

# DIVIDEND THEORY

The dividend policy decision involves the choice between distributing the profits belonging to the shareholders and their retention by the firm.

A major decision area of Financial management is the dividend policy decision in the sense that the firm has to choose between distributing the profits to the shareholders and ploughing them back into the business.

The selection would be influenced by the effect on the objective of Financial Management of maximising shareholder's wealth.

The firm should pay dividend if the payment will lead to the maximisation of the wealth of the owners and if not then the firm should retain profits to finance investment programmes.

The relationship between dividends and value of the firm should, therefore, be the decision criterion.

There are conflicting opinions regarding the impact of dividends on the valuation of a firm.

According to one school of thought, dividends are irrelevant so that the amount of dividend paid has no effect on the valuation of a firm. **(IRRELEVANCE THEORY)**

On the other hand certain theories consider the dividend decision as relevant to the value of the firm measured in terms of the market price of the shares. **(RELEVANCE THEORY)**

# IRRELEVANCE OF DIVIDENDS:

1) **GENERAL VIEW:** The argument supporting the irrelevance of dividends to valuation is that the dividend policy of a firm is a part of its financing decision.

As a part of the financing decision, the dividend policy of the firm is a **residual decision** and dividends are a **passive residual**.

It implies that when a firm has sufficient investment opportunities, it will retain the earnings to finance them. Conversely, if acceptable investment opportunities are inadequate, the implication is that the earnings would be distributed to the shareholders.

The test of adequate acceptable investment opportunities is the relationship between the return on the investments ( $r$ ) and the cost of capital ( $k$ ).

As long as  $r$  exceeds  $k$ , a firm has acceptable investment opportunities.

That dividend are irrelevant, or are passive residual, is based on the assumption that the investors are indifferent between dividend and capital gains.

So long as the firm is able to earn more than the equity-capitalisation rate ( $k_e$ ), the investors would be content with the firm retaining the earnings. In contrast, if the return is less than the ( $k_e$ ), investors would prefer to receive the earnings i.e. dividends.

## 2) MODIGLIANI AND MILLER (MM) HYPOTHESIS:

The most comprehensive argument in support of the irrelevance of dividends is provided by the MM hypothesis.

Modigliani and Miller maintain that **dividend policy has no effect on the share price of the firm** and is, therefore, of no consequence.

They argue that the value of the firm depends on firm earnings which results from its investment policy. Thus when investment decision of the firm is given, dividend decision is of no significance.

## ASSUMPTIONS:

- 1) Perfect capital markets in which all investors are rational.
- 2) There are no taxes. Alternatively, there are no differences in tax rates applicable to capital gains and dividends.
- 3) A firm has a given investment policy which does not change which implies that business risk complexion of the firm will not change.

## CRUX OF THE ARGUMENT:

The crux of the MM position on the irrelevance of dividend is the **arbitrage argument**. Arbitrage refers to entering simultaneously into two transactions which exactly balance or completely offset each other.

The two transactions here are the acts of paying out dividends and raising external funds.

When dividends are paid to the shareholders, the market price of the share will decrease. What is gained by the investors as a result of increased dividends will be neutralised completely by the reduction in the market value of shares.

The terminal value before and after the payment of dividend would be identical.

The investors would, therefore, be indifferent between dividend and retention of earnings. Since the shareholders are indifferent, the wealth would not be effected by current and future dividend decisions of the firm. It would depend entirely upon the expected future earnings of the firm.



## PROOF OF MM HYPOTHESIS:

**STEP 1:** The market price of the 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.

$$P_0 = \frac{1}{(1 + k_e)} (D_1 + P_1) \quad (1)$$

$P_0$  = Prevailing market price of a share.

$K_e$  = Cost of equity capital

$D_1$  = Dividend to be received at the end of period 1

$P_1$  = Market price of the share at the end of period 1

**STEP 2:** Assuming no external financing, the total capitalised value of the firm would be simply the number of shares ( $n$ ) times the price of each share ( $P_0$ )

$$nP_0 = \frac{1}{(1+k_e)} (nD_1 + nP_1) \quad (2)$$

**STEP 3:** If the firm's internal sources of financing its investment opportunities fall short of the funds required, and  $\Delta n$  is the number of new shares issued at the end of year 1 at price of  $P_1$  then the equation will be written as

$$nP_0 = \frac{1}{(1+k_e)} \left[ (nD_1 + (n + \Delta n)P_1 - \Delta nP_1) \right] \quad (3)$$

where  $n$  = Number of shares outstanding at the beginning of the period,

$\Delta n$  = change in the number of shares outstanding during the period/ Additional shares issued.

