

The Weighted Average Cost of Capital (WACC) and Its Implications for Incentive Plan Design

– JOHN ELLERMAN

Introduction

Directors face many challenges when serving on a public company’s Board of Directors Compensation Committee. One of the most difficult tasks facing the Compensation Committee annually is the review and approval of the performance metrics and performance targets developed by management for inclusion in annual and long-term incentive plans. Typically, the performance targets submitted by management for Committee review are the by-products of the company’s annual strategic planning and budgeting processes. The performance targets embedded in the company’s plans are usually derived from and reflective of the expected levels of performance found in the company’s annual business plan. In addition, management will validate its business and performance targets by analyzing the company’s historical performance results as well as the benchmarked performance results of key competitor companies.

Companies deploy a range of performance metrics in measuring performance in their incentive plans, attempting to earn an acceptable quantity and quality of earnings before allowing management to participate in the earnings stream with incentive compensation awards. In recent years in our role as management consultants, we have found more companies using various “return” metrics in their annual plans. We refer to return metrics as inclusive of such measures as return on capital employed, return on invested capital, return on assets, return on equity (extensive use at banks) and return on shareholders equity. These metrics are important for numerous reasons, as return measures establish how well management has used the capital resources deployed in the business. As an

KEY FINDINGS

- The weighted average cost of capital (WACC) is an important financial precept that is widely used in financial circles to test whether a return on investment can exceed or meet an asset, project, or company’s cost of invested capital (equity + debt).
- WACC is an internal calculation of a company’s cost of capital, and it can be calculated using either a market basis or book value basis.
- “Return” measures such as return on invested capital, return on capital employed, return on assets, and return on equity are frequently used as a performance metric in incentive compensation plans.
- Directors serving on the Board’s compensation committee can use the WACC model to test the validity and reasonableness of an incentive plan’s return performance target by learning whether the return target meets or exceeds the company’s WACC over the performance period.

PARTNERS

Aubrey Bout	Donald S. Kokoskie	Jaime Pludo
Chris Carstens	Brian Lane	Matt Quarles
John R. Ellerman	Joe Mallin	Lane T. Ringlee
John D. England	Eric Marquardt	John R. Sinkular
R. David Fitt	Jack Marsteller	Christine O. Skizas
Patrick Haggerty	Richard Meischeid	Bentham W. Stradley
Jeffrey W. Joyce	Sandra Pace	Jon Weinstein
Ira T. Kay	Steve Pakela	

investor in a public company, we are more inclined to invest in a company with the ability to generate a high return on invested capital that will hopefully yield superior long-term shareholder returns.

The thesis of this opinion article is that companies can develop more meaningful return performance targets by better understanding the details of its WACC before setting a return performance target. Simply stated, a company's return on capital performance target will be more relevant if in fact the return shows that the level of performance to be achieved must equal or exceed the company's estimated cost of capital.

WACC and How It's Calculated

What is WACC, and why is it important? WACC is an internal calculation of a company's cost of capital. There are several ways that one can estimate a company's WACC – such calculations can be performed on either a market basis or a book value basis. The book value approach can be used by direct reference to the company's income statement and balance sheet. The market value approach uses a company's reported market value of public equity and the market value of the company's long-term debt. In the following paragraphs, we will use the market value approach. Also, it is important to note that each company will have its estimated WACC which will vary over time. Many variables influence WACC, including interest rates and the cost of debt, stock price volatility as measured by Beta, company tax rates, industry sector dynamics and trends, and investors' appetite for risk.¹

The basic formula for calculating a company's WACC is:

$$\text{WACC} = (R/V * Ke) + (D/V) * Kd * (1 - \text{Tax Rate})$$

Wherein:

R = market value of company equity (market capitalization)

V = total market value of equity and debt

Ke = cost of equity

D = market value of debt

Kd = long-term cost of debt

Tax Rate = corporate tax rate²

The following example of a hypothetical company will illustrate the calculation of WACC with the following set of assumptions:

Total shares outstanding	2,000,000
Share price	\$50.00
Market value of long-term debt (bonds)	\$25,000,000
Risk-free rate (10-year Treasury)	2.50%
Cost of debt (rate of return on company bonds)	5.50%
Corporate tax rate	21.00%
Investor risk premium	6.00%
Company stock Beta	1.10

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Based upon the WACC formula above and the assumptions noted, we can calculate the hypothetical company's WACC in five steps.

1. Determine the Market Value of Equity – the first step is to calculate the company's current equity market value. This is calculated by multiplying the total number of shares outstanding times the current share price. In our example, the market value of our hypothetical company is \$100,000,000 (2,000,000 X \$50.00 = \$100,000,000).
2. Determine the Market Value of Debt -- the second step is to determine the value of the company's long-term debt, which can be found on the balance sheet. Our company's long-term debt is \$25,000,000.
3. Calculate the Cost of Equity – determining the cost of equity requires the use of the Capital Asset Pricing Model (CAPM), a financial model developed in the late 1950's which assesses the relationship for investors of evaluating risk and likely returns. The CAPM considers three inputs: the rate of return on a current long-term government instrument such as a 10-year U.S. treasury bond representing a riskless rate of return; the Beta for the company's stock price which considers the volatility of the stock price in relation to general movements of the market; and an estimated risk premium (i.e., the additional return an investor expects to receive in order to invest in a security above the rate of a riskless return available from a government bond). Generally speaking, a typical risk premium is 6.00% for a U.S. security, although we have seen some financial experts use risk premiums ranging from 5.00% to 9.00% in selected applications. In our example, we have used a 2.50% rate of return for a 10-year treasury, assumed a risk premium of 6.00%, and have further assumed a stock Beta of 1.10. With these three inputs, we calculate our example company to have a cost of equity of 9.10% (2.50% + 6.00 X 1.10 = 9.10%).
4. Calculate the Cost of Debt – our next step is to determine the cost of our company debt, which in our example is assumed to be 5.50% (the rate of return expected by the company's long-term bond holders). This figure must be adjusted for the tax-deductibility of interest expense, which is calculated to 1.00 minus the company's tax rate of 21%. Our example results in a cost of debt equal to 4.35% ((5.50% X (1.00 - .21)) = 4.35%
5. Apply the WACC Formula – Based upon these 4 steps and calculations, we can then estimate our WACC by application of the WACC formula with this fifth step.

$$\text{WACC} = (R/V * Ke) + (D/V) * Kd * (1 - \text{Tax Rate})$$

$$\text{WACC} = (\$100,000,000/\$125,000,000 (\$100,000,000 + \$25,000,000=\$125,000,000) * 9.10\%) + (\$25,000,000/\$125,000,000) * 5.50\% (1.00 - 21\%)$$

$$\text{WACC} = (80\% * 9.10\%) + (20\% * 4.35\%)$$

$$\text{WACC} = 8.15\%$$

Concluding Thoughts

Estimating a company's WACC is a thoughtful and beneficial exercise in corporate finance, and it has many applications that management can employ in testing the reasonableness of many investment opportunities. It is our judgment that the WACC precept has a meaningful application in the design and implementation of incentive compensation plans and that determining a company's WACC is an important step in testing the validity of a company's return targets for annual and long-term incentives. Unless a company's return performance target exceeds its estimated cost of capital, directors serving on the Board's compensation committee should be reluctant to approve management's proposed return on investment performance target.

General questions about this Viewpoint can be directed to John Ellerman at john.ellerman@paygovernance.com.

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1. <https://www.wallstreetmojo.com/weighted-average-cost-capital-WACC>
 2. <https://investingissues.com/financialdictionary/financial-statement-analysis/weighted-average-cost-capital-WACC>