

Chapter 6: valuing Stocks

Characteristics of Common Stockholders:

- Common stockholders are the owners of the corporation.
- Stockholders elect the firm's directors. Directors elect officers who manage the firm.
- Represents the true residual ownership of the firm
- Stockholders bear most of the risk of the firm
- Stockholders have the potential to earn very high returns

Primary market for common stock

The initial, funds-raising sale of securities, usually with an investment banker, is in the primary market. There are two types of primary market issues:

Initial public offering or IPO: is the first sale of newly issued stock to "public" investors. The company receives the funds; investors, the shares.

Seasoned Equity offering (SEO): A seasoned offering or secondary offering, usually occurring along with an IPO, is the sale of stock owned by the owners of the firm. It represents the first offering of shares to the "public" markets, though the funds go to the original investors, not the company

Secondary market for common stock

After the stock is issued in the primary market, subsequent trading between investors for liquidity, financial investing, and portfolio rebalancing is in the **secondary** market.

Corporate Stock Quotations (Figure 6.1, p.145)

- Stock symbol
- YTD % Change is the year to date percentage change in the stock price
- Annual dividends (most recent quarterly dividend*4)
- Current dividend yield (Annual dividends/ Closing price)
- P/E ratio (Closing price /sum of quarterly earnings per share during the year)
- Trading volume (in 100s)
- Closing price (last trade price in that day)
- Net change (today's closing price – yesterday's closing price)

BOOK VALUES, LIQUIDATION VALUES, AND MARKET VALUES

Book value of common stockholders represents the accounting value of assets less the accounting value of liabilities. (historical or original costs)

Liquidation value of common stockholders represents the quick sale of individual assets less liabilities owed.

Market value of common stockholders is the value of asset in place (book value) + going concern value which considers (1) future earning power of existing assets and (2) the value of future investment opportunities of the firm.

Dividend growth model

Value of a stock is the present value of the future dividends expected to be generated by the stock.

$$\hat{P}_0 = \frac{D_1}{(1+r)^1} + \frac{D_2}{(1+r)^2} + \frac{D_3}{(1+r)^3} + \dots + \frac{D_\infty}{(1+r)^\infty}$$

A stock whose dividends are expected to grow forever at a constant rate, g .

$$D_1 = D_0 (1+g)^1$$

$$D_2 = D_0 (1+g)^2$$

$$D_t = D_0 (1+g)^t$$

If g is constant the dividend growth formula converges to:

$$\hat{P}_0 = \frac{D_0(1+g)}{r-g} = \frac{D_1}{r-g}$$

Constant growth stock

If g is constant, for the Price at any time period 't', the dividend growth formula converges to:

$$\hat{P}_t = \frac{D_{t+1}}{r-g}$$

What happens if $g > r$?

If $g > r$, the constant growth formula leads to a negative stock price, which does not make sense.

The constant growth model can only be used if: $r > g$
 g is expected to be constant forever

What happens if $g = 0$?

Solving for r

$$r = \frac{D_1}{P_0} + g$$

Returns on Stock investments:

$$r = \frac{D_1 + (\hat{P}_1 - P_0)}{P_0}$$

$$\text{Expected Dividend returns} = \frac{D_1}{P_0}$$

$$\text{Expected Capital Gains returns} = g = \frac{\hat{P}_1 - P_0}{P_0}$$

r Our opportunity cost has to at least equal the total of Expected dividend and capital gain returns.

$$r = \frac{D_1}{P_0} + \frac{\hat{P}_1 - P_0}{P_0} = \frac{D_1 + (\hat{P}_1 - P_0)}{P_0}$$

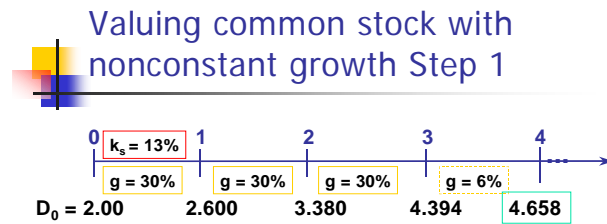
Limitations of Model

Some stocks do not pay a dividend

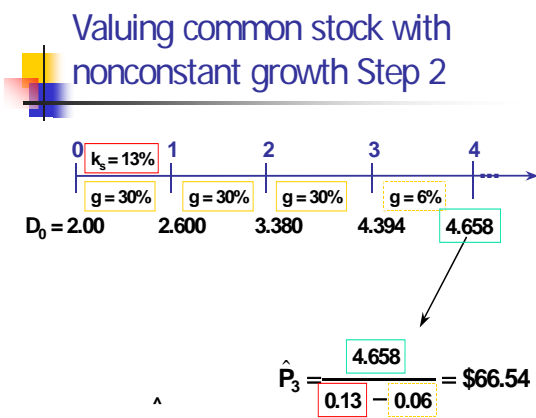
- Some dividends do not grow at a constant rate
- r must exceed g

