

# Chapter

## 2

# Equity Market

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### 2.1 INTRODUCTION TO EQUITY MARKET

One of the most important asset classes is equity and in a person's investment portfolio it plays a very important role in generating returns and also capital appreciation provided done with good research and also with proper strategies.

Understanding the stock market starts with a basic understanding of stocks. A stock represents partial ownership of a company – the smallest share possible. Company's issue shares to raise capital and investors who buy shares are actually buying a portion of the company. Ownership, even a small share, gives investors rights to a say in how the company is run and a share in the profits (if any). While stocks give owners certain rights, they do not carry obligation in case the company defaults or faces a lawsuit. In a worst-case scenario, the stock will become worthless but that is the limit to the investor's liability.

In other words, a share or stock is a document issued by a company, which entitles its holder to be one of the owners of the company. A share is issued by a company or can be purchased from the stock market. By owning a share, you can earn a portion and selling shares you get capital gain. So, your return is the dividend plus the capital gain. However, you also run a risk of making a capital loss if you have sold the share at a price below your buying price.

A company's stock price reflects what investors think about the stock, not necessarily what the company is "worth." For example, companies that are growing quickly often trade at a higher price than the company might currently be "worth." Stock prices are also affected by all forms of company and market news. Publicly traded companies are required to report quarterly on their financial status and earnings. Market forces and general investor opinions can also affect share price.

### 2.2 SOME QUICK FACTS ON SHARES

- Owning a stock or a share means you are a partial owner of the company, and you get voting rights in certain company issues.

- Over the long run, stocks have historically averaged about 10% annual returns. However, stocks offer no guarantee of any returns and can lose value, even in the long run.
- Investments in stocks can generate returns through dividends, even if the price falls.

### **The Securities and Exchange Board of India**

The Regulatory Body and its role in development in the capital market:

- SEBI was set up on February 21, 1992 through an ordinance. SEBI was created to reduce the confusion amongst market participants arising out of multiple regulatory authorities. In a multiple regulatory structure, there is also an overlap of functions of different regulatory bodies. Now, every aspect of security market regulation is entrusted to SEBI – single highly visible and independent organisation. SEBI is backed by a statute and is accountable to parliament.
- The scope of operation of SEBI is very wide. It can frame or issue rules, regulations, directives, guidelines, norms in respect of both primary market and secondary market, intermediaries operating in these market and certain financial institutions, specially mutual funds.
- SEBI has been able to achieve a number of reforms to its credit which includes dematerialization of shares, rolling settlement, self-regulation of merchant banks, rules regarding take-over of companies, regulations of credit rating agencies and so on.

## **2.3 PRIMARY MARKET FOR EQUITIES**

The primary market provides the channel for sale of new securities. Primary market provides opportunity to issuers of securities; Government as well as corporate, to raise resources to meet their requirements of investment and/or discharge some obligation.

They may issue the securities at face value, or at a discount/premium and these securities may take a variety of forms such as equity, debt etc. They may issue the securities in domestic or international market.

#### **For example:**

1. If face value of share is ₹ 10 and if it is issued at ₹ 10, then it is said to be issued at par.
2. If face value of share is ₹ 10 and if it is issued at ₹ 8, then it is said to be issued at discount.

3. If face value of share is ₹ 10 and if it is issued at ₹ 12, then it is said to be issued at premium.

The Primary Market is the place where the new offerings by companies are made either as an Initial Public Offering (IPO) or Rights Issue. IPOs are offerings made by the company for the first time. Such offer to the public can be at par or at a premium. The pricing of the issue depends upon the current status of the company and the company is allowed to fix a justifiable issue price. For example, I Flex Solutions Limited came out with an IPO wherein the public were invited to apply for the shares of the company for the first time. The issue was priced at ₹ 530 per share.

An equity investment generally refers to the buying and holding of shares of stock on a stock market by individuals and firms in anticipation of income from dividends and capital gains, as the value of the stock rises. It may also refer to the acquisition of equity (ownership) participation in a private (unlisted) company or a startup company. The investors who prefer to invest in primary issues are called stags. Shareholders are also known as owners of the company.

Shareholders, however, do not run the company unlike partnership where partners hold managerial positions. But, in practice, the promoters who generally hold a higher percentage of shares in the company take over responsibility of running the company. Few rights of shareholders are mentioned below:

1. Voting power on major issues
2. Ownership in a portion of the company
3. The right to transfer ownership
4. An entitlement to dividends
5. Right to inspect corporate book or records
6. Right to sue for wrongful acts

The investors who prefer to invest in primary issues are called stags. They hope to sell the shares at a profit immediately on their being listed on the stock exchanges.

