

CHAPTER FIVE

CAPITALIZATION/DISCOUNT RATES

I. BUILD-UP METHOD

Based in the theory reflected in the Capital Asset Pricing Model the build-up method starts with the risk free rate and adds expected risk premiums designed to reflect the additional risk of an equity investment, as follows:

The primary formula is: $K_e = R_f + ERP + IRP_i + SP + SCR$ where:

K_e = cost of equity

The table¹ shown below is reproduced from Ibbotson's *SBBI: Valuation Edition*. Starting in 2014, Ibbotson's *SBBI Valuation Edition Yearbook* data is no longer being published. However, starting in 2014 a new publication is providing the same data in a similar format. *The Valuation Handbook—Guide to Cost of Capital* published by Duff & Phelps presents data similar to this in Appendix 3, "CRSP Deciles Size Premia Study: Key Variables." The table will change according to data gathered in any given year.

KEY VARIABLES IN ESTIMATING THE COST OF CAPITAL

				Value
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A. RISK-FREE RATE

This rate represents the return available in the market on an investment free of default risk. This is the starting point of the build-up method since any investment should return at least as much as a “riskless” asset. The assumption is that there is an investment asset perceived by all investors as having no risk. There is significant debate among economists regarding what that investment asset actually is and even whether such an asset even exists. For purposes of this method the appraiser must accept that such an asset does exist.

The risk-free rate and the Equity Risk Premium (see next section) are interrelated concepts. Since estimates for ERP are always expressed in relationship to a risk-free rate, it is important for the practitioner to use the same measure of return on risk free investments as used by the source of the

Much research has been done, and is ongoing, evaluating the reliability of historical returns as an estimate of future performance. The supply side calculation is one result of that research. Other approaches to estimating ERP contemplate issues such as single-period returns vs. multi-year compound returns, geometric vs. arithmetic averages, correcting for World War II interest rate bias, etc.

C. SIZE PREMIUM

The correlation between company size and return has been well documented by Ibbotson and other researchers. Over long periods of time, returns on investments in smaller firms have consistently and significantly exceeded returns on investment in larger firms. The size premium is the extra return a willing investor would expect to receive by investing in smaller equity securities on the NYSE/AMEX/NASDAQ over the large equity security. Since virtually all closely held companies are smaller than even the

Only industries with full information beta were included in the analysis, with a minimum of five companies in each industry. The equation is as follows:

$RP_i = (FIB \times ERP) - ERP$ where:

IRP_i

In evaluating company specific risks, the authors of Practitioners Publishing Company's *Guide to Business Valuation* suggest that the following factors be considered in the specific company risk premium:

1. The Company's Financial Risk

The term financial risk is defined broadly

Exercise

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**Sample Company
Build-Up Method
December 31, 2004**

Risk-free long-term U.S. Government bond rate	</
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II. MOD

