

Ahern Risk Premium Model

Ms. Ahern's risk premium model (for the proxy group of seven water companies) can be depicted mathematically as follows:¹

$$R_j = R_{A2} + \{[b_j \times (R_{m1} - R_{Aa/Aaa}) + (R_{m2} - R_{A-bond})] / 2\}$$

- where
- R_j ≡ the required rate of return for security j ;
 - R_{A2} ≡ a derived estimate of the yield on a long-term bond rated A2 by Moody's;
 - R_{m1} ≡ average of historical and projected estimates of the overall market return;
 - R_{m2} ≡ S&P's public utility index return (1928-1999);
 - $R_{Aa/Aaa}$ ≡ average of historical return on long-term high-grade corporate bonds and a prospective yield on Aaa rated corporate bonds;
 - R_{A-bond} ≡ derived historical estimate yield on an A rated bond; and
 - b_j ≡ the measure of risk for security j .

That formula can be restated as follows:

$$2R_j = 2R_{A2} + [b_j \times (R_{m1} - R_{Aa/Aaa})] + [(R_{m2} - R_{A-bond})]$$

$$2R_j = [R_{A2} + b_j \times (R_{m1} - R_{Aa/Aaa})] + [R_{A2} + (R_{m2} - R_{A-bond})]$$

$$R_j = \{[R_{A2} + b_j \times (R_{m1} - R_{Aa/Aaa})] + [R_{A2} + (R_{m2} - R_{A-bond})]\} / 2$$

$$R_j = [(R_{A2} + b_j \times RP_1) + (R_{A2} + RP_2)] / 2$$

- where
- $RP_1 = R_{m1} - R_{Aa/Aaa}$; and
 - $RP_2 = R_{m2} - R_{A-bond}$

¹ See Company Exhibit 7, Schedule 15, pp. 1, 5, 6, and 8.