Corporate may raise capital in the primary market by way of an initial public offer, rights issue or private placement. An Initial Public Offer (IPO) is the selling of securities to the public in the primary market. This Initial Public Offering can be made through the fixed price method, book building method or a combination of both.

## 2.4 FIXED PRICE OFFERS

An issuer company is allowed to freely price the issue. The basis of issue price is disclosed in the offer document where the issuer discloses

in detail about the qualitative and quantitative factors justifying the issue price. The issuer company can mention a price band of 20% (cap in the price band should not be more than 20% of the floor price) in the Draft offer documents filed with SEBI and actual price can be determined at a later date before filing of the final offer document with SEBI/ROCs.

## 2.5 BOOK BUILDING ISSUE AND PROCESS

Book Building is basically a capital issuance process used in Initial Public Offer (IPO) which aids price and demand discovery. It is a process used for marketing a public offer of equity shares of a company. It is a mechanism where, during the period for which the book for the IPO is open, bids are collected from investors at various prices, which are above or equal to the floor price. The process aims at tapping both wholesale and retail investors. The offer/issue price is then determined after the bid closing date based on certain evaluation criteria.

## 2.6 THE PROCESS

- The issuer who is planning an IPO nominates a lead merchant banker as a 'book runner'.
- The issuer specifies the number of securities to be issued and the price band for orders.
- The issuer also appoints syndicate members with whom orders can be placed by the investors.
- Investors place their order with a syndicate member who inputs the orders into the 'electronic book'. This process is called 'bidding' and is similar to open auction.
- A Book should remain open for a minimum of 5 days.
- Bids cannot be entered less than the floor price.
- Bids can be revised by the bidder before the issue closes.
- On the close of the book building period, the bookrunner evaluates the bids on the basis of the evaluation criteria which may include:
  - Price aggression
  - Investor quality
  - Earliness of bids, etc.
- The bookrunner and the company conclude the final price at which it is willing to issue the stock and allocation of securities.
- Generally, the numbers of shares are fixed; the issue size gets frozen based on the price per share discovered through the book building process.
- Allocation of securities is made to the successful bidders.

- Book Building is a good concept and represents a capital market which is in the process of maturing.

## 2.7 SECONDARY MARKETS FOR EQUITIES

Secondary market refers to a market where securities are traded after being initially offered to the public in the primary market or listed on the Stock Exchange. Majority of the trading is done in the secondary market. Secondary market comprises of equity markets and the debt markets. For the general investor, the secondary market provides an efficient platform for trading of his securities. For the management of the company, secondary equity markets serve as a monitoring and control conduit by facilitating value-enhancing control activities, enabling implementation of incentive-based management contracts, and aggregating information (via price discovery) that guides management decisions.

In the secondary market, securities are sold by and transferred from one investor to another. It is, therefore, important that the secondary market be highly liquid and transparent. Before electronic means of communications, the only way to create this liquidity was for investors and brokers to meet at a fixed place regularly. This is how stock exchanges originated.

The difference between Primary and Secondary market is that in the Primary market, securities are offered to public for subscription for the purpose of raising capital or fund. Secondary market is an equity trading venue in which already existing or pre-issued securities are traded among investors. Secondary market could be either auction or dealer market. While stock exchange is the part of an auction market, Over-the-Counter (OTC) is a part of the dealer market.

## 2.8 LISTING OF SHARES ON THE STOCK EXCHANGES

Shares are listed on the Stock Exchanges to facilitate easy liquidity. Listing enables the shareholders to monitor the movement of the share prices in an effective manner. The volume of trading in scrip symbolises the interest it attracts from the market players thus assisting the shareholder to take prudent decisions on whether to retain their holdings or sell off or even accumulate further.

Blue chip stocks are seen as a less volatile investment than owning shares in companies without blue chip status because blue chips have an institutional status in the economy. Investors may buy blue chip companies to provide steady growth in their portfolios. A Blue chip stock represents a blue chip company which enjoy as national reputation

for quality, reliability and the ability to operate profitably and good time or bad times. Blue chip stock is qualified as a high-quality and usually high-priced stock.

Trading in stock markets involves huge risk. Remember that it can even wash out your capital. Never try to take the risk which you are not comfortable with. As a stock trader, emotion is always your enemy. Emotions can drive your thinking and it may deviate from wise decisions. Variable emotions during trading is one of the prime reason for most traders to fail in stock trading. In order to be a successful trader, you have to control your emotions.

