Chapter 8

Dividend Decision

INTRODUCTION

The financial manager must take careful decisions on how the profit should be distributed among shareholders. It is very important and crucial part of the business concern, because these decisions are directly related with the value of the business concern and shareholder's wealth. Like financing decision and investment decision, dividend decision is also a major part of the financial manager. When the business concerns decide dividend policy, they have to consider certain factors such as retained earnings and the nature of shareholder of the business concern.

Meaning of Dividend

Dividend refers to the business concerns net profits distributed among the shareholders. It may also be termed as the part of the profit of a business concern, which is distributed among its shareholders.

According to the **Institute of Chartered Accountant of India**, dividend is defined as "a distribution to shareholders out of profits or reserves available for this purpose".

TYPES OF DIVIDEND/FORM OF DIVIDEND

Dividend may be distributed among the shareholders in the form of cash or stock. Hence, Dividends are classified into:

   A. Cash dividend
   B. Stock dividend
   C. Bond dividend
   D. Property dividend
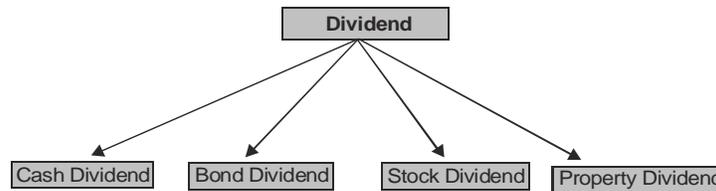
Fig. 8.1 *Types of Dividend*

Cash Dividend

If the dividend is paid in the form of cash to the shareholders, it is called cash dividend. It is paid periodically out the business concerns EAIT (Earnings after interest and tax). Cash dividends are common and popular types followed by majority of the business concerns.

Stock Dividend

Stock dividend is paid in the form of the company stock due to raising of more finance. Under this type, cash is retained by the business concern. Stock dividend may be bonus issue. This issue is given only to the existing shareholders of the business concern.

Bond Dividend

Bond dividend is also known as script dividend. If the company does not have sufficient funds to pay cash dividend, the company promises to pay the shareholder at a future specific date with the help of issue of bond or notes.

Property Dividend

Property dividends are paid in the form of some assets other than cash. It will distributed under the exceptional circumstance. This type of dividend is not published in India.

DIVIDEND DECISION

Dividend decision of the business concern is one of the crucial parts of the financial manager, because it determines the amount of profit to be distributed among shareholders and amount of profit to be treated as retained earnings for financing its long term growth. Hence, dividend decision plays very important part in the financial management.

Dividend decision consists of two important concepts which are based on the relationship between dividend decision and value of the firm.
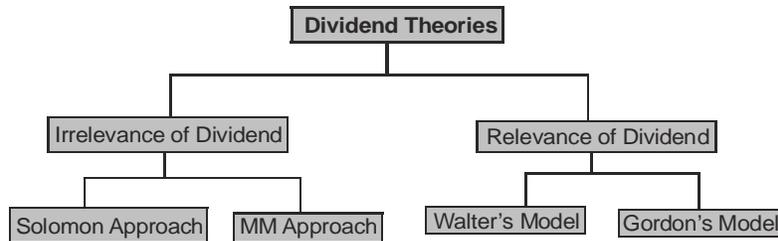
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│ Solomon Approach│ │ MM Approach │ │ Walter's Model│ │ Gordon's Model│
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Fig. 8.2 *Dividend Theories*

Irrelevance of Dividend

According to professors **Soloman, Modigliani and Miller**, dividend policy has no effect on the share price of the company. There is no relation between the dividend rate and value of the firm. Dividend decision is irrelevant of the value of the firm. Modigliani and Miller contributed a major approach to prove the irrelevance dividend concept.

Modigliani and Miller's Approach

According to MM, under a perfect market condition, the dividend policy of the company is irrelevant and it does not affect the value of the firm.

"Under conditions of perfect market, 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 shares".

