Q. Evidence of Ms. McShane Pages

(a) Please indicate whether share prices fall when investors perceive the economy is going into recession and earnings are expected to fall?

(b) Given Ms. McShane's answer to a) above how much of the increase in dividend yields does she allocate to declining growth in Earnings versus increases in risk aversion? Please explain in full.

(c) Please indicate whether or not the value of the VIX is the implied volatility from a call option on the TSX60 index.

(d) Please indicate all financial and economic theory that indicates that observing an increase in volatility means that investor risk aversion or attitude towards risk has increased.

(e) Please indicate whether Ms. McShane accepts basic financial theory that an investor's risk premium is determined by the product of the perceived risk and the individual risk aversion. If not why not?

A. (a) Typically, yes.

(b) It is not possible to be precise about the extent of the decline in the market which is due to lower expected earnings and what part is due to increased investor uncertainty or increased risk aversion. The components are not additive, as an increase in the cost of equity with no change in expected earnings themselves would result in a higher yield than would be the case if the same increase in the cost of equity were simultaneously accompanied by a decrease in expected earnings growth. Between March 2006 and March 2009, the yields on 10-year BBB rated corporate bond yields had increased by 225 basis points. Thirty-year A rated bond yields had increased by close to 200 basis points. These increases provide a perspective on the likely corresponding increase in the market cost of equity.

(c) It is not confirmed. The VIX is a measure of the implied volatility from a wide range of options based on the S&P 500. It is the symbol for the Chicago Board Option Exchange's volatility index. The MVX is the symbol for the Montreal Exchange's implied volatility index. It is calculated from the current prices of at-the-money options on the shares of the Canadian S&P/TSX 60 Fund. Implied volatilities are forward-looking measures of uncertainty.

(d) An increase in volatility does not *per force* mean that investor risk aversion has increased. The VIX is widely considered to be a measure of investor sentiment and risk aversion. Robert Whaley, Professor of Business Administration at Duke University, in "The Investor Gauge: An Explication of the CBOE VIX", *Journal* *of Portfolio Management*, Spring 2000, states" VIX is said to be the 'investor fear gauge'. We say 'fear' because investors are averse to risk."

(e) Confirmed. Increased risk aversion results in an increase in the required return for a given level of risk, i.e., in the context of the CAPM, the slope of the security market line increases.