Following are the important points to consider while investing in stocks:

Losses in Trading always start with small amounts. You can always control the magnitude of your losses in stock trading. After you start a trade, enter a stop loss and maintain it.

Whenever you are trading, keep in mind that its your hard earned money that you are risking. Trading is a platform where you should not depend on other's ideas to make money. Decisions should be always yours. Get the skills from others to make wise and profitable decisions.

## **2.9 STOCKS – FUNDAMENTAL AND TECHNICAL ANALYSIS**

It is very important to understand how the shares are valued on the stock exchanges. Investors would like to buy undervalued stocks and sell overvalued stocks held by them. But this requires understanding of valuation of shares. Equity analysis can be done with two techniques:

1. Fundamental analysis
2. Technical analysis.

### **2.9.1 Fundamental Analysis**

Fundamentals are associated with the economic health of a company, measured in terms of revenues, earnings, assets, liabilities, Return on Equity (ROE), Return on Assets (ROA), Return on Investments (ROI), growth prospects and cash flows, etc. The analysis of a company's fundamentals involves getting deep into its financials, rather than day-to-day movement in its share price. Equity researchers normally do fundamental analysis in order to calculate the intrinsic value of a company's stock. The following are various components that constitute a company's fundamentals:

- Revenues
- Cash flows

- Net income
- Balance Sheet
- Return on Assets (ROA)

### 2.9.2 Technical Analysis

Technical analysis is based on an examination of the price and volume movements of individual stocks, sectors, or the market as a whole. By charting historic information, the technical analyst is searching for clues as to what direction the market, sector or stock will move next. Distinctive patterns emerge in charting which are used to make market direction or momentum decisions. Technical analysis is based on two fundamental assumptions. First, all historic price and volume patterns exhibited by a stock represent the total market perception of what is known or knowable about the individual stock. Thus, past price and volume behaviour is indicative of future movements. Second, the market does not move in a random manner. Long-term patterns develop in the market which has sub-trends within them.

There are two leading stock exchanges in India which help us trade are:

- (a) **National Stock Exchange:** National Stock Exchange incorporated in the year 1992 provides trading in the equity as well as debt market. Maximum volumes take place on NSE and hence enjoy leadership position in the country today.
- (b) **Bombay Stock Exchange:** BSE, on the other hand, was set up in the year 1875 and is the oldest stock exchange in Asia. It has evolved in to its present status as the premier stock exchange. At BSE you will find some scripts listed that are not available on NSE. Also BSE has the largest number of scripts which are listed.

## 2.10 MARKET INDICES AND PARAMETERS

A stock market index captures the behaviour of the overall equity market. Indices are used as information sources. Indices also serve as a benchmark for measuring the performance of fund managers. Indices reflect the changing expectations of the stock market about future dividends of corporate sector. When the index goes up, it is because the stock market thinks that the prospective benefits in the future will be better than previously thought. When prospects of benefits in the future become pessimistic, the index drops. The ideal index gives us instant-to-instant readings about how the stock market perceives the future of corporate sector.

### Most Common Indices

- **Price weighted index:** Under this method, sum of prices of constituent shares for the time known as base year is taken. Thus, value of index represents the value of units/shares of each of the constituent company on any particular day.
- **Equal weighted index:** It is based on the principle of arithmetic average of the prices of constituent shares as on a base year. It implies that equal sum of money is paid to buy the constituent shares of the index.
- **Value weighted index:** This is based on market capitalization of the constituent shares of the index.

In India, BSE Sensex and NSE Nifty are the most famous Indices. Sensex is a composition of 30 stocks where Nifty has 50 stocks.

There is also a practice of using an industry index as a benchmark for comparing the returns of a stock portfolio, which is related to that industry.

### Some of the Major Indices in India

- **S&P CNX Nifty:** S&P CNX Nifty is a well diversified 50 stock index accounting for 22 sectors of the economy. It is used for a variety of purposes such as benchmarking fund portfolios, index based derivatives and index funds. S&P CNX Nifty is owned and managed by India Index Services and Products Ltd. (IISL).
- **CNX Nifty Junior:** The next level of liquid securities after S&P CNX Nifty is the CNX Nifty Junior. S&P CNX Nifty and the CNX Nifty Junior together make up 100 most liquid stocks in India. Stocks in the CNX Nifty Junior are filtered for liquidity, so they are the most liquid of the stocks excluded from the S&P CNX Nifty. A stock will never appear in both indices at the same time.
- **CNX 100:** CNX 100 is computed using market capitalization weighted method, wherein the level of the index reflects the total market value of all the stocks in the index relative to a particular base period. The method also takes into account constituent changes in the index and importantly corporate actions such as stock splits, rights, etc. without affecting the index value.
- **S&P CNX 500:** The S&P CNX 500 is India's first broad-based benchmark of the Indian capital market for comparing portfolio returns *vis-à-vis* market returns. The S&P CNX 500 represents



about 92.66% of total market capitalization and about 86.44% of the total turnover on the NSE.

