

NPTEL ONLINE CERTIFICATION COURSES

Financial Institutions and Markets

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Stock Market-I

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What is a Stock or Equity?

- A stock is a certificate representing partial ownership in a company.
- It is one of the alternative sources of finance for the company
- Stocks are issued by the companies that need long-term funds.

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Importance of Stock Market

- A leading indicator of business cycle
- The capital market serves as a reliable guide to the performance and financial position of companies, and thereby promotes efficiency.
- A near continuous valuation of companies as reflected in share prices, and the implied possibility of mergers and takeovers are conducive to financial discipline, and more efficient allocation of capital.
- Stock market promotes growth through the creation of liquidity.

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Importance of Stock Market Cont…

- Facilitates risk diversification through international integration
- Stock markets attract foreign investment; they act as conduits for foreign savings
- Inflow of foreign equity through stock market helps to avoid excessive reliance on debt, and saves firms from undue exposure to the debt-servicing burden

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Classification of Stock Market

- There are two types of market segments in the stock market
- **Primary market or new issue market (NIM)**
  - NIM supplies fresh or additional capital to the companies
- **Secondary market (SM).**
  - The securities already issued or floated on the NIM are traded on the SM The SM does not play any direct role in making funds available to the corporates
  - it helps to encourage investors to invest in industrial securities by making them liquid, i.e., by providing facilities for continuous, regular, and ready buying and selling of those securities.

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Classification of Securities in Stock Market

- **Ordinary shares**
  - Ordinary share gives the shareholder voting rights
  - Dividend payment is not mandatory
- **Preference shares**
  - Fixed dividend payments
  - No voting rights
  - Has a priority right to be repaid if the company becomes insolvent
  - There are different types of preference shares

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Types of Preference Shares

- Cumulative and non-cumulative
  - On cumulative preference shares, if dividend is skipped in any period/periods, it has to be paid subsequently
- Convertible and non-convertible
  - Convertible preference shares can be converted into ordinary shares on terms and conditions fixed at the time of issue of such shares
- Redeemable and non-redeemable
  - A redeemable preference share matures in a fixed period of time and for all practical purposes it is regarded as a debt security like a debenture
- Participating and non-participating
  - Participating preference shareholders can earn a higher dividend than the fixed one if the company makes good profits

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Approaches to Equity Valuation

- Discounted Cash Flow Techniques
  - Present Value of Dividends
  - Present Value of Operating Cash Flow: *(Operating Cash Flows = Net income + Noncash Expenses (Usually Depreciation Expense) + Changes in Working Capital)*
  - Present Value of Free Cash Flow: Cash flow from operations - capital expenditure + net debt issued
- Relative Valuation Techniques
  - Price/Earnings Ratio (PE)
  - Price/Cash flow ratio (P/CF)
  - Price/Book Value Ratio (P/BV)
  - Price/Sales Ratio (P/S)

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Discounted Cash Flow Models

- The value of a share of common stock is the present value of all future cash flows
- Inputs required for DCF Models
  - Cash flow
  - Growth rate of cash flow: Retention rate * Return on Equity
  - Discount Rate: Cost of equity, Weighted Average of Cost of Capital
  - Time period

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Cost of Equity and Cost of Capital

- Cost of Equity
  - Risk Free Rate
  - Market Risk Premium
  - Market risk (Beta)
- Cost of Capital
  - Weighted average of cost of equity and cost of debt

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Stock Market-II

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Dividend Discount Models

- The value of a share of common stock is the present value of all future dividends

$$P_0 = \sum_{t=1}^{n} \frac{D_t}{(1+R)^t} = \frac{D_1}{(1+R)^1} + \frac{D_2}{(1+R)^2} + \ldots\ldots\ldots\ldots\ldots\ldots + \frac{D_n}{(1+R)^n}$$

P_0= Current price

D_t = The expected dividend at time t.

