Dividend Based Valuation

Basics

1. That portion of profit (after tax) which is distributed among the owners/shareholders of the firm is known as dividends
2. Profit which is not distributed is known as retained earnings.
3. Dividend Policy and dividend decisions are influenced by
   a. Long Term Financing Decision
      i. When there is investment opportunity for growth
      ii. Dividend can be used as financing
   b. Wealth Maximization Decision:
      i. Higher dividends increase value of shares
      ii. investment opportunities for lack of funds and thereby decrease the future earnings
   c. Liquidity
      I. Affects liquidity position as it involves outflow of cash
      II. Ability to pay dividends depends on cash and liquidity position
   d. Legal Constraints
      i. Section 205(1) of the Companies Act 1956,
      ii. Section 123 of companies act, 2013
   e. Stability of dividends
      i. Constant Dividend per Share:
      ii. Constant Payout ratio
      iii. Small Constant Dividend per Share plus Extra Dividend
   f. Type of dividend
      i. Cash dividend
      ii. Stock dividend

Theories on Dividend Policies

Optimal dividend policy is a policy which maximizes share price

The important theories are as follows

1. Traditional
2. Walter Approach
3. Gordon Growth Model
4. Modigliani and Miller (MM) Hypothesis
5. Linter's Model

Basic terms

1. Do means dividend just paid
2. D1 means Dividend payable at the end of year 1

   D1 = Do (1 + growth in year 1)

   D2 = D1 (1 + growth in year2)
3. P1 means price expected in year1, P0 means current market price
4. Return from share price

   $$\frac{P1 - P0 + D1}{P0}$$
5. Payout ratio = DPS/EPS and Retention ratio = 1 - payout ratio
6. Cost of capital is reciprocal of P.E ratio

   K0 = 1/P.E ratio
7. Cost of equity under CAPM

   Ke = Rf + (Rm-Rf)* ? where Rf: Risk free rate, Rm : Market rate and

   β:beta factor

Traditional

1. Given by : Graham and Dodd
2. Theory:
   a. Stock market places considerably more weight on dividends than on retained earnings
   b. weight attached to dividends is equal to four times the weight attached to retained earnings
   c. The weights provided by Graham and Dodd are based on their subjective judgments
3. Formula $\text{Market Price} = \frac{m}{3}\,[\,4\text{DPS} + \text{Retained earnings per share}\,]$

   Where m is a multiplier

Walter Approach

1. Given by Prof. James E. Walter
2. Theory
   a. Dividend policy linked to cost of capital of company(shareholders expectation) and required rate of return from assets
   b. If Ra<Rc, Optimum payout is 100%, if Ra > Rc , optimum payout is 0%
   c. Money who should be with person whoever can get better return
   d. if the internal return of retained earnings is higher than market capitalisation rate, the value of ordinary shares would be high even if dividends are low
3. Formula

$$\text{Market price} = \frac{\text{DPS} + \frac{Ra\,(EPS - DPS)}{Rc}}{Rc}$$

Where Ra is return on investment

Rc and Rc is overall cost of capital

Gordon Growth Model

1. Given by Myron Gordon
2. Theory
   a. Shareholders prefer to pay a higher price for shares on which current dividends are paid
   b. They would discount the value of shares of a firm which postpones dividends
   c. Assumptions
   d. The firm is an all equity firm, and it has no debt
   e. The internal rate of return, r, of the firm is constant
   f. The appropriate discount rate, ke, for the firm remains constant.
   g. The retention ratio, b, once decided upon, is constant
   h. growth rate, g = br where b is retention ratio and r is rate of return
   i. Discount rate is greater than the growth rate, ke> br
3. Formula

$$\text{Market Price} = \frac{D0(1 + g)}{Ke - g}$$

Modigliani and Miller (MM) Hypothesis

1. Given by Modigliani and Miller
2. Theory
   i. Dividend policy has no effect on its value of assets
   ii. Assumptions
   iii. Perfect capital markets and rational investors,

iv. Funds required are raised through equity only

v. No differences in the tax rates applicable to capital gains and dividends.

vi. Risk of uncertainty does not exist. Investors are able to forecast future prices

vii. MM Hypothesis is primarily based on the arbitrage argument

viii. When the firm pays dividends, its advantage is offset by external financing.

3. Formula

$$\text{Market Price (P0)} = \frac{P1 + D1}{1 + Ke}$$

$$\text{Market value of firm} = \frac{(\text{new shares} + \text{old shares})* P1 + \text{Income} - \text{Investment})}{1 + Ke}$$

Dividend Discount Model

1. The price a share will be traded is calculated by the net present value of all expected future divided payment and share price discounted by an appropriate risk-adjusted rate

2. Intrinsic Value = Sum of Present Value of Dividends + Present Value of Stock Sale Price

$$= \frac{D1}{(1 + k)1} + \frac{D2}{(1 + k)2} + \frac{D3}{(1 + k)3} + \ldots\ldots + \frac{Pn}{(1 + k)n}$$

3. Dividend Discount Model can have any of the following growth rates

   a. Zero-growth

   b. Constant-growth(Similar to Gordon Growth Model)

   c. Variable-growth model