

The Required Rate of Return and Capital Structure

By Ronald D. DiMattia, CPA/ABV, CMA



In calculating the weighted average cost of capital (WACC), many valuation analysts use the company's actual capital structure when valuing a non-controlling interest and a market-derived capital structure when valuing a controlling interest. This article analyzes the selection of capital structure in calculating WACC and proposes a modification to current practice.

Background

In calculating a company's equity value, analysts have the choice of measuring it directly or indirectly. Under the income approach to

valuation, the direct method involves calculating a company's cost of equity and its cash flow to equity and converting those components to an estimate of equity value using a capitalization or discounting technique. The indirect method involves calculating a company's WACC and its cash flow to invested capital and converting those components to an estimate of market value of invested capital (MVIC) using a capitalization or discounting technique, then deducting the market value of debt from MVIC to arrive at equity value.

Both methods are widely accepted in the valuation community, and both have their strengths and weaknesses. Valuing equity directly is straightforward, but some analysts

continued on page 2



WHAT'S INSIDE

- ▶ Determining Lost Profits from a Vendor Contract
- ▶ Case Law Corner: Chancery Validates Tax Affecting in Fair Value Case
- ▶ Case Law Corner: A Review of BMC Software, Inc. v. Commissioner of Internal Revenue: Should Intercompany Accounts Receivable Be Considered "Debt"?
- ▶ Technical Advisory Board
- ▶ Calendar of Events

Chairman's Corner



Readers of this newsletter are a distinguished group, people who focus on and excel at a complex and dynamic specialty area.

That means you likely have a great deal of specialized expertise that could be of great value to your fellow FVS Section members. With that in mind, I'd like to invite our readers to consider writing about your observations and experiences for the FVS Consulting Digest. Since our practice areas are so multifaceted, sharing your knowledge can help advance and expand

your fellow section members' professional horizons—and give you some well-deserved visibility. If you're interested, please send your questions or submissions to Preston at pwillcox@aicpa.org.

And I hope to see many of you at this year's AICPA Forensic & Valuation Services Conference, which will be held in Las Vegas on November 8 through 10. As always, it should be informative and fun. I look forward to meeting you there.

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continued from page 1

believe that important information about capital structure is not explicitly addressed. Valuing MVIC provides a full view of a company's cash generation potential, but some analysts believe that it adds a good deal of complexity to the calculations.

An element of complexity when valuing MVIC arises when considering the different components of a company's capital structure. Each component of WACC has a cost and a weighting in the capital structure, as follows:

$$\text{WACC} = \text{We} * \text{Ke} + \text{Wd} * \text{Kd}$$

Where:

We - is the weighting of equity in the capital structure (at market value) = MVE / MVIC

Ke - is the cost of equity

Wd - is the weighting of debt in the capital structure (at market value) = MVD / MVIC

Kd - is the after-tax cost of debt

-and-

$$\text{MVIC} = \text{MVE} + \text{MVD}$$

Where:

MVE - is the market value of equity

MVD - is the market value of debt

The weightings of debt and equity in the calculation of WACC can be a source of difficulty because they are measured at market value, not book value. But we cannot know market values for the weightings until we know the company's WACC. So, we need to estimate more than one unknown in the equation, both the cost of capital and the relative weightings of debt and equity in the capital structure. In practice the solution has differed depending on

the type of ownership interest being valued – controlling or non-controlling.

When valuing a non-controlling ownership interest, practitioners commonly use a company's actual capital structure when calculating a company's WACC. This assumption is based on the premise that a non-controlling owner cannot affect a company's capital structure. A common simplifying assumption for debt is that its book value equals its market value. The market value of equity is more complex because we are preparing valuation analyses in order to estimate the market value of equity, and therefore its weighting in the capital structure. Many analysts use an iterative calculation to estimate the market value of equity and calculate WACC at the same time.

In valuing a controlling ownership interest, it is commonly assumed that a control owner can influence a company's capital structure. Many analysts believe that since cost of capital is a long-term concept, a company's capital structure is likely to approximate what is evident in the industry (or peer group) over the long term, assuming that the industry and the controlling owner are behaving rationally. A company's current capital structure is not relied upon. There are often differences of opinion on whether to use an optimal capital structure, which can be a rather technical undertaking, or some other estimate of capital structure. However, there is broad agreement that an analyst should look to the market when determining capital structure in calculating WACC for a controlling ownership interest. Determining a capital structure is a matter of judgment based on a number of factors – strength of management team, cash flow dynamics, competitive position and strength of operations, to name a few. Therefore, with a controlling

interest it is common to look to the market for insights about an industry's (or peer group's) capital structure and use a market-derived capital structure for the weightings of debt and equity to determine the WACC for the company that is being valued.

