Economics 435
Fall 2021
University of Wisconsin-Madison

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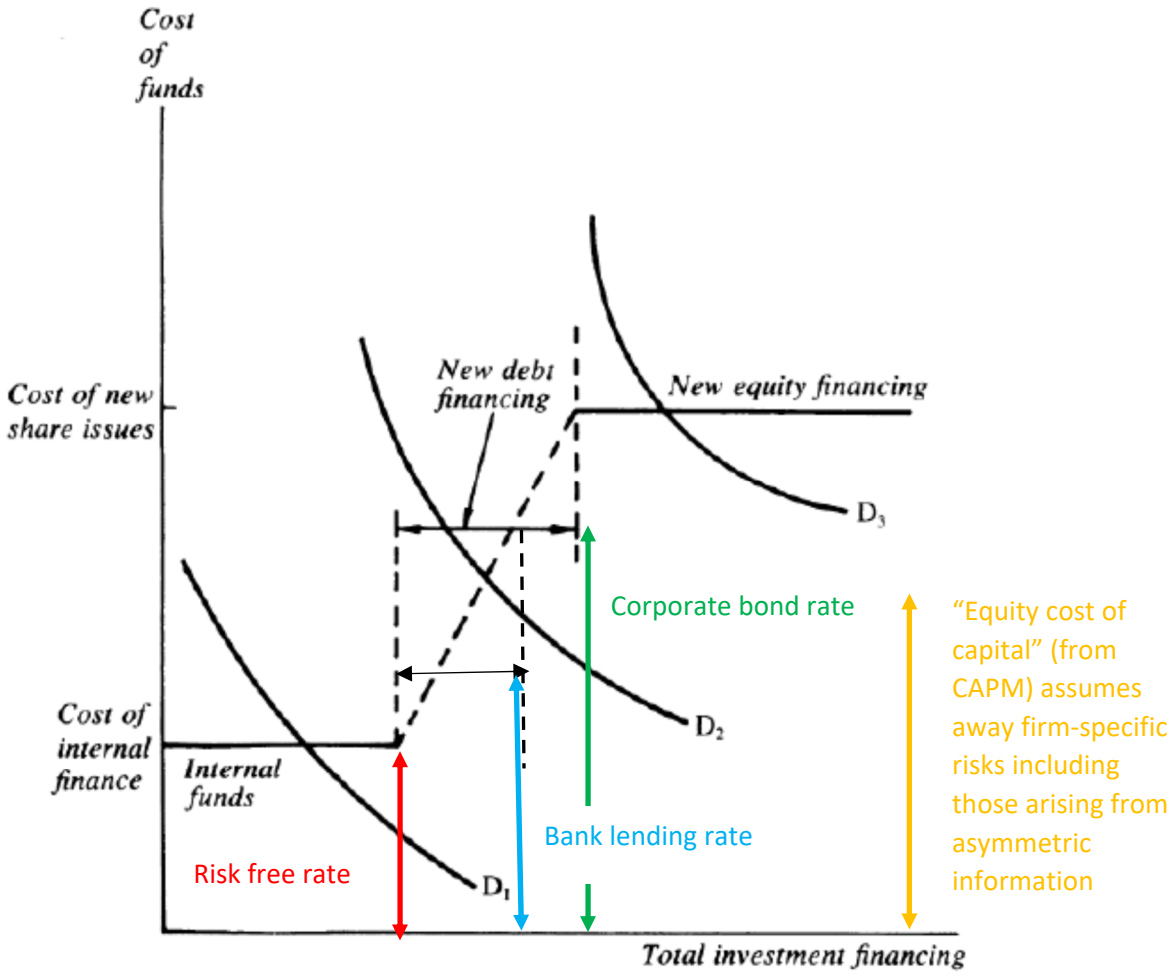
Social Sciences 7418

How does the "equity cost of capital" relate to the pecking order of finance?

