CHAPTER: - 1.

CONCEPTUAL FRAMEWORK OF CAPITAL MARKET AND PRICE VOLATILITY.
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CHAPTER: - 1.

CONCEPTUAL FRAMEWORK OF CAPITAL MARKET AND PRICE VOLATILITY.

1.1 INTRODUCTION:

The capital market is an important constituent of the financial system. It is a market for long-term funds—both equity and debt—and funds raised within and outside the country. The capital market aids economic growth by mobilizing the saving of the economic sectors and directing the same towards channels of productive use. This is facilitated through the following measures.

- Issue of primary securities in the primary market i.e., directing cash flow from the surplus sector to the deficit sectors such as the government and the corporate sector.
- Issue of secondary securities in the primary market i.e. directing cash flow from surplus sectors to financial intermediaries such as banking and non-banking financial institutions.
- Secondary market transactions in outstanding securities which facilitates liquidity. The liquidity of the stock market is an important factor affecting growth. Many profitable projects require long-term finance and investment which means locking up funds for a long time. Investors do not like to relinquish control over their savings for such a long time. Hence, they are reluctant to invest in long gestation because it ensures a quick exit without heavy losses or costs.

Hence, the development of an efficient capital market is necessary for creating a climate conducive to investment and economic growth.

1.2 HISTORY OF THE INDIAN CAPITAL MARKET:

The history of the capital market in India dates back to the eighteenth century when the East Indian company securities were traded in the country. Until the end of the nineteenth century, Securities trading were unorganized and the main trading centers were Bombay (now Mumbai) and Calcutta (now Kolkata). Of the two
Bombay was the chief trading center wherein bank shares were the major trading stock. During the American civil war (1860-61), Bombay was an important source of supply for cotton. Hence trading activities flourished during the period resulting in a boom in share prices. This boom the first in the history of the Indian capital market lasted for nearly half a decade. The double burst on July 1, 1865, when there was a tremendous slump in share prices. Trading was at that limited to a dozen brokers, their trading place was under a banyan tree front of the town hall in Bombay. These stock brokers organized an informal association in 1875—the Native shares and stock Broker Association, Bombay. The stock exchanges in Calcutta and Ahmadabad, also industrial and trading centers materials later. The Bombay stock exchange was recognized in may 1927 under the Bombay Securities Contracts Control Act; 1925. The capital market was not organized and developed during the British rule because the British government was not interested in the economic growth of the country. As a result, many foreign companies depended on the London capital market for funds rather than the Indian capital market. In the post independence era also, the size of the capital market remained small. During the first and second five year plans, government’s emphasis was on the development of the agricultural sector and public sector undertakings. Public sector undertakings were healthier than private undertaking in terms of paid up capital but their shares were not listed on the stock exchanges. Moreover, the controller of Capital Issues (CCI) closely supervised and controlled the timing, composition, interest rates, pricing, allotments, and flotation costs of new issues. These strict regulations demotivated many companies from going public for almost four and a half decades. In the 1950s, century Textiles, Tata Steel, Bombay Dyeing National Rayon, and Kohinoor Mills were the favorite’s scripts of speculators. As speculation become rampant the stock market came to be known as the satta bazaar. Despite speculation, non-payment or defaults were not very frequent. The government enacted the securities contracts (Regulation) Act in 1956 to regulate stock markets, the incorporation of a network for the development of financial institutions and state financial corporations. The 1960s was characterized by wars and droughts in the country which led to bearish trends. These trends were aggravated by the ban in 1969 on forward trading and badla, technically called ‘contracts for clearing’ badla provided a mechanism for carrying forward positions as well as for borrowing funds. Financial organizations such as LIC and GIC helped revive the sentiment by emerging as the most important group of investors. The first
mutual fund of India, the Unit Trust of India (UTI) came into existence in 1964. In the 1970s *badla trading* was resumed under the guise of hand delivery contracts- a group. ‘This revised the market. However, the capital market received another services on July 6, 1974. When the government promulgated the Dividend Restriction Ordinance, restricting the payment of dividend by companies to 12 percent of the face value or one third of the profits of the companies that can be distributed as computed under section 369 of companies act, whichever was lower? This led to a slump in market capitalization at BSE by 20 percent overnight and stock market did not open for nearly a fortnight. Later come buoyancy in stock markets when the multinational companies (MNCs) were faced to dilute their majority stocks in their Indian ventures in favor of the Indian public under FERA in 1973. Several MNCs opted out of India. One hundred and twenty three MNCs offered shares worth Rs 150 corer, creating 1.8 million shareholders within four years. The offer prices of FERA shares were lower than their intrinsic worth. Hence, for the first time FERA dilution created an equity cult in India. It was the spate of FERA issues that that gave a real fillip to the Indian stock markets. For the first time, many investors got an opportunity to invest in the stocks of such MNCs as Colgate and Hindustan Liver Limited. Then in 1977, a little known entrepreneur, Dhirubhai Ambani tapped the capital market. The scrip Reliance Textiles is still a hot favorite and dominates trading at all stock exchanges. The 1980s witnessed an explosive growth of securities markets in India, with millions of investors suddenly discovering lucrative opportunist. Many investors jumped into the stock markets for the first time. The government’s liberalization process initiated during the mid-1980s, spurred this growth participation by small investors, speculation, defaults, ban on badla and resumption of badla continued. Convertible debenture emerged as a popular instrument of resource mobilization in the primary market. The introduction of public sector bonds and successful mega issues of reliance petrochemicals and Larson and Toubro gave a new lease of life to the primary market. This in turn enlarges volumes in the secondary market. The decade of the 1980s was characterized by increase in the number of stock exchanges, listed companies, paid up capital and market capitalization.

The 1990s will go down as the most important decade in the history of the capital market of India, liberalization and globalization were the new terms coined and marketed during this decade. The capital issues (control) act, 1947 was replaced
in May 1992. The decade was characterized by a new industrial policy, emergence of
the SEBI as a regulator of the capital market, advent of foreign institutional investors,
euro-issues, free pricing, new trading practices, new stock exchanges, entry of new
players such as private sector mutual funds and private sector banks, and primary
market boom and boost. Major capital market scams took place in the 1990s. These
stocks the capital market and drove away small investors from the market. The
securities scam of March 1992 involving brokers as well as bankers was one of the
biggest scams in the history of the capital market. In the subsequent years owing to
free pricing, many unscrupulous promoters, who raised money from the capital
market, proved to be flying by night operations. This led to erosion in the investor’s
confidence. The M S shoes case, one such scam which took place in March 1995, put
a break on issue activity. The 1991-92 securities scam which scam revealed the
inadequacies of and inefficiencies in the financial system. It was the scam which
prompted a reform of the equity market. The Indian stock market witnessed a sea
change in term of technology and market prices. Technology brought radical changes
in the trading mechanism. The Bombay stock exchange was subject to nationwide
competition by two new stock exchanges—the National Stock Exchange, set up in
1994, and the Over the Counter Exchange of India, set up in 1992. The National
Securities Clearing Corporation (NSCC) and the National Securities Depository
Limited (NSDL) were set up in April 1995 and November 1996 respectively for
improved clearing and settlement and dematerialized trading. The securities Contracts
(Regulation) Act, 1956 was amended in 1995-96 for introduction of options trading.
Moreover, rolling settlement was introduced in January 1998 for the dematerialized
segment of all companies. With automation and geographical spread, stock market
participation increased. In the late 1990s, information Technology (IT) scripts
dominated the Indian bourses; these scripts included Infosys, Wipro, along with
telecommunications and media scripts. The new economy companies were knowledge
intensive unlike the old economy companies that were assets intensive. The Indian
capital market entered the twenty first century with the ketan parekh scam. As a result
of this scam badla was discontinued from July 2001 and rolling settlement was
introduced in all scripts. Trading of futures commenced from June 2000, and internet
was permitted in February 2000. On July 2, 2001, the Unit Trust of India announced
suspension of the sale and repurchase of its flagship US- 64 schemes due to heavy
redemption leading to a panic on the bourses. The government’s decision to private
oil PSU’s in 2003 fueled stock prices. One big divestment of international telephony major VSNL took place in early February 2002. Foreign institutional investors have emerged as major players on the Indian bourses. NSE have an upper hand over its rival BSE in terms of volumes not only in the equity markets but also in the derivatives market. It has been a long journey for the Indian capital market. Now the capital market is organized fairly integrated, mature more global and modernized. The Indian equity market is one of the best in the world in terms of technology. Advances in computer and communications technology, coming together on internet are shattering boundaries and enlarging the investor class. Internet trading has become a global phenomenon. Indian stock markets are now getting integrated with global markets.

**1.3 BREF HISTORY OF RISE EQUITY TRADING IN INDIA:**

- **July 9, 1875:** Native brokers form The Native Share and Stock-Brokers' Association in Mumbai. Membership fee is Re 1, and there are 318 members on the list.
- **1899:** Bombay Stock Exchange acquires own premises
- **1921:** Clearing houses are established for settlement of trades as volumes increased.
- **1923:** K.R.P. Shroff becomes the honorary president of BSE.
- **1925:** Bombay Securities Contract Control Act (BSCCA) comes into force.
- **December 1, 1939:** Stock exchange building is acquired.
- **1943:** Forward trading banned till 1946. Only ready-to-delivery and hand-delivery contracts permitted.
- **1956:** Securities Contract Regulation Act, drafted on the lines of BSCCA, comes into force.
- **1957:** BSE becomes the first exchange in India to get permanent recognition
- **1964:** Unit Trust of India (UTI) is born.
- **April 1, 1966:** K.R.P. Shroff retires and Shri Pheroze J. Jeejeebhoy becomes Chairman.
- **June 29, 1969:** Morarji Desai bans forward trading
- **1973:** Construction of PJ Towers, named after late Firoze Jamshedji Jeejeebhoy starts.
- **January 2, 1986:** BSE Sensex launched as the first stock market index with 1978-79 as the base year.
- **November 1987:** SBI Mutual Fund launches Magnum regular income scheme.
April 1988: Securities & Exchange Board of India set up.
January 1992: Securities & Exchange Board of India given statutory powers.
May 27, 1992: Reliance is the first Indian company to make a GDR issue.
May 30, 1992: The Capital Issues Control Act, 1947 is repealed
September 1992: Foreign institutional investors are permitted to invest in Indian securities market.
November 1992: Manmohan Singh, the then finance minister, inaugurates OTCEI - the over The Counter Exchange of India.
October 30, 1993: The first private sector mutual fund - Kothari Pioneer MF begins operations.
1993: SEBI bans badla trading on BSE
June 1994: NSE commences operations in wholesale debt market segment.
November 1994: Capital market segment of NSE goes on stream. Trading is screen-based for the first time in India.
March 1995: BSE online trading system (BOLT) replaces open outcry system.
June 1995: NSCCL, India's first clearing corporation is set up.
October 1995: National Stock Exchange overtakes the Bombay Stock Exchange as the largest stock exchange in terms of volume of trading.
April 1996: Nifty is born
November 1996: The National Securities Depository is created
February 1997: SEBI releases norms for takeovers and acquisitions
May 1997: BSE introduces screen-based trading
November 1998: SEBI gives recognition to integrated stock exchanges founded by 16 regional stock exchanges
February 1999: launch of automated lending and borrowing mechanism (ALBM), on NSE.
March 11, 1999: Infosys Technologies is the first company to list on NASDAQ through a public offering of American Depository Receipts.
March 22, 1999: Central Depository Services (India) promoted by BSE commences operations
September 1999: ICICI is the first Indian company to list on NYSE.
October 11, 1999: For the first time in BSE's history, the Sensex closed above 5,000-mark at 5,031.78

January 2000: BSE creates 'Z' category of scrips, in addition to A, B1, and B2, comprising scrips that breached or failed to comply with the listing agreement.