Assumptions

MM approach is based on the following important assumptions:

1. Perfect capital market.
2. Investors are rational.
3. There are no tax.
4. The firm has fixed investment policy.
5. No risk or uncertainty.

Proof for MM approach

MM approach can be proved with the help of the following formula:

$$P_o = \frac{D_1 + P_1}{(1 + K_e)}$$

Where,

P_o = Prevailing market price of a share.

K_e = Cost of equity capital.

D_1 = Dividend to be received at the end of period one.

P_1 = Market price of the share at the end of period one.

P_1 can be calculated with the help of the following formula.

$$P_1 = P_o (1 + K_e) - D_1$$

The number of new shares to be issued can be determined by the following formula:

$$M \times P_1 = I - (X - nD_1)$$

Where,

M = Number of new share to be issued.

P_1 = Price at which new issue is to be made.

I = Amount of investment required.

X = Total net profit of the firm during the period.

nD_1 = Total dividend paid during the period.

Exercise 1

X Company Ltd., has 100000 shares outstanding the current market price of the shares Rs. 15 each. The company expects the net profit of Rs. 2,00,000 during the year and it belongs to a rich class for which the appropriate capitalisation rate has been estimated to be 20%. The company is considering dividend of Rs. 2.50 per share for the current year.

What will be the price of the share at the end of the year (i) if the dividend is paid and (ii) if the dividend is not paid.

Solution

$$P_o = \frac{D_1 + P_1}{(1 + K_e)}$$

(i) If the dividend is paid

$$P_o = Rs.15$$
$$K_e = 20\%$$
$$D_1 = 2.50$$
$$P_1 = ?$$

$$15 = \frac{2.50 + P_1}{1 + 20\%}$$

$$15 = \frac{2.50 + P_1}{1.2}$$

$$2.50 + P_1 = 15 \times 1.2$$
$$P_1 = 18 - 2.50$$
$$P_1 = Rs. 15.50$$

(ii) If the dividend is not paid

$$P_o = 15$$
$$K_e = 20\%$$
$$D_1 = 0$$

$$P_1 = ?$$

$$15 = \frac{0 + P_1}{1 + 20\%}$$

$$15 = \frac{0 + P_1}{1.20}$$

$$0 + P_1 = 15 \times 1.20$$

$$P_1 = \text{Rs. } 18.$$

Exercise 2

Ram company belongs to a risk class for which the appropriate capitalization rate is 12%. It currently has outstanding 30000 shares selling at Rs. 100 each. The firm is contemplating the declaration of dividend of Rs. 6 per share at the end of the current financial year. The company expects to have a net income of Rs. 3,00,000 and a proposal for making new investments of Rs. 6,00,000. Show that under the MM assumptions, the payment of dividend does not affect the value of the firm. How many new shares issued and what is the market value at the end of the year?

Solution
$$P_o = \frac{D_1 + P_1}{1 + K_e}$$

$$P_o = 100$$

$$D_1 = \text{Rs. } 6$$

$$P_1 = ?$$

$$K_e = 12\%$$

$$100 = \frac{6 + P_1}{1 + 127}$$

$$100 = \frac{6 + P}{1.12}$$

$$6 + P_1 = 112$$

$$P_1 = 112 - 6$$

$$P_1 = \text{Rs. } 106$$

Dividend is not declared

$$K_e = 12\%, P_o = 100, D_1 = 0, P_1 = ?$$

$$100 = \frac{0 + P_1}{1 + 12\%}$$

$$100 = \frac{0 + P_1}{1.12}$$

$$P_1 = \text{Rs. } 112$$

Calculation of number of new shares to be issued

	Dividends Paid	Dividends not Paid
Net Income	300000	300000
Total Dividends	180000	–
Retained Earnings	120000	300000
Investment Budget	600000	600000
Amount to be raised as		
new shares	480000	300000
(Investment – Retained Earnings)		
Relevant – Market Price		
per share	Rs. 106	Rs. 112
No. of new shares to be issued	4528.3	2678.6
Total number of shares at the		
end of the year	300000	30000
Existing shares	4528.3	2678.6
(+) new shares issued	34528.3	32678.6
Market price per share	**Rs. 106**	**112**
Market value for shares	**Rs. 3660000**	**3660000**

There is no change in the total market value of shares whether dividends are distributed or not distributed.

