# DIVIDEND DECISION
# and  POLICY

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## INTRODUCTION

Dividend refers to the part of corporate net profits distributed among shareholders as a reward for contributing capital in the firm. Total Dividends include both preference dividends and equity dividends. Preference dividends are distributed at fix rate as a percentage every year to the preference shareholders if net earnings are positive. After the payment to preference shareholder, the remaining net profits are either retained or paid or both depending upon the decision taken by the board of directors.

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".

Dividend Decision are made by the directors of a company. It relates to the amount and timing of any cash payments made to its stockholders. The dividend decision and its form is an important one for the firm as it may influence its capital structure and stock price. In addition, it also determine the tax burden bear by the stockholders.

# Dividend Decision

Dividend decision have two opposite impact:

➢It increases dividend thereby stock price rise.

➢It reduces the fund available for investment.

# Types of Dividends

**Cash Dividend**

Dividend is paid in cash

It is paid out of profit and reserves

The extreme case is liquidating dividend.

**Stock Dividend**

No outflow of cash from the firm

Total No of shares increases and its price decreases.

**In other Way**

Right offer at discount rate

Some other benefit may be as per the decision by board of directors.
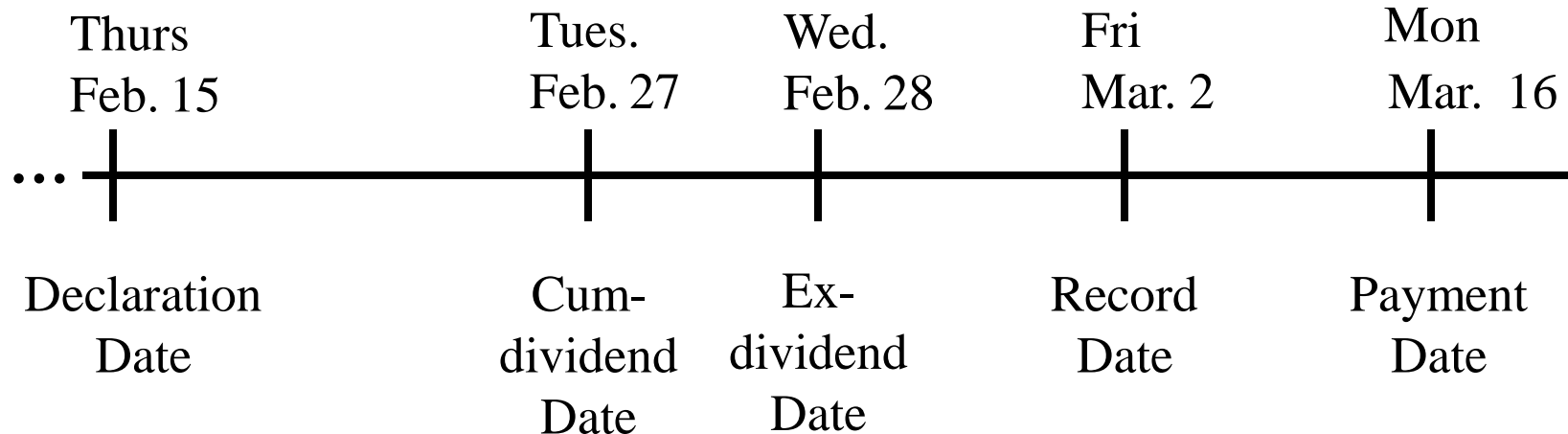
# Types of Dividends

Final Dividend:
Declaration is done in annual general meeting. This is declared after the preparation of all the financial statement. Managers are well aware about the net profit and financial health of the organization.

Interim Dividend:
Dividend is declared before the annual general meeting ant of the time during financial year. Generally it is declared along with mid quarterly results of the companies.

# Dividend Payment Procedure

| Thurs Feb. 15 | Tues. Feb. 27 | Wed. Feb. 28 | Fri Mar. 2 | Mon Mar. 16 |
|---|---|---|---|---|
| Declaration Date | Cum-dividend Date | Ex-dividend Date | Record Date | Payment Date |

**Declaration Date**: The Board of Directors publically declares a payment of dividends.

**Cum-Dividend Date**: The last date on that the **buyer** of a stock is entitled to the dividend.

**Ex-Dividend Date**: The first date on that the **seller** of a stock is entitled to the dividend.

**Record Date**: The corporation prepares a list of all individuals believed to be stockholders as of January 30.

**Payment Date**: The dividend is paid to shareholders of record.

# Factor Determining Dividend Policy

The main determinants of dividend policy of a firm can be classified into:

> Dividend payout ratio

> Dividend policy of the company

> Legal, contractual and internal constraints and restrictions

> Owner's considerations

> Capital market considerations

> Tax system in the country and

> Inflation.