February 2000: Internet trading commences on NSE. On February 21, NSE records peak market capitalization of Rs 11,94,282 crore. On February 14, 2000, BSE Sensex hits an all-time high of 6,150.

April 10, 2000: The Sensex is revamped to include Dr Reddy's Lab, Reliance Petroleum, Satyam computers and Zee Tele films, replacing Indian Hotels, Tata Chemicals, Tata Power, and IDBI.

June 2000: BSE and NSE introduce derivatives trading in the form of index futures.

July 9, 2000: BSE turns 125.

October 19, 2000: Wipro lists on the NYSE.

January 22, 2001: Borrowing and Lending Securities Scheme (BLESS) launched on BSE to promote securities.

March 2001: Ketan Parekh scam breaks. SEBI suspends all the broker-directors of the BSE in relation to the KP scam on March 13

May 2001: BSE advises compulsory DEMAT for B2 scrips

June 2001: Index options start trading on NSE.

July 2001: A SEBI directive bans carry-forward all major securities are moved to rolling settlement. Options of individual scrips start trading on NSE

November 9, 2001: BSE and NSE launch futures in individual stocks.

30 October 2006 The SENSEX on October 30, 2006 crossed the magical figure of 13,000 and closed at 13,024.26 points, up 117.45 points or 0.9%. It took 135 days for the SENSEX to move from 12,000 to 13,000 and 123 days to move from 12,500 to 13,000.

5 December 2006 The SENSEX on December 5, 2006 crossed the 14,000-mark to touch 14,028 points. It took 36 days for the SENSEX to move from 13,000 to the 14,000 mark.

6 July 2007 The SENSEX on July 6, 2007 crossed the magical figure of 15,000 to touch 15,005 points in afternoon trade. It took seven months for the SENSEX to move from 14,000 to 15,000 points.

19 September 2007 The SENSEX scaled yet another milestone during early morning trade on September 19, 2007. Within minutes after trading began, the
SENSEX crossed 16,000, rising by 450 points from the previous close. The 30-share Bombay Stock Exchange's sensitive index took 53 days to reach 16,000 from 15,000. Nifty also touched a new high at 4659, up 113 points.

The SENSEX finally ended with a gain of 654 points at 16,323. The NSE Nifty gained 186 points to close at 4,732.

26 September 2007 The SENSEX scaled yet another height during early morning trade on September 26, 2007. Within minutes after trading began, the SENSEX crossed the 17,000-mark. Some profit taking towards the end saw the index slip into red to 16,887 - down 187 points from the day's high. The SENSEX ended with a gain of 22 points at 16,921.

9 October 2007 The BSE SENSEX crossed the 18,000-mark on October 9, 2007. It took just 8 days to cross 18,000 points from the 17,000 mark. The index zoomed to a new all-time intra-day high of 18,327. It finally gained 789 points to close at an all-time high of 18,280. The market set several new records including the biggest single day gain of 789 points at close, as well as the largest intra-day gains of 993 points in absolute term backed by frenzied buying after the news of the UPA and Left meeting on October 22 put an end to the worries of an impending election.

15 October 2007 The SENSEX crossed the 19,000-mark backed by revival of funds-based buying in blue chip stocks in metal, capital goods and refinery sectors. The index gained the last 1,000 points in just four trading days. The index touched a fresh all-time intra-day high of 19,096, and finally ended with a smart gain of 640 points at 19,059. The Nifty gained 242 points to close at 5,670.

29 October 2007 The SENSEX crossed the 20,000 mark on the back of aggressive buying by funds ahead of the US Federal Reserve meeting. The index took only 10 trading days to gain 1,000 points after the index crossed the 19,000-mark on October 15. The major drivers of today's rally were index heavyweights Larsen and Toubro, Reliance Industries, ICICI Bank, HDFC Bank and SBI among others. The 30-share index spurted in the last five minutes of trade to fly-past the crucial level and scaled a new intra-day peak at 20,024.87 points before ending at its fresh closing high of 19,977.67, a gain of 734.50 points. The NSE Nifty rose to a record high 5,922.50 points before ending at 5,905.90, showing a hefty gain of 203.60 points.

8 January 2008 The SENSEX peaks. It crossed the 21,000 mark in intra-day trading after 49 trading sessions. This was backed by high market confidence of
increased FII investment and strong corporate results for the third quarter. However, it later fell back due to profit booking.

13 June 2008 The SENSEX closed below 15,200 marks, Indian market suffer with major downfall from January 21, 2008.

25 June 2008 The SENSEX touched an intraday low of 13,731 during the early trades, then pulled back and ended up at 14,220 amidst a negative sentiment generated on the Reserve Bank of India hiking CRR by 50 bps. FII outflow continued in this week.

2 July 2008 The SENSEX hit an intraday low of 12,822.70 on July 2, 2008. This is the lowest that it has ever been in the past year. Six months ago, on January 10, 2008, the market had hit an all time high of 21206.70. This is a bad time for the Indian markets, although Reliance and Infosys continue to lead the way with mostly positive results.

6 October 2008 The SENSEX closed at 11801.70 hitting the lowest in the past 2 years.

10 October 2008 The SENSEX today closed at 10527, 800.51 points down from the previous day having seen an intraday fall of as large as 1063 points. Thus, this week turned out to be the week with largest percentage fall in the SENSEX.

18 May 2009 After the result of 15th Indian general election SENSEX gained 2100.79 points from the previous close of 12173.42, a record one-day gain. In the opening trade itself the SENSEX evinced a 15% gain over the previous close which led to a two-hour suspension in trading. After trading resumed, the SENSEX surged again, leading to a full day suspension of trading.

19 October 2010 BSE introduced the 15-minute special pre-open trading session, a mechanism under which investors can bid for stocks before the market opens. The mechanism, known as 'pre-open session call auction', lasted for 15 minutes (from 9:00-9:15 am).

5 November 2010 BSE SENSEX crossed the 21000 mark (exactly 21004.96).

27 December 2010 BSE SENSEX is at 20,028.93.

1.4 STRUCTURE OF INDIAN CAPITAL MARKET:

The capital market in India consists of the primary and the secondary markets and there is a close link between them. The primary creates long term instruments
through which corporate entities borrow from the capital market, and the secondary market provides liquidity and marketability to these instruments. The capital market in India can be classified as

**Structure**

- Glit Edged Market
- Industrial Security Market
- Development Fin.Inst.
- Gov.and Semi Gov Securities.

- New Issue Market
- Old issue market

- Public Issue
- Right Issue
- Bonus Issue
- Private Placement

- Listing
- Trading
- Settlements and Clearing

ICFI  ICICI  IDBI  SIDBI  IRBI  UTI
1.5 FUNCTION OF CAPITAL MARKET:

- **Mobilization of savings and acceleration of capital formation.** In developing countries like India plagued by paucity of resources and increasing demand for investments by industrial organizations and governments, the importance of the capital market is self-evident.

- **Promotion of industrial growth.** The capital market is a central market through which resources are transferred to the industrial sector of the economy. The existence of such an institution encourages people to invest in productive channels rather than in the unproductive sectors like real estate, bullion etc. Thus it stimulates industrial growth and economic development of the country by mobilizing funds for investment in the corporate securities.

- **Raising long-term capital.** The existence of a stock exchange enables companies to raise permanent capital. The investors cannot commit their funds for a permanent period but companies require funds permanently. The stock exchange resolves this clash of interests by offering an opportunity to investors to buy or sell their securities while permanent capital with the company remains unaffected.

- **Ready and continuous market.** The stock exchange provides a central convenient place where buyers and sellers can easily purchase and sell securities. The element of easy marketability makes investment in securities more liquid as compared to other assets.

- **Proper channelization of funds.** An efficient capital market not only creates liquidity through its pricing mechanism but also functions to allocate resources to the most efficient industries. The prevailing market price of a security and relative yield are the guiding factors for the people to channelize their funds in a particular company. This ensures effective utilization of funds in the public interest.
π Provision of a variety of services. The financial institutions functioning in the capital market provide a variety of services, the more important ones being the following: (I) grant of long-term and medium-term loans to entrepreneurs to enable them to establish, expand or modernize business units; (II) provision of underwriting facilities; (III) assistance in the promotion of companies (this function is done by the development banks like the IDBI); (IV) participation in equity capital; and (v) expert advice on management of investment in industrial securities.

1.6 GROWTH OF CAPITAL MARKET IN INDIA:

Government securities market

Since 1991, the investor base for government securities has expanded rapidly. Besides banks and insurance corporations, finance companies, corporate and financial institutions have also begun to invest in government securities. The maturity structure of debt has significantly shifted in favour of medium-term and short-term borrowings. The amount of market-based primary issuance of government securities which was about Rs. 12,000 crore in 1991-92 rose to as high as Rs. 99,630 crore in 1999-2000. The gross market borrowings of the Central and State governments rose to Rs. 1,81,747 crore during 2005-06. As far as secondary market is concerned, a deep, wide and vibrant gilt-edged market has emerged as a result of a series of structural and institutional reforms. The secondary market turnover of government securities registered spectacular increase since mid-1990s.2 this is due to a substantial rally in the government securities market etc.

Corporate Securities Market

Consequent upon the policy of liberalization adopted by the government in July 1991 and the subsequent abolition of Capital Issues Control with effect from May 29, 1992, the corporate securities market got a tremendous boost in the first three-four years of the post-liberalization phase.
(1) **Primary Market or the New Issues Market**

**New Capital Issued by Private Sector.**

Capital issues consist of two parts - shares and debentures. Prior to 1992-93, debentures were a more popular means of raising long-term funds and provided almost 70 per cent or more resources rose through new capital issues.

The persons who hold shares are known as shareholders or members and are part owners of the company. So, they enjoy certain rights like voting power, receipt of profits in the form of dividends etc. A company can issue two types of shares, namely equity shares and preference shares.

**Debt Market.** The Indian debt market is composed of government bonds and corporate bonds. Debt Market is however dominated by government bonds. Bonds issued by the Central government, i.e., the Government of India are the predominant and most liquid component of the bond market. Government bonds are usually much less volatile than equities and far more liquid than equities.

**Table 1.1 Issuance of Bonds**

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<th>Securities</th>
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<th>2004</th>
<th>2005</th>
<th>2006</th>
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<tr>
<td>Government of India bonds</td>
<td>1,20,213</td>
<td>1,13,000</td>
<td>1,19,600</td>
<td>1,29,350</td>
<td>1,47,000</td>
</tr>
<tr>
<td>Corporate Bonds</td>
<td>4,549</td>
<td>5,284</td>
<td>2,383</td>
<td>66</td>
<td>389</td>
</tr>
</tbody>
</table>


**Mutual Funds.** The mutual funds (MFs) have proved to be important conduits of mobilizing resources particularly since 1987-88 when the public sector banks were allowed to set up subsidiaries to undertake mutual fund business. At present this country has four types of mutual funds - Unit Trust of India, MF subsidiaries of public sector banks, MF subsidiaries of investment institutions like LIC and GIC, and private sector MFs. In 2004-05 there was a steep fall in resources mobilization through mutual
funds. It was as low as Rs. 2,201 crore. The year 2005-06 recorded the highest ever resource mobilization of Rs. 52,780 crore by mutual funds (of this, as many as 81.4 per cent resources were mobilized by the private sector mutual funds).

(2)Secondary Market

Secondary market refers to stock exchanges where existing securities can be regularly purchased and sold. These markets are an important element in mobilization of resources. They enhance the efficiency of the flow of savings. The existence of these markets fulfils a basic need of the investors namely the liquidity. In these markets, holders of securities can easily dispose of their securities and obtain cash. Thus viable secondary markets by providing marketability to securities encourage savers to take risk and make investments in the existing securities.