- **CNX Midcap:** The objective of the CNX Midcap Index is to capture the movement and be a benchmark of the midcap segment of the market. CNX Midcap is computed using market capitalization weighted method, wherein the level of the index reflects the total market value of all the stocks in the index relative to a particular base period. The method also takes into account constituent changes in the index and importantly corporate actions such as stock splits, rights, etc. without affecting the index value.
- **BSE Sensex:** This is called SENSEX, first compiled in 1986 was calculated on a “Market Capitalization-Weighted” methodology of 30 component stocks representing a sample of large, well-established and financially sound companies. The base year of SENSEX is 1978-79. From September 2003, the SENSEX is calculated on a free-float market capitalization methodology.

## 2.11 DEVELOPMENT OF EQUITY MARKETS IN INDIA

The history of the Indian equity market goes back to the 18th century when securities of the East India Company were traded. Till the end of the 19th century, the trading of securities was unorganized and the main trading centers were Calcutta (now Kolkata) and Bombay (now Mumbai).

Trade activities prospered with an increase in share price in India with Bombay becoming the main source of cotton supply during the American Civil War (1860-61). In 1865, there was drop in share prices. The stock broker association established the Native Shares and Stock Brokers Association in 1875 to organize their activities. In 1927, the BSE recognized this association under the Bombay Securities Contracts Control Act, 1925.

The Indian Equity Market was not well organized or developed before independence. After independence, new issues were supervised. The timing, flotation costs, pricing, interest rates were strictly controlled by the Controller of Capital Issue (CII). For four and half decades, companies were demoralized and not motivated from going public due to the rigid rules of the Government.

In the 1950s, there was uncontrollable speculation and the market was known as ‘Satta Bazaar’. Speculators aimed at companies like TATA Steel, Kohinoor Mills, Century Textiles, Bombay Dyeing and

National Rayon. The Securities Contracts (Regulation) Act, 1956 was enacted by the Government of India. Financial institutions and state financial corporation were developed through an established network.

In the 60s, the market was bearish due to massive wars and drought. Forward trading transactions and 'Contracts for Clearing' or 'badla' were banned by the Government. With financial institutions such as LIC, GIC, some revival in the markets could be seen. Then in 1964, UTI, the first mutual fund of India was formed.

In the 70s, the trading of 'badla' resumed in a different form of 'hand delivery contract'. But the Government of India passed the Dividend Restriction Ordinance on 6th July, 1974. According to the ordinance, the dividend was fixed to 12% of face value or 1/3 rd of the profit under Section 369 of The Companies Act, 1956 whichever is lower.

This resulted in a drop by 20% in market capitalization at BSE (Bombay Stock Exchange) overnight. The stock market was closed for nearly a fortnight. Numerous multinational companies were pulled out of India as they had to dissolve their majority stocks in India ventures for the Indian public under FERA, 1973.

The 80s saw a growth in the Indian Equity Market. With liberalized policies of the government, it became lucrative for investors. The market saw an increase of stock exchanges, there was a surge in market capitalization rate and the paid-up capital of the listed companies.

The 90s was the most crucial in the stock market's history. Indians became aware of 'liberalization' and 'globalization'. In May 1992, the Capital Issues (Control) Act, 1947 was abolished. SEBI which was the Indian Capital Market's regulator was given the power and overlook new trading policies, entry of private sector mutual funds and private sector banks, free prices, new stock exchanges, foreign institutional investors, and market boom and bust.

In 1990, there was a major capital market scam where bankers and brokers were involved. With this, many investors left the market. Later, there was a securities scam in 1991-92 which revealed the inefficiencies and inadequacies of the Indian financial system and called for reforms in the Indian Equity Market.

Two new stock exchanges, NSE (National Stock Exchange of India) established in 1994 and OTCEI (Over the Counter Exchange of India) established in 1992 gave BSE a nation-wide competition. In 1995-96, an amendment was made to the Securities Contracts (Regulation) Act, 1956 for introducing options trading. In April 1995, the National Securities Clearing Corporation (NSCC) and in November 1996, the

National Securities Depository Limited (NSDL) were set up for demutualized trading, clearing and settlement. Information Technology scrips were the major players in the late 90s with companies like Wipro, Satyam, and Infosys.

