Dividend Theories BBSR CIME, BBSR Dr. P. D. Das, By CIME, BHUBANESWAR

DIVIDENDS

Dividends are payments made to stockholders from a firm's earnings, whether those earnings were generated in the current period or in previous periods.

TYPES OF DIVIDEND

- Interim Dividend An interim dividend is one which is declared before the declaration of the final dividend. It is a dividend declared between two annual general meetings.
- Final Dividend at the end of the accounting period, the accounts of the company are prepared to ascertain the amount of profit earned by the company. The directors take into account the final position of the company's future prospects and decide to recommend to the shareholders at the AGM the dividend to be paid to shareholders.

DIFFERENT WAYS OF PAYING DIVIDENDS.

- **Cash Dividend:** It takes various forms:
- 1. Regular cash dividend cash payments made directly to stockholders, usually each quarter
- Extra cash dividend indication that the "extra" amount may not be repeated in the future
 Special cash dividend similar to extra dividend, but definitely won't be repeated
- 4. Liquidating dividend some or all of the business has been sold

• Stock Dividends:

- 1. Pay additional shares of stock instead of cash.
- 2. Increases the number of outstanding shares.
- 3. Small stock dividend
 - a. Less than 20 to 25% TWE, BB

– b. If you own 100 shares and the company declared a 10% stock dividend, you would receive an additional 10 shares

4. Large stock dividend – more than 20 to 25%

CONCEPTS

- Declaration date the board of directors declare the dividends.
- Ex-Dividend date The date from which the stock begins to trade without the right to receive dividend declared.
- Record Date The dividend payment will be made to the members whose names appear in the registrar of members on a particular date.
- Payment date The date on which the company actually mails the dividend warrants.

DIVIDEND POLICY

- Earnings of the firm can either be retained or distributed to the shareholders.
- Dividends are a part of earnings that are distributed to the equity shareholders.
- Dividend payout ratio (D/P ratio) = $\frac{\text{Dividends}}{\text{Net earnings}}$
- Dividend policy deals with decision about the optimal dividend payout ratio and the retention ratio that would maximize the shareholder's wealth.

DO INVESTORS PREFER HIGH OR LOW PAYOUTS? THERE ARE THREE THEORIES:

- **Dividends are irrelevant**: Investors don't care about payout.
- Bird-in-the-hand: Investors prefer a high payout.
 Tax preference: Investors prefer a low payout, hence growth.

DIVIDEND IRRELEVANCE THEORY

- Investors are indifferent between dividends and retention-generated capital gains. If they want cash, they can sell stock. If they don't want cash, they can use dividends to buy stock.
- Modigliani-Miller support irrelevance.
 Theory is based on unrealistic assumptions (no taxes or brokerage costs), hence may not be true. Need empirical test.

BIRD-IN-THE-HAND THEORY

- Investors think dividends are less risky than potential future capital gains, hence they like dividends.
- If so, investors would value high payout firms more highly, i.e., a high payout would result in a high P_0 .

TAX PREFERENCE THEORY

- Low payouts mean higher capital gains. Capital gains taxes are deferred.
- This could cause investors to prefer firms with low payouts, i.e., a high payout results in a low P_0 .

IMPLICATIONS OF 3 THEORIES FOR MANAGERS



WHICH THEORY IS MOST CORRECT?

- Empirical testing has not been able to determine which theory, if any, is correct.
- Thus, managers use judgment when SK setting policy.
- Analysis is used, but it must be applied with judgment.

WHAT'S THE "CLIENTELE EFFECT"?

- Different groups of investors, or clienteles, prefer different dividend policies.
- Firm's past dividend policy determines its current clientele of investors.
- Clientele effects impede changing dividend policy. Taxes & brokerage costs hurt investors who have to switch companies due to a change in payout policy.

WHAT'S THE "INFORMATION CONTENT," OR "SIGNALING," HYPOTHESIS?

- Investors view dividend changes as *signals* of management's view of the future. Managers hate to cut dividends, so won't raise dividends unless they think raise is sustainable.
- Therefore, a stock price increase at time of a dividend increase could reflect higher expectations for future EPS, not a desire for dividends.

WHAT'S THE "RESIDUAL DISTRIBUTION MODEL"?

- Find the reinvested earnings needed for the capital budget.
- Pay out any leftover earnings (the residual) as either dividends or stock repurchases
- This policy minimizes flotation and equity signaling costs, hence minimizes the WACC.

DIVIDEND RELEVANCE: WALTER'S MODEL

Prof. James E. Walter argues that the choice of dividend policies almost always affect the value of the firm.