Table.1.2 Select stock market indicators in India

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<td>Stock exchange (No.)</td>
<td>8</td>
<td>14</td>
<td>22</td>
<td>23</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>Market value of capital (crore)</td>
<td>3,273</td>
<td>25,302</td>
<td>5,60,235</td>
<td>6,25,553</td>
<td>16,98,428</td>
<td>30,22,189</td>
</tr>
<tr>
<td>Capital issues (crore)</td>
<td>98</td>
<td>1,745</td>
<td>34,755</td>
<td>49,028</td>
<td>60,680</td>
<td>78,322</td>
</tr>
<tr>
<td>Capital rose as % of gross domestic saving (%)</td>
<td>0.7</td>
<td>3.4</td>
<td>9.6</td>
<td>10.0</td>
<td>6.7</td>
<td>7.5</td>
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</table>

(Source: Tata services Ltd., statistical outline of India, 1996-97).

NSE AND BSE. The biggest stock exchange of India is the National Stock Exchange (NSE) which was set up in November 1992. It started its trading operations effective June 30, 1994. Only the debt market segment of the NSE was put into operation
initially. The second largest stock exchange in India is the Bombay Stock Exchange (BSE). It was the first organized stock exchange established in India at Mumbai as far back as 1887. Presently NSE and BSE account for almost the entire trading of scrip’s on Indian stock markets and most of the regional stock exchanges have been rendered redundant.

**International Comparison.** In 2003, 2004 and 2005 NSE and BSE ranked third and fifth respectively in the world on the basis of the number of transactions. In 2006, BSE slipped by one position to sixth while NSE retained its third position. Table 47.3 shows 10 biggest stock exchanges by number of transactions in 2003, 2004, 2005 and 2006.

1.7 FACTORS CONTRIBUTING TO THE GROWTH OF CAPITAL MARKET IN INDIA:

- **Establishment of development banks and industrial financing institutions.** With a view to providing long-term funds to industry, the government set up the Industrial Finance Corporation of India (IFCI) in 1948, i.e., soon after Independence. This was followed by the setting up of a number of other development banks and financial institutions like the Industrial Credit and Investment Corporation of India (ICICI) in 1955, Industrial Development Bank of India (IDBI) in 1964, Industrial Reconstruction Corporation of India (IRCI) in 1971, various State Financial Corporation’s (SFCs) at the State level, Unit Trust of India (UTI) in 1964, State Industrial Development Corporations, Life Insurance Corporations of India etc. In addition, 14 major commercial banks were nationalized in 1969.

- **Growing public confidence.** The early post-Liberalizations phase witnessed increasing interest in the stock markets. The small investor who earlier shied away from the securities market and trusted the traditional modes of investment (deposits in commercial banks and post offices) showed marked preference in favors of shares and debentures. As a result, public issues of most of the good companies were over-subscribed many times.

- **Increasing awareness of investment opportunities.** The last few years have witnessed increasing awareness of investment opportunities among the general public. Business newspapers and financial journals, (The Economic Times,
The Financial Express, Business Line, Business Standard, Business India, Business Today, Business World, and Money Outlook etc.) have made the people increasingly aware of new long-term investment opportunities in the securities market.

**Setting up of SEBI.** The Securities and Exchange Board of India (SEBI) was set up in 1988 and was given statutory recognition in 1992. Among other things, the Board has been mandated to create an environment which would facilitate mobilization of adequate resources through the securities market and its efficient allocation.

**Credit rating agencies.** There are three credit rating agencies operating in India at present CRISIL, ICRA and CARE. CRISIL (the Credit Rating Information Services of India Limited) was set up in 1988, ICRA Ltd. (the Investment Information and Credit Rating Agency of India Limited) was set up in 1991 and CARE (Credit Analysis and Research Limited) was set up in 1993.

1.8 DIVISTION OF CAPITAL MARKET:

In the capital market, banks and financial institutions are impotents components. They act as catalysts in the economic development of any country. These institutions mobilize financial savings from households, corporate and other sectors of the economy and canalized them into productive investments. They act as a reservoir of the recourses and backbone of the economic and financial systems. The banking industry has undergone a sea change during the last three decades after the modernization of banks. They not only lend for the social and economic causes but also participants in the development programmers of the central government and state government. The main components of the capital market in the India are.

1.8.1 New issue market.

1.8.2 Secondary Market.

1.8.1.1 Introduction:
A market for long term funds is known as capital market. But in broader sense, it also includes market for short-term funds. For a common person, a capital market means “the market for all the financial instruments, short-term and long term, as also commercial, industrial and government paper”. It means in a broad sense, it embraces the money market also. Because the commercial, industrial and government papers are constitutes of money market. The primary market is that part of the capital markets that deals with the issuance of new securities. Companies, governments or public sector institutions can obtain funding through the sale of a new stocker bond issue. This is typically done through a syndicate of securities dealers. The process of selling new issues to investors is called underwriting. In the case of a new stock issue, this sale is an initial public offering (IPO). Dealers earn a commission that is built into the price of the security offering, though it can be found in the prospectus. Primary markets create long term instruments through which corporate entities borrow from capital market.

1.8.1.2 Features of primary markets are:

- This is the market for new long term equity capital. The primary market is the market where the securities are sold for the first time. Therefore it is also called the new issue market (NIM).
- In a primary issue, the securities are issued by the company directly to investors.
- The company receives the money and issues new security certificates to the investors.
- Primary issues are used by companies for the purpose of setting up new business or for expanding or modernizing the existing business.
- The primary market performs the crucial function of facilitating capital formation in the economy.
- The new issue market does not include certain other sources of new long term external finance, such as loans from financial institutions. Borrowers in the new issue market may be raising capital for converting private capital into public capital; this is known as "going public."
- The financial assets sold can only be redeemed by the original holder
1.8.1.3 Functions of primary market:

As already explained, the most important function of the new issue market is to facilitate transfer of resources from the savers to the entrepreneurs who are seeking funds for setting up new enterprises, or for expanding or diversifying an existing one. It will also help convert the existing proprietary concerns or private companies into public limited companies by the sale of their shares to the investing publics. The new issues may be classified into two, viz issued by new companies—also called initial issues (IPO), old companies—also called further issues. (FPO). There are three basic functions of primary market

**Origination:**

Origination refers to the work of investigation, analysis and processing of the proposal. Every new proposal is carefully investigated, analyzed and processed by a specialized agency known as the issue house. The success of a new issue depends on the investment climate. A preliminary investigation has to be conducted by the specialized agency. It carefully studies the technical, economic, financial and legal aspects of the companies which want to raise funds from the primary market. The issue house will have to safety itself that the company which wants to raise funds from the market is well managed, strongly based, has good market prospects and it worthy of the stock exchanges question. The services of these issues house are of advisory in nature. These services include advice as to the time of flotation of an issue, and the type, the method and the price of an issue. When shares are issued during period of prosperity, there will be oversubscription, and during the periods of depression there will be no public support for the issue. So the most opportune time for the issue should be determined. The types of issues refer to the kind of securities to be issued. There are equity, presences, and debentures and convertible securities. The decision regarding this depends on the market trend. Thus, a study regarding the possibility of marketing different types of securities may be made.

**Underwriting:**

When shares are issued by a company in the capital market, sometimes all of them may not be taken by the public. If the company fails to receive minimum subscription,
it will have to return the application money. Every company has to face such uncertainties when they make new issues. To help such companies, some specialized agencies have come up into the field. They are generally called underwriters. In the case of underwriting, the underwriter guarantees that the shares underwritten by him will be sold. In case these shares are not taken by the public, he will himself purchase the remaining shares and thus the company will be able to obtain subscription for all the shares issued. In India underwriting can be classified into two way (1) Non-Institutional underwriting, and (2) Institutional Underwriting.

**Institutional Underwriting:** in the India, there are a large numbers of Institutions which undertakes the underwriting of shares. They mainly underwrite shares of projects which have high national importance, for example the projects aimed at producing steel, fertilizers etc. the following are major one

- Life insurance corporation of India(LIC)
- Unit Trust of India(UTI)
- Industrial Finance Corporation of India(IFCI)
- Industrial Development Bank of India(IDBI)
- Industrial Credit and Investment Corporation India(ICICI)
- General Insurance Companies
- Commercial Banks.

**Non-Institutional underwriting:**

- Brokers who are members of recognized stock exchanges.
- Private Investment trust, investment companies and individuals.

**Distribution:** The third function of the new issue market is distribution of shares. Distribution is the function of sale of shares and debentures to the investors. This job is performed by the brokers and dealers in securities. The maintain regular and direct contact with the ultimate investors.
1.8.2 Secondary Market.

The secondary market is a market in which existing securities are resold or traded. This market is also known as the stock market. In India the secondary market consists of recognized stock exchanges operating under rules, by-laws and regulations duly approved by the government. These stock exchanges constitute an organized market where securities issued by the central and state governments, public bodies, joint stock companies are traded. A stock exchange is defined under section 2(3) of the securities Contract(Regulation) Act,1956 as anybody of individuals whether incorporated or not, constituted for purpose of assisting, regulating or controlling the business of buying, selling or dealing in securities.

1.8.2.1. Functions of secondary market:

- To facilitate liquidity and marketability of the outstanding equity and debt instruments.
- To contribute to economic growth through allocation of funds to the most efficient channel through the process of disinvestment to reinvestment.
- To provide instant valuation of securities caused by changes in the internal environment (company-wide and industry-wide factors). Such valuation facilities the measurement of cost of capital and the rate of return of the economic entities at the micro level.
- To ensure a measure of safety and fair dealing to protect investors' interests.
- To induce companies to improve performance since the market price at the stock exchanges reflects the performance and this market price is readily available to investors.

1.8.2.2 Developments of Stock Exchanges in India

The origin of the stock market in India dates back to the end of the eighteenth century when long-term negotiable securities were first issued. The beginning, however, occurred in the middle of the nineteenth century, after the enactment of the companies act in 1850 which introduced the feature of limited liability, and generated investor interest in corporate securities.
The native share and stock broker’s association now known as the Bombay stock Exchange (BSE) was formed in Bombay (now Mumbai) in 1875. This was followed by the formation of association in Ahmadabad in 1894, Calcutta (Now Kolkata) in 1908 and Madras (Now Chennai) in 1937. In order to promote the orderly developments of the market, the central government introduces a comprehensive legislation called the securities Contract (Regulation) Act, 1956. The Calcutta stock exchange (CSE) was the largest stock exchange in India till the 1960s. In 1961; there were 1203 listed companies across the various stock exchanges of the country. Of these, 576 were listed on CSE and 297 on the BSE, however, during the latter half of the 1960s, the relative importance of CSE declined while that of the BSE increased sharply. The following table shows

**Table.1.3 Pattern of Growth of Stock Exchanges in India**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<tbody>
<tr>
<td>No of Stock Exchanges</td>
<td>7</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>No of Listed Companies</td>
<td>1125</td>
<td>1203</td>
<td>1599</td>
<td>1852</td>
<td>2265</td>
</tr>
<tr>
<td>Market Capitalization(Crore)</td>
<td>971</td>
<td>1292</td>
<td>2675</td>
<td>3273</td>
<td>6750</td>
</tr>
<tr>
<td>1990-91</td>
<td></td>
<td></td>
<td>2004-05</td>
<td>2007-08</td>
<td>2010-11</td>
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<tr>
<td>No of Stock Exchanges</td>
<td>22</td>
<td>23</td>
<td>23</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>No of Listed Companies</td>
<td>2471</td>
<td>5815</td>
<td>4731</td>
<td>4887</td>
<td></td>
</tr>
<tr>
<td>Market Capitalization(Crore)</td>
<td>90,836</td>
<td>1,12,842</td>
<td>16,98,428</td>
<td>51,38,014</td>
<td></td>
</tr>
<tr>
<td>Turnover(Rs in Crore)</td>
<td>36,011</td>
<td>20,670,310</td>
<td>16,20,498</td>
<td>51,29,895</td>
<td></td>
</tr>
</tbody>
</table>