Exercise 3

ABC Ltd. has a capital of Rs. 10,00,000 in equity shares of Rs. 100 each. The shares are currently quoted at par. The company proposes to declare a dividend of Rs. 10 per share at the end of the current financial year. The capitalization rate for the risk class to which the company belongs is 12%.

What will be the MP of the share at the end of the year, if

(i) A dividend is not declared.

(ii) A dividend is declared.

(iii) Assuming that the company pays the dividend and has net profits of Rs. 5,00,000 and makes new investments of Rs. 10,00,000 during the period, how many new shares must be issued? Use the MM Model.   **(C.A Final Nov. 1990)**

Solution

As per MM Model, the current MP of the share is

$$P_o = \frac{D_1 + P_1}{1 + K_e}$$

(i) If the dividend is not declared

$$100 = \frac{0 + P_1}{(1 + .12)}$$

$$100 = \frac{P_1}{1.12}$$

$$P_1 = \text{Rs. } 112$$

(ii) If the dividend is declared

$$100 = \frac{10 + P_1}{1 + 0.12}$$

$$100 = \frac{10 + P_1}{1.12}$$

$$112 = 10 + P_1$$

$$P_1 = 112 - 10$$

$$P_1 = \text{Rs. } 102$$

(iii) In case the firm which pays dividend of Rs. 10 per share, then the number of new shares to be issued is M.

$$M \times P_1 = I - (X - nD_1)$$

$$M \times 102 = 10,00,000 - (5,00,000 - 10,000 \times 10)$$

$$102 \, m = 10,00,000 - 4,00,000$$

$$M = \frac{6,00,000}{102}$$

$$= 5882.35 \text{ (or) } 5883$$

The firm should issue 5883 new shares @ Rs. 102 per share to finance its investment proposals.

Exercise 4

Z Ltd., has risk allying firm for which capitalization rate is 12%. It currently has outstanding 8,000 shares selling at Rs. 100 each. The dividend for the current financial year is Rs. 7 per share. The company expects to have a net income of Rs. 69,000 and has a proposal formatting new investments of Rs. 1,60,000. Show that under the MM hypothesis the payment of dividend does not affect the value of the firm.

(a) Value of the firm when dividends are paid. Price of the shares at the end of the current financial year.

$$P_1 = P_o (1 + K_e) - D1$$

$$= 100 (1 + .12) - 7$$

$$= 100 \times 1.12 - 7$$

$$P_1 = \text{Rs. } 105$$

(b) Number of shares to be issued.

$$S = \frac{I - (TE - nD)}{P_1}$$

$$= \frac{1,60,000 - (69000 - (8000 \times 7))}{105}$$

$$= \frac{1,60,000 - (13000)}{105}$$

$$\frac{1,47,000}{105} = 1400 \text{ shares}$$

The MM hypothesis explained in another firm also assumes that investment required by the firm on account of payment of dividends is finance out of the new issue of equity shares.

$$S = \frac{I - (TE - nD)}{M_1}$$

S = Value of the firm can be calculated as follows.

$$nP_o = \frac{(N + S) M_1 - (1 - TE)}{1 + K_e}$$

nP_o = Value of the firm

TE = Total Earnings

M_1 = Market Price at the end of the period

K_e = Cost of capital

D = Dividend paid at the end of the year (or) period

N = Number of shares outstanding at the beginning of the period.

$$nP_o = \frac{(N + S) M_1 - (1 - TE)}{1 + K_e}$$

$$= \frac{8000 + 1400 \times 105 - (1,60,000 - 69,000)}{1 + 12\%}$$

$$= \frac{9400 \times 105 - 91000}{1.12}$$

$$= 8,00,000$$

Criticism of MM approach

MM approach consists of certain criticisms also. The following are the major criticisms of MM approach.