**STEP 4:** If the firm were to finance all investment proposals, the total amount raised through new shares issued would be given by

$$\begin{aligned}\Delta n P_1 &= I - (E - nD_1) \\ \Delta n P_1 &= I - E + nD_1\end{aligned}\tag{4}$$

Where  $\Delta n P_1$  = Amount obtained from the sale of new shares of finance capital budget,

$I$  = Total amount/ requirement of capital budget,

$E$  = Earnings of the firm during the period,

$nD_1$  = Total dividends paid,

$(E - nD_1)$  = Retained earnings

**STEP 5:** If we substitute Eq. (4) into Eq. (3) we derive Eq. (5)

$$nP_0 = \frac{1}{(1+k_e)} \left[ nD_1 + (n + \Delta n)P_1 - (I - E + nD_1) \right] \quad (5)$$

Solving Eq. (5) we have

$$nP_0 = \frac{(n + \Delta n)P_1 - I + E}{(1+k_e)} \quad (6)$$

## **STEP 6: CONCLUSION**

Since dividends (D) are not found in equation (6), M&M conclude that dividends do not count and that dividend policy has no effect on the share price.

The Vikas Engineering Co. Ltd. has 100000 outstanding shares selling at Rs100 each. The firm has net profits of Rs10 lakh and wants to make new investments of Rs20 lakh during the period. The firm is also thinking of declaring a dividend of Rs5 per share at the end of the current fiscal year. The firm's opportunity cost of capital is 10%. What will be the price of the share at the end of the year if

- i) A dividend is not declared
- ii) a dividend is declared
- iii) How many new shares must be issued?

The price of the share at the end of the year  
(P<sub>1</sub>) is determined using the formula:

$$P_0 = D_1 + P_1 / (1+k)$$

$$P_1 = P_0 (1+k) - D_1$$

Thus i) When dividend is not paid

$$P_1 = 100(1.10) - 0 = \text{Rs}110$$

ii) When a dividend of Rs5 is paid

$$P_1 = 100(1.10) - 5 = \text{Rs}105$$

iii) Number of shares to be issued by the company to finance its investments is determined as follows:

$$\Delta n P_1 = I - (E - nD_1)$$

$$105 \Delta n = 2000000 - (1000000 - 100000 \times 5)$$

$$105 \Delta n = 1500000$$

$$\Delta n = 1500000/105 = 14285 \text{ shares}$$

## Limitations of MM Approach:

The approach is based on the assumption that the investors are indifferent between dividend and retention of earnings.

This is mainly because of the balancing nature of internal financing (retained earnings) and external financing (raising of funds).

The validity of the MM approach is questionable on two points:

- (i) Imperfections of capital market, and
- (ii) Resolution of uncertainty



## **(i) Imperfections of Capital Market:**

- Tax Effects (dividend tax is higher than capital gain tax)
- Floatation Costs
- Transaction Costs
- Institutional Restrictions

## **(ii) Resolution of Uncertainty:**

- Near Vs Distant Dividend
- Informational Content of Dividends
- Preference of Current Income
- Under pricing

# **RELEVANCE OF DIVIDENDS**

In sharp contrast to the MM hypothesis, there are some theories that consider dividend decisions to be an active variable in determining the value of the firm. The dividend decision is therefore relevant. There are two theories which support the relevance of dividends namely:

## **1) WALTER'S MODEL**

## **2) GORDON'S MODEL**

**WALTER'S MODEL:** This model supports the doctrine that dividends are relevant. The investment policy of a firm cannot be separated from its dividend policy and both are interlinked.

The key argument in support of the relevance of Walter's model is the relationship between the return on a firm's investment ( $r$ ) and its cost of capital/ required rate of return ( $k$ ).

**If  $r > k$  (growth firms)** the firm should retain the earnings or D/P ratio should be zero as it is able to earn higher than what the shareholders could by investing on their own.

**In case  $r < k$  (declining firms)** it implies that shareholders can earn a higher return by investing elsewhere. Therefore, the entire earnings (D/P ratio should be 100 percent) should be distributed to them.

Finally, **when  $r = k$  (normal firms)**, it is a matter of indifference whether earnings are retained or distributed. This is so because for all D/P ratios (ranging between zero and 100) the market price of shares will remain constant. For such firms, there is no optimum dividend policy (D/P ratio).

By following such a policy in all the three cases, the market price of shares will be maximised.

## **ASSUMPTIONS:**

- 1) All financing is done through retained earnings.
- 2) With additional investments undertaken, the firm's business risk does not change. It implies that  $r$  and  $k$  are constant.
- 3) The firm has perpetual life.

According to Walter, the value of the firm, as measured by the market price per share (P) is given by the following equation

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

Where P = The prevailing market price of the share,  
D = Dividend per share,  
E = Earnings per share and  
r = The rate of return on the firm's investment.