R= The investor's required rate of return on a security

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Gordon Growth Model

1. Dividends grow at a constant rate
2. The constant growth rate will continue for an infinite period
3. The required rate of return (R) is greater than the infinite growth rate (g)

$$P_0 = \frac{D_1}{R - g}$$

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Gordon Growth Model (Derivation)

$$P_0 = \sum_{t=1}^{n} \frac{D_t}{(1+R)^t} = \frac{D_1}{(1+R)^1} + \frac{D_2}{(1+R)^2} + \ldots\ldots\ldots\ldots\ldots\ldots + \frac{D_n}{(1+R)^n} \text{ ---------(1)}$$

If the growth rate 'g' is constant, then

$$P_0 = \frac{D_0(1+g)^1}{(1+R)^1} + \frac{D_0(1+g)^2}{(1+R)^2} + \ldots\ldots\ldots\ldots\ldots\ldots + \frac{D_0(1+g)^n}{(1+R)^n}$$

Taking the common term D_0, we can rewrite it as

$$P_0 = D_0 \left[\frac{(1+g)^1}{(1+R)^1} + \frac{(1+g)^2}{(1+R)^2} + \ldots\ldots\ldots\ldots\ldots\ldots + \frac{(1+g)^n}{(1+R)^n}\right] \text{ ---------- (2)}$$

Multiply both sides in the above equation by $\frac{1+R}{1+g}$, we can have

$$P_0 \left[\frac{1+R}{1+g}\right] = D_0 \left[1 + \frac{(1+g)^1}{(1+R)^1} + \frac{(1+g)^2}{(1+R)^2} + \ldots\ldots\ldots\ldots\ldots\ldots + \frac{(1+g)^n}{(1+R)^n}\right] \text{ ----------(3)}$$

- Subtract the equation (2) from equation (3)

$$P_0 \left[\frac{1+R}{1+g} - 1\right] = D_0 \left[1 - \frac{(1+g)^n}{(1+R)^n}\right] \text{ ---------- 4)}$$

Assume that R>g; when $n \to \infty$ then $\frac{(1+g)^n}{(1+R)^n}$ will be closely equal to zero and the right hand side of equation (4) will be left with D_0. Hence, simplifying this equation

$$P_0(R-g) = D_0(1+g)$$

$$P_0 = \frac{D_1}{R-g}$$

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Example

Suppose PQR Ltd. Paid a dividend of Rs.4.00 per share for the last year. The dividends are expected to grow at the rate of 6% per year thereafter. If the required rate is 15%, then what will be the value per share?

Answer:

D_0= Rs.4.00, G= 6%, R=15%

D_1= 4.00*(1+0.06) = Rs.4.24

Hence, $P_0 = \frac{D_1}{R-g} = \frac{4.24}{0.15-0.06}$ = Rs.47.11

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Two Stage Growth Model

- It assumes two different growth rates in two different periods i.e. the supernormal growth rate of dividend in the beginning and a stable rate after that for indefinite period.
- Value of the stock: Present value of the stock during extra ordinary growth phase + present value of terminal price

$$P_0 = \sum_{t=1}^{n} \frac{DPS_t}{(1+r_{e,hg})^t} + \frac{P_n}{(1+r_{e,hg})^n} \text{ where } P_n = \frac{DPS_{n+1}}{(r_{e,st} - g_n)}$$

DPS_t = Expected dividends per share in the year t

r_e = Cost of equity (hg: high growth period; st: Stable growth period)

P_n = Price (terminal value) at the end of the year n

g= Extraordinary growth rate for first n years

g_n = Steady state growth rate forever after year n

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Two Stage Growth Model Cont…

- If the growth rate and dividend pay out ratio do not change in the first n years then the formula can be written as:

$$P_0 = \frac{DPS_0 * (1+g) * \left[1 - \frac{(1+g)^n}{(1+r_{e,hg})^n}\right]}{r_{e,hg} - g} + \frac{DPS_{n+1}}{(r_{e,st} - g_n)(1+r_{e,hg})^n}$$

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Example: Valuation using two stage dividend discount model

High-Growth Stage	Stable Stage
Earnings per share (EPS)= Rs. 4.00	Retention ratio (g/ROE)= 44.44%
Dividend per share (DPS)= Rs.1.5	Dividend payout ratio = 55.55%
Dividend payout ratio = 37.5%	Return on equity (ROE)= 18%
Return on equity (ROE)= 30%	Cost of equity= 12%
Cost of equity= 10%	Growth rate = 8%
Growth rate = 15%	
Growth period (n) = 5 years	

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Example:

The present value of dividends can be computed as:

$$\text{PV of Dividends} = \frac{\text{Rs. } 1.5\ (1.15)\left[1 - \frac{(1.15)^5}{(1.1)^5}\right]}{(0.10 - 0.15)} = \text{Rs. } 8.58$$