# DIVIDEND  POLICY

➢ Regular dividend policy

➢ Stable dividend policy

I. constant dividend per share

II. constant pay out ratio

III. stable rupee dividend plus extra  dividend

➢ Irregular dividend policy

➢ No dividend policy

# Concept of valuation

1**. Dividend valuation model**
Constant growth model
Non-constant growth model
Finite/infinite holding period
2. **Earning valuation model**
P/E Ratio based model
Price to sales
Price to dividends
Price to Earnings
Price to cash flow
Price to book value

Dividend Models

The value of a share of stock is equal to the present value of an expected stream of future dividends flow.

$$P_0 = \frac{D_1}{(1 + k_e)^1} + \frac{D_2}{(1 + k_e)^2} + \frac{D_3}{(1 + k_e)^3} \ldots \ldots + \frac{D_n}{(1 + k_e)^n}$$

Where $P_0$ = Present value of the stock price
Di = Dividend for each year
Ke = Required rate of return (discount rate)

Constant Growth Model

$$P_0 = \frac{D_0(1+g)^1}{(1+k_e)^1} + \frac{D_0(1+g)^2}{(1+k_e)^2} + \frac{D_0(1+g)^3}{(1+k_e)^3} \dots\dots + \frac{D_0(1+g)^n}{(1+k_e)^n}$$

Where $P_0$ = Present value of the stock price

Di = Dividend for each year

g = Growth rate in dividend

Ke = Required rate of return (discount rate)

**When infinite holding period this formula is to be**

$$P_0 = \frac{D_0(1+g)}{(k_e - g)}$$

Where; g is constant and  Ke > g

Ke = Required rate of return (discount rate) rate can be calculated using CAPM model:

$$K_e = R_f + \beta(R_m - R_f)$$

$R_f$ = Risk free rate of return

$R_m$ = Average market return

$(R_m - R_f)$ = Risk premium

$\beta$ = beta is showing sensitivity coefficient to the market return

## A Non constant Growth Model

Under non constant growth model
1. Calculate the dividend at the beginning of each period
2. Calculate the Present Value of each period dividend
3. Price = Sum of the present value of the dividend.

Finite holding period valuation models:

$$P_0 = \sum_{t=1}^{n} \frac{D_t}{(1 + K_e)^t} + \frac{P_n}{(1 + K_e)^n}$$

$P_0$ = Price of the share in time period 0

$D_t$ = Dividend in time period t

$P_n$ = Share price in time period n

$K_e$ = Required rate of return

The value of common stock can be viewed as a dividend stream plus a market price at the end of the dividend stream.
Earnings-per-share and dividends-per share are estimated for some definite period.
Ending stock price estimated by using long-term PE ratio.
Stock Price = (Present value of dividend flow) + Present value of stock price

# Price Earnings Ratio (P/E ratio ):

It indicates the price that investors are willing to pay for a firm's earnings.
Published P/E ratios based on today's price divided by the latest 12-month earnings.
P/E ratios can be a proxy for risk measurement. The higher the P/E ratio relative to the industry market  P/E ratio, the higher the risk.
P/E ratios vary across industries.
P/E ratios are also dynamic tool of measurement influenced by the political and economic conditions, management abilities and quality of earnings.

The other valuation models which are based on current market price of the share and current financial year figures as stated below;
Price to sales
Price to dividends
Price to Earnings
Price to cash flow
Price to book value

Dividend and value of the firm is analyzed from time to time. On the basis of these analysis different theories have been advanced. These theories can be grouped into two categories:

a. Pro dividend theories that consider dividend decisions to be an active variable influencing the value of the firm.

b. Theories that consider dividend decisions to be irrelevant and

Under dividend relevant stream there are 2 extreme views that is:

➢ Dividends are good as they enhance the shareholders value.

➢ Dividends are bad since they negatively affect shareholder value.

The following are the models that have critically examine the value of shareholders using dividend as a tool of valuation.

