

1. RE: Dr. Booth Evidence, Page 33, Lines 17-19

If Dr. Booth believes that risk is constantly changing and so too are beta coefficients, please explain why Dr. Booth has consistently used beta coefficients Canadian utilities of 0.45-0.55 in his application of the CAPM.

Does Dr. Booth agree that changes in risk imply changes in beta coefficients?

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Risk can only be measured ex post, that is, after the fact, where the referenced statement is dealing with estimation and the observation that “people find it difficult to understand why betas change.” Dr. Booth’s Appendix C deals with beta estimation in more detail where he explains why estimated betas were, for example, negative in the early 2000’s. What regulators need are ex ante, that is, expected betas, which ignore unique factors that distort actual betas.

Dr. Booth has been using a beta range of 0.45-0.55 recently but that does not mean to say that he has judged the risk of utilities relative to the long Canada bond to have remained constant. Quite the contrary, Dr. Booth has made adjustments to reflect credit risk and the effect of monetary policy on long Canada bond yields. However, rather than capturing these in the beta or market premium estimates in a simple CAPM estimate, he has captured them in adjustments to the forecast long Canada bond yield.

2. RE: Dr. Booth's Evidence, Page 37, Lines 21-22

What is the average Canadian market return and the average LTC yield used to compute the historical market risk premium of 5.0% to 6.0% in Canada?

The 5.0-6.0% range for the market risk premium is based on a number of factors as is discussed in Appendix B. It is not a mechanical calculation.

However, in Dr. Booth's Appendix B contains the following table of historic data. The historic Canadian market risk premium of 4.67% in Canada was associated with an historic return on the long Canada bond of 6.40%. Appendix B discusses in detail why Dr. Booth does not use this 4.67% as a current estimate of the market risk premium.

<b>Annual Rate of Return Estimates 1926-2017</b>						
<b>U.S.</b>				<b>CANADA</b>		
	S&P Equities	Long US Treasury	Excess Return	TSE Equities	Long Canadas	Excess Return
AM	12.05	5.98	6.08	11.07	6.40	4.67
GM	10.27	5.60	4.67	9.58	6.13	3.45
OLS	10.91	5.52	5.39	10.21	6.16	4.05
Volatility <sup>1</sup>	19.79	9.86		18.49	8.86	

3. RE: Dr. Booth's Evidence, Page 37, Lines 21-22

Does Dr. Booth believe that the market risk premium varies with the level of interest rates, or is it static regardless of the LTC yield? Please provide any evidence or rationale used to support your response.

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In testimony in the 1990's Dr. Booth used a market risk premium of 3.5% since he judged at that time the long Canada bond had significant market risk. This can be seen in Schedule 5 to Appendix B of his current report.

Dr. Booth does not keep copies of all his early testimony, but in 2001 before the National Energy Board (RH-4-2001) he used a market risk premium of 4.0% and a beta range of 0.42-0.60. Evidentially, Dr. Booth has varied his estimate of the market risk premium and much of this has been due to real interest rate levels as he also discusses in Section IV of his report, where he contrasts DCF and risk premium estimates.

4. Reference: Dr. Booth's Evidence, Page 40, Lines 16-17

Please provide the referenced 2013 article from Michelfelder and Theodossiou.

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Attached as Booth answer to MECC information request 4

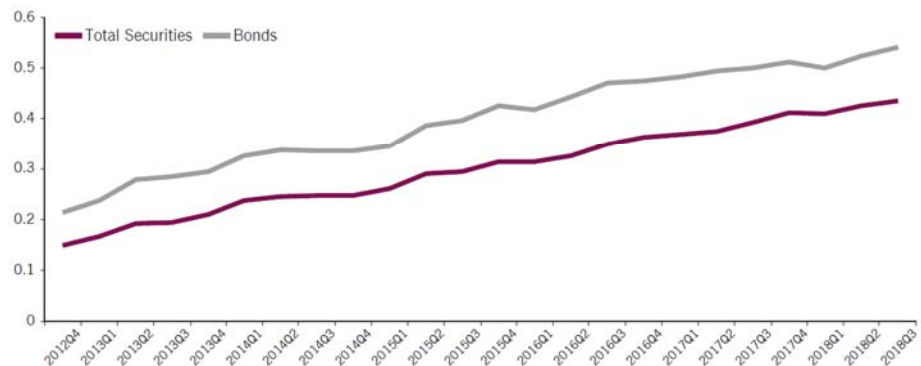
5. RE: Pages 43 and 47 of Dr. Booth's Expert Report and Appendix D