Expected earning per share $= \text{Rs. } 4.00 * (1.15)^5 * 1.08 = Rs. 8.68$

Expected dividend per share (EPS*Stable period payout ratio) $= Rs. 8.68 * 0.5555 = \text{Rs. } 4.82$

Terminal price = Expected DPS/$(r_{e,\,st} - g_n)$ = Rs. 4.82/(0.12-0.08) = Rs.120.66

The present value of the terminal price = (Rs. $120.66/1.12^5$) = Rs. 68.47

Total price = Rs. 8.58+ Rs. 68.47 = Rs. 77.05

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Operating Cash Flow

$$V_j = \sum_{t=1}^{t=n} \frac{OCF_t}{(1+WACC_j)^t}$$

Where:

V_j = value of firm j

n = number of periods assumed to be infinite

OCF_t = the firms operating free cash flow in period t

$WACC$ = firm j's weighted average cost of capital

$$V_j = \frac{OCF_1}{WACC_j - g_{OCF}}$$

Where:

OCF_1 = operating free cash flow in period 1

g_{OCF} = long-term constant growth of operating free cash flow

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Free Cash Flow to Equity

$$P_0 = \sum_{t=1}^{n} \frac{FCF_t}{(1+R)^t}$$

Where:

V_j = Value of the stock of firm j

n = number of periods assumed to be infinite

FCF_t = the firm's free cash flow in period t

R = the cost of equity

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Relative Valuation Techniques

- Value can be determined by comparing to similar stocks based on relative ratios
- Relevant variables include earnings, cash flow, book value, and sales
- The most popular relative valuation technique is based on price to earnings

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Earnings Multiplier Model

- This values the stock based on expected annual earnings
- The price earnings (P/E) ratio, or

Earnings Multiplier :

Current Market Price / Earnings per Share

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Dividend Discount Model and PE Ratio

$$P_i = \frac{D_1}{k - g}$$

Dividing both sides by expected earnings (E_1)

$$\frac{P_i}{E_1} = \frac{D_1 / E_1}{k - g}$$

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Thus, the P/E ratio is determined by

1. Expected dividend payout ratio
2. Required rate of return on the stock (k)
3. Expected growth rate of dividends (g)

Example:

Dividend payout = 50%
Required return = 15%
Expected growth = 10%
D/E = 0.50; k = 0.15; g=0.10
P/E = 0.50 / 0.15-0.10 = 10

A small change in either or both k or g will have a large impact on the multiplier

D/E = 0.50; k=0.16; g=0.10, P/E = 8.33

D/E = 0.50; k=0.15; g=0.11, P/E = 12.5

D/E = 0.50; k=0.14; g=0.11, P/E =16.66

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Price to Cash Flow Ratio

- Companies can manipulate earnings, and cash-flow is less prone to manipulation
- Cash-flow is important for fundamental valuation and in credit analysis

$$P / CF_i = \frac{P_t}{CF_{t+1}}$$

Where:

- P/CF_j = the price/cash flow ratio for firm j
- P_t = the price of the stock in period t
- CF_{t+1} = expected cash low per share for firm j

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The Price-Book Value Ratio

- Shows the growth opportunity of the company
- Study shows an inverse relationship between P/B and stock return

$$P / BV_j = \frac{P_t}{BV_{t+1}}$$

Where:

P/BV_j = the price/book value for firm j

P_t = the end of year stock price for firm j

BV_{t+1} = the estimated end of year book value per share for firm j

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The Price-Sales Ratio

- Match the stock price with recent annual sales, or future sales
- This ratio varies by industry
- Relative comparisons using P/S ratio should be between firms in similar industries

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Stock Market-III

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Primary Market

- **Initial public offering (IPO):** Selling the Securities for the First Time
- **Follow-on public offer** (FPO): It is defined as a process by which a company, which is already listed on an exchange, issues new shares to the investors or the existing shareholders, usually the promoters
- **Rights issue:** When an issue of securities is made by an issuer to its shareholders existing as on a particular date fixed by the issuer (i.e. record date)
- **Bonus issue:** When an issuer makes an issue of securities to its existing shareholders as on a record date, without any consideration from them, it is called a bonus issue.
- **Private placement:** When an issuer makes an issue of securities to a select group of persons not exceeding 49, and which is neither a rights issue nor a public issue, it is called a private placement