Assumptions:

- 1. Internal financing: The firm finances all investment through retained earnings; i.e. debt or new equity is not issued.
- 2. Constant return and cost of capital: the firm's rate of return, r, and its cost of capital, k, are constant.
- 3. 100% payout or retention: All earnings are either distributed as dividends or reinvested internally immediately.
- 4. Infinite time: the firm has infinite life

- It emphasis the relationship between dividends and stock market
- According to this approach, stock value responds positively to higher dividends and negatively when there are lower dividends.
- The model expresses the relationship between market price and dividends as:

P = m(D + E/3)

- where, P is the market price of the share
- m is a multiplier
- D is dividend per share
- E is the earnings per share.

WALTER'S MODEL

- According to this model dividends effect the share price of the firm.
- It explains relevance of dividend policy in three situations:



WALTER'S FORMULA TO DETERMINE THE MARKET PRICE PER SHARE:



OPTIMUM PAYOUT RATIO

- Growth Firms Retain all earnings
- Normal Firms Distribute all earnings
- Declining Firms No effect, Dr. P. D. Das,

Example: Dividend Policy: Application of Walter's Model

	Growth Firm, r > k	Normal Firm, r = k Basic Data	Declining Firm, r < k
	<i>r</i> = 0.15	<i>r</i> = 0.10	<i>r</i> = 0.08
	k = 0.10	k = 0.10	<i>k</i> = 0.10
	EPS = Rs 10	EPS = Rs 10	EPS = Rs 10
Payout	Ratio 0%		
DIV	= Re 0	DIV = Re 0	DIV = Re 0
Р	= 0 + (0.15/0.10) (10 - 0)/0.10	P = 0 + [(0.10/0.10) (10 - 0)]/0.10	P = 0 + [(0.08/0.10) (10 - 0)]/0.10
	= Rs 150	= Rs 100	= Rs 80
Payout	Ratio 40%		
DIV	= Rs 4	DIV = Rs 4	DIV = Rs 4
Р	= [4 + (0.15/0.10)(10 - 4)]/0.10	P = [4 + (0.10/0.10) (10 - 4)]/0.10	P = [4 + (0.08/0.10) (10 - 4)]/0.10
	= Rs 130	= Rs 100	= Rs 88
Payout.	Ratio 80%		
DIV	= Rs 8	DIV = Rs 8	DIV = Rs 8
Р	= [8 + (0.15/0.10) (10 - 8)]/0.10	P = [8 + (0.10/0.10) (10 - 8)]/0.10	P = [8 + (0.08/0.10) (10 - 8)]/0.10
	= Rs 110	= Rs 100	= Rs 96
Payout	Ratio 100%		
DIV	= Rs 10	DIV = Rs 10	DIV = Rs 10
Р	= [10 +(0.15/0.10)(10 - 10)]/0.10	P = [10 + (0.10/0.10)(10 - 10)]/0.10	P = [10 + (0.08/0.10)(10 - 10)]/0.10
	= Rs 100	= Rs 100	= Rs 100

Could you note something peculiar here?

- When the rate of return is greater than the cost of capital (r > k), the price per share increases as the dividend payout ratio decreases.
- When the rate of return is equal to the cost of capital (r=k), the price per share does not vary with changes in dividend payout ratio.
- When the rate of return is lesser than the cost of capital (r< k), the price per share increases as the dividend payout ratio increases.
- The optimum payout ratio for a growth firm (r > k) is nil.
- The optimum payout ratio for a normal firm (r = k) is irrelevant
- The optimum payout ratio for a declining firm (r< k) is 100%

CRITICISMS

- It is assumed that all investments are financed through retained earnings. It ignores other financing options.
- It is assumed that the internal rate of return and but with the changing fortune for industries these rate of return would also change.
- It is assumed that the cost of capital does not change. Walter has ignored risk.
 - The model also ignores that the price of a share is dependent on a lot of factors and present value of dividends is only one of them.



GORDAN'S MODEL

- Lets come to yet another popular model explicitly relating the market value of the firm to dividend policy developed by **Myron Gordon**.
- According to this model, investors put a premium on a certain returns (i.e. dividends) and discount uncertain returns (i.e capital gains).

DIVIDEND RELEVANCE: GORDON'S MODEL

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Gordon's model is based on the following assumptions:

- All-equity firm
- No external financing
- Constant return
- Constant cost of capital
- Perpetual earnings 259
- No taxes Constant retention
 - Cost of capital greater than growth rate

GORDAN'S MODEL

• Market price of a share according to Gordon's model:

 $P = \frac{E(1-b)}{k_e - br}$ where, E is earnings per share
b is retention ratio
r is the rate of return on investment
k_e is the cost of capital.
br = g
(1-b) = D/P ratio

In Gordon's model the dividend policy is dependent on the availability of investment opportunities and the relationship between the firm's cost of capital, k and the internal rate of return. The various relationships are shown below.

