Q. Reference: Page 34, Lines 8-11

"To the extent that long Canada bonds earn a maturity premium of at least 1.0% over the average Treasury bill yield, this classic CAPM automatically increases the risk free rate and lowers the slope of the CAPM in the same way as the ECAPM. In this way it adjusts for the bias noted in these early tests of the CAPM."

Based on Dr. Booth's assumptions for the market risk premium, utility beta and risk-free rate, by how much does the use of a long-term Canada bond, rather than a Treasury bill raise the CAPM cost of equity?

A. For any security j the CAPM required rate of return can be rewritten as:

$$K_j = (1 - ß_j)R_F + E(R_M)ß_j$$

So differences in the risk free rate cause the required return estimate to change by 1 minus the security's beta coefficient. Currently with a utility beta of 0.50, Dr. Booth's forecast 4.5% LTC yield and a 30 day T. Bill yield of 0.26% the difference is 2.12%. That is, in testing the CAPM they would use an expected rate of return 2.24% less than what Dr. Booth would think is fair for a utility with a beta of 0.50.