

Estimating the Equity Risk Premium Using Market Fundamentals

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In recent months, there has been tremendous discussion in the valuation community about how to properly estimate the base cost of capital and equity risk premium given that the customary practice of adding the spot yield to the historical equity risk premium is yielding an artificially low estimate. To resolve this issue valuation practitioners have proposed various methods to “normalize” the cost of capital. For example, Duff & Phelps recommends normalizing the risk free rate of interest to approximately 4% and adding an equity risk premium of 5.5%. Another group recommends using the spot-yield on a 20-year Treasury and adding a 1-2% increase to the company specific risk premium as an adjustment. Another group even recommends taking a long-term average risk free rate and adding that rate to the historical risk premium reported in Ibbotson or Duff & Phelps. In my opinion, the easiest way to resolve this issue is to simply examine the fundamentals of the marketplace to determine the markets implied required return. For example, recall that the value of a stock-index can be expressed as follows: $Value = FCF1 / (K - G)$ Where: FCF1 = Free cash flow (i.e. buybacks and dividends) on index next year K = Required Rate of Return on Index G = Long-Term Nominal Growth Rate in Free Cash Flow per Share Solving the above formula for K, we discover that $K = FCF1 / Value + G$ Notice that FCF1/Value is simply the total forward-yield (i.e. buybacks and dividends) on the stock index. Further notice that G, or the long-term nominal growth rate, can be bifurcated into long-term inflation and long-term real free cash flow per share growth. Therefore, by definition, the expected return on an equity index is simply: $K = Total Yield on Index + Inflation + Long-Term Real Growth$ Using these fundamentals, a long-term forward looking estimate of the return on the S&P 500, or similar index, can be estimated in a relatively straight forward fashion. For example, as of December 31, 2011, the S&P 500 reported a trailing free-cash flow yield of 5.90% per annum (used as a proxy for the forward-yield). The marketplace was pricing in a long-term breakeven inflation estimate of 2.04%, based upon the yield spread between 20 year treasury and treasury inflation protection securities (TIPS). Furthermore, in the United States, long-term real GDP per capita growth, which can serve as a proxy for long-term free cash flow per share growth, has averaged approximately 2% per annum. Therefore, based upon these observable market inputs a reasonable supply-side estimate of the long-term return on the S&P 500 as of December 31, 2011 is computed as follows:

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