

Development of the Bêta of Equity

$$\beta_a = \beta_e \cdot \frac{E}{V} + \beta_d \cdot \frac{D}{V}$$

$$\beta_e \cdot \frac{E}{V} = \beta_a - \beta_d \cdot \frac{D}{V}$$

$$\beta_e = \frac{\beta_a \cdot \frac{E}{V} - \beta_d \cdot \frac{D}{V}}{\frac{E}{V}}$$

$$\beta_e = \beta_a \cdot \frac{V}{E} - \beta_d \cdot \frac{D}{V} \cdot \frac{V}{E}$$

$$\beta_e = \beta_a \cdot \frac{V}{E} - \beta_d \cdot \frac{D}{E}$$

$$\beta_e = \beta_a \cdot \frac{(D+E)}{E} - \beta_d \cdot \frac{D}{E}$$

$$\beta_e = \beta_a \cdot \left[\frac{D}{E} + \frac{E}{E} \right] - \beta_d \cdot \frac{D}{E}$$

$$\beta_e = \beta_a \cdot \left[\frac{D}{E} + 1 \right] - \beta_d \cdot \frac{D}{E}$$

$$\beta_e = \beta_a \cdot \frac{D}{E} + \beta_a - \beta_d \cdot \frac{D}{E}$$

$$\beta_e = \beta_a + \beta_a \cdot \frac{D}{E} - \beta_d \cdot \frac{D}{E}$$

$$\beta_e = \beta_a + \frac{D}{E} \cdot [\beta_a - \beta_d]$$