88	0.94	0.88	0.86
50	ZEETELE														* 1.20	1.30	1.35	1.35	1.44

Beta is calculated for the 12 months ending on the last trading day of the respective month.

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

Annexure 5-4: Monthly Returns of S&P CNX Nifty Securities:April 1999 - September 2000#

(Per cent)

Sl. No.	Security	Apr-99	May-99	Jun-99	Jul-99	Aug-99	Sep-99	Oct-99	Nov-99	Dec-99	Jan-00	Feb-00	Mar-00	Apr-00	May-00	Jun-00	Jul-00	Aug-00	Sep-00
1	ABB	(37.61)	2.05	19.71	13.59	11.56	(11.76)	1.15	(11.83)	(28.99)	4.71	5.52	(21.87)	(24.35)	14.48	9.56	(2.78)	21.84	(13.46)
2	ACC	(2.64)	29.19	(4.94)	21.91	19.12	(17.05)	(2.85)	(5.34)	32.90	(29.55)	(10.31)	(11.68)	(0.67)	(18.84)	4.04	(9.74)	16.21	(25.57)
3	ASIANPAINT	(15.14)	14.94	30.03	8.45	20.30	0.04	(3.48)	(2.06)	(5.78)	27.49	(18.26)	12.43	(3.83)	4.71	(5.13)	11.02	(8.09)	(14.60)
4	BAJAJAUTO	(16.76)	10.73	(4.21)	(8.59)	(4.57)	(4.39)	(1.74)	(12.46)	(15.35)	8.57	(16.11)	28.05	(7.47)	2.01	(2.42)	(0.39)	1.00	(6.46)
5	BHEL	(23.95)	12.43	21.89	5.68	20.83	(13.50)	(0.66)	(12.29)	(12.17)	(16.50)	(16.90)	(13.64)	(19.58)	20.63	8.86	(11.23)	13.12	(21.91)
6	BRITANNIA						* 2.77	(19.26)	(3.05)	(12.88)	6.19	(18.11)	1.36	(17.88)	21.86	(3.77)	19.80	(6.51)	(1.29)
7	BSES	(3.85)	9.79	(2.60)	4.68	40.07	(16.23)	(12.44)	3.01	12.85	8.29	51.44	(21.86)	8.91	9.39	(13.13)	(5.79)	(6.31)	3.63
8	CASTROL	(2.13)	0.99	(0.26)	3.65	0.54	(11.82)	(9.41)	(1.20)	(9.99)	13.43	(13.91)	2.54	(2.93)	(2.58)	3.01	(11.92)	1.58	(12.04)
9	CIPLA	(2.14)	(1.75)	6.97	29.92	46.69	41.84	(0.37)	25.00	(16.48)	(13.07)	(2.01)	(1.40)	(21.39)	(13.23)	11.84	(16.01)	11.76	(15.16)
10	COCHINREFN	6.97	3.31	1.05	(4.55)	11.89	(10.79)	(0.76)	39.96	(19.77)	(21.42)	(6.91)	(13.77)	(3.19)	(3.78)	(2.43)	(9.07)	4.49	(4.83)
11	COLGATE	8.27	7.18	(0.93)	16.11	14.39	(0.87)	(12.36)	(6.24)	(4.04)	(8.23)	(16.02)	(11.86)	(1.37)	12.29	10.95	7.55	(15.96)	(2.04)
12	DABUR														* 14.95	(12.75)	27.24	(18.35)	(11.52)
13	DIGITALEQP																		* (9.64)
14	DRREDDY		* (4.77)	(0.16)	8.04	38.03	17.91	(28.04)	6.22	24.18	(2.13)	13.41	5.31	(21.09)	8.18	(6.29)	(11.85)	14.64	(5.19)
15	GLAXO	(26.25)	14.06	(5.47)	(2.03)	(2.91)	12.43	(4.98)	3.38	(4.73)	(13.78)	(23.79)	(6.33)	(13.93)	(11.95)	26.28	11.36	(3.86)	(3.03)