MM approach assumes that tax does not exist. It is not applicable in the practical life of the firm.

MM approach assumes that, there is no risk and uncertain of the investment. It is also not applicable in present day business life.

MM approach does not consider floatation cost and transaction cost. It leads to affect the value of the firm.

MM approach considers only single decrement rate, it does not exist in real practice.

MM approach assumes that, investor behaves rationally. But we cannot give assurance that all the investors will behave rationally.

RELEVANCE OF DIVIDEND

According to this concept, dividend policy is considered to affect the value of the firm. Dividend relevance implies that shareholders prefer current dividend and there is no direct relationship between dividend policy and value of the firm. Relevance of dividend concept is supported by two eminent persons like Walter and Gordon.

Walter's Model

Prof. James E. Walter argues that the dividend policy almost always affects the value of the firm.

Walter model is based in the relationship between the following important factors:

- Rate of return I
- Cost of capital (k)

According to the Walter's model, if r > k, the firm is able to earn more than what the shareholders could by reinvesting, if the earnings are paid to them. The implication of r > k is that the shareholders can earn a higher return by investing elsewhere.

If the firm has r = k, it is a matter of indifferent whether earnings are retained or distributed.

Assumptions

Walters model is based on the following important assumptions:

1. The firm uses only internal finance.
2. The firm does not use debt or equity finance.
3. The firm has constant return and cost of capital.
4. The firm has 100 recent payout.
5. The firm has constant EPS and dividend.
6. The firm has a very long life.

Walter has evolved a mathematical formula for determining the value of market share.

$$P = \dfrac{D + \dfrac{r}{K_e}(E - D)}{K_e}$$

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

Exercise 5

From the following information supplied to you, ascertain whether the firm is following an optional dividend policy as per Walter's Model?

Total Earnings	Rs. 2,00,000
No. of equity shares (of Rs. 100 each 20,000)	
Dividend paid	Rs. 1,00,000
P/E Ratio	10
Return Investment	15 %

The firm is expected to maintain its rate on return on fresh investments. Also find out what should be the E/P ratio at which the dividend policy will have no effect on the value of the share? Will your decision change if the P/E ratio is 7.25 and interest of 10 %?

Solution

$$EPS = \frac{\text{Earnings}}{\text{No. of Shares}} = \frac{200000}{20000} = \text{Rs. } 10$$

$$P/E \text{ Ratio} = 10$$

$$K_e = \frac{1}{P/E \text{ Ratio}} \quad \frac{1}{10} = 0.10$$

$$DPS = \frac{\text{Total Dividends paid}}{\text{No. of Shares}}$$

$$= \frac{100000}{20000} = \text{Rs. } 5$$

The value of the share as per Walter's Model is

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

$$= \frac{5 + .15/.10\,(10 - 5)}{0.10}$$

$$= \frac{5 + 7.5}{0.10}$$

$$= \text{Rs. } 12.5$$

$$\text{Dividend Payout} = \frac{\text{DPS}}{\text{EPS}} \times 100$$

$$= \frac{5}{10} \times 100 = 60\%$$

r > K_e therefore by distributing 60% of earnings, the firm is not following an optional dividend policy. In this case, the optional dividend policy for the firm would be to pay zero dividend and the Market Price would be:

$$P = \frac{5 + .15/.10 \ (10-0)}{.10}$$

$$= \frac{5 + 15}{.10}$$

$$= \frac{20}{.10}$$

$$P = \text{Rs. } 200$$

So, the MP of the share can be increased by following a zero payout, of the P/E is 7.25 instead of 10 then the K_e = 1 = 0.138 and in this case K_e > r and the MP of the share is 7.25.

$$P = \frac{5 + \dfrac{.15}{.138} \ (10-5)}{.138} \ .138$$

$$= 5 + 5.435$$

$$\boxed{P = \text{Rs. } 75.62}$$

Exercise 6

The earnings per share of a company are Rs. 80 and the rate of capitalization applicable to the company is 12%. The company has before it an option of adopting a payment ratio of 25% (or) 50% (or) 75%. Using Walter's formula of dividend payout, compute the market value of the company's share of the productivity of retained earnings (i) 12% (ii) 8% (iii) 5%.

