ACCOUNTING-BASED VALUATION

Professor Brian Bushee



Accounting-Based Valuation

- The stock price (P₀) of a company should be equal to:
 - The present value of all future dividends (D_t), discounted at the cost of capital (r)

$$P_0 = \sum_{t=1}^{\infty} \frac{D_t}{(1+r)^t}$$
 (Dividend Discount Model)

Current financial assets (FA₀) plus the present value of all future free cash flows
(FCF_t) (Free cash flow = operating cash flow - investing cash flow)

$$P_0 = FA_0 + \sum_{t=1}^{\infty} \frac{FCF_t}{(1+r)^t}$$
 (Discounted Cash Flow Model)

- The current shareholders' equity (SE_0) plus the present value of all future abnormal earnings (i.e., Earnings (E_t) - Prior book value (SE_{t-1}) x r)

$$P_0 = SE_0 + \sum_{t=1}^{\infty} \frac{E_t - rSE_{t-1}}{(1+r)^t}$$
 (Accounting - Based Valuation Model)

- However, finite versions of the models will yield different answers because of differences in quality of projections
 - Accounting-Based Valuation performs the best

Accounting-Based Valuation Steps

- Construct pro forma financial statements over some finite horizon
 - Reality Check: Do the statements and ratios make sense?
- Compute abnormal earnings over a finite forecast horizon
 - 5 10 years (not much benefit to forecasting longer than 10 years)
- Make some assumption about "terminal value" at end of forecast horizon
 - For example, assume that abnormal earnings in last year of forecast horizon (AE_T) will grow as a perpetuity at the long-term rate of sales growth (g)
 - Terminal value = $[AE_T x (1 + g)] / (r g)$
- Compute the present value of the abnormal earnings and the terminal value
 - Use cost of capital (r) to estimate present value
- Add present values to current shareholders' equity to get estimated market value of equity
 - Divide by shares outstanding to get estimated stock price