- Growth Firms, r > K The value per share P, increases with an increase in the retention ratio, b, that is, P increases with a decrease in the dividend payout ratio (D/E). In other words, when r > K, the firm should distribute lesser dividend and retain higher amount from earnings.
- **Normal Firms,** $\mathbf{r} = \mathbf{K}$ The market value of the firm is not affected by the dividend policy.
- **Declining Firms,** r < K the value of the share decreases with the increase in the retention ratio.

Example: Application of Gordon's Dividend Model

	Basic Data	
Growth Firm, $r > k$	Normal Firm, r = k	Declining Firm, r < k
r = 0.15	r = 0.10	r = 0.08
K = 0.10	K = 0.10	K = 0.10
$EPS_1 = KS 10$	$EPS_1 = Ks 10$	$EPS_4 = RS 10$
Payout Ratio 40%		
$g = br = 0.6 \times 0.15 = 0.09$	$g = br = 0.6 \times 0.10 = 0.06$	$g = br = 0.6 \times 0.08 = 0.048$
$P = \frac{10(1-0.6)}{10(1-0.6)}$	$P = \frac{10(1-0.6)}{10(1-0.6)}$	P = 10(1-0.6)
0.10-0.09	0.10-0.06	0.10 - 0.048
$=\frac{4}{}=$ Rs 400	$=\frac{4}{}=$ Rs 100	$=$ $\frac{4}{}$ = Rs 77
0.01	0.04	0.052
Payout Ratio 60%		
$g = br = 0.4 \times 0.15 = 0.06$	$g = br = 0.4 \times 0.10 = 0.04$	$g = br = 0.4 \times 0.08 = 0.032$
p = 10(1-0.4)	P = 10(1-0.4)	P = 10(1-0.4)
$I = \frac{1}{0.10 - 0.06}$	$I = \frac{1}{0.10 - 0.04}$	$T = \frac{1}{0.10 - 0.032}$
$= \frac{6}{-R_{c}}$ = Rc 150	6 - Re 100	6 Pc 88
$=\frac{1}{0.04}$ = KS 150	$=\frac{1}{0.06}=100$	$=\frac{1}{0.068}$ = KS 66
Payout Ratio 90%		
$g = br = 0.10 \times 0.15 = 0.015$	$g = br = 0.10 \times 0.10 = 0.01$	$g = br = 0.10 \times 0.08 = 0.008$
P = 10(1-0.1)	$P = \frac{10(1-0.1)}{1-1}$	$P = \frac{10(1-0.1)}{10(1-0.1)}$
$r = \frac{1}{0.10 - 0.015}$	$1 - \frac{1}{0.10 - 0.01}$	$1 - \frac{1}{0.10 - 0.008}$
$=\frac{9}{-8}$ = Rs 106	$=\frac{9}{-8}$ = Rs 100	$=\frac{9}{-8898}$
$-\frac{100}{0.085}$	0.09	-1000000000000000000000000000000000000

It is revealed that under Gordon's model:

- The market value of the share, P_0 , increases with the retention ratio, b, for firms with growth opportunities, i.e., when r > k.
- The market value of the share, P_0 , increases with the payout ratio, (1 - b), for declining firms with r < k.
- ☆ The market value of the share is not affected by dividend policy when r = k.

DIVIDEND AND UNCERTAINTYS THE BIRD-IN-THE-HAND ARGUMENT Dr. P. D. Das,

DIVIDEND AND UNCERTAINTY: THE BIRD-IN-THE-HAND ARGUMENT

- Argument put forward, first of all, by Kirshman
- Investors are risk averters. They consider distant dividends as less certain than near dividends. Rate at which an investor discounts his dividend stream from a given firm increases with the futurity of dividend stream and hence lowering share prices.

GORDAN'S MODEL



- "A bird in hand is better than two in a bush"
- Market price of a share according to Gordon's model: $P = \frac{E(1-b)}{k_e - br}, Das, CIVE, and CIVE, bracket and constraints and constraint$

where, E is earnings per share

- b is retention ratio
- r is the rate of return on investment
- k_e is the cost of capital.

