SEM VI
Dividend Policy

Dividend is the payment by a company to its shareholders out of its distributable profit. In other words, dividend is paid to the shareholders out of the revenue profits earned by it in the ordinary course of business.

Concept of Dividend:

Dividend represents that part of the profit of a firm which is distributed to the shareholders. The com¬pany declares the amount of dividend at its shareholders' meeting. Shareholders will get dividends in proportion to their shareholding in the company. Dividend may be in the form of cash or non-cash, i.e. bonus shares.

Factors Determining Divided Policy:

(i) Type of Industry:

Industries that are characterised by stability of earnings may formulate a more consistent policy as to dividends than those having an uneven flow of income. For example, public utilities concerns are in a much better position to adopt a relatively fixed dividend rate than the industrial concerns.

(ii) Age of Corporation:

Newly established enterprises require most of their earning for plant improvement and expansion, while old companies which have attained a longer earning experience, can formulate clear cut dividend policies and may even be liberal in the distribution of dividends.

(iii) Extent of share distribution: A closely held company is likely to get consent of the shareholders for the suspension of dividends or for following a conservative dividend policy. But a company with a large number of shareholders widely scattered would face a great difficulty in securing such assent. Reduction in dividends can be affected but not without the co-operation of shareholders.

(iv) Need for additional Capital:

The extent to which the profits are ploughed back into the business has got a considerable influence on the dividend policy. The income may be conserved for meeting the increased requirements of working capital or future expansion.

(v) Business Cycles:

During the boom, prudent corporate management creates good reserves for facing the crisis which follows the inflationary period. Higher rates of dividend are used as a tool for marketing the securities in an otherwise depressed market.

(vi) Changes in Government Policies:
Sometimes government limits the rate of dividend declared by companies in a particular industry or in all spheres of business activity. The Government put temporary restrictions on payment of dividends by companies in July 1974 by making amendment in the Indian Companies Act, 1956. The restrictions were removed in 1975.

(vii) Trends of profits:
The past trend of the company's profit should be thoroughly examined to find out the average earning position of the company. The average earnings should be subjected to the trends of general economic conditions. If depression is approaching, only a conservative dividend policy can be regarded as prudent.

(viii) Taxation policy:
Corporate taxes affect dividends directly and indirectly— directly, in as much as they reduce the residual profits after tax available for shareholders and indirectly, as the distribution of dividends beyond a certain limit is itself subject to tax. At present, the amount of dividend declared is tax free in the hands of shareholders.

(ix) Future Requirements:
Accumulation of profits becomes necessary to provide against contingencies (or hazards) of the business, to finance future- expansion of the business and to modernise or replace equipments of the enterprise. The conflicting claims of dividends and accumulations should be equitably settled by the management.

(x) Cash Balance:
If the working capital of the company is small liberal policy of cash dividend cannot be adopted. Dividend has to take the form of bonus shares issued to the members in lieu of cash payment.

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Walter's Model:

Professor, James, E. Walter's model suggests that dividend policy and investment policy of a firm cannot be isolated rather they are interlinked as such, choice of the former affects the value of a firm. His proposition clearly states the relationship between the firms' (i) internal rate of return (i.e., r) and its cost of capital or the required rate of return (i.e., k_e).

That is, in other words, an optimum dividend policy will have to be determined by the relationship of r and k. In short, a firm should retain its earnings it the return on investment exceeds the cost of capital and in the opposite case, it should distribute its earnings to the shareholders.

Proposition may be summed up as under:

(a) When r > k (Growth Firms):

When r > k, it implies that a firm has adequate profitable investment oppor¬tunities, i.e., it can earn more what the investors expect. They are called growth firms. The optimum dividend policy, in case of those firms, may be given by a D/P ratio (Dividend pay-out ratio) of 0. It means a firm should retain its entire earnings within itself and as such, the market value of the share will be maximised.

(b) When r<k (Declining Firms):

On the contrary, when r<k, it indicates that a firm does not have profitable investment opportunities to invest their earnings. They are known as declining firms. In this case, rate of return from new investment (r) is less than the required rate of return or cost of capital (k), and as such, retention is not at all profitable.
The investors will be better-off if earnings are paid to them by way of dividend and they will earn a higher rate of return by investing such amounts elsewhere. In that case, the market price of a share will be maximised by the payment of the entire earnings by way of dividends amongst the investors. There will be an optimum dividend policy when D/P ratio is 100%.

