

## CFO Insights

### Are you mispricing investment risk?

In a *Tale of Two Capital Markets*,<sup>1</sup> we noted corporate strategy was being redefined by the differentiated costs of capital. Some global companies with strong balance sheets are able to access capital at costs in the 2% to 3% range, while others pay substantially more (over 7%), if they are even able to access fresh capital. But, those with inexpensive costs of capital must be careful not to misprice the costs of investment risks, and invest in assets without accounting for what equity holders expect as a return.

Since the 2008 financial crisis, however, we have found that managers sometimes do not fully account for the dynamic and variable nature of equity risk premiums (ERP) when estimating a cost of capital and evaluating potential investments. A common practice by some has been to solely rely on unadjusted historical ERP statistics or anecdotal support for a chosen ERP. Without appropriate analysis and inquiry, these practices can lead to an incorrect pricing of risk in prospective projects.

In this issue of *CFO Insights*, we discuss the nature of ERPs in the current environment and how volatility can affect those calculations. In addition, we describe various approaches to estimating ERPs on an ongoing basis and outline why incorporating implied ERPs into a robust analysis of rates of return may be beneficial.

#### What is an equity risk premium?

In the standard capital asset pricing model, underlying the valuation of assets:

The Expected Return on the Equity = Risk Free Rate of Return + (Beta of the Asset \* Equity Risk Premium).

Here the ERP is the premium investors expect above the risk free rate of return for investing in a broad portfolio of equities or an average risk investment. Thus, the ERP is fundamental to evaluating most investments and in framing the minimum expected return for an investment. What we have found, as have others, is that companies often tend to use a static ERP, one that does not account for the volatility of markets today and investor expectations for risk.

During the financial crisis, for example, the risk free rate — typically estimated based on Treasury security yields — decreased as equity buyers moved to the safety of bonds. If asset betas and expected ERPs were held constant in that environment, the expected return would seem to fall. This would make the expected return threshold lower and potentially increase the number of attractive investments. However, this would be counter to the market reality, given where the stock markets went and perceived risk in the market. What we found during the crisis — and what continues today — was much greater volatility and increases in expected ERPs that reflected the investors' view that there was more risk in the equities marketplace.



In his paper, *Equity Risk Premiums (ERP): Determinants, Estimation and Implications – The 2011 Edition*<sup>2</sup>, Aswath Damodaran, professor of finance at New York University, found that ERPs varied widely in short periods. In fact, implied ERPs ranged from 4.2% to a high value of 8% between September and late November 2008.<sup>3</sup> Deloitte's<sup>4</sup> own analysis, which estimates a forward-looking ERP (based on both implied ERPs and adjusted historical ERPs), found values ranging from 5.5% to 7.75% between November 2008 and February 2012. These changes in ERPs can significantly alter the expected return of future investments — especially in large firms whose capitalization is primarily through equity.

Moreover, the weighted average cost of capital can be substantially impacted by the value of the ERP. The WACC is generally calculated as below:

$$\text{WACC} = \frac{\{(\text{Market Value of Equity} * \text{Expected Return on the Equity}) + (\text{Market Value of Debt} * \text{Cost of Debt} * (1 - \text{tax rate}))\}}{\{\text{Market Value of Equity} + \text{Market Value of Debt}\}}$$

But, as can be seen above, when much of a company's capital is equity capital, then changes in the ERP can have a significant impact on the expected return on equity and in turn on the cost of capital.

### Implications of ERP volatility for CFOs

The dynamic nature of ERPs over the last few years may put companies at risk of inappropriately evaluating potential investments. To address this, CFOs should re-examine how investments are typically valued using the following steps:

**1. Dispense with the myth of the static ERP.** ERPs can be volatile and require a review of current practices in valuation. For example, does the company use a static ERP? Is the ERP reviewed and perhaps changed on a quarterly basis? Not moving to a dynamic estimation of ERP creates the potential for mispricing risk and making poor investment choices.

**2. Decide how to estimate ERPs on an ongoing basis.** As Professor Damodaran notes in his study, there are three general approaches:

- Reliance on survey data of investors, financial executives, and academics;
- Estimation from historical data; and
- Creating an implied ERP estimate from estimates of future cash flows.

