Stock (Equity)—Characteristics and Valuation

1. Types of stock and their general characteristics—see the textbook.

2. Stock valuation—present value of the future cash flows that the stock will generate, which are the dividends that the company pays to its stockholders.

3. Stock valuation model:

\[
P_0 = \frac{\hat{D}_1}{(1+r_s)^1} + \frac{\hat{D}_2}{(1+r_s)^2} + \cdots + \frac{\hat{D}_\infty}{(1+r_s)^\infty}
\]

- \(\hat{D}_t\) = dividend expected to be paid in Year \(t\)
- \(r_s\) = return investors require to buy the stock
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3. Stock valuation model:

\[ P_0 = \frac{\hat{D}_1}{(1+r_s)^1} + \frac{\hat{D}_2}{(1+r_s)^2} + \cdots + \frac{\hat{D}_\infty}{(1+r_s)^\infty} \]

\[ = \frac{\hat{D}_1}{r_s - g} \quad \text{For a company that experiences constant growth, } g \]

\[ = \frac{D_0 (1+g)}{r_s - g} \]
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4. General model to value constant growth stock at any point in time, N:

\[
\hat{P}_N = \frac{\hat{D}_N (1 + g_{\text{norm}})}{r_s - g_{\text{norm}}} = \frac{\hat{D}_{N+1}}{r_s - g_{\text{norm}}}
\]

5. Valuing a nonconstant growth stock:
   
   a. **START** computing dividends
   b. **STOP** computing dividends when you reach the first dividend that is affected by \( g_{\text{norm}} \)
   c. Use the last dividend that you computed, \( \hat{D}_{N+1} \), to compute \( \hat{P}_N \).
   d. Find the PV of the nonconstant growth dividends (\( \hat{D}_1, \hat{D}_2, ..., \hat{D}_N \)) and \( \hat{P}_N \); the result is \( P_0 \).
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6. Return on a constant growth stock:

\[ \hat{r}_s = \text{Dividend yield} + \text{Capital gains yield} \]

\[ = \frac{\hat{D}_1}{P_0} + g \]