Non-constant Growth

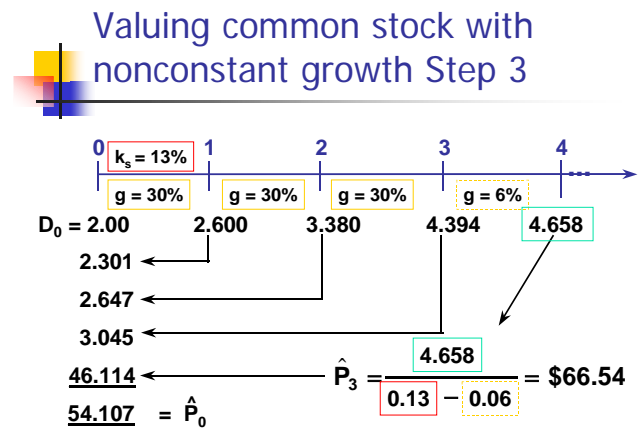
The constant-growth dividend discount models assume constant growth rate. But, what if growth rate varies from one time period to another? Example:



8-17



8-17



8-17

Valuing Preferred stocks

In preferred stocks dividends per share is constant and perpetual

$$\text{Preferred stock price} = \frac{\text{DIV}}{r}$$

How to measure growth rate?

$$g = \text{ROE} \times \text{plowback ratio}$$

The Plowback ratio is the proportion of net income that is kept in the firm as retained earnings and not distributed to shareholders.

$$\text{Return on Equity (ROE)} = \frac{\text{Net Income}}{\text{equity}}$$

The sustainable growth rate, g is related to the expected returns on the proportion of earnings plowed back into the firm. Dividends (payout ratio) limit the level of reinvested capital and the growth potential of future earnings and dividends

present value of growth opportunities or (PVGO) = Value of Stock - Value of asset in place (No growth value)

Value of asset in place (No growth value): is the value of the stock when $\text{DIV} = \text{EPS}$ and $g=0$.

What happens when $\text{ROE}=r$?

When rates of return on reinvested capital exceed the required rate of return, added value, often called "value added" or the present value of growth opportunities or (PVGO), is capitalized in the market price of the stock.

The Price-Earnings Ratio

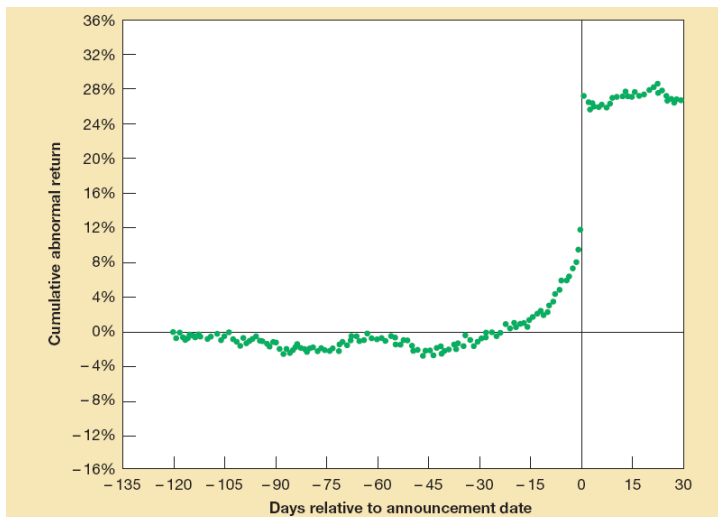
Higher price-earnings ratios are associated with higher expected growth opportunities and lower earnings-price ratios (earnings yield), reflecting that some portion of the required rate of return is expected to be derived from growth opportunities.

Market Efficiency

Capital markets are efficient if prices instantaneously and fully reflect all the risk and economically relevant information about a security's prospective returns.

In Efficient Market you are not expected to make return above what is sufficient to compensate for the time value of money and the risks we bear.

Example: The adjustment in the stock price to the announcement of a takeover is immediate. It is too late to buy the stock after the announcement.



Three levels of Market Efficiency:

1- Weak-form

Security prices fully reflect all historical information. No investor can earn excess returns using historical prices or returns

2- Semistrong-form

Security prices fully reflect historical and publicly available information. No investor can earn excess returns based on an investment strategy using public information

3- Strong-form

Security prices fully reflect all historical, public and private information