Each of these approaches has strengths and weaknesses. Survey estimates, for example, show high variance across estimates based on sample population. Estimation from historical data poses other difficulties from having high standard errors to not having sufficient historical data for emerging market countries. Still, a common corporate practice when estimating ERPs for investment decision making is to rely on unadjusted historical data. For example, Morningstar produces an annual summary and analysis of historical stock market returns since 1926.<sup>5</sup> The issue, of course, is that sole reliance on historical data may not be appropriate at any particular point in time, depending on market dynamics. Historical data is useful in assessing what may be an appropriate forward-looking ERP, but it is not necessarily determinative.

To avoid that trap, the third approach estimates ERPs based on future cash flow expectations. Implied ERPs are premised on the fact that when investors price an asset, they are implicitly stating their expected return on the asset given its forecasted cash flows. This principle can be used to compute an implied ERP in different ways. The key benefit of implied ERPs is that they are forward looking based on current investor purchases of assets.

**3. Recognise that ERP varies by country markets.**

It is only natural that investor expectations for returns differ in different countries. Today, many global companies seek to invest in emerging markets for growth. When estimating the value of, and expected return on, these investments, it is important to estimate rates of return in relation to the country where the investment is located instead of using an internal fixed hurdle rate perhaps based on U.S. data. Given the volatility and risks of emerging markets, it is not uncommon to find companies underestimating what investors seek as the expected return when investing

in emerging markets by using a measure based on U.S. historical ERPs, without adjustment. As Professor Damodaran notes, many emerging markets have very small or thin equity markets, making it difficult to estimate ERPs based on historical data and even expected future cash flows.

**4. Recognize that ERP varies by industry.** Another area where we see potential mispricing of risk is when companies diversify into unrelated industries or new and potentially high growth areas within their industry. For example, consider a newspaper with steady earnings diversifying into a new social media business. Do they use hurdle rates based on the experience of their industry with relatively steady cash flows? Or do they use hurdle rates based on what investors seek as a return for investing in more risky and volatile opportunities such as social media? The latter would result in higher estimated forward-looking ERPs for the proposed investments.

In short, given the volatility in the marketplace, we recommend CFOs build the capacity to dynamically adjust expected rates of return and thoughtfully consider the ERP implications of industry and geographical diversification. Not doing so can result in the potential mispricing of risk when evaluating investment opportunities.

### The dynamic ERP imperative

In addition to the above reasons for developing and adopting a more dynamic approach to estimating forward-looking ERPs, CFOs today have added reasons to attend to this issue. First, in recent years, U.S and international accounting standards have been increasing the need for fair value estimates. Income approach valuation methods based on a present value technique are routinely used in such estimates, and these analyses require an up-to-date estimation of forward-looking ERPs. Second, boards and managers involved in mergers and acquisitions require an appropriate estimation of the cost of capital in evaluating deals. This is vital to reduce the potential for downstream impairments and write downs of goodwill. In the event things do not work well in a particular deal, up-to-date estimates of forward-looking ERPs are also vital to appropriately assess the amount of goodwill impairment.

Given the volatility in forward-looking ERP estimates, CFOs should have their financial planning and analysis team assess and estimate a forward-looking ERP and cost of capital on a more frequent basis (at least quarterly). While there is no single magic bullet for estimating a forward-looking ERP, incorporating an implied ERP analysis into its estimation is likely to better reflect today's true market conditions. While judgment is required in estimating expected rates of return, not moving to a more dynamic estimation of a forward-looking ERP may potentially lead to a significant mispricing of risk and the associated cost of capital, as well as a misreading of expected equity returns.

#### Endnotes

<sup>1</sup> *Tale of Two Capital Markets: Deloitte CFO Study*; Ajit Kambil and Robert C. Olsen, March 2011

<sup>2</sup> *Equity Risk Premiums (ERP): Determinants, Estimation and Implications – The 2011 Edition*, Professor Aswath Damodaran, NYU Stern School of Business. See [www.damodaran.com](http://www.damodaran.com).

<sup>3</sup> *Equity Risk Premiums (ERP): Determinants, Estimation and Implications – The 2011 Edition*, Professor Aswath Damodaran, NYU Stern School of Business.

<sup>4</sup> As used in this document, "Deloitte" means Deloitte LLP and its subsidiaries. Please see [www.deloitte.com/us/about](http://www.deloitte.com/us/about) for a detailed description of the legal structure of Deloitte LLP and its subsidiaries.

<sup>5</sup> *Ibbotson S&P Valuation Yearbook 2011: Market Results for Stocks, Bonds, Bills, and Inflation 1926-2010*; Ibbotson Associates, 2011



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