16	GRASIM	(24.97)	46.13	29.50	27.16	49.30	(6.24)	7.28	4.37	(8.43)	(5.25)	(15.79)	(5.05)	16.12	(24.82)	7.04	(11.42)	7.33	(21.45)
17	GUJAMBCEM	(7.16)	5.82	10.21	19.07	38.13	(5.39)	8.59	4.91	13.82	(14.08)	(0.11)	(23.37)	(7.07)	(1.87)	1.13	1.25	(1.51)	(20.11)
18	HCL-INSYS														* (1.99)	21.52	(26.00)	8.41	(9.35)
19	HDFC	(11.30)	7.04	2.07	9.06	(89.60)	5.00	(0.81)	(6.95)	10.94	22.72	20.45	(2.17)	19.59	1.80	15.30	(8.29)	3.59	(16.45)
20	HDFCBANK	(6.83)	25.15	(8.45)	14.48	1.24	18.94	(9.43)	24.49	36.40	51.05	(8.81)	18.63	(4.72)	(6.02)	9.57	(7.71)	2.77	(2.13)
21	HEROHONDA	0.34	13.44	7.37	30.25	(0.25)	(8.35)	(8.18)	(9.40)	8.11	2.63	(30.02)	17.99	(3.96)	(0.86)	6.81	4.34	(10.86)	(9.84)
22	HINDALCO	22.03	1.59	9.94	34.76	5.85	(0.58)	(17.82)	15.37	(4.13)	(5.00)	(2.03)	(2.62)	(4.07)	2.25	9.47	0.93	0.26	1.47
23	HINDLEVER	(8.85)	11.16	3.75	14.66	(2.18)	(4.17)	(9.36)	(1.32)	(6.65)	14.20	17.39	(15.77)	(0.93)	7.90	10.04	(15.14)	(0.75)	(12.72)
24	HINDPETRO	(3.31)	27.61	5.75	1.56	(0.43)	0.65	(5.18)	31.96	(13.71)	(7.23)	(15.69)	(7.64)	(15.23)	21.93	(10.42)	(6.29)	6.18	(10.66)
25	ICICI	(5.08)	31.76	19.81	18.50	(8.23)	8.91	(9.84)	2.22	14.34	20.20	53.39	(20.52)	(1.22)	1.76	(7.78)	(4.80)	(8.98)	(9.36)
26	INDHOTEL	(9.62)	15.05	5.73	7.07	51.33	(24.86)	(13.93)	(6.37)	(8.29)	(9.86)	(8.98)	(4.89)	(4.40)	(13.28)	7.67	(3.38)	12.68	(2.92)
27	INFOSYSTCH	(9.55)	22.83	11.86	33.04	14.59	28.51	(2.18)	32.24	56.81	(0.08)	21.57	2.17	(9.48)	(13.81)	18.74	(18.64)	23.15	(11.60)
28	IPCL	(13.92)	5.70	2.33	13.74	14.89	0.85	(16.81)	4.41	(10.86)	(6.02)	(18.87)	(24.69)	(21.97)	12.28	15.83	(9.44)	12.04	(11.87)
29	ITC	(0.53)	10.30	3.76	(8.31)	1.06	(18.15)	(15.00)	(1.58)	(5.69)	5.52	7.90	(0.72)	(23.14)	27.32	9.12	(6.30)	4.58	(8.09)
30	L&T	(15.90)	25.10	16.74	13.22	20.16	(5.78)	7.60	(1.80)	40.98	(26.31)	(12.92)	(17.15)	(19.15)	(19.47)	29.27	(20.52)	5.30	(18.73)
31	M&M	(1.22)	(0.74)	13.83	51.00	7.52	(16.31)	5.35	12.84	3.02	20.96	(5.04)	(34.08)	(14.43)	(8.49)	(14.81)	(7.62)	(5.92)	0.49
32	MTNL	(11.07)	16.82	1.58	12.94	(4.23)	(9.21)	(5.99)	10.49	0.53	43.84	4.86	(18.29)	(4.86)	(19.33)	18.40	(19.75)	(11.01)	(27.88)
33	NESTLE	(10.40)	8.72	(5.32)	11.67	7.02	(0.91)	(14.41)	(10.56)	(11.88)	(6.28)	(12.80)	6.71	(13.58)	20.61	(3.08)	39.14	(12.47)	6.88