(Source-SEBI various Bulletin)

### 1.8.2.3 Detailed of Stock Exchanges.

**Table.1.4 Name of Stock Exchanges in India.**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the Exchange</th>
<th>Valid Up to</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ahmadabad Stock Exchange Ltd.</td>
<td>PERMANENT</td>
</tr>
<tr>
<td>2</td>
<td>Bangalore Stock Exchange Ltd.</td>
<td>PERMANENT</td>
</tr>
<tr>
<td>3</td>
<td>Bhubaneswar Stock Exchange Ltd.</td>
<td>June 04, 2012</td>
</tr>
<tr>
<td></td>
<td>Bombay Stock Exchange Ltd.</td>
<td>PERMANENT</td>
</tr>
<tr>
<td>---</td>
<td>---------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>5</td>
<td>Calcutta Stock Exchange Ltd.</td>
<td>PERMANENT</td>
</tr>
<tr>
<td>6</td>
<td>Cochin Stock Exchange Ltd.</td>
<td>November 07, 2011</td>
</tr>
<tr>
<td>7</td>
<td>Coimbatore Stock Exchange Ltd.</td>
<td>September 17, 2006</td>
</tr>
<tr>
<td></td>
<td>Due to pending litigation before the Hon'ble Madras High Court, Coimbatore Stock Exchange Ltd. (CSX) has not filed application for renewal of recognition which expired on 17.09.06. However, in terms of order dated 15.09.06 of the Hon'ble Court, the right of CSX to apply for renewal shall be subject to further orders of the court and the stock exchange shall not be entitled to oppose the renewal solely on the ground of lapse of time.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Delhi Stock Exchange Ltd.</td>
<td>PERMANENT</td>
</tr>
<tr>
<td>9</td>
<td>Gauhati Stock Exchange Ltd.</td>
<td>April 30, 2012</td>
</tr>
<tr>
<td>10</td>
<td>Hyderabad Stock Exchange Ltd.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The Hyderabad Stock Exchange Ltd. (HSE) failed to Dilute at least 51% of its equity share capital to public other than shareholders having trading rights on or before the stipulated date i.e. August 28, 2007. Consequently, in terms of section 5(2) of the Securities Contracts (Regulation) Act, 1956, the recognition granted to HSE stands withdrawn with effect from August 29, 2007.</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Interconnected Stock Exchange of India Ltd.</td>
<td>November 17, 2011</td>
</tr>
<tr>
<td>12</td>
<td>Jaipur Stock Exchange Ltd.</td>
<td>January 08, 2012</td>
</tr>
<tr>
<td>13</td>
<td>Ludhiana Stock Exchange Ltd.</td>
<td>April 27, 2012</td>
</tr>
<tr>
<td>14</td>
<td>Madhya Pradesh Stock Exchange Ltd</td>
<td>PERMANENT</td>
</tr>
<tr>
<td>15</td>
<td>Madras Stock Exchange Ltd.</td>
<td>PERMANENT</td>
</tr>
</tbody>
</table>
16  Magadha Stock Exchange Ltd.
"SEBI vide order dated September 3, 2007 refused to renew the recognition granted to Magadha Stock Exchange Ltd."

17  *Mangalore Stock Exchange
As per Securities Appellate Tribunal order dated October 4, 2006, the Mangalore Stock Exchange is a de-recognized Stock Exchange under Section 4 (4) of SCRA

18  MCX Stock Exchange Ltd  September 15, 2011

19  National Stock Exchange of India Ltd.  PERMANENT

20  OTC Exchange of India  August 22, 2012

21  Pune Stock Exchange Ltd.  September 01, 2012

22  Saurashtra Kutch Stock Exchange Ltd.
SEBI vide order dated July 06, 2007 has withdrawn the recognition granted to Saurashtra Kutch Stock Exchange Limited.

23  U.P. Stock Exchange Limited  June 02, 2012

24  United Stock Exchange of India Limited  March 21, 2012

25  The Vadodara Stock Exchange Ltd.  January 03, 2012

(Source-Sebi.gov.in)

1.9 BOMBAY STOCK EXCHANGE (BSE)

Established in 1875, BSE Ltd. (formerly known as Bombay Stock Exchange Ltd.), is Asia’s first Stock Exchange and one of India’s leading exchange groups. Over the past 137 years, BSE has facilitated the growth of the Indian corporate sector by providing it an efficient capital-raising platform. Popularly known as BSE, the bourse was established as “The Native Share & Stock Brokers' Association” in 1875. BSE is a corporatized and demutualised entity, with a broad shareholder-base which includes two leading global exchanges, Deutsche Bourse and Singapore Exchange as strategic partners. BSE provides an efficient and transparent market for trading in equity, debt
instruments, derivatives, mutual funds. It also has a platform for trading in equities of small-and-medium enterprises (SME). Around 5000 companies are listed on BSE making it world's No. 1 exchange in terms of listed members. The companies listed on BSE Ltd command a total market capitalization of USD Trillion 1.06 as of May 15, 2012. BSE Ltd is world's fifth most active exchange in terms of number of transactions handled through its electronic trading system. It is also one of the world’s leading exchanges (5th largest in May 2012) for Index options trading (Source: World Federation of Exchanges). BSE also provides a host of other services to capital market participants including risk management, clearing, settlement, market data services and education. It has a global reach with customers around the world and a nation-wide presence. BSE systems and processes are designed to safeguard market integrity, drive the growth of the Indian capital market and stimulate innovation and competition across all market segments. BSE is the first exchange in India and second in the world to obtain an ISO 9001:2000 certifications. It is also the first Exchange in the country and second in the world to receive Information Security Management System Standard BS 7799-2-2002 certification for its On-Line trading System (BOLT). It operates one of the most respected capital market educational institutes in the country (the BSE Institute Ltd.). BSE also provides depository services through its Central Depository Services Ltd. (CDSL) arm. BSE’s popular equity index - the SENSEX - is India's most widely tracked stock market benchmark index. It is traded internationally on the EUREX as well as leading exchanges of the BRICS nations (Brazil, Russia, China and South Africa).

BSEINDICES.

For the premier stock exchange that founded the securities transaction business in India, over a century of knowledge is a proud achievement. A lot has changed since 1875 when 318 persons by paying a then princely amount of Re. 1, became members of what today is called BSE Ltd. (BSE). Over the decades, the stock market in the country has passed through good and bad periods. The journey in the 20th century has not been an easy one. Till the decade of eighties, there was no measure or scale that could precisely measure the various ups and downs in the Indian stock market. BSE, in 1986, came out with a Stock Index-SENSEX- that subsequently became the barometer of the Indian stock market. The launch of SENSEX in 1986 was later followed up in January 1989 by introduction of BSE National Index (Base: 1983-84 =
100). It comprised 100 stocks listed at five major stock exchanges in India - Mumbai, Calcutta, Delhi, Ahmadabad and Madras. The BSE National Index was renamed BSE-100 Index from October 14, 1996 and since then, it is being calculated taking into consideration only the prices of stocks listed at BSE. BSE launched the dollar-linked version of BSE-100 index on May 22, 2006. With a view to provide a better representation of the increasing number of listed companies, larger market capitalization and the new industry sectors, BSE launched on 27th May, 1994 two new index series viz., the 'BSE-200' and the 'DOLLEX-200'. Since then, BSE has come a long way in attuning itself to the varied needs of investors and market participants. In order to fulfill the need for still broader, segment-specific and sector-specific indices, BSE has continuously been increasing the range of its indices. BSE-500 Index and 5 sectoral indices were launched in 1999. In 2001, BSE launched BSE-PSU Index, DOLLEX-30 and the country's first free-float based index - the BSE TECk Index. Over the years, BSE shifted all its indices to the free-float methodology (except BSE-PSU index). BSE disseminates information on the Price-Earnings Ratio, the Price to Book Value Ratio and the Dividend Yield Percentage on day-to-day basis of all its major indices. The values of all BSE indices are updated on real time basis during market hours and displayed through the BOLT system, BSE website and news wire agencies. All BSE Indices are reviewed periodically by the BSE Index Committee. This Committee which comprises eminent independent finance professionals frames the broad policy guidelines for the development and maintenance of all BSE indices. The BSE Index Cell carries out the day-to-day maintenance of all indices and conducts research on development of new indices.

SENSEX - The Barometer of Indian Capital Markets

Introduction

SENSEX, first compiled in 1986, was calculated on a "Market Capitalization-Weighted" methodology of 30 component stocks representing large, well-established and financially sound companies across key sectors. The base year of SENSEX was taken as 1978-79. SENSEX today is widely reported in both domestic and international markets through print as well as electronic media. It is scientifically designed and is based on globally accepted construction and review methodology. Since September 1, 2003, SENSEX is being calculated on a free-float market capitalization methodology. The "free-float market capitalization-weighted"
Methodology is a widely followed index construction methodology on which majority of global equity indices are based; all major index providers like MSCI, FTSE, STOXX, S&P and Dow Jones use the free-float methodology. The growth of the equity market in India has been phenomenal in the present decade. Right from early nineties, the stock market witnessed heightened activity in terms of various bull and bear runs. In the late nineties, the Indian market witnessed a huge frenzy in the 'TMT' sectors. More recently, real estate caught the fancy of the investors. SENSEX has captured all these happenings in the most judicious manner. One can identify the booms and busts of the Indian equity market through SENSEX. As the oldest index in the country, it provides the time series data over a fairly long period of time (from 1979 onwards). Small wonder, the SENSEX has become one of the most prominent brands in the country.

SENSEX Constituents: Composition revised from 29/06/2009

Table 1.4 Free-Float Adjustment Factor revised from 14/12/2009

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>Sector</th>
<th>Adj. Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>500410</td>
<td>ACC Ltd.</td>
<td>Housing Related</td>
<td>0.55</td>
</tr>
<tr>
<td>500103</td>
<td>Bharat Heavy Electricals Ltd.</td>
<td>Capital Goods</td>
<td>0.35</td>
</tr>
<tr>
<td>532454</td>
<td>Bharti Airtel Ltd.</td>
<td>Telecom</td>
<td>0.35</td>
</tr>
<tr>
<td>532868</td>
<td>DLF Ltd.</td>
<td>Housing Related</td>
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<tr>
<td>500300</td>
<td>Grasim Industries Ltd.</td>
<td>Diversified</td>
<td>0.75</td>
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<td>500010</td>
<td>HDFC</td>
<td>Finance</td>
<td>0.90</td>
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<tr>
<td>500180</td>
<td>HDFC Bank Ltd.</td>
<td>Finance</td>
<td>0.85</td>
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<td>500182</td>
<td>Hero Honda Motors Ltd.</td>
<td>Transport Equipments</td>
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<td>500440</td>
<td>Hindalco Industries Ltd.</td>
<td>Metal, Metal Products &amp; Mining</td>
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<td>Hindustan Unilever Ltd.</td>
<td>FMCG</td>
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<td>Sector</td>
<td>P/E Ratio</td>
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<tr>
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<td>---------------------------------------------</td>
<td>-------------------------------</td>
<td>-----------</td>
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<td>Infosys Technologies Ltd.</td>
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<td>NTPC Ltd.</td>
<td>Power</td>
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<td>500312</td>
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<td>Oil &amp; Gas</td>
<td>0.20</td>
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<td>Reliance Communications Limited</td>
<td>Telecom</td>
<td>0.35</td>
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<td>State Bank of India</td>
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<td>Healthcare</td>
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<td>Tata Power Company Ltd.</td>
<td>Power</td>
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<td>Tata Steel Ltd.</td>
<td>Metal Products &amp; Mining</td>
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<td>507685</td>
<td>Wipro Ltd.</td>
<td>Information Technology</td>
<td>0.20</td>
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(Source:-BSEINDIA.COM)
SENSEX Calculation Methodology

SENSEX is calculated using the "Free-float Market Capitalization" methodology, wherein, the level of index at any point of time reflects the free-float market value of 30 component stocks relative to a base period. The market capitalization of a company is determined by multiplying the price of its stock by the number of shares issued by the company. This market capitalization is further multiplied by the free-float factor to determine the free-float market capitalization. The base period of SENSEX is 1978-79 and the base value is 100 index points. This is often indicated by the notation 1978-79=100. The calculation of SENSEX involves dividing the free-float market capitalization of 30 companies in the Index by a number called the Index Divisor. The Divisor is the only link to the original base period value of the SENSEX. It keeps the Index comparable over time and is the adjustment point for all Index adjustments arising out of corporate actions, replacement of scrip’s etc. During
market hours, prices of the index scrip’s, at which latest trades are executed, are used by the trading system to calculate SENSEX on a continuous basis.