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Importance of IPO Market

- Increasing visibility
- Greater transparency
- Raising Capital
- Enhancing profitability
- Better corporate governance

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Condition for Issuing IPOs (Unlisted Company)

- Entry Norm I (Profitability Route):
  - Net Tangible Assets of at least Rs. 3 crores in each of the preceding three full years.
  - Distributable profits in at least three of the immediately preceding five years.
  - Net worth of at least Rs. 1 crore in each of the preceding three full years.
  - If the company has changed its name within the last one year, at least 50% revenue for the preceding 1 year should be from the activity suggested by the new name.
  - The issue size does not exceed 5 times the pre- issue net worth as per the audited balance sheet of the last financial year.

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Condition for Issuing IPOs (Unlisted Company)

- Entry Norm II (QIB Route):
  - Issue shall be through book building route, with at least 50% to be mandatory allotted to the Qualified Institutional Buyers (QIBs).
  - The minimum post-issue face value capital shall be Rs. 10 crores
- Entry Norm III (Appraisal Route):
  - The “project” is appraised and participated to the extent of 15% by Financial Institutions / Scheduled Commercial Banks of which at least 10% comes from the appraiser(s).
  - The minimum post-issue face value capital shall be Rs. 10 crores

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Major Stakeholders of IPO Issuance

- Regulator
- Stock Exchange
- Lead Manager/ Underwriter
- Registrar of the Issue
- Syndicate Members

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IPO Pricing Methods

Issue Type	Offer Price	Demand	Payment	Reservations
Fixed Price Issues	Price at which the securities are offered and would be allotted is made known in advance to the investors	Demand for the securities offered is known only after the closure of the issue	100 % advance payment is required to be made by the investors at the time of application.	50 % of the shares offered are reserved for applications below Rs. 1 lakh and the balance for higher amount applications.
Book Building Issues	A 20 % price band is offered by the issuer within which investors are allowed to bid and the final price is determined by the issuer only after closure of the bidding.	Demand for the securities offered, and at various prices, is available on a real time basis on the stock exchange website during the bidding period.	10 % advance payment is required to be made by the QIBs along with the application, while other categories of investors have to pay 100 % advance along with the application.	50 % of shares offered are reserved for QIBS, 35 % for small investors and the balance for all other investors.

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Book Building Process

- The issuer company proposing an IPO appoints a lead merchant banker as a BRLM.
- Preparation of draft prospectus
- The draft prospectus is filed with SEBI which gives it a legal standing
- A definite period is fixed as the bid period and BRLM conducts awareness campaigns like advertisement, road shows etc.

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Book Building Process Cont…

- The BRLM appoints a syndicate member, a SEBI registered intermediary to underwrite the issues to the extent of “net offer to the public”.
- The copy of the draft prospectus may be circulated by the BRLM to the institutional investors as well as to the syndicate members.
- The syndicate members create demand and ask each investor for the number of shares and the offer price.
- The BRLM receives the feedback about the investor’s bids through syndicate members.
- The prospective investors may revise their bids at any time during the bid period

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Book Building Process Cont…

- On receipts of the above information, the BRLM and the issuer company determine the issue price. This is known as the market-clearing price.
- The BRLM then closes the book in consultation with the issuer company and determine the issue size of (a) placement portion and (b) public offer portion.
- Once the final price is determined, the allocation of securities should be made by the BRLM based on prior commitment, investor's quality, price aggression, earliness of bids etc.
- RoC filing of final prospectus
- Listing
- Funds transferred to the Issuer

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Reverse Book Building Process

- It is used by companies intending to delist its shares through buy back process.
- The acquirer shall appoint designated book running lead manager (BRLM) for accepting offers from the shareholders.
- The company intending to delist its shares through book building process is identified by way of a symbol assigned to it by BRLM.
- Orders for the offer shall be placed by the shareholders only through the designated trading members, duly approved by the exchange.
- The designated trading members shall ensure that the security/shareholders deposit the securities offered with the trading members prior to placement of an order.
- The offer shall be open for 'n' number of days.
- The BRLM shall intimate the final acceptance price and provide the valid accepted order file to the National Securities Clearing Corporation Limited.