In the 21st century, there was the Ketan Parekh Scam. From 1st July, 2001, 'Badla' was discontinued and there was introduction of rolling settlement in all scripts. In February 2000, permission was given for internet trading and from June, 2000, futures trading started.

### Illustration 1

Samrudhi Ltd. paid ₹ 2.50 as dividend per share on its equity shares for the year ended 31st March, 2005. Dividends are expected to grow at 10% p.a. for an indefinite future. The current market price of the share is ₹ 20.

1. What is the expected rate of return?
2. If the required rate of return is 12%, what would be the value of the stock?
3. Is it investing in the shares?

(Modified MU, Nov. 2005)

### Solution:

$$1. \text{ Expected Rate of Return} = \frac{D_0(1-g) + g}{P} = \frac{2.50(1.10) + 0.10}{20}$$

$$= 0.1372 + 0.10 = 0.2375$$

$$= 23.75\%$$

$$2. \text{ Intrinsic Value} = \frac{D_0(1-g) + g}{(k-g)} = \frac{2.50(1.10)}{(0.12-0.10)} = ₹ 137.50$$

3. The intrinsic value of the share is ₹ 137.50, while its market price is ₹ 20. The share is underpriced. Hence, it is worth investing in it.

### Illustration 2

Meghna Ltd. paid dividend of ₹ 1.80 per share. The forecast is the dividend will grow by 8% p.a. into the infinite future. If the required rate of return is 10% and the current market price of the company's stock is ₹ 60, find out the intrinsic value of the company's share. Is it investing in the company?

(Modified MU, Nov. 2006)

**Solution:**

$$\begin{aligned}
 V &= D_0 \frac{(1+g)}{(k-g)} \text{ or } \frac{D_1}{(k-g)} \\
 &= 1.80 \frac{(1.08)}{(0.10 - 0.80)} \\
 &= \frac{1.80 \times 1.08}{0.02} \\
 &= \frac{1.944}{0.052} \\
 &= ₹ 97.20
 \end{aligned}$$

The intrinsic value of the share is ₹ 97.20. The current market price of the share is ₹ 60. The share is underpriced. Hence, it is worth investing in the company's share.

**Illustration 3**

MNO Ltd.'s share is quoted at ₹ 20 on BSE currently. The company pays rupee one per share as dividend. The investors expects growth rate of 5% per year. The required rate of return is 6%. Compute:

1. Expected rate of return.
2. If the anticipated growth rate is 6% p.a., calculate the indicative market price.
3. Advise on the basis of indicative market price compute above whether it is profitable to invest in the shares of MNO Ltd. at its current price on BSE.

(Modified MU, April 2006)

**Solution:**

1. Expected Rate of Return  $= \frac{D_0(1+g) + g}{P} = \frac{1(1.05) + 0.10}{20}$   
 $= 0.0525 + 0.10 = 0.1525$   
 $= 15.25\%$
2. Intrinsic Value  $= \frac{D_0(1+g)}{(k-g)} = \frac{1(1.06)}{(0.06 - 0.05)}$   
 $= \frac{1.06}{0.01} = ₹ 106$
3. The intrinsic value of the share is ₹ 106 which is higher than market price. Hence, the share should be purchased because it is underpriced.

**Illustration 4**

A Ltd. paid dividend of ₹ 3 p.a. in the last year. The dividend is expected to grow at a constant rate of 5% in the future. If the required rate of return is 10%, what would be the intrinsic value of that share?

**Solution:**

1. Intrinsic value of share

$$\begin{aligned}
 V &= D_0 \frac{(1+g)}{(k-g)} \text{ or } \frac{D_1}{(k-g)} \\
 &= 3 \frac{(1+0.05)}{(0.10-0.05)} \\
 &= \frac{3.15}{0.05} = ₹ 63
 \end{aligned}$$

The intrinsic value of the share is ₹ 63.

