Cost of Capital Definition

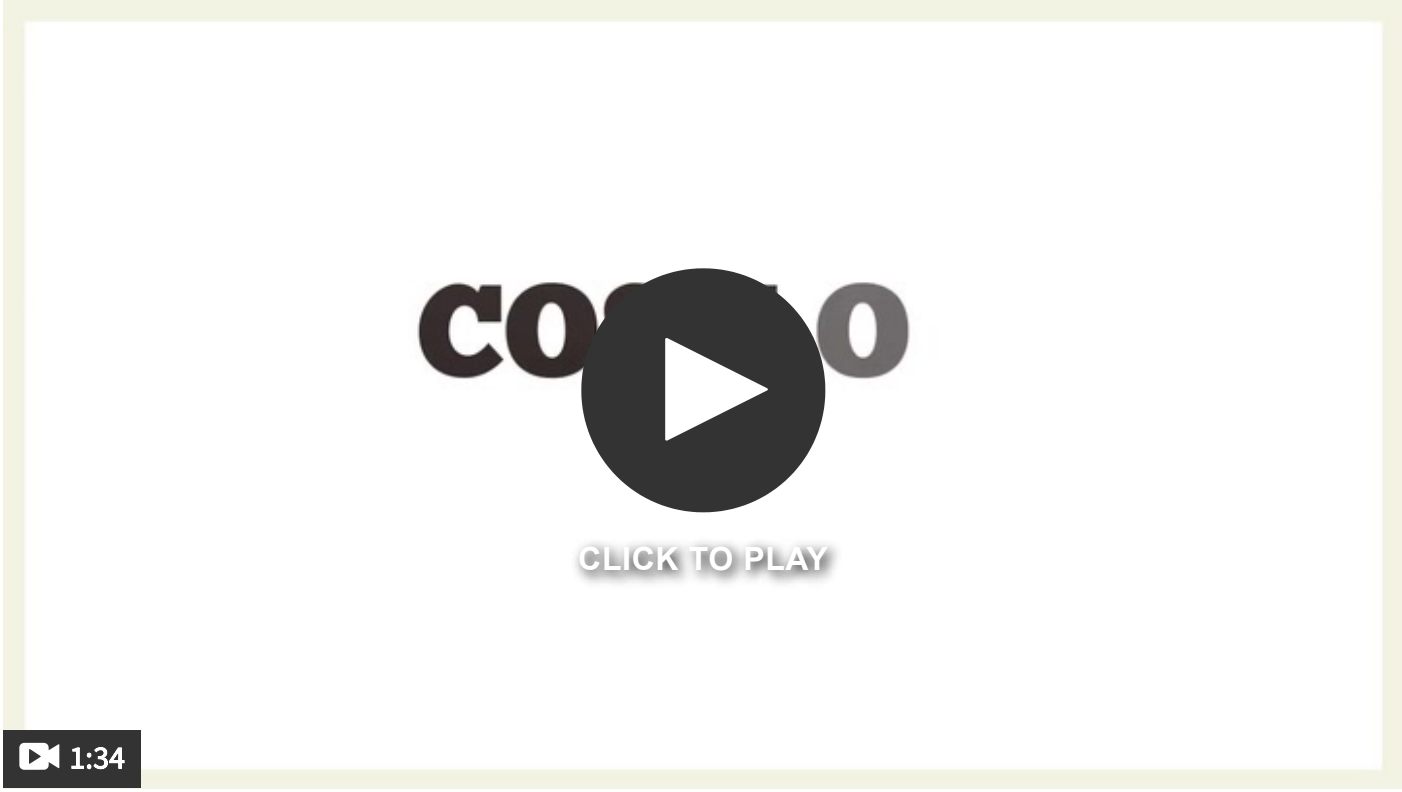
By WILL KENTON | Updated Jun 5, 2019

What Is 'Cost of Capital?'

Cost of capital is the required return necessary to make a capital budgeting project, such as building a new factory, worthwhile. When analysts and investors discuss the cost of capital, they typically mean the weighted average of a firm's cost of debt and cost of equity blended together.

The cost of capital metric is used by companies internally to judge whether a capital project is worth the expenditure of resources, and by investors who use it to determine whether an investment is worth the risk compared to the return. The cost of capital depends on the mode of financing used. It refers to the cost of equity if the business is financed solely through equity, or to the cost of debt if it is financed solely through debt.

sources, widely known as the weighted average cost of capital (WACC).



Cost Of Capital

What Does the Cost of Capital Tell You?

Cost of capital represents a hurdle rate that a company must overcome before it can generate

company management will only invest in initiatives and projects that will provide returns that exceed the cost of their capital.

Cost of capital, from the perspective on an investor, is the return expected by whoever is providing the capital for a business. In other words, it is an assessment of the risk of a company's equity. In doing this an investor may look at the volatility (beta) of a company's financial results to determine whether a certain stock is too risky or would make a good investment.

KEY TAKEAWAYS

- Cost of capital represents the return a company needs in order to take on a capital

that exceeds the firm's cost of the capital used to finance the project—otherwise, the project will not generate a return for investors.

Weighted Average Cost of Capital

A firm's cost of capital is typically calculated using the weighted average cost of capital formula that considers the cost of both debt and equity capital. Each category of the firm's capital is weighted proportionately to arrive at a blended rate, and the formula considers every type of debt and equity on the company's balance sheet, including common and preferred stock, bonds and other forms of debt.

Finding the Cost of Debt

Every company has to chart out its financing strategy at an early stage. The cost of capital becomes a critical factor in deciding which financing track to follow—debt, equity, or a combination of the two.