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Factors Driving IPO Under Pricing

- Winner's curse
- Information disclosure in the pre-selling period
- Informational cascades
- Signaling for a future issue
- Information asymmetry between firms and investment bankers
- Regulatory constraints
- Political goals
- Prospect theory

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Stock Market-IV

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Secondary Equity Market

- Secondary equity market is where securities are traded after being initially offered to the public in the primary market and/or being listed on the stock exchange
- The securities are traded, cleared, and settled within the regulatory framework prescribed by the exchanges and the SEBI
- The secondary market operates through two mediums, namely, the over-the-counter (OTC) market and the exchange-traded market.

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Stock Exchanges in India

- Currently, there are 20 organized stock exchanges exist in India. Particularly, there are two prominent stock exchanges in India i.e. Bombay Stock Exchange (BSE) and National Stock Exchange of India (NSE).
- The BSE was established in 1875 and it is the Asia's first Stock Exchange and one of India's leading exchange groups.
- BSE's popular equity index - the S&P BSE SENSEX - is India's most widely tracked stock market benchmark index.
- NSE was promoted by leading Financial Institutions at the behest of the Government of India and was incorporated in November 1992
- Most popular index in NSEI has been CNX Nifty.

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Stock Market Indices

- Objectives
  - To judge the performance of individual investor
  - To measure the market rates of return, and (iii) to predict the market movements
- Factors affecting the construction of stock market index
  - Sample, it should be representative of total population
  - Base year, it should be a normal year
  - Weighting criteria, equally weighted series, price weighted series, market value weighted series and free float market capitalization weighted series

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Free-float market capitalization

- It 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.

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Construction of Index

Stock	Quantity	Base Year Price	Current Price	Free Float factor
A	60,000	30	45	0.55
B	20,000	25	80	0.75
C	90,000	65	85	0.95

Equally weighted series---
1/3 (45/30 + 80/ 25 + 85 / 65) = 2.0033
Price weighted series---
(45 + 80 + 85)/)(30 + 25 + 65) = 1.75
Market value weighted series = (60 000*45 + 20 000*80 + 90 000* 85) / (60 000*30 + 20 000*25 + 90 000* 65) = 1.46
Free Float Market Value Weighted Series= (60 000*45*0.55 + 20 000*80*0.75 + 90 000* 85*0.95) / (60 000*30*0.55 + 20 000*25*0.75 + 90 000* 65*0.95) =1.43
If the base value of the index has been taken as 100, then in the current year the value of the index using different weighting series will be as follows: (i) Equally Weighted: 200.33, (ii) Price Weighted: 175, (iii) Market value weighted: 146 and Free float market value weighted: 143.

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Features of Major Stock Indices in India and Abroad

Indices	Sample	Base Year	Base Value	Weighting Criteria
S&P BSE SENSEX	30	1978-79	100	Value weighted from the beginning, but since September 1, 2003 it uses free float methodology
CNX NIFTY	50	November 3, 1995	1000	Value weighted from the beginning, but since June 26, 2009 it uses free float methodology
DJIJ	30	1938	100	Free float
S&P Composite	500	1941-42	10	Value
NYSE	2818	1965	50	Value

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Stock Price and Stock Index Quotations

Sym-bol	Date	Open	High	Low	Closing	Traded volume	Value of trades (Rupees—crores)	P/E	P/B	Divi-dend yield	52-week high	52-week low
1	2	3	4	5	6	7	8	9	10	11	12	13
CNX Nifty	30-06-2014	7534.05	7623.65	7531.6	7611.35	152303166	7887.37	20.65	3.48	1.29	7700.05	5118.85
SBI	30-06-2014	2650.00	2706.95	2645.5	2686.25	389,993	136.80	18.45	1.36	1.11	2834.90	1452.70

Column 1: It represents the name of the company (Index).

Column 2: This represents the date of transaction or trade.

Column 3: It represents the price at which a security first trades upon the opening of an exchange on a given trading day.

Column 4 & 5: This indicates the price range at which the stock has traded at throughout the day or these are the maximum and the minimum prices that investors have paid for the stock.

Column 6: The close is the last trading price recorded when the market closed on the day.

Column 7: This figure shows the total number of shares traded for the day.

Column 8: It indicates the total value of trades happened in the day.

Column 9: (Price/earnings ratio) This is calculated by dividing the current stock price by earnings per share. It indicates how much investors are willing to pay per unit of earnings.