(c) When r = k (Normal Firms)

If r = k, it means there is no one optimum dividend policy and it is not a matter whether earnings are distributed or retained due to the fact that all D/P ratios, ranging from 0 to 100, the market price of shares will remain constant.
In other words, when the profitable investment opportunities are not available, the return from investment (r) is equal to the cost of capital (k), i.e., when r = k, the dividend policy does not affect the market price of a share.

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Assumptions:
Walter's model is based on the following assumptions:

- All financing through retained earnings is done by the firm, i.e., external sources of funds, like, debt or new equity capital is not being used;
- It assumes that the internal rate of return (r) and cost of capital (k) are constant;
- It assumes that key variables do not change, viz., beginning earnings per share, E, and dividend per share, D, may be changed in the model in order to determine results, but any given value of E and D are assumed to remain constant in determining a given value;
- All earnings are either re-invested internally immediately or distributed by way of dividends;
- The firm has perpetual or very long life.

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

$$\text{or,} \quad P = \frac{D + \frac{r}{k}(E - D)}{k}$$

where, P = Market price per share;
D = Dividend per share;
E = Earnings per share;
r = Internal rate of return;
k_e = Cost of capital or capitalization rate.

In this proposition it is evident that the optimal D/P ratio is determined by varying 'D' until and unless one receives the maximum market price per share.

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Example:
Cost of Capital (k) = 10%
Earnings per share (E) = Rs. 10.
Assume Internal Rate of Return (r):(i) 15%; (ii) 10%; and (iii) 8% respectively
Assuming that the D/P ratios are: 0; 40%; 76% and 100% i.e.,
dividend share is (a) Rs. 0, (b) Rs. 4, (c) Rs. 7.5 and (d) Rs. 10

Ans:

(a) Rs. 0, (b) Rs. 4, (c) Rs. 7.5 and (d) Rs. 10, the effect of different dividend policies for three alternatives of r may be shown as under :

When $r>k$	When $r= k$	When $r<k$
r = .15	r = .10	r = .08
k = .10	k = .10	k = .10
E = Rs.10	E = Rs. 10	E = Rs. 10

Dividend Policy and the Value of Shares (under Walter's model)

When $r>k$	When $r=k$	When $r<k$
(At different levels of 'D' the value of 'P' will be as under :)	(At different levels of 'D' the value of 'P' will be as under :)	(At different levels of 'D' the values of 'P' will be as under :)
(a) D = Rs. 0 $P = \frac{0 + \frac{.15}{.10}(10 - 0)}{.10}$ = Rs. 150	(a) D = Rs. 0 $P = \frac{0 + \frac{.10}{.10}(10 - 0)}{.10}$ = Rs. 100	(a) D = Rs. 0. $P = \frac{0 + \frac{.08}{.10}(10 - 0)}{.10}$ = Rs. 80
(b) D = Rs. 4 $P = \frac{4 + \frac{.15}{.10}(10 - 4)}{.10}$ = Rs. 130	(b) D = Rs.4 $P = \frac{4 + \frac{.10}{.10}(10 - 4)}{.10}$ = Rs. 100	(b) D = Rs. 4. $P = \frac{4 + \frac{.08}{.10}(10 - 4)}{.10}$ = Rs. 88
(c) D = Rs. 7.5 $P = \frac{7.5 + \frac{.15}{.10}(10 - 7.5)}{.10}$ = Rs. 112.50	(c) D = Rs. 7.5 $P = \frac{7.5 + \frac{.10}{.10}(10 - 7.5)}{.10}$ = Rs. 100	(c) D= Rs. 7.5 $P = \frac{7.5 + \frac{.08}{.10}(10 - 7.5)}{.10}$ = Rs. 95
(d) D = Rs. 10 $P = \frac{10 + \frac{.15}{.10}(10 - 10)}{.10}$ = Rs. 100	(d) D = Rs. 10 $P = \frac{10 + \frac{.15}{.10}(10 - 10)}{.10}$ = Rs. 100	(d) D = Rs. 10 $P = \frac{10 + \frac{.08}{.10}(10 - 10)}{.10}$ = Rs. 100

Thus, according to the Walter's model, the optimum dividend policy depends on the relationship between the internal rate of return r and the cost of capital, k. The conclusion, which can be drawn up is that the firm should retain all earnings if $r > k_e$ and it should distribute entire earnings if $r < k_e$ and it will remain indifferent when $r = k_e$

Criticisms:

(i) Walter assumes that all investments are financed only be retained earnings and not by external financing which is seldom true in real world situation and which ignores the benefits of optimum capital structure. Not only that, even when a firm reaches the optimum capital structure level, the same should also be maintained in future. In this context, it can be concluded that Walter's model is applicable only in limited cases.