Dollex-30

BSE also calculates a dollar-linked version of SENSEX and historical values of this index are available since its inception. (For more details click 'Dollex series of BSE indices')

SENSEX - Scrip Selection Criteria.

The general guidelines for selection of constituents in SENSEX are as follows:

Listed History: The scrip should have a listing history of at least 3 months at BSE. Exception may be considered if full market capitalization of a newly listed company ranks among top 10 in the list of BSE universe. In case, a company is listed on account of merger/ demerger/ amalgamation, minimum listing history would not be required.

Trading Frequency: The scrip should have been traded on each and every trading day in the last three months at BSE. Exceptions can be made for extreme reasons like scrip suspension etc.

Final Rank: The scrip should figure in the top 100 companies listed by final rank. The final rank is arrived at by assigning 75% weight age to the rank on the basis of three-month average full market capitalization and 25% weight age to the liquidity rank based on three-month average daily turnover & three-month average impact cost.

Market Capitalization weight: The weightage of each scrip in SENSEX based on three-month average free-float market capitalization should be at least 0.5% of the Index.

Industry/Sector Representation: Scrip selection would generally take into account a balanced representation of the listed companies in the universe of BSE.

Track Record: In the opinion of the BSE Index Committee, the company should have an acceptable track record.
<table>
<thead>
<tr>
<th>Date</th>
<th>Scrip Code</th>
<th>Scrips Excluded</th>
<th>Scrip Code</th>
<th>Scrips Included</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/3/1992</td>
<td>600</td>
<td>Zenith Ltd.</td>
<td>493</td>
<td>Bharat Forge Ltd.</td>
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<tr>
<td>8/19/1996</td>
<td>102</td>
<td>Ballarpur Industries Ltd.</td>
<td>101</td>
<td>Arvind Mills Ltd.</td>
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<td></td>
<td>493</td>
<td>Bharat Forge Ltd.</td>
<td>490</td>
<td>Bajaj Auto Ltd.</td>
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<tr>
<td></td>
<td>20</td>
<td>Bombay Dyeing &amp; Mfg. Co. Ltd.</td>
<td>103</td>
<td>Bharat Heavy Electricals Ltd.</td>
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<tr>
<td></td>
<td>878</td>
<td>Ceat Tyres Ltd.</td>
<td>390</td>
<td>BSES Ltd.</td>
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<tr>
<td></td>
<td>40</td>
<td>Century Textiles &amp; Industries Ltd.</td>
<td>830</td>
<td>Colgate-Palmolive (India) Ltd.</td>
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<td></td>
<td>690</td>
<td>Gujarat State Fertilizers &amp; Chemicals Ltd.</td>
<td>425</td>
<td>Gujarat Ambuja Cements Ltd.</td>
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<td>HPCL</td>
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<td></td>
<td>720</td>
<td>Indian Organic</td>
<td>15</td>
<td>ICICI</td>
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<td>303</td>
<td>Indian Rayon</td>
<td>116</td>
<td>IDBI</td>
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<td>480</td>
<td>Kirloskar Cummins</td>
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<td>Mukand Iron</td>
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<td>Philips</td>
<td>359</td>
<td>Ranbaxy Lab.</td>
</tr>
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<td>540</td>
<td>Premier Auto</td>
<td>112</td>
<td>State Bank of India</td>
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<td></td>
<td>550</td>
<td>Siemens</td>
<td>113</td>
<td>Steel Authority of India</td>
</tr>
<tr>
<td></td>
<td>575</td>
<td>Voltas</td>
<td>770</td>
<td>Tata Chemicals</td>
</tr>
<tr>
<td>11/16/1998</td>
<td>101</td>
<td>Arvind Mills</td>
<td>870</td>
<td>Castrol</td>
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<tr>
<td></td>
<td>620</td>
<td>G. E. Shipping</td>
<td>209</td>
<td>Infosys Technologies</td>
</tr>
<tr>
<td></td>
<td>105</td>
<td>IPCL</td>
<td>304</td>
<td>NIIT Ltd.</td>
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<tr>
<td></td>
<td>113</td>
<td>Steel Authority of</td>
<td>672</td>
<td>Novartis</td>
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<td>Date</td>
<td>No.</td>
<td>Company</td>
<td>Share No.</td>
<td>Company Name</td>
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<td>--------------------------------</td>
<td>-----------</td>
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<td>850</td>
<td></td>
<td>Indian Hotels</td>
<td>364</td>
<td>Reliance Petroleum</td>
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<td>770</td>
<td></td>
<td>Tata Chem</td>
<td>376</td>
<td>Satyam Computers</td>
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<td>400</td>
<td></td>
<td>Tata Power</td>
<td>5537</td>
<td>Zee Telefilms</td>
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<td>1/8/2001</td>
<td>672</td>
<td>Novartis (I) Ltd.</td>
<td>87</td>
<td>Cipla Ltd.</td>
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<td>500304</td>
<td>NIIT Ltd.</td>
<td>532281</td>
<td>HCL Technologies</td>
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<tr>
<td>500520</td>
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<td>Mahindra &amp; Mahindra</td>
<td>500182</td>
<td>Hero Honda Motors Ltd.</td>
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<td>500015</td>
<td>ICICI Ltd.</td>
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<td>500010</td>
<td>HDFC Ltd.</td>
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<td>Colgate-Palmolive (India) Ltd.</td>
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<td>500660</td>
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<td>Glaxo Smithkline Pharma. Ltd.</td>
<td>500312</td>
<td>ONGC Ltd.</td>
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<td>HCL Technologies Ltd.</td>
<td>500400</td>
<td>Tata Power Company Ltd.</td>
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<tr>
<td>500790</td>
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<td>Nestle (India) Ltd.</td>
<td>507685</td>
<td>Wipro Ltd.</td>
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<td>5/19/2004</td>
<td>500510</td>
<td>Larsen &amp; Toubro Ltd.</td>
<td>532500</td>
<td>Maruti Udyog Ltd.</td>
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<td>Larsen &amp; Toubro Ltd.</td>
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<td>Name</td>
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<td>Hindustan Petroleum Corp Ltd.</td>
<td>532555</td>
<td>National Thermal Power Corp.</td>
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<td>505537</td>
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<td>532540</td>
<td>Tata Consultancy Services</td>
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<td>Reliance Communication Ltd.</td>
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<td>7/9/2007</td>
<td>500182</td>
<td>Hero Honda Motors Ltd.</td>
<td>500520</td>
<td>Mahindra &amp; Mahindra Ltd.</td>
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<td>11/19/2007</td>
<td>500124</td>
<td>Dr. Reddy's Laboratories Ltd.</td>
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<td>Bajaj Auto Ltd.</td>
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<td>Jaiprakash Asso. Ltd</td>
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<td>Ambuja Cements Ltd.</td>
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<td>Sterlite Industries Ltd.</td>
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<td>Cipla Ltd.</td>
<td>500400</td>
<td>Tata Power Co. Ltd.</td>
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<td>500376</td>
<td>Satyam Computers Ltd.</td>
<td>524715</td>
<td>Sun Pharmaceutical Industries Ltd.</td>
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<td>6/29/2009</td>
<td>500359</td>
<td>Ranbaxy Laboratories Ltd.</td>
<td>500182</td>
<td>Hero Honda Motors Ltd.</td>
</tr>
</tbody>
</table>

(Source:-Bseindia.com).

Understanding Free-float Methodology

Free-float methodology refers to an index construction methodology that takes into consideration only the free-float market capitalization of a company for the purpose of index calculation and assigning weight to stocks in the index. Free-float market
capitalization takes into consideration only those shares issued by the company that are readily available for trading in the market. It generally excludes promoters' holding, government holding, strategic holding and other locked-in shares that will not come to the market for trading in the normal course. In other words, the market capitalization of each company in a free-float index is reduced to the extent of its readily available shares in the market. Subsequently all BSE indices with the exception of BSE-PSU index have adopted the free-float methodology.

Major advantages of Free-float Methodology

A Free-float index reflects the market trends more rationally as it takes into consideration only those shares that are available for trading in the market. A Free-float Methodology makes the index more broad-based by reducing the concentration of top few companies in Index. A Free-float index aids both active and passive investing styles. It aids active managers by enabling them to benchmark their fund returns vis-a-vis an investible index. This enables an apple-to-apple comparison thereby facilitating better evaluation of performance of active managers. Being a perfectly replicable portfolio of stocks, a Free-float adjusted index is best suited for the passive managers as it enables them to track the index with the least tracking error. Free-float Methodology improves index flexibility in terms of including any stock from the universe of listed stocks. This improves market coverage and sector coverage of the index. For example, under a Full-market capitalization methodology, companies with large market capitalization and low free-float cannot generally be included in the Index because they tend to distort the index by having an undue influence on the index movement. However, under the Free-float Methodology, since only the free-float market capitalization of each company is considered for index calculation, it becomes possible to include such closely-held companies in the index while at the same time preventing their undue influence on the index movement. Globally, the Free-float Methodology of index construction is considered to be an industry best practice and all major index providers like MSCI, FTSE, S&P and STOXX have adopted the same. MSCI, a leading global index provider, shifted all its indices to the Free-float Methodology in 2002. The MSCI India Standard Index, which is followed by Foreign Institutional Investors (FIIs) to track Indian equities, is also based on the Free-float Methodology. NASDAQ-100, the underlying index to the
famous Exchange Traded Fund (ETF) - QQQ is based on the Free-float Methodology.

Definition of Free-float

Shareholding of investors that would not, in the normal course come into the open market for trading are treated as 'Controlling/ Strategic Holdings' and hence not included in free-float. Specifically, the following categories of holding are generally excluded from the definition of Free-float:

- Shares held by founders/directors/ acquirers which has control element
- Shares held by persons/ bodies with "Controlling Interest"
- Shares held by Government as promoter/acquirer
- Holdings through the FDI Route
- Strategic stakes by private corporate bodies/ individuals
- Equity held by associate/group companies (cross-holdings)
- Equity held by Employee Welfare Trusts
- Locked-in shares and shares which would not be sold in the open market in normal course.

The remaining shareholders fall under the Free-float category.