DIVIDEND IRRELEVANCE: THE MILLER-MODIGLIANI (MM) P. D. HYPOTHESIS

- Now we will turn attention to the other side where Miller & Modigliani (MM) who advanced their view that the value of the firm depends solely on its earnings power and is not influenced by the manner in which they are split.
- According to M-M, under a perfect market situation, the dividend policy of a firm is irrelevant, as it does not affect the value of the firm.
- They argue that the value of the firm depends on the firm's earnings, which results from its investment policy. Thus, when investment decision of the firm is given, dividend decision –the split of earnings between dividends and retained earnings- is of no significance in determining the value of the firm

Assumptions

- **Perfect capital markets**: The firm operates in perfect capital markets where investors behave rationally, information is freely available to all and transactions and flotation costs do no exist. Perfect capita; markets also imply that no investor is large enough to affect the market price of a share.
- No taxes: taxes do no exist or there are no differences in the tax rates applicable to capital gains and dividends. This means that investors value a rupee of dividend as much as a rupee of capital gains.
- **Investment opportunities are known**: the firm is certain with its investment opportunities and future profits.
- No risk: Risk of uncertainty does not exist i.e. investors are able to forecast future prices and dividends with certainty, and one discount rate is appropriate for all securities and all time periods. Thus, r=k for all t

THE CRUX OF MM HYPOTHESIS

"The effect of dividends on wealth of the shareholders is exactly offset by the effect of other means of financing." **Firm's investment Decision**

A) It may retain its earnings to finance investment programme.

B) it may distribute its earnings as dividends and raise an equal amount by issuing new shares to finance investments.

- According to M-M, r should be equal for all shares. If it is not so, the low return yielding return shares will be sold by the investors who will purchase the high- return yielding shares. This process will tend to reduce the price of the low-return shares and increase the prices of the high-return shares. This switching or arbitrage will continue until the
- differentials in rates of return are eliminated. The discount rate will also be equal for all firms under M-M assumptions since there are no risk differences.
- Thus the rate of return for a share held for one year may be calculated as follows:
- $r = \underline{\text{Dividends} + \text{Capital gains (or loss)}} = r = \underline{\text{Div1} + (\text{P1-P0})}$ Share Price P0 $Po = \underline{\text{Div1} + P1}$

(1+k)

Since it is assumed that there exist perfect markets r = k; we can write the above equation as:

$$Po = Div1 + P1$$

(1+r)

So we can equate both of them:

 $Po = \underline{Div1} + \underline{P1} = \underline{Div1} + \underline{P1}$

 $\frac{1+r}{1+k}$ Where P0 is the market or purchase price per share at time 0.

PI is the market price per share at time 1.

- Div 1 is the dividend per share at time 1.
- k is the cost of capital
- As hypotheses r should be equal for all shares. ۲

RATIONAL EXPECTATIONS MODEL

• According to the rational expectations model, there would be no impact of the dividend declaration on the market price of the share as long as it is at expected rate. However it may show some adjustments in case dividends declared are higher or lower than expected level. If the results are higher than expected than there would be a upward movement and vice versa.

BIRD IN HAND THEORY

- Graham, Dodd and Cottle(1962) state that one dollar of dividends is worth opportunity three dollars of retained cash flows.
- According to their view that dividends are more worth to investors than retained earnings. It is again assumed that the purchaser of a share buys share in expectation of future dividends.

RESIDUAL THEORY

- According to this theory of dividends, the firm should follow its investment policy of accepting all positive NPV projects, and paying out dividends if and only if funds are payable.
- if the firm treats dividends as residual, the dividends can vary from period to period, depending on investment plans and operating results of the firm.
 The residual dividend policy is used by most firms to set a long run target payout.

100 PERCENT PAYOUT THEORY

- Rubner (1966) argued that shareholders prefer dividends and directors requiring additional finance would have to convince investors that proposed new investments offer positive increases in wealth.
- This would encourage the rejection of the projects which serve mainly to enhance the status and job security of managers and company can adopt a policy of 100 percent payout.

100 percent retention theory

• Clarkson and Elliot (1969) put forth their argument that given taxation and transaction costs, dividends are a luxury that neither shareholders nor companies can afford and hence the firm can follow a dividend policy of 100 percent retention. They further argue that successful investment opportunities are open to the firm and there is no point in paying dividends and raising additional capital.

SPAN OF CONTROL THEORY

- Managers in an organisation look at cash flows generated from the operations as an important and convenient source of new capital. The professional managers prefer to have a large span of control as measured by the number of employees, sales, market value, total assets or expenditure.
- In pursuit to the managerial objective of increasing span of control, directors are expected to prefer retention's to distributions.

END OF SESSION for any query, please contact @ pddas1@gmail.com , # 9438485460