(ii) Walter also assumes that the internal rate of return (r) of a firm will remain constant which also stands against real world situation. Because, when more invest¬ment proposals are taken, r also generally declines.

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Gordon's Model:

Gordon's model is based on the following assumptions:

- The firm is an all-equity firm;
- No external financing is available or used. Only retained earnings are used to finance the investment program
- The internal rate of return, r, and the capitalization rate or cost of capital, k, is constant;
- The firm has perpetual or long life;
- Corporate taxes do not exist;
- The retention ratio, b, once decided upon is constant. Thus the growth rate(g) = br, is also constant;
- $k_e > br = g$.

According to Gordon's model, the market value of a share is equal to the present value of an infinite future stream of dividends.
Thus,

$$P_1 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)} + \ldots\ldots + \frac{D_x}{(1+k)^x}$$

$$= \sum_{t=1}^{n} \frac{D_t}{(1+k)^t}$$

It can also be re-written in a very simple way as under :

$$P_1 = \frac{E(1-b)}{k-br}$$

where, P = Price of shares;
E = Earnings per share;
b = Retention ratio/fraction of retained earnings;
k = Cost of Capital;
br = g = Growth rate in r;
r = Internal rate of return.

Gordon clearly states the relationship between internal rate of return, r, and the cost of capital, k. He also contends that dividend policy depends on the profitable investment opportunities.

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(a) When r > k (Growth Firms):

When r > A, the value per share P increases since the retention ratio, b, increases, i.e., P increases with decrease in dividend pay-out ratio. In short, under this condition, the firm should distribute smaller dividends and should retain higher earnings..

(b) When r < k (Declining Firms):

When r<k, the value per share P decreases since the retention ratio b, increases, i.e., P increases with increase in dividend pay-out ratio. It can be proved that the value of b increases, the value of the share continuously falls.
If the internal rate of return is smaller than k, which is equal to the rate available in the market, profit retention clearly becomes undesirable from the shareholders' viewpoint. Each additional rupee retained reduces the amount of funds that shareholders could invest at a higher rate elsewhere and thus it further reduces the value of the company's share.

(c) When r = k (Normal Firms):

When r = k, the value of the firm is not affected by dividend policy and is equal to the book value of assets, i.e., when r = k, dividend policy is irrelevant.
It implies that under competitive conditions, k must be equal to the rate of return, r, available to investors in comparable shares in such a manner that any funds distrib¬uted as dividends may be invested in the market at the rate which is equal to the internal rate of return of the firm.

Example:

The following information is available in respect of the rate of return on investments (r), cost of capital (k) and earning per share (E) of X Ltd.

Rate of return of Investment — (r) :

(i) 15% ; (ii) 10% and (iii) 8%.

Cost of Capital (k) = 10%.

Earning per Share (E) = Rs. 10.

Determine the value of its shares assuming the following :

	$\frac{D}{P}$ ratio i.e., $(1 - b)$	Retention Ratio i.e., $b = \frac{R}{E}$
(a)	100	0
(b)	80	20
(c)	70	30
(d)	50	50
(e)	35	65

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Ans:

According to the formula developed by Gordon, the value of share is given by the following —

$$P = \frac{E\,(I - b)}{k - br}$$

Therefore, the value of shares of X Ltd. for different $\frac{D}{P}$ and retention ratios for the three alternatives of r, i. e., (i) $r>k$, (ii) $r = k$, and (iii) $r<k$, is presented in the table that follows.

When $r>k$	When $r = k$	When $r<k$
r = .15	r = .10	r = .08
k = .10	k = .10	k = .10
E = Rs. 10	E = Rs. 10	E = Rs. 10.