34	NIIT	(11.04)	13.00	8.46	6.02	(2.43)	33.63	(23.40)	7.17	46.00	(20.48)	(17.50)	(9.23)	0.41	(2.63)	11.08	(26.01)	15.94	(23.83)
35	NOVARTIS		* 28.03	(11.73)	19.00	5.35	(3.79)	12.97	(2.52)	7.99	3.36	(32.92)	1.76	(17.57)	15.01	(3.84)	6.79	0.58	(8.17)
36	ORIENTBANK	(13.49)	24.77	5.15	13.01	(1.61)	(7.92)	13.80	1.44	8.76	0.87	(18.23)	(2.77)	(8.82)	0.60	(1.33)	(5.10)	0.16	(4.26)
37	P&G	(12.50)	24.00	6.16	5.94	9.30	(11.70)	(22.46)	(10.38)	(14.48)	(3.83)	1.40	(13.11)	(6.39)	31.65	(8.18)	7.63	(8.47)	(4.52)
38	RANBAXY	(14.73)	10.91	4.18	35.98	24.64	(3.48)	(18.58)	12.07	(6.03)	(3.63)	(0.82)	(19.84)	(13.82)	(10.00)	5.54	(4.70)	21.38	(5.18)
39	RECKCOLMAN		* 23.28	(5.07)	2.34	(3.77)	(0.05)	(18.64)	(5.58)	(6.39)	(8.48)	(8.33)	(20.54)	(1.62)	2.75	(3.68)	24.86	(9.66)	16.53
40	RELIANCE	4.03	23.41	6.00	0.93	8.04	23.90	(1.79)	(6.60)	5.98	40.81	(5.27)	1.80	8.83	(0.15)	(0.90)	(1.17)	(0.07)	1.77
41	RELPETRO	(2.12)	18.43	21.28	11.13	33.28	20.13	9.23	6.41	20.53	(4.77)	7.23	(9.27)	(9.72)	(10.41)	8.89	(5.29)	(5.88)	16.34
42	SATYAMCOMP						* 29.55	13.38	48.90	16.41	19.63	91.59	(11.02)	(30.61)	(19.84)	17.50	(17.46)	17.43	(14.82)
43	SBIN	(25.72)	55.43	(4.41)	5.31	(3.45)	(7.00)	10.45	(5.13)	(3.20)	8.47	(6.52)	(10.49)	0.98	(1.43)	11.58	(11.76)	(1.10)	(10.58)
44	SMITKLBECH	(13.20)	4.27	(5.22)	6.03	4.94	6.51	(8.42)	(5.11)	(11.97)	(6.96)	(22.53)	5.98	(15.33)	3.53	(2.97)	25.37	3.18	(10.69)
45	TATACHEM	(16.12)	7.18	20.40	(15.28)	26.87	(16.78)	(12.58)	(9.08)	6.29	(5.58)	(11.02)	5.24	(16.65)	1.15	(4.77)	(10.01)	0.40	(8.31)
46	TATAPOWER	(10.41)	17.78	0.59	4.81	12.15	(11.39)	(7.74)	(4.12)	2.40	13.50	2.91	(20.64)	(29.87)	15.47	48.53	(3.95)	4.76	(16.08)
47	TATATEA	(22.16)	8.08	(6.75)	5.99	41.57	6.12	(10.41)	(10.91)	9.17	(8.66)	4.42	(23.67)	(11.04)	6.58	(8.71)	(30.60)	(0.65)	(11.99)
48	TELCO	(15.10)	28.45	12.05	18.41	27.48	(12.27)	(11.48)	(9.47)	(7.73)	(10.86)	(7.29)	(18.19)	(6.71)	(2.24)	(0.64)	(25.06)	8.16	(18.58)
49	TISCO	(14.71)	23.97	26.95	(0.25)	19.59	(11.86)	1.43	(4.75)	0.67	(2.11)	(13.49)	(4.48)	(6.21)	13.15	(3.07)	(0.42)	(7.59)	(13.49)
50	ZEETELE														* (27.52)	(16.98)	(0.02)	20.73	(14.29)

Returns are calculated for the respective month.

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