Theory

In the late 1950s and early 1960s, the practice of corporate finance made significant advances. Internal Revenue Service Revenue Ruling 59-60 established the approach to valuing shares of closely held corporations, and it has stood the test of time. Franco Modigliani and Merton Miller also wrote a series of papers that set out the theoretical framework for valuation analyses. An important insight they offered was that, "The value of the firm is independent of how it is financed."¹ Modigliani and Miller's statement is simple, but its implications are broad. Many developments in corporate finance over the past several decades have evolved, to some extent, from it: the leveraged buy-out boom and financial market innovations in the 1980s and the growth of private equity firms in the 1990s and 2000s are a few examples.

Modigliani and Miller's statement acknowledges that management teams have a variety of means available to finance their companies. Not every management team will make the same choice. There are a number of factors that affect a company's capital structure choice and each management team must weigh the benefits and costs of any capital structure they select.

Also, it is important to note that cost of capital is based on investor expectations, not historical returns. A number of texts note that cost of capital is an expected rate of return required by investors in the market to cause them to purchase an investment.² Returns

¹ Franco Modigliani and Merton H. Miller, The Cost of Capital, Corporation Finance and the Theory of Investment, The American Economic Review, Vol. 48, No. 3 (Jun., 1958), pp. 261-297 Published by American Economic Association

² Please see James R. Hitchner, Financial Valuation: Applications and Models, Third Edition, (New Jersey: John Wiley & Sons, 2011), p. 182; Gary R. Trugman, Understanding Business Valuation, Fourth Edition, (New York: American Institute of Certified Public Accountants, 2012), p. 433; Shannon Pratt, Cost of Capital: Estimation and Applications, (New York: John Wiley & Sons, 1998) p. 3.

that a company generated in past years are not determinative; investor expectations are. By linking these two concepts – value being independent of capital structure, and cost of capital being based on expectations – we can gain some useful insights about capital structure assumptions discussed earlier in this article.

Capital Structure

If we use WACC as the required rate of return in valuing a company, the formulas (presented previously) indicate it is a function of two types of inputs – the cost of each component of capital and their respective weighting (at market value) in the capital structure. When valuing a controlling ownership interest, current practice is consistent with theory. The cost of capital is a concept based on expectations, and its inputs are based on expectations: both the cost of each component of capital and their weighting in the capital structure.

However in valuing a non-controlling ownership interest, current practice would seem to diverge from theory. While the cost of the components is based on expectations, the weightings are based on the company's actual capital structure. As noted previously, the reason for doing so is logical and practical – a non-controlling owner cannot affect a company's capital structure, so the actual capital structure is used as an estimate of the company's expected capital structure over the long term. But from a valuation perspective an important question is whether such an assumption is consistent with theory, and whether it would tend to produce a more reliable valuation conclusion. In both cases the answer would appear to be no.

When considering capital structure, it is important to remember that it is not pre-ordained for a given company. Capital structure is based on a series

of factors that management teams consider; they then ultimately choose a structure based on their judgment. That is why it is common to hear about capital structure as a managerial choice. An important thing to remember about choices is that they are not written in stone. They can be undone fairly easily in many cases and new choices made (within limits).

Because capital structure is a choice, it can be influenced by temporary or even irrational factors. Management teams affected by prior downturns may be overly sensitive to taking on debt. Other management teams caught up in the euphoria of a hot market may be far too eager to pile on debt. But corporate finance theory brings us back to reasonable expectations over the long term. Theory is designed to look past temporary or irrational effects and focus on long-term expectations for a company; something that is not affected by temporary or irrational matters.

By relying on a current capital structure, management's current choices are assumed to extend into perpetuity. Yet management's current capital structure choices could reflect far too much conservatism or optimism to withstand economic pressures over the long term. Without a careful eye toward what is a realistic expected capital structure, the possibility of under- or overvaluing a company increases.

Additionally, it is important to point out that there is nothing sacred about a company's current capital structure, which can be the result of short-term decisions made to guide a business through the ups and downs of a competitive market. Valuation, on the other hand, is a disciplined process of developing relevant expectations about a company in order to estimate its value. When we use a company's current capital structure without developing

expectations about the future, we mix concepts about expectations (costs of each component of capital) with concepts about historical results (market weightings of each component of capital). This is a departure from the well-established theory that underlies all our analyses.

Going Beyond Current Practice

Current practice regarding the weightings of debt and equity in the calculation of WACC in valuing a non-controlling ownership interest has evolved from logical and practical considerations. However, an analysis of relevant theory would indicate that current practice is inconsistent with theory in some regards and would not tend to consistently produce a more reliable indication of value. Therefore, market data regarding capital structure should be considered in the valuation of both controlling and non-controlling ownership interests; a company's current capital structure should not be viewed as determinative in either case.

Ron DiMattia, CPA/ABV, CMA, provides business valuation and corporate finance services to clients from his office in Cleveland, Ohio. Ron serves on the AICPA's ABV Credential Committee, and as a discussion leader for several of the AICPA's business valuation and financial management courses.