Critical Praise for
Cost of Capital: Estimation and Applications, Second Edition

"Good job on enhancing an already great book."
James R. Hitchner
Phillips Hitchner Group, Inc.
Atlanta, GA

The research using *Pratt's Stats*™ database on the size effect "will be most helpful for the readers. . . . The discussion of how these studies can get one from where the studies leave off to the smaller valuation target is great."
Ronald L. Seigneur
Seigneur & Company, P.C., CPAs
Lakewood, CO

"Many of us have been anxiously awaiting [the] second edition . . . Cost of capital procedures are a frequent source of major logical errors, not just judgment errors. Mistakes of this type can leave the decision maker vulnerable, inasmuch as he or she can actually be proven wrong. This is an area where practitioners badly need a guide such as *Cost of Capital,* so they understand what they are doing."
Roger G. Ibbotson
Ibbotson Associates
Chicago, IL

Other Wiley books by Shannon P. Pratt include:

Cost of Capital Workbook
Business Valuation Body of Knowledge: Exam Review and Professional Reference, Second Edition
Business Valuation Body of Knowledge Workbook
The Market Approach to Valuing Businesses
Business Valuation Discounts and Premiums

Cost of Capital

Estimation and Applications

SECOND EDITION

Shannon P. Pratt, CFA, FASA, MCBA

JOHN WILEY & SONS, INC.

This process will return a rate equivalent to the before-tax discount rate. This is the desired method of calculating the true effect of taxes on the discount rate. Several things are occurring here that lead to a result on a before-tax basis. Generally, the reason for calculating the IRR is that inconsistent growth rates between net cash flow and before-tax income are difficult to model in an easy-to-understand formula. Unfortunately, the downside to this process is that it is more complex and a little more difficult to explain.

Multiplicative Value Adjustments

Ad Valorem Tax Addback

The most common multiplicative value adjustment in ad valorem assessment is the addback of ad valorem taxes. Many assessors want to remove the historical bias resulting from prior valuations. Therefore, they may prefer to account for property tax within the discount rate. They do so by adding back to the discount rate the percent relationship of tax to market value. This adjustment is most similar to the linear adjustment in income. The difference is that the adjustment is a direct function of value. In other words, if the value increases, the adjustment increases directly with the value, and vice versa. This can be demonstrated by the next formula:

Formula 20.19

$$k_q = k + (o \times PV) \div PV = \frac{1 \div (o \times PV)}{PV}$$

thus, $k_q = k + o$

where:

o = Percent of tax to value

And with the addition of a growth component (g), the formula expands to:

Formula 20.20

$$k_q - g = k - g + o$$

thus, $k_q = k + o$

The same formula can be used for any adjustment that is equal to a percentage of value. This holds true even in random changes in value. The only caveat is that the percent relationship to value must remain constant. This adjustment is quite powerful and easy to demonstrate, which is likely the reason for its popularity.

Flotation Costs

Another type of multiplicative value adjustment is flotation costs. Flotation costs occur when new issues of stock or debt are sold to the public. The firm usually incurs

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several kinds of flotation or transaction costs, which reduce the actual proceeds received by the firm. Some of these are direct out-of-pocket outlays, such as fees paid to underwriters, legal expenses, and prospectus preparation costs. Because of this reduction in proceeds, the firm's required returns on these proceeds equate to a higher return to compensate for the additional costs. Flotation costs can be accounted for either by amortizing the cost, thus reducing the cash flow to discount, or by incorporating the cost into the cost of capital. Because flotation costs are not typically applied to operating cash flow, one must incorporate them into the cost of capital.

The cost of flotation is a function of size and risk. The larger the issuance, the lower the cost as a percentage of the issuance price. Flotation costs are the greatest for equity issuance and the least for debt issuance. Preferred stock flotation costs tend to be somewhere in between. The next table shows examples of the relation of flotation cost to size of an issuance of stock that occurred during 1996 and 1997.

Company	Total Issuance	Total Flotation
Excite	39,100,000	9.46%
Team Rental	52,000,000	6.76%
Amazon	54,000,000	8.57%
IXC	89,600,000	8.67%
General Cigar	108,000,000	8.28%
Ciena	115,000,000	7.96%
Capstar	166,500,000	7.68%
General Cable	354,900,000	5.94%
Sabre	545,400,000	5.77%
Hartford Life	649,750,000	6.50%

OTHER ADJUSTMENTS TO THE COST OF CAPITAL

In the property tax arena, traditional techniques are king. Any new approaches are met with skepticism, because the results of many new techniques tend to lower the market value of the project and, thus, the taxes. This is true despite the validity of such approaches. The next paragraphs identify four "newer" techniques introduced in the ad valorem arena in the 1990s.

Ex Post and *Ex Ante* Risk Premia

The expected equity risk premium is unobservable in the market and must be estimated. For both the Capital Asset Pricing Model (CAPM) and the build-up method, *ex post* and *ex ante* risk premia are used to obtain estimates for the cost of equity.

An *ex post* risk premium is based on the assumption that historical returns are the best predictor of future returns. It is calculated by subtracting the long-term arithmetic average of the income return on long-term government bonds for the CAPM or