Solution

$$E = 10 \text{ and } K_e = 12\% = 0.12$$

As per Walter's Model, the market price of a share is

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

(A) If payout ratio is 25%

    (i)   r = 12% = 0.12, D = 25% of 10 = Rs. 2.50

$$P = \frac{2.5 + \dfrac{.12}{.12}(10 - 2.50)}{.12}$$

$$= \frac{2.50 + 7.50}{0.12}$$

$$= \frac{10}{0.12}$$

$$= \text{Rs. } 83.33$$

$$R = 8\% = 0.08$$

$$R = 8\% = 0.08, D = 25\% \text{ of } 10 = \text{Rs. } 2.50$$

$$= \frac{2.50 + \dfrac{0.08}{0.12}(10 - 2.50)}{0.12}$$

$$= \frac{2.50 + 5}{0.12}$$

$$= \frac{7.50}{0.12} = \text{Rs. } 62.5$$

Exercise 7

From the following data, calculate the MP of a share of ABC Ltd., under (i) Walter's formula; and (ii) Dividend growth model.

    EPS = Rs. 10   DPS = Rs. 6

    K_e = 18%   r = 25%

    retention ratio (b) = 45%

Solution:

(i) Walter's Model

$$P = \frac{D + r(EPS - DPS)}{K_e}$$

$$= \frac{6 + .25(10\text{-}6)}{.18}$$

$$= \frac{6 + 5.56}{.18}$$

$$= \frac{11.56}{.18}$$

$$= \text{Rs. } 64.22$$

(ii) Dividend Growth Model

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

$$= \frac{10(1-.45)}{.18 - (.45 \times .25)}$$

$$= \frac{10 \times .55}{.18 - 0.1125}$$

$$= \frac{5.5}{0.0675}$$

$$= \text{Rs. } 81.48$$

Criticism of Walter's Model

The following are some of the important criticisms against Walter model:

Walter model assumes that there is no extracted finance used by the firm. It is not practically applicable.

There is no possibility of constant return. Return may increase or decrease, depending upon the business situation. Hence, it is applicable.

According to Walter model, it is based on constant cost of capital. But it is not applicable in the real life of the business.

Gordon's Model

Myron Gorden suggest one of the popular model which assume that dividend policy of a firm affects its value, and it is based on the following important assumptions:

1. The firm is an all equity firm.
2. The firm has no external finance.
3. Cost of capital and return are constant.
4. The firm has perpetual life.
5. There are no taxes.
6. Constant relation ratio $(g = br)$.
7. Cost of capital is greater than growth rate $(K_e > br)$.

Gordon's model can be proved with the help of the following formula:

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

Where,

P = Price of a share

E = Earnings per share

$1-b$ = D/p ratio (i.e., percentage of earnings distributed as dividends)

K_e = Capitalization rate

br = Growth rate = rate of return on investment of an all equity firm.

Exercise 8

Raja company earns a rate of 12% on its total investment of Rs. 6,00,000 in assets. It has 6,00,000 outstanding common shares at Rs. 10 per share. Discount rate of the firm is 10% and it has a policy of retaining 40% of the earnings. Determine the price of its share using Gordon's Model. What shall happen to the price of the share if the company has payout of 60% (or) 20%?