Determining Free-float Factors of Companies

BSE has designed a Free-float format, which is filled and submitted by all index companies on a quarterly basis. (Format available on www.bseindia.com). BSE determines the Free-float factor for each company based on the detailed information submitted by the companies in the prescribed format. Free-float factor is a multiple with which the total market capitalization of a company is adjusted to arrive at the Free-float market capitalization. Once the Free-float of a company is determined, it is rounded-off to the higher multiple of 5 and each company is categorized into one of the 20 bands given below. A Free-float factor of say 0.55 means that only 55% of the market capitalization of the company will be considered for index calculation.
Table. 1.1.6.Free-Float Bands:

<table>
<thead>
<tr>
<th>% Free-Float</th>
<th>Free-Float Factor</th>
<th>% Free-Float</th>
<th>Free-Float Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;0 - 5%</td>
<td>0.05</td>
<td>&gt;50 - 55%</td>
<td>0.55</td>
</tr>
<tr>
<td>&gt;5 - 10%</td>
<td>0.10</td>
<td>&gt;55 - 60%</td>
<td>0.60</td>
</tr>
<tr>
<td>&gt;10 - 15%</td>
<td>0.15</td>
<td>&gt;60 - 65%</td>
<td>0.65</td>
</tr>
<tr>
<td>&gt;15 - 20%</td>
<td>0.20</td>
<td>&gt;65 - 70%</td>
<td>0.70</td>
</tr>
<tr>
<td>&gt;20 - 25%</td>
<td>0.25</td>
<td>&gt;70 - 75%</td>
<td>0.75</td>
</tr>
<tr>
<td>&gt;25 - 30%</td>
<td>0.30</td>
<td>&gt;75 - 80%</td>
<td>0.80</td>
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<tr>
<td>&gt;30 - 35%</td>
<td>0.35</td>
<td>&gt;80 - 85%</td>
<td>0.85</td>
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<tr>
<td>&gt;35 - 40%</td>
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<td>&gt;85 - 90%</td>
<td>0.90</td>
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<tr>
<td>&gt;40 - 45%</td>
<td>0.45</td>
<td>&gt;90 - 95%</td>
<td>0.95</td>
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<tr>
<td>&gt;45 - 50%</td>
<td>0.50</td>
<td>&gt;95 - 100%</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Index Closure Algorithm**

The closing SENSEX on any trading day is computed taking the weighted average of all the trades on SENSEX constituents in the last 30 minutes of trading session. If a SENSEX constituent has not traded in the last 30 minutes, the last traded price is taken for computation of the Index closure. If a SENSEX constituent has not traded at all in a day, then its last day's closing price is taken for computation of Index closure. The use of Index Closure Algorithm prevents any intentional manipulation of the closing index value.

**Maintenance of SENSEX**

One of the important aspects of maintaining continuity with the past is to update the base year average. The base year value adjustment ensures that replacement of stocks in Index, additional issue of capital and other corporate announcements like 'rights issue' etc. do not destroy the historical value of the index. The beauty of maintenance lies in the fact that adjustments for corporate actions in the Index should not per se affect the index values. The BSE Index Cell does the day-to-day maintenance of the index within the broad index policy framework set by the BSE Index Committee. The BSE Index Cell ensures that SENSEX and all the other BSE indices maintain their benchmark properties by striking a delicate balance between frequent replacements in index and maintaining its historical continuity. The BSE Index Committee comprises
of capital market expert, fund managers, market participants and members of the BSE Governing Board.

**On-Line Computation of the Index**

During trading hours, value of the Index is calculated and disseminated on real time basis. This is done automatically on the basis of prices at which trades in Index constituents are executed.

**Adjustment for Bonus, Rights and Newly Issued Capital**

SENSEX calculation needs to be adjusted for issue of Bonus or Rights shares. If no adjustments were made, a discontinuity would arise between the current value of the index and its previous value despite the non-occurrence of any economic activity of substance. At the BSE Index Cell, the base value is adjusted, which is used to alter market capitalization of the component stocks to arrive at the SENSEX value. The BSE Index Cell keeps a close watch on the events that might affect the index on a regular basis and carries out daily maintenance of all the 19 Indices.

Adjustments for Rights Issues When a company, included in the compilation of the index, issues right shares, the free-float market capitalization of that company is increased by the number of additional shares issued based on the theoretical (ex-right) price. An offsetting or proportionate adjustment is then made to the Base Market capitalization (see 'Base Market capitalization Adjustment' below).

**Adjustments for Bonus Issue**

When a company, included in the compilation of the index, issues bonus shares, the market capitalization of that company does not undergo any change. Therefore, there is no change in the Base Market capitalization, only the 'number of shares' in the formula is updated.

**Other Issue**

Base Market capitalization adjustment is required when new shares are issued by way of conversion of debentures, mergers, spin-offs etc. or when equity is reduced by way
of buy-back of shares, corporate restructuring etc.

**Base Market capitalization Adjustment**

The formula for adjusting the Base Market capitalization is as follows:

\[
\text{New Base Market capitalization} = \frac{\text{Old Base Market capitalization} \times \text{New Market capitalization}}{\text{Old Market capitalization}}
\]

**Index Review Frequency**

The BSE Index Committee meets every quarter to discuss index related issues. In case of a revision in the Index constituents, the announcement of the incoming and outgoing scrip’s is made six weeks in advance of the actual implementation of the revision of the Index.

**OTHERINDICES**

**BSE-100 Index**

**Introduction**

A broad-based index, the BSE-100 was formerly known as the BSE National index. This Index has 1983-84 as the base year and was launched in 1989. In line with the shift of the BSE Indices to the globally accepted Free-Float methodology, BSE-100 was shifted to Free-Float methodology effective from April 5, 2004. The method of computation of Free-Float index and determination of free-float factors is similar to the methodology for SENSEX.

**Base Year**

The financial year 1983-84 has been chosen as the base year. The price stability during that year and proximity to the index series were the main consideration for choice of 1983-84 as the base year. The base value was fixed at 100 points.
Dollex-100

BSE also calculates a dollar-linked version of SENSEX and historical values of this index are available since its inception. (For more details click 'Dollex series of BSE indices')

BSE-100 index - Scrip Selection Criteria

The general guidelines for selection of constituents in BSE-100 are as follows:

Trading Frequency: The scrip should have been traded on 95% of the trading days in the last three months. Exceptions can be made for extreme reasons like scrip suspension etc. Final Rank: The scrip should figure in the top 200 companies listed by final rank. The final rank is arrived at by assigning 75% weightage to the rank on the basis of three-month average full market capitalization and 25% weightage to the liquidity rank based on three-month average daily turnover & three-month average impact cost. Industry/Sector Representation: Scrip selection would generally take into account a balanced sectoral representation of the listed companies in the universe of BSE.

Track Record: In the opinion of the BSE Index Committee, the company should have an acceptable track record.

BSE-200 Index

Background

Over the years, the number of companies listed on BSE continued to register a phenomenal increase; from 992 in to over 3,200 companies by March 1994, with combined market capitalization rising from Rs.5,421 crore to Rs. 3,98,432 crore as on 31st March, 1994. Though SENSEX (1978-79=100) was serving the purpose of quantifying the price movements as also reflecting the sensitivity of the market in an effective manner, the rapid growth of the market necessitated compilation of a new broad-based index series reflecting the market trends in a more effective manner and providing a better representation of the increased equity stocks, market capitalization as also to the new industry groups. As such, BSE launched on 27th May 1994, two
new index series-BSE-200 and Dollex-200. The equity shares of 200 selected companies from the specified and non-specified lists of BSE were considered for inclusion in the sample for 'BSE-200'. The selection of companies was primarily been done on the basis of current market capitalization of the listed scrips. Moreover, the market activity of the companies as reflected by the volumes of turnover and certain fundamental factors were considered for the final selection of the 200 companies.

Choice of Base Year

The financial year 1989-90 was chosen as the base year because of the price stability exhibited during that year and due to its proximity to the current period.

Dollex-200

BSE also calculates a dollar-linked version of BSE-200 index and historical values of this index are available since its inception. (For more details click 'Dollex series of BSE indices')

BSE-200 index - Scrip Selection Criteria

The general guidelines for selection of constituents in BSE-200 are as follows:

Trading Frequency: The scrip should have been traded on 90% of the trading days in the last three months. Exceptions can be made for extreme reasons like scrip suspension etc. Final Rank: The scrip should figure in the top 350 companies listed by final rank. The final rank is arrived at by assigning 75% weightage to the rank on the basis of three-month average full market capitalization and 25% weightage to the liquidity rank based on three-month average daily turnover & three-month average impact cost. Industry/Sector Representation: Scrip selection would generally take into account a balanced sectoral representation of the listed companies in the universe of BSE.

Track Record: In the opinion of the BSE Index Committee, the company should have an acceptable track record.
**Dollex Series of BSE Indices**

All BSE indices reflect the growth in market value of constituent stocks over the base period in Rupee terms. A need was felt to design a yardstick by which these growth values are also measured in Dollar terms. Such an index would reflect, in one value, the changes in both the stock prices and the foreign exchange variation. This was facilitated by the introduction of a dollar-linked index in which the formula for calculation of index is suitably modified to express the current and base market values in dollar terms. The scope for dollar-linked index emerged from the background of Indian equity markets increasingly getting integrated with global capital markets and the need to assess the market movements in terms of international benchmarks. The dollar-linked indices are useful to overseas investors, as it helps them measure their 'real returns' after providing for exchange rate fluctuations. Dollex-30, a dollar-linked version of SENSEX, was launched on July 25, 2001 whereas Dollex-200, a dollar-linked version of BSE-200 was launched on May 27, 1994. These indices were initially calculated at the end of the trading session by taking into consideration day's rupee/US$ reference rate as announced by India’s Central Bank i.e. Reserve Bank of India. BSE introduced Dollex-100, a dollar linked version of BSE-100, on May 22, 2006. Dollex-30, Dollex-100 and Dollex-200 are calculated and displayed through BSE On-line trading terminals (BOLT) by taking into account real-time Re./US$ Exchange rate. The formula for calculating the index is:

\[
\text{Dollex} = \frac{\text{Index Value (In local currency) } \times \text{ Base rupee-US$ rate}}{\text{Current rupee-US$ rate}}
\]

**BSE-500 Index**

BSE Ltd. constructed a new index, christened BSE-500, consisting of 500 scrips w.e.f. August 9, 1999. The changing pattern of the economy and that of the market were kept in mind while constructing this index.

BSE-500 index represents nearly 93% of the total market capitalization on BSE. BSE-
500 covers all 20 major industries of the economy. In line with other BSE indices, effective August 16, 2005 calculation methodology was shifted to the free-float methodology.

**Selection of the Base Year and Base Index Value:**

The base date was fixed after a detailed analysis of the relative volatility of BSE-200, the index closest to BSE-500, over the last 8 years. The coefficient of variation of BSE-200 for 1998-99 was one of the lowest in this period. Hence, 1998-99 was chosen as the base year, and within this, February 1, 1999 was selected as the base date for its proximity to the current period. The base value was fixed at 1000 points in order to keep the index comparable with other similar indices.

**BSE-500 index - Scrip Selection Criteria:**

The general guidelines for selection of constituents in BSE-500 are as follows:

Trading Frequency: The scrip should have been traded on 75% of the trading days in the last three months. Exceptions can be made for extreme reasons like scrip suspension etc.

Final Rank: The scrip should figure in the top 750 companies listed by final rank. The final rank is arrived at by assigning 75% weightage to the rank on the basis of three-month average full market capitalization and 25% weightage to the liquidity rank based on three-month average daily turnover & three-month average impact cost.

Industry/Sector Representation: Scrip selection would generally take into account a balanced representation of the listed companies in the universe of BSE.