**Illustration 5**

A Ltd. has paid dividend @ 10% in the last year. The paid-up equity capital of the company is ₹ 6,00,000 and preference share capital of ₹ 1,00,000. Net operating profit is ₹ 4,00,000. The tax rate is 32%. The company expects a growth rate of 5%. Compute the value of equity share using:

1. Dividend Approach
2. Dividend Growth Approach
3. Earning Approach

(Modified MU, Nov. 2007)

**Solution:**

1. Value as per dividend approach:

$$V = \frac{D_1}{k} = \frac{2}{10\%} = ₹ 20$$

2. Value as per Dividend Growth Approach:

$$\begin{aligned}
 V &= D_0 \frac{(1+g)}{(k-g)} \\
 &= \frac{2(1.05)}{(0.10-0.05)} \\
 &= \frac{2.10}{0.05} = ₹ 42
 \end{aligned}$$

## 3. Value as per Earning Approach:

Operating Profit	₹ 4,00,000
Less: Tax 32%	<u>1,28,000</u>
Profit After Tax	2,72,000
Less: Preference Dividend	<u>10,000</u>
Net Profit	<u>2,62,000</u>
EPS = 2,62,000	

Face value of a share is assumed as ₹ 10.

$$V = \text{EPS} (10)$$

$$V = 4.37 \times 10$$

$$= ₹ 43.70.$$

**Illustration 6**

Anand Ltd. paid dividend of ₹ 1.80 per share in the last year. The forecast is that dividend will grow by 5% per year into indefinite future. If the required rate of return is 11%, what would be the intrinsic value of the share? If the market price of the share is ₹ 40, what is the expected rate of return on the stock? Should you make the investment in the stock?

(Modified MU, April 2008)

**Solution:**

$$\begin{aligned}
 \therefore V &= \frac{D_0(1+g)}{(k-g)} \\
 &= \frac{1.80(1.05)}{(0.11-0.05)} \\
 &= \frac{1.89}{0.06} = ₹ 31.50
 \end{aligned}$$

$$\begin{aligned}
 2. \text{ Expected Rate of Return} &= \frac{D_0(1+g)}{P} = \frac{1.80(1.05)+0.05}{40} \\
 &= 0.04725 + 0.05 \\
 &= 0.09725 \\
 &= 9.725\%
 \end{aligned}$$

3. The expected rate of return is lower than the required rate of return. The intrinsic value of the share is ₹ 31.50, which is lower than its market price. Hence, the share is overpriced and investment in the stock is not recommended.

**Illustration 7**

RIL paid ₹ 3 as dividend per share on its equity shares for last year. It is expected that it will grow at 10% per year for indefinite future.

1. What is the expected rate of return if current market price is ₹ 15?
2. If the required rate of return is 15%, then what would be the value of stock?
3. Is it investing in RIL worth?

(Modified MU, Oct. 2008)

**Solution:**

$$\begin{aligned}
 1. \text{ Expected Rate of Return} &= \frac{D_0(1+g) + g}{P} = \frac{3(1.10) + 0.10}{15} \\
 &= 0.22 + 0.10 \\
 &= 0.32 \\
 &= 32\%
 \end{aligned}$$

$$\begin{aligned}
 2. \quad V &= \frac{D_0(1+g)}{(k-g)} \\
 &= \frac{3(1.10)}{(0.15 - 0.10)} \\
 &= \frac{3.30}{0.05} = ₹ 66.
 \end{aligned}$$

3. Intrinsic value is ₹ 66. The current market price is ₹ 15. The RIL stock is underpriced. Hence, it is worth investing.

**Illustration 8**

Bharat Ltd. paid dividend of ₹ 2.50 p.a. in the last year. Dividends is expected to grow at 10% p.a. for indefinite future. What would be the value of stock if the required rate of return is 15%? Is it worth investing in the share at current market price of ₹ 60?

(Modified MU, April 2009)

**Solution:**

$$\begin{aligned}
 \Rightarrow V &= \frac{D_0(1+g)}{(k-g)} \\
 &= \frac{2.50(1.10)}{(0.15 - 0.10)} \\
 &= \frac{2.75}{0.05} = ₹ 55
 \end{aligned}$$

2. Intrinsic value of the share is ₹ 55. The current market price of the share is ₹ 60. The share is overpriced. Hence, it is not worth investing in the company's share.

### Illustration 9

BSES paid ₹ 2.50 as dividend per share on its equity shares for the last year. Dividends are expected to grow at 10% per year for an indefinite future.

What is its expected rate of return if its current market price is ₹ 20?

If the required rate of return is 12%, what would be the value of stock?

Is it worth investing in the share?

#### Solution:

$$\begin{aligned}
 1. \text{ Expected rate of return} &= \frac{D_0(1+g)}{P} + g \\
 &= \frac{2.50(1.10)}{20} + 0.10 \\
 &= 0.1375 + 0.10 \\
 &= 0.2375 \text{ or } 23.75\%
 \end{aligned}$$

$$\begin{aligned}
 2. \text{ Intrinsic value} &= \frac{D_0(1+g)}{(k-g)} \\
 &= \frac{2.05(1.10)}{0.12-0.10} = ₹ 137.50
 \end{aligned}$$

3. The expected rate of return is greater than the required rate of return. The intrinsic value of the share is ₹ 137.50, which is higher than its market price of ₹ 20. Hence, the share should be purchased because it is underpriced.