In lecture (10/29), a question was asked why the cost of internal financing is not the same as the **equity cost of capital**. To answer this question, consider the following graph, showing the "pecking order" of financing:

Figure 1. Investment and Financing Decisions



From Fazzari et al. (1988)

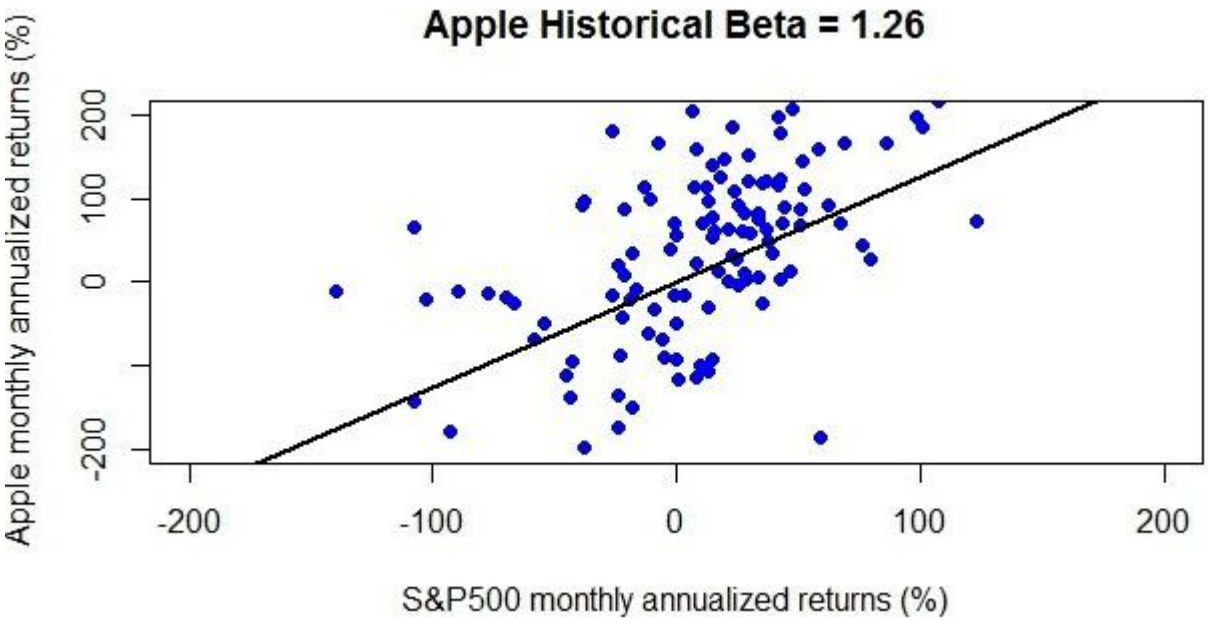
The "equity cost of capital" refers to the cost of accessing financing via the equity markets (i.e., externally, not internally), and assumes away the asymmetric information problems we are concerned with. The standard way to estimate the equity cost of capital in the literature is to measure the risk to a

typical investor for holding the stock, where the risk is assessed in terms of covariation with the broader market. The equity cost of capital for an individual firm ($r^{equity,i}$) is typically calculated as:

$$r^{equity,i} = r^{riskfree} + \beta(r^{i} - r^{riskfree})$$

Where r^{i} is the return on stock of firm *i*, and $r^{riskfree}$ is the risk free rate (e.g., Treasury yield), and β is an estimated regression coefficient. This definition comes from the **Capital Asset Pricing Model** (CAPM), which assumes investors maximize mean wealth while minimizing variance, and that all investors have the same information set, and firm specific (unsystematic) risk has been diversified away.

Graphically, consider Apple Corporation's stock price return, plotted against the S&P 500 return:



Source: Investopedia.

The slope of the line in the above figure is the β in the equation.

This measure of equity cost of capital assumes that the investor holds a diversified portfolio, so that the unsystematic risk specific to the firm (because of adverse selection/moral hazard problems, as well as operational and regulatory risks) is assumed away.

Hence, this measure is not useful for understanding why firms rely on the financing that they do (although it *might* be useful for examining why investors hold the stocks they do).