Dividend Theory

The term dividend refers to that part of the profit of a company which is distributed amongst its shareholders. It may, therefore, be defined as the return that a shareholder gets from the company, out of its profits, on his shareholdings. According to the Institute of Chartered Accountants of India, dividend is a distribution to shareholders out of profits or reserves available for this purpose. The dividend decision of the firm is of crucial importance for the finance manager since it determines the amount of profit to be distributed among shareholders and the amount of profit to be required in the business (popularly termed as retained earnings).

Larger dividends result in less retained earnings. Less dividends result in larger retained earnings. While taking dividend decision, the management will obviously take into account the effect of the decision on the maximization of shareholders' wealth. In case, the payment of dividend helps the management in achieving this objective, it would be advisable to pay dividends. In case payment of dividend does not help in achieving this objective, the management would be well advised to retain the profits and use them for financing investment plans. Thus, the dividend decision is largely based on its impact on the value of the firm.

Dividend Theories

There are conflicting theories regarding the impact of dividend decisions on the valuation of a firm. According to one school of thought, dividend decision does not affect the shareholders' wealth and so also the valuation of the firm. However, according to another school of thought, dividend decision materially affects the shareholders' wealth and also the valuation of the firm.

1. **Irrelevance concept of dividend-**
This school of thought is associated with Soloman, Modigliani and Miller. According to them, dividend policy has no effect on the share prices of a company and is, therefore, of no consequence. In their opinion investors do not differentiate between dividends and capital gains. Their basic desire is to earn higher return on their investment.

In case the company has adequate investment opportunities giving a higher rate of return than the cost of retained earnings, the investors would be content with the firm retaining the earnings. However, if the expected return on projects is likely to be less than what it would cost, the investors would prefer to receive the earnings (i.e., dividends). Thus, a dividend decision is essentially a financing decision, i.e., whether to finance the company's funds requirements by retained earnings or not. In case the company has profitable investment opportunities, it will retain the earnings to finance them, otherwise distribute them. The shareholders are only interested in income whether it is in the form of dividend or in capital gains.

Modigliani and Miller's Approach: They have expressed their opinion in a more comprehensive way. They have opined that price of shares of a firm is determined by its earning potentiality and investment policy and never by the pattern of income distribution. As observed by them, under conditions of perfect capital markets, rational investors, absence of tax discrimination between dividend income and capital appreciation, given the firm's investment policy its dividend policy may have no influence on the market price of the shares. The logic put forward by under MM theory is that if a company, having investment opportunities, distributes all its earnings among the shareholders, it will have to raise the capital required from outside. This will result in increasing the number of shares, resulting in fall in the future earning per share. Thus, whatever a shareholder has gained as a result of increased dividends will be neutralized completely on account of fall in-the value of shares due to decline in the expected EPS.

MM hypothesis is based on the following assumptions:

- Capital markets are perfect
- Investors behave rationally. Information is freely available to them and there are no floatation and transaction costs.
- There are either no taxes or there are no differences in the tax rates applicable to capital gains and dividends.
- The firm has a fixed investment policy.
- Risk or uncertainty does not exist. In other words, investors are able to forecast future prices and dividends with certainty and one discount rate can be used for all securities at all times.

According to MM hypothesis, the market value of a share in the beginning of the period is equal to the present value of dividends paid at the end of the period plus the market price of the share at the end of the period. This can be put in the form of the following equation:

$$P0 = \frac{D1 + P1}{(1 + Ke)}$$

Where,
P0 = Prevailing market price of a share
Ke = Cost of equity capital
D1= Dividend to the received at the end of period one
P1 = Market price of a share at the end of period one

From the above equation, the following equation can be derived for determining the value of P1.
P1 = P0 (1 + Ke) – D1

Computation of the Number of New Shares to be Issued: Investment programme of a firm, in a given period of time, can be financed either by retained earnings or by issue of new shares or both. The number of new shares to be issued can be determined by the following equation:
m × P = I – (X – D)

Where,
m = Number of new shares to be issued
 P = Price at which new issue is to be made
 I = Amount of investment required
 X = Total net profit of the firm during period
 D = Total dividends paid during the period

MM theory has limitations due to unrealistic nature of assumptions as shown below--

- Tax differential: In practical life not only does the shareholder have to pay tax but there are different rates of tax for capital gains and dividends. Capital gains are subject to a lower rate of tax as compared to dividends. The cost of internal financing will, therefore, favour a dividend policy with retention of earnings as against the payment of dividends on account of tax differential.
- Floatation costs. A firm has always to pay floatation costs in term of underwriting fee and brokers' commission whenever it wants to raise funds from outside. As a result the external financing is costlier than internal financing.
- Transaction costs. The shareholder has to pay brokerage fee, etc., when he wants to sell the shares. Moreover, it is inconvenient to sell shares. On account of these reasons a shareholder would prefer to have dividends as compared to capital gains that he may realize on sale of shares if no dividends are paid.