Early-stage companies seldom have sizable assets to pledge as collateral for debt financing, so equity financing becomes the default mode of funding for most of them. Less-established companies with limited operating histories will pay a higher cost for capital than older companies with solid track records since lenders and investors will demand a higher risk premium for the former.

The cost of debt is merely the interest rate paid by the company on its debt. However, since interest expense is tax-deductible, the debt is calculated on an after-tax basis as follows:

$$\text{Cost of debt} = \frac{\text{Interest expense}}{\text{Total debt}} \times (1 - T)$$

where:

$\text{Interest expense} = \text{Int. paid on the firm's current debt}$

$T = \text{The company's marginal tax rate}$

not as clearly defined as it is by lenders. The cost of equity is approximated by the capital asset pricing model as follows:

$$CAPM(\text{Cost of equity}) = R_f + \beta(R_m - R_f)$$

where:

$R_f = \text{risk-free rate of return}$

$R_m = \text{market rate of return}$

Beta is used in the CAPM formula to estimate risk, and the formula would require a public company's own stock beta. For private companies, a beta is estimated based on the average beta of a group of similar, public firms. Analysts may refine this beta by calculating it on an unlevered, after-tax basis. The assumption is that a private firm's beta will become the same as the industry average beta.

The firm's overall cost of capital is based on the weighted average of these costs. For example, consider an enterprise with a capital structure consisting of 70% equity and 30% debt; its cost of equity is 10% and the after-tax cost of debt is 7%.

Therefore, its WACC would be:

$$(0.7 \times 10\%) + (0.3 \times 7\%) = 9.1\%$$

This is the cost of capital that would be used to discount future cash flows from potential projects and other opportunities to estimate their net present value (NPV) and the ability to generate value.

Companies strive to attain the optimal financing mix based on the cost of capital for various funding sources. Debt financing has the advantage of being more tax efficient than equity financing since interest expenses are tax deductible and dividends on common shares are paid

possibility of any tax savings from taking on debt since the interest expense can lower a firm's taxable income, and thus, its income tax liability.

However, the Modigliani-Miller Theorem (M&M) states that the market value of a company is independent of the way it finances itself and shows that under certain assumptions, the value of leveraged versus non-leveraged firms are equal, in part because other costs offset any tax savings that come from increased debt financing.

Example of the Cost of Capital in Use

Every industry has its own prevailing cost of capital. For some companies, the cost of capital is lower than their discount rate. Some finance departments may lower their discount rates to attract capital or raise it incrementally to build in a cushion depending on how much risk they are comfortable with.

As of January 2019, diversified chemical companies have the highest cost of capital at 10.72%. The lowest cost of capital can be claimed by non-bank and insurance financial services companies at 3.44%. Cost of capital is also high among both biotech and pharmaceutical drug companies, steel manufacturers, food wholesalers, Internet (software) companies, and integrated oil and gas companies.

Those industries tend to require significant capital investment in research, development, equipment, and factories. Among the industries with lower capital costs are money center banks, hospitals, and healthcare facilities, power companies, real estate investment trusts (REITs), reinsurers, retail grocery and food companies, and utilities (both general and water). Such companies may require less equipment or benefit from very steady cash flows.

The Difference Between Cost of Capital and Discount Rate

The cost of capital and discount rate are somewhat similar and are often used interchangeably. Cost of capital is often calculated by a company's finance department and used by management to set a discount rate (or hurdle rate) that must be beaten to justify an investment.

That said, a company's management should challenge its internally-generated cost of capital

Related Terms

How to Calculate the Weighted Average Cost of Capital – WACC

The weighted average cost of capital (WACC) is a calculation of a firm's cost of capital in which each category of capital is proportionately weighted. All sources of capital, including common stock, preferred stock, bonds, and any other long-term debt, are included in a WACC calculation. more

Cost of Equity

The cost of equity is the rate of return required on an investment in equity or for a particular project or investment. more

How to Include the Benefit of Interest in Present Value Calculations

The adjusted present value is the net present value (NPV) of a project or company, if financed solely by equity, plus the present value (PV) of any financing benefits, which are the additional effects of debt. more

How Equivalent Annual Cost Helps with Capital Budget Decisions

Equivalent annual cost (EAC) is the annual cost of owning, operating, and maintaining an asset over its entire life. EAC is often used by firms for capital budgeting decisions, as it allows a company to compare the cost-effectiveness of various assets that have unequal lifespans. more

How to Use the Hamada Equation to Find the Ideal Capital Structure

The Hamada equation is a fundamental analysis method of analyzing a firm's cost of capital as it uses additional financial leverage and how that relates to the overall riskiness of the firm. more

How to Use Required Rate of Return – RRR to Evaluate Stocks

The required rate of return (RRR) is the minimum return an investor will accept for an investment as compensation for a given level of risk. more

Related Articles

FINANCIAL RATIOS

What Is the Difference Between WACC and IRR?

CORPORATE FINANCE & ACCOUNTING

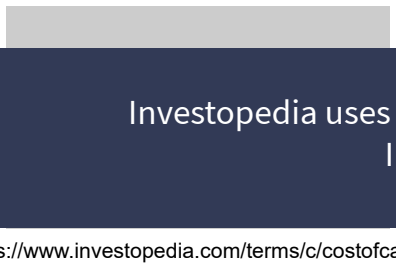
How Do I Use the CAPM to Determine Cost of Equity?

FINANCIAL ANALYSIS

Investors Need a Good WACC

FINANCIAL RATIOS

How to Calculate the Required Rate of Return



CORPORATE FINANCE & ACCOUNTING

What is the Formula for Weighted Average Cost of Capital (WACC)?