Track Record: In the opinion of the BSE Index Committee, the company should have an acceptable track record.
BSE IPO Index

Introduction

BSE introduced the new index series - BSE IPO index to track the current primary market conditions in the Indian capital market and measure the growth in investor’s wealth within a period of two years after listing of a company subsequent to successful completion of initial public offering (IPO). Robust growth of the Indian economy, 6.7% in 2008-09, and the expectation of higher growth in the future are expected to boost the primary market. For this and other reasons, it was an appropriate time to introduce to the market an indicator that will track primary market conditions in the Indian capital market. BSE on August 24, 2009 announced the launch of BSE IPO index to track the value of companies for two years after listing subsequent to successful completion of their initial public offering (IPO).

BSE continued to introduce index innovations with the launch of the IPO index, by introducing ceiling (capping) on weightings of index constituents. Market capitalization weightings of index constituents is limited to 20%. If a constituent’s market capitalization results in a higher weighting, the company’s weight is suitably adjusted to ensure that all constituents are restricted to 20% in the index. However, between any rebalancing, weightage of any index constituent can exceed 20%.

Criteria governing BSE IPO Index:

Company seeking listing on the Exchange after completion of IPO shall be considered eligible for inclusion in the index. Follow-on public issue shall be considered ineligible for inclusion in the index.

A scrip must have minimum free-float market capitalization of Rs. 100 crores on first day of listing.
A scrip will be included in the index on third day of its listing subject to fulfillment of minimum free-float market capitalization criteria stated above.
Scrip will be excluded from the index on second Monday of the month after completion of two years of listing.
At all time minimum of 10 scrip’s shall be maintained in the index. In case, there are
less than 10 companies on account of possible exclusion after two years, the exclusion of such company shall be delayed till such time new inclusion is made in the index. Maximum weight of any scrip shall be capped at 20%. The constituent weightage shall be reviewed at the time of inclusion/exclusion of scrip and on monthly rebalancing. However, between any rebalancing, weightage of any index constituent can exceed 20%.

Sectoral Indices

BSE also constructs various sectoral indices "Sector Series (90/FF)" as detailed below. All these indices are calculated and disseminated on BOLT, BSE's trading terminal on a real time basis. "90/FF" implies that the index covers 90% of the sectoral market capitalization and is based on the Free-Float methodology.

BSE Sector Series (90/FF) Indices

BSE Auto Index
BSE BANKEX
BSE Capital Goods Index
BSE Consumer Durables Index
BSE FMCG Index
BSE Healthcare Index
BSE IT Index
BSE Metal Index
BSE Oil & Gas Index
BSE Power Index
BSE Realty Index

Scrip Selection Criteria for BSE Sectoral Indices

**Eligible Universe**

Scrips classified under various sectors that are present constituents of BSE-500 index would form the eligible universe.
Trading Frequency

Scrips should have a minimum trading frequency of 90% in preceding three months.

Market Capitalization

Scrips with a minimum of 90% market capitalization coverage in each sector based on free-float final rank will form the index.

Buffers

A buffer of 2% both for inclusion and exclusion in the index is considered so that movements in and out of the index are minimized. For example, a company can be included in the index only if it falls within 88% coverage and an existing index constituent cannot be excluded unless it falls above 92% coverage. However, the above buffer criterion is applied only after the minimum 90% market coverage is satisfied.

Index Review Frequency

The BSE Index Committee meets every quarter to discuss index related issues. In case of a revision in the Index constituents, the announcement of the incoming and outgoing scrip’s is made six weeks in advance of the actual implementation of the revision of the Index.

BSE TECk Index

Introduction

The decade of 1990s saw the emergence of the TMT sector as a major force in the Indian economy. The remarkable growth of this sector was reflected in the financial markets. Going by the trading pattern, around 19% of the turnover on the stock exchanges is taking place in TMT sector stocks. These stocks collectively account for 15% of the total market capitalization. The investment interest in technology stocks continues unabated. Recognizing the growing importance of the TMT sector, BSE TECk index was launched in 2001.
Scrip Selection Criteria for BSE TECk Index

Eligible universe

Scrips classified under information technology, media and telecom sectors that are present constituents of BSE-500 index form the eligible universe.

Trading Frequency

Scrips should have a minimum trading frequency of 90% in preceding three months.

Market capitalization

Scrips with a minimum of 90% market capitalization coverage in each sector based on free-float final rank form the index.

Buffers

A buffer of 2% both for inclusion and exclusion in the index is considered so that movements in and out of the index are minimized. For example, a company can be included in the index only if it falls within 88% coverage and an existing index constituent cannot be excluded unless it falls above 92% coverage. However, the above buffer criterion is applied only after the minimum 90% market coverage is satisfied.

BSE PSU Index

BSE Ltd. launched "BSE PSU Index" on 4 June 2001. This index consists of major Public Sector Undertakings listed on BSE. The BSE PSU Index is displayed on-line on the BOLT trading terminals nationwide.

Objective:

a. An Index to track the performance of listed equity of PSU companies

b. A suitable benchmark for the Central Government to monitor its wealth on the bourses.
The Base Date for the BSE PSU Index is 1st February 1999, the date when the BSE-500 was launched. Being a subset of BSE-500, the BSE PSU Index ensures a reasonable history of how the Central Government wealth fluctuated on the bourses. The Base Value for the BSE PSU Index has been set at 1000 to ensure adequacy in terms of daily index movement.

**Scrip selection criteria for BSE PSU Index:**

For consideration of scrips for inclusion in BSE PSU index, Public Sector Undertaking refers to any undertaking wherein the Central Government holding is equal to or more than 51%. Since BSE PSU index is a subset of BSE-500 index, scrips that form part of BSE-500 index automatically get included in BSE PSU index.

. 1.10 NSE

The National Stock Exchange (NSE) is India's leading stock exchange covering various cities and towns across the country. NSE was set up by leading institutions to provide a modern, fully automated screen-based trading system with national reach. The Exchange has brought about unparalleled transparency, speed & efficiency, safety and market integrity. It has set up facilities that serve as a model for the securities industry in terms of systems, practices and procedures. NSE has played a catalytic role in reforming the Indian securities market in terms of microstructure, market practices and trading volumes. The market today uses state-of-art information technology to provide an efficient and transparent trading, clearing and settlement mechanism, and has witnessed several innovations in products & services viz. demutualization of stock exchange governance, screen based trading, compression of settlement cycles, dematerialization and electronic transfer of securities, securities lending and borrowing, professionalization of trading members, fine-tuned risk management systems, emergence of clearing corporations to assume counterparty risks, market of debt and derivative instruments and intensive use of information technology.

**Purpose:**

Committed to improve the financial well-being of people.
Vision:

To continue to be a leader, establish global presence; facilitate the financial well being of people.

Values:

NSE is committed to the following core values:

- Integrity
- Customer focused culture
- Trust, respect and care for the individual
- Passion for excellence
- Teamwork

Product of NSE

Equities

- Equities
- Indices
- Mutual Funds
- Exchange Traded Funds
- Initial Public Offerings
- Security Lending and Borrowing Scheme

Derivatives

- Equity Derivatives
- Currency Derivatives
- Interest Rate Futures

Debt

- Retail Debt Market
- Wholesale Debt Market
- Corporate Bonds
Family of NSE:

The National Securities Clearing Corporation Ltd. (NSCCL)

The National Securities Clearing Corporation Ltd. (NSCCL) a wholly owned subsidiary of NSE was incorporated in August 1995. It was the first clearing corporation to introduce settlement guarantee. It commenced clearing operations in April 1, 1996. NSCCL has been assigned the highest corporate rating of 'AAA' for three consecutive years. This is the first Indian Clearing Corporation to get this rating.

National Commodity Clearing Limited (NCCL)

National Commodity Clearing Limited (NCCL) has been incorporated jointly between NSE and NCDEX. Presently, the company provides IT and process support in respect of its clearing and settlement of trades done in derivatives segment. The clearing and settlement covers contracts in 44 products ranging from agricultural commodities to base metals, ferrous metals, energy, polymers and precious metals.

NSE InfoTech Services Limited (NSETECH)

NSE InfoTech Services Limited (NSETECH) is a wholly owned subsidiary incorporated to cater to the needs of NSE and all its group companies exclusively.

India Index Services and Products Limited (IISL)

India Index Services and Products Limited (IISL), a joint venture between NSE and CRISIL Ltd., was set up in May 1998 to provide a variety of indices and index related services and products for the Indian capital markets. It has a consulting and licensing agreement with Standard and Poor's (S&P), the world's leading provider of investable equity indices.

Dotex International Ltd

The data and info-vending products of NSE are provided through a separate company Dotex International Ltd., a 100% subsidiary of NSE. Which is a professional set-up dedicated solely for this purpose. Dotex also offers "NOW" a fully managed, secure
and reliable trading gateway, providing immediate, scalable and seamless access through internet to members and internet investors.

**NSE.IT**

NSE.IT is a 100% subsidiary of National Stock Exchange of India Limited (NSE). NSE.IT Limited, a Vertical Specialist Enterprise, offers end-to-end Information Technology (IT) products, solutions and services and has expertise in a wide range of business applications. It specializes in providing complete IT solutions to Stock Exchanges, Clearing Corporations, Brokerage Firms, Insurance Firms and other organizations in the Capital Market, Banking and Insurance industry. NSE.IT has emerged as the preferred technology partner for deploying high end solutions for the financial services sector.

**ASSOCIATE / AFFILIATE COMPANIES**

**National Securities Depository Limited (NSDL)**

The enactment of Depositories Act in August 1996 paved the way for establishment of NSDL, the first depository in India. NSE joined hands with the Industrial Development Bank of India (IDBI) and the Unit Trust of India (UTI) to promote dematerialization of securities. Together they set up National Securities Depository Limited (NSDL), the first depository in India.

**1.11. REGULATORY FRAMEWORK OF INDIAN CAPITAL MARKET (SEBI):**

**Introduction:** Capital Market is growing at a very fast pace in India, particularly after Liberalization in Industrial policy in 1991. Till 1991 controller of capital issues was the main authority who used to regulate all the matters related to capital issues. Its operation was similar to a total administered economy. The Department of Company Affairs was also looking after some aspects of the Capital Market. However, need was felt to have a single authority to regulate and administer laws relating to securities so as to ensure proper growth of capital market.
History: A high level committee on the financial system with Shri. M. Narasimham as the Chairman was set up in 1991, which made far reaching recommendations for banking sector and non-banking financial sector to improve the flexibility and operational efficiency of the markets and the institutions. In the area of capital reforms, the Narasimham Committee emphasized the need for strengthening the powers of Securities and Exchange Board of India (SEBI), vesting of powers of Controller of Capital issues in the SEBI and freeing of operations in the capital market with the SEBI as the Supervisory and Regulatory authority. Keeping this in mind, SEBI (Securities and Exchange Board of India (which was earlier established as an administrative body in April 1988, was given a statutory status under section 3 of the Securities and Exchange Board of India Act, 1992. Controller of Capital Issues (CCI) was abolished with a view to have SEBI as a single agency to look after the Capital Market and also for all the intermediaries such as Merchant Bankers, Registrars, Brokers, and Underwriters etc.

Objectives of SEBI: The objectives of the SEBI are as follows:

- Protection of the interests of investors in securities.
- Promoting orderly and healthy growth of the securities market.
- Regulation of the securities market and other incidental matters.
- Promoting the fair dealings by the issuer of securities and ensuring a market place where they can raise funds at a relatively low cost.
- Regulating and developing a code of conduct and fair practices by intermediaries like brokers, merchant bankers etc., with a view to making them more competitive and professional.
- Monitoring the activities of stock exchanges, mutual funds and merchant banker’s etc. the Securities and Exchange Board of India Act, 1992 extends to the whole of India. It came into force with effect from 30 January 1992.