### Illustration 10

Prof. Ramesh wishes to invest in the shares of A Ltd. whose expected dividend in the first year is ₹ 4. In the past, the company's dividend per share has grown at an average rate of about 5% per annum. Prof. Ramesh expects that the dividend will grow at the same rate in future. The required rate of return in the share is 25% per annum. The market price of the share is ₹ 16. Give your opinion to Prof. Ramesh whether he should buy the shares?

#### Solution:

The present dividend is ₹ 4. The dividend over the next year will be  $4 \times (1.05) = ₹ 4.20$



$$\begin{aligned}
 V &= \frac{Do(1+g)}{(k-g)} \\
 &= \frac{4 \times 1.05}{0.25 - 0.05} = 21
 \end{aligned}$$

The intrinsic value of the share is 21. The current market price is ₹ 16. Hence, the share is underpriced. Prof. Ramesh should buy the shares.

### Illustration 11

The current EPS of Times Ltd. is ₹ 6. Its dividend payout is 40% and its growth rate of EPS is 10%. The normal P/E multiple is 15:1. What is the intrinsic value in 3 years using the same method.

#### Solution:

(a) P/E = EPS = Intrinsic value.

Intrinsic value- $15 \times 6 = ₹ 90$

(b) EPS = ₹ 6 (1.10)<sup>3</sup>

= ₹ 7.986

Value in 3 years =  $15 \times 7.986$

= ₹ 120

### Illustration 12

B Ltd. paid a dividend at ₹ 10 per share. Earnings and dividends are expected to grow at a rate of 20%. The required rate of return and the current market price are 25% and ₹ 240 respectively. Is the share fairly priced?

#### Solution:

The current price of share =  $P_o = \frac{D_1}{k-g}$

$$\begin{aligned}
 P_o &= \frac{Do(1+g)}{(k-g)} \\
 &= \frac{10(1+0.20)}{0.25-0.20} \\
 &= \frac{120}{0.05} = 240
 \end{aligned}$$

The share of B Ltd. is fairly priced because the current market price of the share is ₹ 240. If the market price is more than the intrinsic value. The share is overpriced, but if the market price is less than the intrinsic value, the share is underpriced.

**Illustration 13**

Sunrise Ltd. is currently paying dividend of ₹ 1.50 on its face value of ₹ 10. Earnings and dividends are expected to grow at 5% annual rate indefinitely. Investors require 9% rate of return on their investments. The company is considering several business strategies and wishes to determine the effect of these strategies on the market price of the share.

- (a) Continuing the present strategy will result in the expected growth rate and required rate of return as above.
- (b) Expanding sale will increase the expected dividend growth rate to 7% but will increase the risk of the company. As a result, the investor's required rate of return will increase by 12%.
- (c) Integrating into retail stores will increase the dividend growth rate to 6% and increase the required rate of return to 10%.

You are required to find out the best strategy from the point of view of the market price.

**Solution:**

- (a) Calculation of intrinsic value for condition 1:

$$\begin{aligned}
 V &= \frac{D_1}{k - g} \\
 &= \frac{1.5(1.05)}{(0.09 - 0.05)} \\
 &= \frac{1.575}{0.04} = ₹ 39.37
 \end{aligned}$$

- (b) Calculation of intrinsic value for condition 2:

$$\begin{aligned}
 V &= \frac{D_0(1+g)}{k - g} \\
 &= \frac{1.5(1.07)}{(0.12 - 0.07)} \\
 &= \frac{1.605}{0.05} = ₹ 32.10
 \end{aligned}$$

- (c) Calculation of intrinsic value for condition 3:

$$\begin{aligned}
 V &= \frac{D_0(1+g)}{k - g} \\
 &= \frac{1.5(1.06)}{(0.10 - 0.06)} \\
 &= \frac{1.59}{0.04} = ₹ 39.75
 \end{aligned}$$

For the point of view of market price per share, the strategy of integrating into retail stores is the best because the market price of share is highest, i.e., ₹ 39.75.