Solution

According to Gordon's Model, the price of a share is

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

Given: E = 12% of Rs. 10 = Rs. 1.20

r = 12% = 0.12

K = 10% = 0.10

t = 10% = 0.10

b = 40% = 0.40

Put the values in formula

$$P = \frac{1.20\,(1-.40)}{10-(.40 \times .12)}$$

$$= \frac{1.20 \times (0.60)}{.10-0.048}$$

$$= \frac{0.72}{0.052}$$

$$= Rs.\ 13.85$$

If the firm follows a policy of 60% payout then $b = 20\% = 0.20$

The price is

$$P = \frac{1.20\,(1 \times 0.20)}{.10 - (.2 \times .12)}$$

$$= 0.05$$

$r = 4\% = 0.04$, $D = 25\%$ of $10 = 2.50$

$$= 2.50 + \frac{\dfrac{0.04}{0.12}(10 - 2.50)}{0.12}$$

$$= \frac{5}{0.12} = Rs.\ 41.67$$

If payout ratio is 50%, $D = 50\%$ of $10 = Rs.\ 5$

$r = 12\% = 0.12$, $D = 50\%$ of $10 = Rs.\ 5$

$$= 5 + \frac{\dfrac{0.12}{0.12}(10 - 5)}{0.12}$$

$$= \frac{5 + 5}{0.12}$$

$$= \frac{10}{0.12} = Rs.\ 83.33$$

$r = 8\% = 0.08$, $D = 50\%$ of $10 = 5$

$$= \frac{5 + \dfrac{0.8}{0.12}(10 - 5)}{0.12}$$

$$= \frac{5 + 3.33}{0.12}$$

$$= \frac{8.33}{0.12} = Rs.\ 69.42$$

$r = 4\% = 0.04$, $D = 50\%$ of $10 = 5$

$$= 5 + \frac{0.04}{0.12}(10 - 5)$$

$$= \frac{5 + 1.67}{0.12}$$

$$= \frac{6.67}{0.12} = Rs.\ 55.58$$

C. If payout ratio is 75 %

(i)

$$D = 75\% \quad \text{of} \quad 10 \quad = 7.50$$

$$r = 12\% = 0.12, \quad D = 75\% \text{ of } 10 = 7.50$$

$$P = \frac{\dfrac{7.50+0.08}{0.12}(10-7.50)}{0.12}$$

$$= \frac{7.50+2.50}{0.12} = \text{Rs. } 83.33$$

(ii)

$$r = 8\% = 0.8, \quad D = 75\% \text{ of } 10 = 7.50$$

$$P = \frac{\dfrac{7.50+0.08}{0.12}(10-7.50)}{0.12}$$

$$= \frac{7.50+1.67}{0.12}$$

$$= \frac{9.17}{0.12} = \text{Rs. } 76.42$$

(iii)

$$r = 4\% = 0.04, \quad D = 75\% \text{ of } 10 = 7.50$$

$$P = \frac{\dfrac{7.50+0.04}{0.12}(10-7.50)}{0.12}$$

$$= \frac{7.50+0.83}{0.12}$$

$$= \frac{8.33}{0.12} = \text{Rs.} 69.42$$

$$= \frac{1.20 \times 0.80}{.10-0.024}$$

$$= \frac{0.96}{0.076} = \text{Rs.} 12.63$$

If the payout is 20 % the value of b = 0.60 and the price of the share is

$$= \frac{1.20\ (1-0.60)}{.10-(.80 \times .12)}$$

$$= \frac{1.20 \times 0.40}{.10-0.096}$$

$$= \frac{0.48}{0.0004} = \text{Rs. } 120$$

Criticism of Gordon's Model

Gordon's model consists of the following important criticisms:

Gordon model assumes that there is no debt and equity finance used by the firm. It is not applicable to present day business.

K_e and r cannot be constant in the real practice.

According to Gordon's model, there are no tax paid by the firm. It is not practically applicable.

FACTORS DETERMINING DIVIDEND POLICY

Profitable Position of the Firm

Dividend decision depends on the profitable position of the business concern. When the firm earns more profit, they can distribute more dividends to the shareholders.

Uncertainty of Future Income

Future income is a very important factor, which affects the dividend policy. When the shareholder needs regular income, the firm should maintain regular dividend policy.

Legal Constrains

The Companies Act 1956 has put several restrictions regarding payments and declaration of dividends. Similarly, Income Tax Act, 1961 also lays down certain restrictions on payment of dividends.

