Newmarket Hydro

Responses to Chatham-Kent Hydro Questions

EB-2006-0088/89

1. Are you aware of any regulatory cases in Canada or the US where utility equity returns have been adjusted for size?

We have identified a the Hawaiian Public Utility Commission as having recognized higher relative risk based upon size in Decision and Order No. 18365, Docket No. 99-0207, per testimony from Roger Morin (HELCO T-17; Docket No. 05-0315, page 66). We are attempting to obtain copies of that docket and will provide, if possible, in our final submission.

We will expand upon the size related concept in our final submission. For a preview of the arguments please review: Size Effect in **New Regulatory Finance**, Roger A. Morin, Phd, Public Utilities Reports, Inc., 2006, pages 181 – 189.

2. You mentioned Ibbotson as a source for a study that identifies a small capitalization stock risk premium? Please define "small" and please describe how large was this risk premium?

We have directed OEB staff to Ibbotson Associates Valuation Edition - 2005 Yearbook, Chapter 7, pages 127 – 158. The study covers US stocks from 1926 to 2004 and indicates an excess return to small stocks of 6.41% - returns above the CAPM model based on the smallest 10% or 1,782 companies. The largest market capitalization of this category was US$ 263 million and the smallest US$ 1.4 million. Alternatively, combining the smallest two categories (20%) with market capitalization ranging from US$ 505 million to US$ 1.4 million, excess returns were 4.02%. Note that splitting the smallest 10% further raised the returns to the smallest 5%, but reduced sample size. This report references US stocks, which should serve as an indicator for Canadian stocks. Mr. Charmichael, in his testimony for Toronto Hydro, noted a similar trend with premiums for small Canadian companies.

We will expand upon the size related concept in our final submission. For a preview of the arguments please review: Size Effect in **New Regulatory Finance**, Roger A. Morin, Phd, Public Utilities Reports, Inc., 2006, pages 181 – 189.

3. Do you believe that US small cap stocks can serve as a proxy for the Canadian market?

Canada is competing with the US for global investment capital. Given large upcoming capital expenditure programs that Ontario's LDCs must undertake in the upcoming years, attracting capital is of increasing concern. Ontario's small LDCs are competing for capital as small cap investments, while all LDCs are competing for global capital as utility investments. First and foremost, Ontario's LDCs must earn an equity return commensurate with US utilities, which, per 2005 Decisions, averaged 10.6% for Allowed ROEs. An additional size adjustment for Small LDCs will be necessary to attract equity investments in those utilities. We believe it is naïve to assume Ontario's market is sufficiently insulated from international capital flows such that US data can be ignored, particularly with recent changes expanding the international investment opportunities for Canadian institutions.

4. You mentioned that an increase in the percentage of debt in the capital structure would lead to higher required returns on equity. Could you please explain – in ordinary language- why?

Interest payments have priority over shareholder earnings. Assuming the same operating income, more debt means higher interest payments. The remaining earnings flows to shareholders are more sensitive to changes in revenues (financial leverage). The resulting increase in earnings volatility leads to higher expected returns to attract investment capital.

As an example, a firm with a rate base of $100 million and a 9% WACC has a rate base return of $9 million. If it is all equity financed, ROE = $9 million / $100 million = 9%. Now pretend that OEB has mandated a 50:50 capital structure and so the LDC refinances its rate base using 50% debt at 6% and 50% equity at 12%. OEB continues to reimburse the LDC with a 9% WACC and the return is still $9 million. After paying $3 million debt interest (6% * $50 million), there is $6 million to distribute to equity. ROE is then $6 million / $50 million = 12%. The introduction of debt raised the equity return from 9% to 12% and WACC remains constant at 9% in both cases.

The increase of debt in the capital structure makes equity become more risky, therefore ROE increases. This is because debt has a lower interest rate and is paid out before equity. WACC determines the return component of the revenue requirement. The return provides reimbursement to all holders of capital for the risk they bear for their investment. The asset itself, in this case the LDC, determines the level of that risk. How a company chooses to finance its rate base does not change WACC, the return, or the risk inherent in the LDC. This is why OEB continues to reimburse the LDC at a 9% WACC.

The attached spreadsheet, on the "WACC" and "ROE debt" tabs, describes these relationships for the example we used in our presentation. The WACC tab shows the calculation of WACC, or asset return, from the observed equity beta of 0.47. The ROE tab shows the range of ROEs that result from the addition of debt in the capital structure, while maintaining a 6.2% WACC in all cases.

5. Your calculation of the return on equity differs from that provided by Drs. Lazar and Prisman, can you explain any underlying assumptions that might lead to this difference?

Staff applies a "shortcut" formula to calculate the equity beta; with this equity beta, they calculate the equity return. The shortcut formula they use assumes that the debt beta equals zero, which is incorrect. When the debt beta is assumed to be zero, the debt interest rate is not 6%. A debt interest rate of 6% yields a debt beta of <0.23>, which then results in a different equity beta and equity return from that which staff calculated.

See the attached spreadsheet "zero debt beta" tab for detailed calculations.