1. Walter's model on the Relevance of Dividends

2. Gordon's model on the Relevance of Dividends and

3. The Modigliani-Miller (MM) Hypothesis about Dividend Irrelevance.

These models shall be explained in the subsequent

# WALTER MODEL

A firm's dividend policy will be determined by the relationship between the return on investment
(ROI) and the expected rate of return.
Quantitatively, $P = (D + (E - D) r/k)/k$
where P= price of the share
D = Dividend per share
E = Earning per share
R = is the internal rate of return on the investments and
k is the cost of capital .

Assumptions of Walter Model

- ➢ Internal financing
- ➢ Constant return and cost of capital
- ➢ 100% payout or retention ratio
- ➢ Constant EPS and DIV
- ➢ Infinite time

# WALTER'S MODEL

## Case 1.1: When r>k : r=20%, k=15%, EPS=4

| Particular | 100% Div | 50% Div | 0% Div |
|---|---|---|---|
| EPS | 4 | 4 | 4 |
| DIV | 4 | 2 | 0 |
| Retained Earning (EPS-DIV) | 0 | 2 | 4 |
| Present Value of Div (D/k) | 26.67 | 13.34 | 0 |
| Present value of retained earning | 0.00 | 17.78 | 35.56 |
| Price of the share (P) | 26.67 | 31.11 | 35.56 |

## Case 1.2: When r>k : r=15%, k=15%, EPS=4

| Particular | 100% Div | 50% Div | 0% Div |
|---|---|---|---|
| EPS | 4 | 4 | 4 |
| DIV | 4 | 2 | 0 |
| Retained Earning (EPS-DIV) | 0 | 2 | 4 |
| Present Value of Div (D/k) | 26.67 | 13.34 | 0 |
| Present value of retained earning | 0.00 | 13.33 | 26.67 |
| Price of the share (P) | 26.67 | 26.67 | 26.67 |

## Case 1.3: When r>k : r=10%, k=15%, EPS=4

| Particular | 100% Div | 50% Div | 0% Div |
|---|---|---|---|
| EPS | 4 | 4 | 4 |
| DIV | 4 | 2 | 0 |
| Retained Earning (EPS-DIV) | 0 | 2 | 4 |
| Present Value of Div (D/k) | 26.67 | 13.34 | 0 |
| Present value of retained earning | 0.00 | 8.89 | 17.78 |
| Price of the share (P) | 26.67 | 22.22 | 17.78 |

The firm would have an optimum relation of r and k, i.e., if r > k, then the firm will retain earnings. But if r < k, then the firm would distribute dividend so that shareholders can earn some ROI from elsewhere. If r = k, it becomes matter of indifference.

# CRITISISMS OF WALTER'S MODEL

- No external financing
- Constant return
- Constant opportunity cost of capital

# GORDON'S MODEL

Being risk averse, an investor will always prefer present income to future income.

Quantitatively, $P = E(1 - b)/(k - br)$ where $br = g$ or growth rate where, P is the price per share, E is the earnings per share, b is the retention ratio, $1 - b$ is the payout ratio, br (or g) is the growth rate, r is the return on investment and k is the rate of return required by shareholders.

On comparing r and k, the relationship between market price and the payout ratio is exactly the same as compared to the Walter's model.

# ASSUMPTIONS OF GORDON'S MODEL

- ➤ All are equity firms
- ➤ There is no external financing
- ➤ There is constant return
- ➤ The cost of capital is constant
- ➤ There is perpetual earnings
- ➤ No taxes
- ➤ Constant retention
- ➤ Cost of capital will be greater than growth rate.

# Gordon Model: Example

| Case 1: When r>k : r=20%, k=15%, EPS=4 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Partucular | 10%Div | 20%Div | 30%Div | 40% Div | 50% Div | 60%Div | 70%Div | 80%Div | 90%Div | 100% Div |
| EPS | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| DIV (E(1-b) | 0.4 | 0.8 | 1.2 | 1.6 | 2 | 2.4 | 2.8 | 3.2 | 3.6 | 4 |
| P=Div(1-b)/k-br | -13.33 | -80.00 | 120.00 | 53.33 | 40.00 | 34.29 | 31.11 | 29.09 | 27.69 | 26.67 |

| Case 1: When r=k : r=15%, k=15%, EPS=4 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Partucular | 10%Div | 20%Div | 30%Div | 40% Div | 50% Div | 60%Div | 70%Div | 80%Div | 90%Div | 100% Div |
| EPS | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| DIV (E(1-b) | 0.4 | 0.8 | 1.2 | 1.6 | 2 | 2.4 | 2.8 | 3.2 | 3.6 | 4 |
| P=Div(1-b)/k-br | 26.67 | 26.67 | 26.67 | 26.67 | 26.67 | 26.67 | 26.67 | 26.67 | 26.67 | 26.67 |

