Q. Page 43: Dr. Booth states that CAPM is appropriate under "normal" or average markets and that at the current point in time conditions in the Canadian bond market are being driven by external factors so these are still not "average" requiring adjustments to be made in the inputs of CAPM, Has Dr. Booth considered any adjustment other than his credit spread and Operations Twist adjustments that might also be used to make adjustments to reflect market conditions? If yes, what adjustments were considered and rejected? If not, why not?

A. Dr. Booth makes two types of adjustments.

The credit spread adjustment is made to make the CAPM conditional on current market conditions. Here there are many proxies that Dr. Booth judges would be reasonable. On pages 43-45 and previously, for example, Dr. Booth discusses the Kansas City Fed Stress Index and the volatility index, which is a popular "conditioning" variable. However, financial research also indicates that other variables such as the Price-Earnings ratios and dividend yields also have some value in predicting expected returns. However, all these variables tend to be related and the credit spread has the advantage of directly relating the state of the economy to the utility's cost of borrowing, which in turn should be related to its fair ROE.

The "Operation Twist" adjustment is not a general adjustment. It is made due to the impact of central bank bond buying programs. Intuitively, the idea is to estimate the degree to which current government bond yields have been depressed by these programs. Logically the best proxies are other rates of return that a *priori* we might assume not to have been affected. However, there are two problems: first, all securities are substitutes and affected to some degree by these programs, while second only "fixed income" securities have a relatively easily estimated expected rate of return. In Dr. Booth's judgment preferred share yields are the "best" proxy. However, they are not that good as the preferred share market has a significant component of bank issues where recent concerns over possible loan losses due to oil and gas exposure seems to have had an impact. A possible alternative is limited partnership yields, where, due to the cash flow through, are also high and closely related to their equity cost. This alternative was rejected mainly due to the empirical problem of getting a satisfactory time series of yields.