- Discount rate: The assumption under MM hypothesis that a single discount rate can be used for discounting cash inflows at different time periods is not correct. Uncertainty increases with the length of the time period. Investors prefer present dividends to future dividends. It means the value of shares of that company which is paying higher dividend earlier will have a higher value as compared to a company which is following the policy of retention of earnings.

2. Relevance Concept of Dividend

According to James Walter, a firm's dividend policy has a profound effect on the firm's position in the stock market. Higher dividends increase the value of stock while low dividends decrease their value. This is because dividends communicate information to the investors about the firm's profitability. A firm must declare sufficient dividends to meet the expectations of investors and shareholders in order to maximize the net worth of the business.

Prof. James E. Walter strongly supports the doctrine that dividend policy almost always affects the value of the enterprise. The finance manager can, therefore, use it to maximize the wealth of the equity shareholders. Walter's model is based on the relationship between the firm's return on investment or internal rate of return (r); and cost of capital or required rate of return (k).

According to Prof. Walter, if r > k, i.e., the firm can earn a higher return than what the shareholders can earn on their investments, the firm should retain the earnings. Such firms are termed as growth firms, and in their case the optimum dividend policy would be to plough back the entire earnings. In their case the dividend payment ratio (D/ P ratio) would, therefore, be zero. This would maximize the market value of their shares. In case of a firm which does not have profitable investment opportunities (i.e., where r < k), the optimum dividend policy would be to distribute the entire earnings as dividend. The shareholders will stand to gain because they can use the dividends so received by them in channels which can give them higher return. Thus, 100% dividend payout ratio in their case would result in maximizing the value of the equity shares.

Walter's model is based on the following assumptions:
- The firm does the entire financing through retained earnings. It does not use external sources of funds such as debt or new equity capital.
- Business risk does not change with additional investment. It implies that the firm's internal rate of return (r) and cost of capital (k) remain constant.
- In the beginning earning per share (E) and dividend (D) per share remain constant. It may be noted that the values of ' E' and ' D' may be changed in the model for determining the results, but any given values of ' E' and ' D' are assumed to remain constant in determining a given value.
- The firm has a very long life.

Walter has suggested the following formula for determining the market value of a share-

$$P = \frac{D + (E-D)r / k_e}{k_e}$$

where,

P = Market price of an equity share
D = Dividend per share
r = Internal rate of return
E = Earning per share
K_e = Cost of equity capital

Gordon`s Model
Myron Gordon proposed the stock valuation model using dividend capitalization approach. His model is based on following assumptions mentioned as under –
- Retained earnings represent the only source of financing for the firm
- Rate of return on the firm's investment is constant
- Growth rate of the firm is the product of its retention ratio and rate of return
- Cost of capital for the firm remains constant and it is greater than the growth rate
- Firm has perpetual life
- No corporate taxes

The valuation model is as under –

$$P0 = \frac{E (1- b)}{K- br}$$

Where,
P0 = price per share
E = Earnings per share
b = Retention ratio
1- b = Dividend Payout Ratio
br = Growth rate of earnings and dividends

Problem 1: The present share capital of A Ltd consists of 1,000 shares selling at Rs 100 each. The company is contemplating a dividend of Rs 10 per share at the end of the current financial year. The company belongs to a risk class for which appropriate capitalization rate is 20 per cent. The company expects to have a net income of Rs 25,000. What will be the price of the share at the end of the year if--
(i) dividend is not declared
(ii) a dividend is declared.
Presuming that the company pays the dividend and has to make new investment of Rs 48,000 in the coming period, how many new shares be issued to finance the investment plan? You are required to use the MM model for this purpose.

Problem 2: Following information is given for ABC Ltd.
- Earning per share Rs 4.00
- Rate of return on investments: 18%
- Rate of return required by shareholders: 15%

What will be the price per share as per Walter model if the payout ratio is 40%, 50% and 60%?

Problem 3: Following information is given for Telenet Systems Ltd
- Earning per share Rs 5
- Rate of return required by shareholders: 16%

As per Gordon`s model, what will be the rate of return that should be earned to ensure market price of Rs 50 price per share if the payout ratio is 40%?

Problem 4: Cost of capital (K) is 10%, EPS is Rs 10. Show the impact of rate of return required by shareholders (r) if r is 15%, 8% and 10%. Assume that dividend payout is 0%, 25% and 100%