| Case 1: When r<k : r=10%, k=15%, EPS=4 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Partucular | 10%Div | 20%Div | 30%Div | 40% Div | 50% Div | 60%Div | 70%Div | 80%Div | 90%Div | 100% Div |
| EPS | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| DIV (E(1-b) | 0.4 | 0.8 | 1.2 | 1.6 | 2 | 2.4 | 2.8 | 3.2 | 3.6 | 4 |
| P=Div(1-b)/k-br | 6.67 | 11.43 | 15.00 | 17.78 | 20.00 | 21.82 | 23.33 | 24.62 | 25.71 | 26.67 |

# MILLER-MODIGLIANI MODEL

MM hypothesis pronounced that under a perfect market situation the dividend policy of a firm is irrelevant, as it does not affect the value of the firm. At any level of dividend firm value is same.

A firm under perfect capital market condition may face one of the following three situation regarding the payment of dividends:

1. The firm has sufficient cash to pay dividends

2. The firm does not have sufficient cash to pay dividends & therefore issue new share to pay dividends

3. The firm does not pay dividend, but shareholder need cash

In first situation, shareholder get cash but the firm's assets reduce by the same amount.

In second situation, two transaction take place: first existing shareholder get dividends but they lose value of their claim on assets in favor of new share holders as the firm issue new shares at "FAIR PRICE PRE SHARE."

In third situation, when firm not pay dividend shareholder can create a "HOME MADE DIVIDEND" by selling their share at market price.

# Hypothetical Example of ABC ltd.

ABC Ltd. issues 2crore shares at 100 per share. From this investment firm earned 20crore positive return.

- Firm wants to pay dividend of Rs15.

- Firm issues new share and pay dividends.

- Compare the value of the firm if it does not pay dividend and if it pays dividend

**Situation 1: If firm does not pay dividend:**

Firm's current value is 2*100=200crore  After

the capex the value will increase to
200+20=220crore.

If the firm does not pay dividend the value per
share will be 220/2= Rs.110

**Situation 2: If the firm pays dividends of Rs15:**

- Firm need 30crore(15*2) to pay dividend
- To raise 30crore it has to issue new shares.
- Value of firm after paying dividend will be- 110-15=95
- Shareholder get dividend but incur loss of Rs.15 in the firm of reduced share value.
- Firm issues 30crore/Rs.95= 31.6 lakh new shares.
- Firm has 2.316crore share (2 crore +31.6 lakhs) at 95 per share.
- Thus value of firm is 2.316*95=220crore
- That means that total value of the firm is same in both the situations.

# ASSUMPTIONS

1. Perfect capital markets, i.e., all investors are rational, information is available to all, free of cost, there are no transactional costs, securities are infinitely divisible, no floatation costs, etc.
2. No taxes or no difference in tax rates applicable to dividends and capital gains.
3. Firm has a given investment policy which does not change, i.e., risk extent will be constant.

# CALCULATION OF MM MODEL THROUGH FORMULA

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

Where:

$P_0$ = Prevailing market price of a share

$k_e$ = cost of equity capital

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

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

**Market price of share at end of the period**

P1=P0(1+Ke)-D1

Where:

P1=Market price of share at end of the period

P0=Market price of share at beginning of the period

Ke= cost of equity

D1= dividend at the end of the period

**Value of the firm**

Value of the firm, $nP_0 = (n + \Delta n) P_1 - I + E /(1 + k_e)$

Where;

n = number of shares outstanding at the beginning of the period

$\Delta$ n = additional shares issued during the period.

I = Total amount required for investment

E = Earnings of the firm

# LIMITATION OF MM MODEL

Assumption of perfect capital market is  unrealistic

Investors cannot be indifferent between  dividend & retained earnings

# Real World Factors

## Reasons for Low Dividend
➤ Personal taxes
➤ High issuing cost

## Reasons for High Dividend

**Information Asymmetry:**
Dividend as signal for future performance of the firm
**Low Agency Cost:**
Dividend is a tool of monitoring capital market.
It reduce free cash flow and wasteful spending by managers.
**Bird-in-the-hand fallacy:**
Dividend provide uncertainty resolution.
Desire for current income:

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