Liquidity Position

Liquidity position of the firms leads to easy payments of dividend. If the firms have high liquidity, the firms can provide cash dividend otherwise, they have to pay stock dividend.

Sources of Finance

If the firm has finance sources, it will be easy to mobilise large finance. The firm shall not go for retained earnings.

Growth Rate of the Firm

High growth rate implies that the firm can distribute more dividend to its shareholders.

Tax Policy

Tax policy of the government also affects the dividend policy of the firm. When the government gives tax incentives, the company pays more dividend.

Capital Market Conditions

Due to the capital market conditions, dividend policy may be affected. If the capital market is prefect, it leads to improve the higher dividend.

TYPES OF DIVIDEND POLICY

Dividend policy depends upon the nature of the firm, type of shareholder and profitable position. On the basis of the dividend declaration by the firm, the dividend policy may be classified under the following types:

- Regular dividend policy
- Stable dividend policy
- Irregular dividend policy
- No dividend policy.

Regular Dividend Policy

Dividend payable at the usual rate is called as regular dividend policy. This type of policy is suitable to the small investors, retired persons and others.

Stable Dividend Policy

Stable dividend policy means payment of certain minimum amount of dividend regularly. This dividend policy consists of the following three important forms:

Constant dividend per share

Constant payout ratio

Stable rupee dividend plus extra dividend.

Irregular Dividend Policy

When the companies are facing constraints of earnings and unsuccessful business operation, they may follow irregular dividend policy. It is one of the temporary arrangements to meet the financial problems. These types are having adequate profit. For others no dividend is distributed.

No Dividend Policy

Sometimes the company may follow no dividend policy because of its unfavourable working capital position of the amount required for future growth of the concerns.

MODEL QUESTIONS

1. What is dividend? Explain the types of dividend.
2. Explain the approaches of dividend decision.
3. Explain the factors affecting the dividend policy.
4. Discuss the various types of dividend policy.
5. Explain the irrelevance and relevance dividend theories.
6. State the criticism of MM approach.
7. What are the assumptions of Walter's model?

8. What are the assumptions and criticisms of Gordon's model?

9. U Ltd. belongs to risk class of capitalization rate which is 14%. It has currently 3000 shares outstanding at Rs. 50 each; during the year Rs. 5 is declared as dividend. The net income of the company is Rs. 83,000. For the new project investment is required of Rs. 1,20,000. Calculate under MM hypothesis that the payment of dividend does not affect the value of the firm.

   (**Ans.** dividend paid Rs. 52 number of equity shares 1000 and value of the firm Rs. 1,50,000. Dividend not paid Rs. 57. Number of equity shares 37000/57 shares (approx. 650 shares) Value of the firm is Rs. 1,50,000)

10. X Ltd., had 25,000 equity shares of Rs. 100 each outstanding on 1st April, the shares are issued at par in the market, the company removed restraint in the dividend policy, the company ready to pay dividend of Rs. 15 per share for the current calendar year. The capitalization rate is 15%. Using MM approach assuming that no taxes, calculate the price of the shares at the end of the year:

    (a) When dividend is not declared.

    (b) When dividend is declared.

    (c) Find out the number of new shares that the company issues to meet its investment needs of Rs 15,00,000 assuming that net income of Rs. 7,50,000 and assuming that the dividend is paid.

    (**Ans.** (a) Rs.105 (b) Rs.115 (c) 10,000 shares)

11. The following information is available in respect of a companys capitalization rate is 15% earnings per share Rs. 75. Assured rate on investment is 14%, 12%, 10%. The effect of dividend policy on market price of shares applying Walter's model the dividend payout ratio is (a) 0% (b) 40% (c) 60% (d) 100%)

12. The following data are available for R Ltd.

    — Earnings per share Rs. 8

    — Rate of return on investment 16%

    — Rate of return to shareholders 12%

    If Gordon's basic valuation formula is applied what will be the price per share when the dividend pay out ratio is 25%, 50%, 60% and 100%.

    (**Ans.** Rs. 0, 100, 85.71, and 66.67)