On page 47 of his report, Dr. Booth has adjusted the risk-free rate in his CAPM analysis of 2.65 percent to account for higher credit spreads (33 basis points) and on page 47 he has adjusted the risk-free rate for bond buying by central banks (80 basis points).

- a) Please explain any adjustments that Dr. Booth has made to his DCF analysis in Appendix D to account for higher credit spreads and/or bond buying by central banks.
- b) If no adjustments were made for these factors, please explain why not.
- c) How would a risk-free rate of 3.78 percent affect the share prices and dividend yields of utility stocks in Canada?

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- a) Dr. Booth has made two adjustments to his risk premium estimates since the base is the forecast long Canada bond yield. However, his DCF estimates do not involve the long Canada bond yield and no direct adjustment is needed.
  - b) See a ) above
  - c) That depends on what has caused the yields to increase. Traditionally, in Canada long Canada bond yields have been higher than high quality dividend yields due to the impact of the dividend tax credit. In a forthcoming paper, Dr. Booth has the following graph showing the increased holdings of Canada bonds by foreign sovereign investors. For them, Canada is attractive due to its AAA bond rating and the negative yields on most Euro area debt. If long Canada bond yields increase due to the fact that they are no longer sought by these sovereign reserve funds it indicates that the global financial system has finally healed, which is a good thing. In this case, there would be no material impact on utility dividend yields.

Figure 9  
Foreign % Holdings of Canada Debt



6. RE: Dr. Booth's Evidence, Page 45, Lines 8-9

Please provide the referenced RBC forecast.

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Attached as Booth answer to MECC information request 6.

7. RE: Dr. Booth's Evidence, Page 63, Line 7-9

Please identify any authorized equity returns for investor owned utilities in Canada as low as Dr. Booth's ROE recommendation of 7.50 percent?

If there are no returns in Canada as low as Dr. Booth's recommendation, please explain how his ROE recommendation of 7.50 percent meets the comparable return requirements of the Fair Return Standard.

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Dr. Booth does not survey utility awards and agrees with the AUC that no weight should be placed on them in arriving at a fair return. In 2018 the AUC stated (D22570-D01-2018, page 99, para 474)

474. As previously discussed in Section 4, the Commission will not take any guidance from the evidence presented about approved utility ROEs in other Canadian and U.S. jurisdictions. The objective of the GCOC is to consider the market expectation for the affected utilities and not what other regulators are allowing.

Note the comparable return standard in Canada as expressed by the Supreme Court of Canada (page 7 of Dr. Booth's report) is

*"that the company will be allowed as large a return on the capital invested in the enterprise as it would receive if it were investing the same amount in other securities possessing an attractiveness, stability and certainty equal to that of the company's enterprise."*

This is a market return, which is what Dr. Booth has estimated.

8. RE: Dr. Booth's Evidence, Page 65, Lines 4-5

In Dr. Booth's opinion, what role, if any, does sound financial management play in the ability of Maritime Electric to consistently earn its authorized ROE?

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Dr. Booth would hope that professional management, coupled with the extensive deferral accounts allowed by IRAC, should allow the utility to earn its allowed ROE. That is the objective of the regulatory bargain in Canada, which also results in lower ROEs and more debt than for otherwise comparable utilities in the U.S. A utility should not be allowed a higher allowed ROE due to earnings volatility induced by unprofessional management actions.



9. RE: Dr. Booth's Evidence, Appendix C, Page 2, Lines 12-13

Given Dr. Booth's position that "the risk of a firm or industry changes much more than the overall risk of the market," how does he support his consistent use of a beta coefficient from 0.45 to 0.55 for regulated utilities?

