

DISCUSSION OF THE RISK PREMIUM

Q. WHAT IS THE RISK PREMIUM?

A. In the CAPM model, the risk premium is calculated as the difference between the expected market return (Rm) and the risk-free rate of return (Rf). The time periods used for Rm and Rf should be consistent. For example, the expected market return (Rm) of 12.33% I used in the CAPM calculation is based on historical return data covering the period December 31, 1991 through March 31, 2005. Therefore, in order to determine the risk premium, I have used the average risk-free rate over that same time period. The average risk-free rate¹ for this period was 3.73%, as shown on Schedule TMR-4.²

Therefore, the market risk premium in my CAPM calculation is 8.60%.³

As shown on page 2 of Schedule TMR-2, Mr. Meredith's proposed market equity risk premium is 15.87%.⁴

Q. ABOVE YOU INDICATED THAT THE MARKET AVERAGE RISK PREMIUM IN YOUR CAPM CALCULATION IS 8.6%. HOW DOES YOUR ESTIMATE OF RISK PREMIUM COMPARE TO OTHER ESTIMATES OF THE RISK PREMIUM?

¹ I propose using the 3-month Treasury Bill rate as the risk-free rate, as discussed later in this testimony.

² 3.73% is the monthly average rate; the annual average rate is 3.76% as shown on Schedule TMR-4.

³ 12.33%-3.73% = 8.6%.

⁴ Estimated Market Return of 19.90% minus risk-free rate of return 4.03% = 15.67% market equity risk premium.

- A. As already discussed, the market equity risk premium in my CAPM calculation is 8.60%.

This is a relatively high market equity risk premium compared to other estimates I am aware of. The estimates of the equity risk premium among the prominent studies I am aware of, range from a low of 5.5% to a high of 8.63%. Therefore, the estimate of the market equity risk premium in my CAPM calculation is on the high side of that range.

For example, a 2000 study conducted by Ivo Welch involved a survey of 226 academic financial economists to arrive at a “consensus” estimate of the equity risk premium. That study concluded that the consensus estimate among those 226 economists for the equity risk premium is 7% per year over 10 and 30-year time horizons, and 6% to 7% over 1 and 5-year time horizons.⁵

Siegel’s study found an equity risk premium of 5.5% relative to T-Bills over the period 1802-1998.

Shiller found an equity risk premium of 6.0% over the period 1870-1998.

Ibbotson found an equity risk premium of 6.5% relative to government bonds and 8.63% relative to T-Bills over the period 1926-2004.

⁵ Welch, Ivo, “Views of Financial Economists on the Equity Premium and on Professional Controversies”, University of Chicago Press Journal of Business, Volume 73, Issue 4, 2000, Abstract.

These equity risk premia estimates are summarized below:

ESTIMATES OF THE MARKET EQUITY RISK PREMIUM

<u>Source of Estimate</u>	<u>Equity Premium</u>
Siegel 1802-1998 (T-Bills)	5.5% ⁶
Shiller 1870-1998	6.0% ⁷
Ibbotson 1926-2004 (T-Bills)	8.63% ⁸
Ibbotson 1926-2004 (Government Bonds)	6.57% ⁹
Welch Study Consensus (10 and 30 year horizon)	7.0% ¹⁰
Welch Study Consensus (1 and 5 year horizons)	6.0% to 7.0% ¹¹
Regan CAPM calculation	8.60%
Carbon/Emery (Meredith) Proposed	15.87% ¹²

⁶Siegel, Jeremy, "The Shrinking Equity Premium Historical facts and future forecasts", The Journal of Portfolio Management, Volume 26, Number 1 - Fall 1999 - Pages 10-17, Exhibit 2.

⁷ Welch, Ivo, "Views of Financial Economists on the Equity Premium and on Professional Controversies", University of Chicago Press Journal of Business, Volume 73, Issue 4, 2000, Table 1 "Historical Stock Market and Equity Premium Performance", page 37.

⁸ Yale ICF Working Paper No. 05-04, April 2005, "History and the Equity Risk Premium", William Goetzmann and Roger Ibbotson, Yale School of Management, Yale University, Table II, page 12.

⁹ Yale ICF Working Paper No. 05-04, April 2005, "History and the Equity Risk Premium", William Goetzmann and Roger Ibbotson, Yale School of Management, Yale University, Table II, page 12.

¹⁰ Welch, Ivo, "Views of Financial Economists on the Equity Premium and on Professional Controversies", University of Chicago Press Journal of Business, Volume 73, Issue 4, 2000, Abstract.

¹¹ Welch, Ivo, "Views of Financial Economists on the Equity Premium and on Professional Controversies", University of Chicago Press Journal of Business, Volume 73, Issue 4, 2000, Abstract.

¹² Page 2 of Schedule TMR-2 is a copy of Carbon/Emery's response that shows the calculation of this figure.