

Build-Up Method for Calculating Cost of Equity Capital¹

Quick Sheet²

When valuing a business, analysts use various valuation methods, such as Discounted Cash Flows (DCF) analysis (income approach), comparable company analysis (market approach) and asset-based methods (asset approach). The DCF method requires the use of a discount rate and depending on the perspective from which the firm is being valued this rate is most often an investor's required or expected rate of return or the firm's weighted average cost of capital (WACC).

The WACC calculation relies on the cost (return)ⁱ of the company's capital components (common equity, preferred equity and long-term debt), the proportion each of these components represents of the company's outstanding capital base, and the company's expected income tax rateⁱⁱ.

$$\text{WACC} = \text{Weighted Average Cost of Capital} = \left(\frac{E}{V} \times R_E\right) + \left(\frac{P}{V} \times R_P\right) + \left(\frac{D}{V} \times R_D\right)(1 - T_C)$$

R_E in the WACC equation represents the cost (return) on the company's common equity capital and can be assessed through the use of the CAPM Model (capital asset pricing model) if and when the inputs to that model are readily available. One of these inputs, the company's betaⁱⁱⁱ factor, relies on having numerous observations of the company's common stock price over an extended period of time and is only reasonably calculable for firms whose common equity trades in the open market. Since many of the companies for which a valuation estimate may be sought are privately held, the data required to calculate a beta isn't available, rendering the CAPM model inapplicable.

An alternative to the CAPM model to estimate a company's cost of equity capital is the use of the Build-Up Method, the inputs for which include:

- Risk-Free Rate (Safe Rate)
- Equity Risk Premium (ERP)
- Size Premium
- Industry Risk Premium (IRP)
- Company-Specific Risk Factors

Calculating R_E using the Build-Up method uses the equation $R_E = R_F + \text{Size} + \text{IRP} + \text{SCRIP}$ in which R_F is the Risk Free Rate, Size is company's relative Size Premium, IRP is the industry risk premium and SCRIP is a company specific risk premium. The following offers a brief description of each input to the Build-Up method.

Risk-Free Rate (Safe Rate) - The most commonly used measure are the 2-year or 10-year yields on a U.S. Treasury Bonds or yields on FDIC insured certificates of deposit of similar duration.

Equity Risk Premium (ERP)

- Premium is needed for investors to participate in equity markets instead of long-term governmental securities.
- Many valuation analysts use a long-term horizon with the S&P 500 as their benchmark.
- This Premium is forward-looking and represents the anticipated incremental return on common stocks.
- Uses historical excess return on stocks over the long-term government bond income returns.

¹ The Corporate Finance Quick Sheet is intended to present an abbreviated presentation of the included concepts in corporate finance and is not intended to be a full or complete representation of the concepts, models, metrics or the underlying foundations from which they are built.

² This material set was provided by Richard Haskell, PhD, Professor of Finance, Bill and Vieve Gore School of Business, Westminster University, Salt Lake City, Utah (2023), rhaskell@westminsteru.edu.

- The basic premise is that past ERP is a reasonable forecast for future ERP.

Size Premium

- Size Premium reflects the risk associated with investing in a given firm based on its relative size compared to the size of the average firm in a given industry. It is a subjective measure and may be positive for firms smaller than the average or negative for firms larger than the average.
- These are presented for each of the 10th decile of the public securities market.
- Reflect the excess returns required on small securities.
- The increased risk maybe developed by many criteria related to the subject company to help determine the size premium.

Industry Risk Premium (IRP)

- The amount investors expect the future return of the industry to exceed the return on the market.
- This amount is often leveraged for the industry beta.

Company-Specific Risk Factors

- Final component of the discount rate and is a subjective measure. It is considered the most judgmental area of business valuation.
- Includes risks associated with the industry operated in as it relates to the economy.
- It also relates to the subject company's risks, including management, market, and suppliers and customers' concentration risks.

ⁱ The cost of a capital component (k) and the expected return on that component (R) are, in fact, the same rate, but sometimes expressed differently as seen through the eyes of buyer or seller of the component. For example, if a borrower has a loan with an 8% interest rate, the borrower's cost of using the lender's capital is 8% and the lender's return on having lent out capital is also 8% (assuming no transaction costs, etc.).

ⁱⁱ For a detailed discussion of WACC see the [Cost of Capital QuickSheet](http://richardhaskell.net/resources/Cost+of+Capital+Quick+Sheet.pdf) offered through www.richardhaskell.net (<http://richardhaskell.net/resources/Cost+of+Capital+Quick+Sheet.pdf>)

ⁱⁱⁱ In statistical terms, beta represents the slope of the line through a regression of data points. In finance, each of these data points represents an individual stock's returns against those of the market as a whole. Beta effectively describes the activity of a security's returns as it responds to swings in the market.