Finance 339  
Test #3 Equations

\[ FV = PV(1+i)^n \]  \[ PV = \frac{FV}{(1+i)^n} \]  \[ FV_A = CF\left[\frac{(1+i)^n-1}{i}\right] \]  \[ PV_A = CF\left[\frac{1}{i} - \frac{1}{i(1+i)^n}\right] \]

Rate of return = Current yield + capital gains yield

\[ \text{Rate of return} = \frac{\text{Current income} + \text{End price} - \text{Beginning price}}{\text{Beginning price}} \]

Dividend yield = \[ \frac{\text{Annual dividend}}{\text{Market price of stock}} \]  
Capital gains yield = \[ \frac{\text{Annual change in price}}{\text{Market price of stock}} \]

Discounted Dividend Model = \[ \frac{D \times (1+g)}{r-g} \]

Earnings per share (EPS) = \[ \frac{\text{After – tax net income}}{\text{Number of shares outstanding}} \]

Price – to – earnings ratio (P/E) = \[ \frac{\text{Price per share}}{\text{Earnings per share}} \]

Value of prefered stock = \[ \frac{\text{Dividend}}{i} = \frac{\text{Par value} \times \text{Dividend rate}}{i} \]

Preferred stock dividend yield = \[ \frac{\text{Annual dividend}}{\text{price}} \]

Annual coupon payment = Coupon rate x Face value

\[ \text{Approximate yield to maturity (YTM)} = \frac{\frac{\text{Annual coupon payment} + \frac{\text{Face value}}{\text{Years to maturity}}}{\text{Face value} + \text{Price}}}{2} \]

After-tax interest yield = Before-tax interest yield x (1 – T)

Net asset value = \[ \frac{\text{Market value of assets} - \text{Market value of liabilities}}{\text{Shares outstanding}} \]

Expense ratio = \[ \frac{\text{Total expenses}}{\text{Total assets in fund}} \]  
Average annual return on investment = \( \left(\frac{\text{Current price}}{\text{Purchase price}}\right)^{1/n} - 1 \)

Present value of an inflation – adjusted annuity = \[ \frac{PMT}{(r-i)\left[1 - \frac{(1+i)^n}{1+r}\right]} \]