**GORDON'S MODEL:** Another theory which contends that dividends are relevant is Gordon's model. This model which opines that dividend policy of a firm affects its value, is based on the following assumptions:

- 1) The firm is an all equity firm. No external financing is used and investment programmes are financed exclusively by retained earnings.
- 2)  $r$  and  $k_e$  are constant.
- 3) The firm has a perpetual life
- 4) The retention ratio, once decided is constant. Thus, the growth rate, ( $g = br$ ) is also constant.
- 5)  $K_e > br$

**ARGUMENTS:** Gordon's model contends that dividend policy of the firm is relevant and that investors put a premium on current incomes/dividends.

As investors are rational, they want to avoid risk. The payment of current dividends completely removes any chance of risk.

If current dividends are withheld, the investors can expect to get a dividend in future. The future dividend is uncertain, both with respect to the amount as well as the timing.

Thus the rational investors can reasonably be expected to prefer current dividend. They will place less importance on future dividend as compared to current dividend.

The retained earnings are evaluated by the investors as a risky promise, thus if earnings are retained, the market price of share would be adversely affected.

The above argument underlying Gordon's model of dividend relevance is also described as a bird-in-the-hand argument. That a bird in hand is better than two in the bush is based on the logic that what is available at present is preferable to what may be available in future.

**FORMULA:** A simplified version of Gordon's model is expressed as

$$P = \frac{E(1 - b)}{k_e - br}$$

Where P = Price of a share, E = earnings per share, b = retention ratio or percentage of earnings retained, 1-b = D/P ratio,  $k_e$  = Capitalisation rate/ cost of capital, Br = g = Growth rate = rate of return on investment of an all equity firm.



# DETERMINANTS OF DIVIDEND POLICY

The factors determining the dividend policy of a firm are as follows:

- 1) Dividend payout (D/P) ratio**
- 2) Stability of dividends**
- 3) Legal, contractual and internal constraints and restrictions**
- 4) Owner's considerations**
- 5) Capital market considerations**
- 6) Inflation**

## 1) Dividend Payout (D/P) ratio:

The D/P ratio indicates the percentage share of the net earnings distributed to the shareholders as dividend.

Given the objective of wealth maximisation, the D/p ratio should be such can maximise the wealth of its owners in the long run.

In practice, investors, in general, have a clear cut preference for dividends because of uncertainty and imperfect capital markets.

Therefore, a low D/P ratio may cause a decline in share prices, while a high ratio may lead to a rise in the market price of the shares.

## 2) Stability of dividends:

The second major aspect of the dividend policy of a firm is the stability of dividends. The investors favour a stable dividend as much as they favour the payment of dividends.

Dividend stability refers to the consistency or lack of variability in the stream of dividends which means that a certain minimum amount of dividend is paid regularly.

The stability of dividends can take any of the following three forms:

- 1) Constant dividend per share
- 2) Constant payout ratio
- 3) Constant dividend per share plus extra dividend

The investors prefer a stable dividend policy for a number of reasons, such as, desire for current income, informational content and institutional requirements.

### 3) Legal, Contractual and Internal constraints and restrictions:

The dividend decision is also affected by certain legal, contractual and internal constraints.

The legal factor stem from certain statutory requirements, the contractual restrictions arise from certain loan covenants and the internal constraints are the result of the firm's liquidity positions.

#### 4) **Owner's considerations:**

The dividend policy is also likely to be affected by the owner's considerations of (a) the tax status of the shareholders, (b) their opportunities of investment, and (c) the dilution of ownership.

It is impossible to establish a policy that will maximise each owner's wealth. The firm must aim at a dividend policy which has a beneficial effect on the wealth of the majority of shareholders.

#### 5) **Capital Market Considerations:**

Another set of factors that can strongly affect dividend policy is the extent to which the firm has access to the capital markets.

A firm which has easy access to the capital market can follow a liberal dividend policy, whereas a firm having only limited access to the capital markets is likely to adopt low dividend payout ratio as they are likely to rely, to a greater extent, on retained earnings as a source of financing their investments.

## **6) Inflation:**

Inflation is another factor which affects the firm's dividend decisions. With rising prices, funds generated from depreciation may be inadequate to replace obsolete equipments. As a result D/P ratio tends to be low during period of inflation.

# **ALTERNATIVE FORMS OF DIVIDEND**

There are ways other than regular or periodic cash dividend to reward shareholders. Three other ways of rewarding shareholders are very popular. They are as follows:

**1) Bonus Shares**

**2) Stock Splits**

**3) Share buyback**

**BONUS SHARES:** Involves payment of dividend to existing shareholders in the form of shares. A bonus share is a free share of stock given to current/existing shareholders in a company, based upon the number of shares that the shareholder already owns at the time of announcement of the bonus. Issue of bonus shares is a way of capitalizing reserves into shares.

**STOCK SPLITS:** It is a method commonly used to lower the market price of shares by increasing the number of shares belonging to each shareholder.

**SHARE BUYBACK:** When firm buys its own shares from whoever wants to sell his holding at a specified price during a specified period.