Establishment of SEBI: Section 3 of SEBI Act empowering the Central Government to appoint, by notification, for the purpose of this Act, aboard by the name of the Securities and Exchange Board of India. Accordingly, SEBI was given a statutory status under section 3 of the SEBI Act as on 30 January, 1992. Accordingly to section 3 (2) of the Act, the Securities and Exchange Board of India shall be a body corporate
having perpetual succession and a common seal. It shall have the power to acquire
hold and dispose of the property, both movable and immovable. It will have the power
to enter into a contract and may sue or be sued in its name. The head office of the
SEBI is situated at Mittal Court, B-Wing, 224 Nariman Point, and Mumbai 400021.
The Board may establish offices at other places in India.

Management of SEBI: As noted above, SEBI is statutory Board i.e. Board formed
Under Statue. The Board shall be headed by a chairman. In addition, there will be
eight members: (a) two members from amongst the officials of the Ministries of the
Central Government dealing with Finance and Law; (b) One member from amongst
the official’s of the Reserve bank of India; (c) five other members of who at least
three shall be the whole time members. Thus, there are nine members including
chairman. Accordingly to section 4(2) of the Act, this Board exercise general
superintendence, direction and management of the affairs of the SEBI. The Chairman
of the Board can exercise all powers of the Board, except those specified in the
regulations framed under SEBI Act. The Chairman and the members are appointed by
the Central Government except that member from Reserve Bank of India is appointed
by the RBI. The Chairman and other members shall be persons of ability, integrity
and standing who have shown capacity in dealing with problems relating to securities
market and have special knowledge or experience of law, finance, economics,
accountancy, administration etc. According to section 5 of the SEBI Act, the term of
office and other conditions of service of the chairman and other members shall be
such as may be prescribed. However, the appointment of the chairman or other
members can be terminated by giving three months notice with pay. Similarly, the
chairman and any member can relinquish his office by giving three months notice.

Functions of SEBI: Section 11(2) empowers SEBI to take the following measures for
the purpose of due performance of its duties under the Act.

- Regulating business in stock exchanges and other securities markets.
- Registering and regulating working of stock brokers, sub-brokers, share
  transfer agents, bankers to issue, trustees of trust deed, registrars to an issue,
  merchants bankers, underwriters, portfolio managers, investment adviser and
such other intermediaries who may be associated with securities markets in any manner.

- Registering and regulating working of depositories, custodians of securities. Foreign Institutional Investors, credit rating agencies and such other intermediaries of Boards maybe notification, specify.
- Registering and regulating working of Venture Capital Funds and collective investments schemes, including mutual funds.
- Promoting and regulating self-regulatory organizations.
- Prohibiting fraudulent and unfair trade practices relating to securities method.
- Promoting investors education and training of intermediaries of securities markets.
- Promoting insider trading in securities.
- Regulating substantial acquisition of shares and takeover of companies;
- Calling for information form, undertaking inspection, conducting enquires and audits of stock exchanges, mutual funds and intermediaries and self – regulatory organization in the securities market.
- Calling for information and record from any bank or any other authority or boars or corporation established or constituted by or under any Central, State or Provincial Act in respect of any transaction in securities which are under investigation or inquiry by the Board.
- Performing such functions under Securities Contract (regulation) Act as may be delegated to SEBI by Central Government.
- Levying fees or other charges for carrying out purpose of SEBI as stated above.
- Conducting research for above purpose.
- Calling information from agencies or furnishing information to agencies as maybe specified by Board.
- Performing such other functions as may be prescribed.

**Powers of SEBI:** In order to achieve the objectives of the Act, many powers have been conferred on SEBI. There have been a number of security scams in the Country involving loss of cores of rupees to small and innocent investors. The Government of India constituted Joint Parliamentary Committee to probe these scams. There is a
feeling in many quarters that SEBI enjoys very limited powers and hence it is unable to regulate the security market.

(1) **Power to Seek Information.** Section 11 of the SEBI Act, 1992 alas amended by the Amending Act of 2002 confers a very important power on SEBI to seek information and records from any bank or any other statutory authority or board or corporation established either by central, state or local government. In other words, SEBI can now seek such information that would enable it to know the route through which the funds have been siphoned off. Earlier, it was not possible for SEBI to do so, resulting in hampering of investigations against offenders.

(2) **Powers of Inspection:** The new section 11(2) inserted by the Securities and Exchange Board of India (Amendment) Act 202 empowers SEBI to conduct inspection of books, registers, documents and records of any listed company or public company intending to get its securities listed. Such an inspection can be conducted by SEBI when it has reasonable grounds to believe that the particular company has been indulging in insider trading or indulging in fraudulent and unfair trade practices relating to the securities market. It is interesting to note that this is the first time that inspection powers have been given to SEBI and that should help the regulator in conducting speedy and effective investigation.

(3) **Powers of Civil Court Exercisable by SEBI:** The SEBI shall have the same powers as retested in a civil court under the code of Civil Procedure, 1908 while trying a suit, in respect of the following matters:

- The discovery and production of books of account and other documents, at such place and such time as may be specified by the SEBI.
- Summoning and enforcing the attendance of persons and examining them on oath.
- Inspection of any books, registers and other documents of any person referred to in section 12, at any place.
- Inspection of any book, or register, or other document or record of the company.
- Issuing commissions for the examination of witnesses or documents.
(4) Powers of SEBI Where an Inquiry or Investigation is Ordered: SEBI may take any of the following measures, either pending investigation or inquiry or on the completion of such investigation or inquiry.

- Suspend the trading of any security in recognized stock exchange.
- Restrain person from accessing the securities market and prohibit any person associated with the securities market to buy, sell or deal in securities.
- Suspend the office bearers of any stock exchange or self regulatory organizations from holding such position.
- Impound and retain the proceeds of securities in respect of any transaction which is under investigation.

Attach after passing of an order on an application made for approval by the Judicial Magistrate of first class having jurisdiction for a period not exceeding 1 month, one or more bank accounts of any intermediary or any person associated with the securities market in any manner involved in violation of any of the provision of this Act, or the rules of the regulations made there under. However, only the bank accounts or any transaction entered therein so far as it relates to the proceeds actually involved in violation of any of the provisions of this Act, or the rules or the regulations made there under shall be allowed to be attached.

- Direct any intermediary or any person associated with the securities market in any manner not to dispose of or alienate any asset forming part of any transaction which is under investigation.
- Power to regulate or prohibit issue of prospects, offer document or advertisement soliciting money for issue of securities.

(5) Power to Issue Directions: SEBI may make an enquiry if it is satisfied that it is necessary.

- In the interest of investors, or orderly development of securities market; or
- To prevent the affairs of any intermediary being conducted in a manner detrimental to the interest of investors or securities market; or
- To secure the proper management of any such intermediary or person.
After making such inquiry as it deems fit, SEBI may, for protection of interests of investors, issue such directions, as it deems fit, to

- Any person or class of persons referred in section 12.
- Any person associated with the securities market.

(6) **Power of Search and Seizure:** A new section 11C has been introduced in the principal Act by the Securities and Exchange Board of India (Amendment) Act 2002 which covers the power of search and seizure. This arms SEBI where it has reasonable grounds to believe that transactions in securities are being dealt with in the capital market in a manner detrimental to the interest of the securities market, to order investigation and also issue directions for the production of books and other relevant records, which may be kept in the custody of the investigation authority.

(7) **Power to Order Cease and Desist:** Section 11D, a new section inserted by the securities and Exchange Board of India (Amendment) Act 2002 empowers SEBI to issue cease and desist order, where necessary. It provides that if the Board finds, after causing an inquiry to be made, that any person has violated, or is likely to violate, any provisions of this Act, or any rules or regulations made there under, the Board may pass an order requiring such person to cease and desist from committing or causing such violation.

(8) **Power of SEBI under SCRA:** Following are the powers enjoyed by the SEBI under the Securities Contracts Regulations Act, 1956.

- To grant recognition to a stock exchange.
- To withdraw recognition of any stock exchange in the interest of the trade.
- To require every stock exchange to furnish periodical returns of day to day affairs.
- To approve any stock exchange to make bye – laws.
- To super said the governing body of a recognized stock exchange.
- To suspend the business of a any recognized stock exchange for a limited period.
- To compel listing of securities by public companies.
1.12. STOCK PRICE VOLATILITY:

Introduction:

A statistical measure of the dispersion of returns for a given security or market index. Volatility can either be measured by using the standard deviation or variance between returns from that same security or market index. Commonly, the higher the volatility, the riskier the security. A variable in option pricing formulas showing the extent to which the return of the underlying asset will fluctuate between now and the options expiration. Volatility, as expressed as a percentage coefficient within option-pricing formulas, arises from daily trading activities. In other words, volatility refers to the amount of uncertainty or risk about the size of changes in a security's value. A higher volatility means that a security's value can potentially be spread out over a larger range of values. This means that the price of the security can change dramatically over a short time period in either direction. A lower volatility means that a security's value does not fluctuate dramatically, but changes in value at a steady pace over a period of time. One measure of the relative volatility of a particular stock to the market is its beta. A beta approximates the overall volatility of a security's returns against the returns of a relevant benchmark (usually the S&P 500 is used).

Stock prices are changed every day by the market. Buyers and sellers cause prices to change as they decide how valuable each stock is. Basically, share prices change because of supply and demand. If more people want to buy a stock than sell it - the price moves up. Conversely, if more people want to sell a stock, there would be more supply (sellers) than demand (buyers) - the price would start to fall. Volatility in the stock return is an integral part of stock market with the alternating bull and bear phases. In the bullish market, the share prices soar high and in the bearish market share prices fall down and these ups and downs determine the return and volatility of the stock market. Volatility is a symptom of a highly liquid stock market. Pricing of securities depends on volatility of each asset. An increase in stock market volatility brings a large stock price change of advances or declines. Investors interpret a raise in stock market volatility as an increase in the risk of equity investment and consequently they shift their funds to less risky assets. It has an impact on business investment spending and economic growth through a number of channels. Changes in
local or global economic and political environment influence the share price
Movements and show the state of stock market to the general public.

Types of Volatility:

Volatility as described here refers to the actual current volatility of a financial
instrument for a specified period (for example 30 days or 90 days). It is the volatility
of a financial instrument based on historical prices over the specified period with the
last observation the most recent price.

- **Actual historical** volatility which refers to the volatility of a financial
  instrument over a specified period but with the last observation on a date in the
  past.

- **Actual future** volatility which refers to the volatility of a financial instrument
  over a specified period starting at the current time and ending at a future date
  (normally the expiry date of an option).

- **Historical implied volatility** which refers to the implied volatility observed
  from historical prices of the financial instrument.

- **Current implied volatility** which refers to the implied volatility observed
  from current prices of the financial instrument.

- **Future implied volatility** which refers to the implied volatility observed from
  future prices of the financial instrument.

Volatility Calculation:

Standard deviation is a statistical term that measures the amount of variability or
dispersion around an average. Standard deviation is also a measure of volatility.
Generally speaking, dispersion is the difference between the actual value and the
average value. The larger this dispersion or variability is, the higher the standard
deviation. The smaller this dispersion or variability is, the lower the standard
deviation. Chartists can use the Standard Deviation to measure expected risk and
determine the significance of certain price movements. Stockcharts.com calculates the
Standard Deviation for a Population, which assumes that the periods involved
represent the whole data set, not a sample from a bigger data set. The calculation steps are as follows:

- Calculate the average Daily logarithm Stock Return in Percentage by using this formula (Daily Return = \(\log (P_1/P_0)\times 100\)).
- Take Average of Stock return during the period i.e. (252 days of Trading in year)
- Calculate volatility by using this formula

\[
\text{Volatility} = \sqrt{\frac{\sum (\text{Daily Return} - \text{Avg Daily Return})^2}{n - 1}}
\]

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