Column 10: (Price/book value ratio) This is used to compare a stock's market value with its book value. It is calculated by dividing the current closing price of the stock by the latest quarter's book value.

Column 11: (Dividend yield) It is the percentage return on the dividend. It is calculated as annual dividends per share divided by price per share.

Column 12 & 13: These are the highest and lowest prices at which a stock has traded over the previous 52 weeks (1 year).

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Types of Investors

- **Investors**
  - The goal of the investor is to participate in the market over a long period of time through the buying and holding of the stocks to maximize his return
- **Traders**
  - Involve frequent buying and selling of stocks with the objective of generating returns more than the returns received from buy and hold investing. For traders, profits are generated through buying at a lower price and selling at higher price within a short period of time
  - Traders are generally categorized into four types on the basis of their investment horizon period. (i) **Position Trader**: Positions are held from months to years, (ii) **Swing Trader**: Positions are held from days to weeks, (iii) **Day Trader**: Positions are held throughout the day and no overnight position and (iv) **Scalp Traders**: Positions are taken seconds to minutes and no overnight position.

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Stock Market Liquidity

- A stock market is said to be liquid if traders can quickly buy or sell large numbers of shares with minimal impact on price, cost and delay
- liquidity has been emerged as multidimensional: **width, depth, immediacy and resiliency**
- **Width**, referring to the **bid-ask spread**
- **Depth** is the number of shares that can be traded at given bid and asks prices
- **Immediacy,** refers to how quickly trades of a given size can be done at a given cost
- **Resiliency** characterizes how fast prices revert to former levels after they changed in response to large order flow imbalances initiated by uninformed traders

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Investor Decision, Information and Stock Price

- **Investors Decisions and Stock Prices**
  - Intrinsic value vs. Market value
  - Demand and supply of a particular share
- **Information and Stock Price**
  - Positive vs. Negative news

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Investors Sentiment and Stock Price

- Behavioural asset pricing
- Role of cognitive biases
- limited arbitrage

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Stock Market-V

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Market Microstructure in Indian Stock Market

- Listing of Securities
- Security Groupings
- Trading System
- Margin Trading
- Short Selling
- Settlement Cycle
- Index-Based Market-Wide Circuit Breaker

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Listing of Securities

- Listing means the formal admission of a security to the trading platform of a stock exchange.
- The listing of securities on the domestic stock exchanges is governed by the provisions in the Companies Act, 2013, the Securities Contracts (Regulation) Act, 1956 (SC(R)A), the Securities Contracts (Regulation) Rules (SC(R)R), 1957, and the circulars/guidelines issued by the Central Government and SEBI as well as rules, by-laws and regulations of the particular stock exchange, and the listing agreement entered into by the issuer and the stock exchange.

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Security Groupings

- BSE has classified the scrips in the Equity Segment into 'A', 'B', 'T' and 'Z' groups on certain qualitative and quantitative parameters
- Criteria for A shares are as follows:
  - Company must have been listed for minimum period of 3 months.
  - Companies traded for minimum 98% of the trading days in past 3 months shall be considered eligible.
  - Companies with minimum non-promoter holding of 10% as per the shareholding pattern of most recent quarter shall be considered eligible. The criteria of minimum 10% non-promoter holding shall not be applicable to public sector undertakings (PSUs).
  - The weightage of 75% and 25% shall be given to ranking on three-monthly average market capitalisation and traded turnover respectively to arrive at the final ranks.

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Security Groupings Cont…

- The "T" Group represents scrips which are settled on a trade-to-trade basis as a surveillance measure.
- The 'Z' group was introduced by BSE in July 1999 and includes companies which have failed to comply with its listing requirements and/or have failed to resolve investor complaints and/or have not made the required arrangements with both the depositories, viz., Central Depository Services (I) Ltd. (CDSL) and National Securities Depository Ltd. (NSDL) for dematerialization of their securities.
- All companies not included in group ‘A’ or ‘Z’ shall constitute group ‘B’. In addition to these groups, scrips may be classified in group ‘T’ as part of the surveillance measure

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Security Groupings Cont…

- NSE has classified the stocks into three categories on the basis of their liquidity and impact cost.
- The Stocks which have traded at least 80% of the days for the previous six months shall constitute the Group I and Group II.
- Out of the scrips identified above, the scrips having mean impact cost of less than or equal to 1% are categorized under Group I and the scrips where the impact cost is more than 1, are categorized under Group II. The remaining stocks are classified into Group III.