#### Illustration 14

What will be the intrinsic value of equity shares of T Ltd. based on the following data:

Last Dividend	₹ 3 per share
Growth rate for 1-3 years	20% p.a.
Growth rate for 4-6 years	10% p.a.
Growth rate beyond 6 years	5% p.a.
The required rate of return is 14%	

#### Solution:

Intrinsic value of equity shares

$$\begin{aligned}
 &= \frac{3(1.20)}{1.14} + \frac{3(1.20)^2}{(1.14)^2} + \frac{3(1.20)^3}{(1.14)^3} + \frac{3(1.20)^3(1.10)}{(1.14)^4} + \frac{3(1.20)^3(1.10)^2}{(1.14)^5} \\
 &\quad + \frac{3(1.20)^3(1.10)^3}{(1.14)^6} \\
 &= \frac{3(1.20)^3(1.10)^3(1.05)}{(0.014-0.05)} \times \frac{1}{(1.14)^6} \\
 &= 3.6 \text{ PVIF } 14\%, 1 + 4.32 \text{ PVIF } 14\%, 2 + 5.18 \text{ PVIF } 14\%, 3 + 5.47 \\
 &\quad \text{PVIF } 14\%, 4 + 6.27 \\
 &\quad \text{PVIF } 14\%, 5 + 8.9 \text{ PVIF } 14\%, 6 + 7.24 \frac{\text{PVIF}}{0.09} 14\%, 6 \\
 &= (3.6 \times 0.877) + (4.32 \times 0.770) + (5.18 \times 0.675) + (5.70 \times 0.592) \\
 &\quad + (6.27 \times 0.519) + (6.90 \times 0.456) + [(7.24 / 0.09) \times 0.456] \\
 &= ₹ 56.44
 \end{aligned}$$

#### Multiple Choice Questions

- Which of the following is a key determinant of share value?
  - Timing
  - Return
  - Beta
  - Growth rate
  - Face value
- Which defines the intrinsic value of a share as the present value of future dividend?

- (a) CAPM
  - (b) DDM
  - (c) PE model
  - (d) PM
3. The intrinsic value of a share is based on \_\_\_\_\_ that the investor expects to receive them in future.
- (a) Dividend
  - (b) Capital gain
  - (c) Cash flow
  - (d) Interest
4. Which model of share valuation assumes that the dividend per share remains at fixed amount for ever?
- (a) Constant Growth model
  - (b) Multiple Growth model
  - (c) PE model
  - (d) Zero Growth model

**Answer:** 1. (a), 2. (c), 3. (b), 4. (d).

### Long Questions

1. ASP Ltd, is foreseeing a growth rate of 12% per annum in the next 2 years. The growth rate is likely to fall to 10% for the third year and fourth year. After that, the growth rate is expected to stabilize at 8% per annum. If the last dividend rate paid was ₹ 1.50 per share and the investor's required rate of return is 16%, find out the intrinsic value per share of ASP Ltd. as of date. You may use the following table:

Years	0	1	2	3	4	5
Discounting factor at 16 %	1	0.86	0.74	0.64	0.55	0.48

2. What will be the intrinsic value of equity shares of X Ltd. based on the following data:
- Last Dividend ₹ 3 Per share
  - Growth rate for 1-2 years 20% p.a.
  - Growth rate for 3-6 years 10% p.a.
  - Growth rate beyond 7 years 5% p.a.
- The required rate of return is 14%
3. The dividends per share of Rex Ltd. has been growing at an average annual compounded rate of 19%. Its dividend paid was ₹ 2 per share. Its growth rate will drop to 4 per cent from the beginning of the 4th year. What would be the intrinsic value of the company's share if required rate of return is 15%.

4. What would be the intrinsic value of the share on the basis of following data?
- |  |     |
|--|-----|
| Last dividend ( $D_0$ )                    | ₹ 4 |
| Growth rate in dividend for next two years | 10% |
| Growth rate in dividends thereafter        | 5%  |
| Required rate of return                    | 20% |
5. Mehaboob intend to purchase KFC shares at ₹ 85 per share. He wants to hold it for one year and sell after getting a dividend of 8.5. If his required rate of return is 16%, how much should the stock price has to appreciate?
6. Reliance Petro is expected to pay ₹ 3 as dividend next year. The market price is projected at ₹ 60 after one year. If the required rate of return of the investor is 20 per cent, what should be the current price of the stock?
7. XYZ Ltd. paid its first cash dividend of ₹ 2.50 and dividends are expected to grow at a rate of 20% per annum for next 3 years. Thereafter, cash dividends will grow at a rate of 20% per annum. Shareholders expect to earn 15% return on their investments. Based on these assumptions, find out the value of shares of XYZ Ltd.