Dividend policy and the Value of Shares (Under Gordon's Model)

When $r > k$	When $r=k$	When $r < k$
At different levels of 'b', the value of 'P' will be as under) :	(At different levels of 'b', the value of 'P' will be as under) :	(At different levels of 'b', the value of 'P' will be as under) :
(a) b = 0 ∴ br = 0 $P = \frac{\text{Rs. } 10\,(1 - 0)}{.10 - 0}$ = Rs. 100	b = 0 ∴ br = 0 $P = \frac{\text{Rs. } 10\,(1 - 0)}{.10 - 0}$ = Rs. 100	b = 0 ∴ br = 0 $P = \frac{\text{Rs. } 10\,(1 - 0)}{.10 - 0}$ = Rs. 100
(b) b=.20 ∴ br =.20×.15=.030 $P = \frac{\text{Rs. } 10\,(1 - .20)}{.10 - .03}$ $= \frac{\text{Rs. } 8}{.070}$ = Rs. 114	b=.20 ∴ br=.20 ×.10=.02 $P = \frac{\text{Rs. } 10\,(1 - .20)}{.10 - .02}$ $= \frac{\text{Rs. } 8}{.08}$ = Rs. 100	b=.20 br=.20×.08=.016 $P = \frac{\text{Rs. } 10\,(1 - .20)}{.10 - .016}$ $= \frac{\text{Rs. } 8}{.084}$ = Rs. 95
(c) b=.30 ∴ br=.03×.15=.045 $P = \frac{\text{Rs. } 10\,(1 - .30)}{.10 - .045}$ $= \frac{\text{Rs. } 7}{.055}$ = Rs. 127	b=.30 ∴ br=.30×.10=.03 $P = \frac{\text{Rs. } 10\,(1 - .30)}{.10 - .03}$ $= \frac{\text{Rs. } 7}{.07}$ = Rs. 100	b=.30 ∴ br=.30×.08=.024 $P = \frac{\text{Rs. } 10\,(1 - .30)}{.10 - .024}$ $= \frac{\text{Rs. } 7}{.076}$ = Rs. 92
(d) b=.50 ∴ br=0.5×.15=0.75 $P = \frac{\text{Rs. } 10\,(1 - .50)}{.10 - .075}$ $= \frac{\text{Rs. } 5}{.025}$ = Rs. 200	b=.50 ∴ br=.50×.10=.05 $P = \frac{\text{Rs. } 10\,(1 - .50)}{.10 - .05}$ $= \frac{\text{Rs. } 5}{.05}$ = Rs. 100	b=.50 ∴ br=.50 ×.08=.04 $P = \frac{\text{Rs. } 10\,(1 - .50)}{.10 - .04}$ $= \frac{\text{Rs. } 5}{.06}$ = Rs. 83
(e) b=.65 ∴ br=.65×.15=.098 $P = \frac{\text{Rs. } 10\,(1 - .65)}{.10 - .098}$ $= \frac{\text{Rs. } 3.5}{.002}$ = Rs. 1,750	b=.65 ∴ br=.65×.10=.065 $P = \frac{\text{Rs. } 10\,(1 - .65)}{.10 - .065}$ $= \frac{\text{Rs. } 3.5}{.035}$ = Rs. 100	b=.65 ∴br=.65 =.08=.052 $P = \frac{\text{Rs. } 10\,(1 - .65)}{.10 - .052}$ $= \frac{\text{Rs. } 3.5}{.048}$ = Rs. 73

The above table clearly shows that —

(i) When $r>k$, the market value of shares, P, increases with the retention ratio b for growth firms;

(ii) when $r = k$, the market value of the share is not affected at all by dividend policy; and

(iii) when $r<k$, the market value of share, P, increases with the payout ratio for declining firms.

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Dividend and Uncertainty:

It has already been explained while defining Gordon's model that when all the assumptions are present and when $r = k_e$, the dividend policy is irrelevant.

If assump¬tions are modified in order to conform with practical utility, Gordon assumes that even when $r = k_e$, dividend policy affects the value of shares which is based on the assumption that under conditions of uncertainty, investors tend to discount distant dividends at a higher rate than they discount near dividends.

That is, there is a assumption:

(a) investors are risk-averse, and
(b) they put a premium on certain return while discount uncertain returns.