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Mean Impact Cost

- Impact cost is calculated by taking four snapshots in a day from the order book in the past six months. These four snapshots are randomly chosen from within four fixed ten-minutes windows spread through the day.
- The impact cost is the percentage price movement caused by an order size of Rs.1 Lakh from the average of the best bid and offer price in the order book snapshot.
- The impact cost is calculated for both, the buy and the sell side in each order book snapshot

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Trading System

- Order driven market and Quote driven market
- The order driven market displays all of the bids and asks, while the quote driven market focuses only on the bids and asks of market makers
- In an order driven market, there is no guarantee of order execution - but, in the quote driven market, there is that guarantee.
- In India the stock exchanges adopt the order driven system.

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Types of Orders

- **Limit Price/Order** – An order that allows the price to be specified while entering the order into the system.
- **Market Price/Order** – An order to buy or sell securities at the best price obtainable at the time of entering the order.
- **Stop Loss (SL) Price/Order** – The one that allows the Trading Member to place an order which gets activated only when the market price of the relevant security reaches or crosses a threshold price. Until then the order does not enter the market

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Margin Trading

- For purchasing the stocks on margin, investors must open an account, which is called as margin account with their broker and put up some cash as collateral.
- The initial deposit is referred to as the ***initial margin***. The investors are required to satisfy a ***maintenance margin***, which is the minimum amount of the margin that they must maintain as a percentage of stocks' value (owner's equity).
- If the stock's value declines, the investor's equity value also declines, so that the investor's equity may no longer represent the minimum percentage of the stock's value required by the broker. In this case the investor receives a ***margin call*** from the broker, which means that the investor is required to provide more collateral (i.e. more cash or stocks) or sell the stocks.

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Margin Concepts

$$\text{Initial margin} = \frac{\text{Amount of money investor puts up}}{\text{Total value of transaction}}$$

$$\text{Actual margin} = \frac{\text{Current value of securities} - \text{Amount borrowed}}{\text{Current value of securities}}$$

Margin call arises when the actual margin is declining below the maintenance margin.

$$\text{Margin call price} = \frac{\text{Amount borrowed}}{\text{Number of shares}\,(1 - \text{mainmtenance margin percentage})}$$

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Short Selling

- It is defined as selling a stock which the seller does not own at the time of trade. This is done when the price of the security is expected to fall and sellers believe that they could be bought back later at a lower price.
- As the sale is at a higher price and they are bought at a lower price later, a profit can be made.
- Short selling is generally executed by first borrowing securities from someone who has the securities, selling them, later buying them back from the market and returning them to the lender.

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Settlement Cycle

- The National Securities Clearing Corporation Ltd. (NSCCL) clears and settles trades as per the well-defined settlement cycles
- All the securities are being traded and settled under T+2 rolling settlement.
- The NSCCL notifies the relevant trade details to clearing members/custodians on the trade day (T), which are affirmed on T+1 to NSCCL.
- Based on it, NSCCL nets the positions of counterparties to determine their obligations. A clearing member has to pay-in/pay-out funds and/or securities. The obligations are netted for a member across all securities to determine his fund obligations and he has to either pay or receive funds.
- Members' pay-in/pay-out obligations are determined latest by T+1 and are forwarded to them on the same day, so that they can settle their obligations on T+2.
- The securities/funds are paid-in/paid-out on T+2 day to the members' clients' and the settlement is complete in 2 days from the end of the trading day.

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Index-Based Market-Wide Circuit Breaker

Trigger limit	*Trigger time*	*Market halt duration*	*Pre-open call auction session post market halt*
10%	Before 1:00 pm.	45 Minutes	15 Minutes
	At or after 1:00 pm up to 2.30 pm	15 Minutes	15 Minutes
	At or after 2.30 pm	No halt	Not applicable
15%	Before 1 pm	1 hour 45 minutes	15 Minutes
	At or after 1:00 pm before 2:00 pm	45 Minutes	15 Minutes
	On or after 2:00 pm	Remainder of the day	Not applicable
20%	Any time during market hours	Remainder of the day	Not applicable

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References

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Thank you!

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