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Dr. Booth's referenced comments are for firms in general, not utilities. Dr. Booth often asks his students if they have heard of Kodak, Xerox and other top US firms that have suffered near fatal economic decline over relatively short periods of time. He could also add Pacific Gas and Electric, Enron and Duke to the list to indicate how different U.S. pipelines and utilities are to Canadian ones.

Please explain in detail why Dr. Booth believes that for non-regulated firms and utility holding companies, the underlying assumptions of the DCF model are frequently violated.

The DCF model is simply the constant "Gordon" growth model. It requires that investors expect the firm's dividends to grow at an approximately constant growth rate *forever*. It was originally developed by Professor Myron Gordon of the University of Toronto for application in an AT&T hearing in the U.S. in 1956(?). Prior to that time Dr. Booth's understanding is that emphasis was placed on the earnings yield (earnings per share divided by price). However, very few competitive firms satisfy that assumption, since competition has a nasty habit of destroying profitability. This can be seen in the data for U.S electric utility holding companies on page 21 of Dr. Booth's Appendix D, reproduced below.

Electrics DPS Growth rates

	Arithmetic	Compound	OLS	Volatility
Duke	4.2%	1.4%	0.5%	30.4%
Allette	3.0%	0.5%	0.4%	24.7%
Ever	5.8%	0.8%	-1.6%	45.1%
Great Plains	-0.2%	-1.3%	-1.3%	12.8%
OGE	1.1%	0.1%	0.3%	12.1%
PNW	8.0%	2.4%	1.3%	46.0%
WR	1.2%	0.1%	-0.2%	12.8%
SO	1.3%	0.8%	0.6%	9.0%
"Industry"	0.9%	0.6%	0.3%	7.1%
GDP	6.6%	6.5%	6.8%	

Note the volatility of the dividend growth rates in the final column for some firms is very large, since some cut their dividend to zero or very low levels. By definition, this historic experience violates the assumption of the DCF model.

For other more competitive firms Dr. Booth would reference pages 19-20 of his Appendix D and the AUC's comment on other concentric witness' evidence

*445. The Commission finds that both Mr. Coyne's and Mr. Hevert's estimates of the expected Canadian and U.S. market returns using the DCF model, which range from 12.65 to 14.84 per cent, are too high. These results are driven by unreasonable growth rate estimates. The Commission observes that the basis of Mr. Coyne's estimate of the Canadian market return relied on a sample with approximately 14 per cent of the companies having growth rates that exceeded 20 per cent. Turning to Mr. Hevert's estimate of the Canadian market return, approximately 16.5 per cent of the companies in his sample had growth rates that exceeded 20 per cent. Considering that the single-stage DCF model assumes a growth rate into perpetuity, the Commission finds the resulting estimate*

*unrealistic, and affords Mr. Hevert's and Mr. Coyne's equity market DCF estimates no weight. In addition, the Commission notes that the expected market return rates used by Mr. Coyne and Mr. Hevert use analyst estimates of growth rates that far exceed GDP growth. Accordingly, the Commission finds that the expected market return rates put forward by Mr. Coyne and Mr. Hevert are too high. No meaningful evidence was provided that would enable the Commission to quantify the extent of the over-estimation in order to develop a more reasonable estimate.*

Dr. Booth would note that he did not provide evidence in this hearing, if he had he would have provided the table below which indicates that such DCF estimates are at least 100% too high (page 18 of Dr. Booth's Appendix D)

	GDP	EPS	DPS
Average	6.48%	11.94%	6.00%
Median	5.99%	10.99%	5.86%
Volatility	3.01%	40.56%	6.36%
Compound	6.44%	6.24%	5.80%
OLS	6.13%	6.11%	5.68%

11. RE: Dr. Booth's Evidence, Appendix D, Page 8, Lines 6-7

Please provide the average projected earnings per share growth rates for the companies in the TSX index for the next five years.

How would Dr. Booth's DCF analysis of the market change for Canada if he used average projected EPS growth rates for the TSX companies rather than historic growth in dividends and after-tax profits since 1956?

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From the discussion in Dr. Booth's Appendix D it should be clear that he places no reliance on short term projected EPS growth rates since they are known to be biased high, do not satisfy the assumptions of the DCF model, are inconsistent with dividend growth rate expectations and have been rejected by utility regulators. In other words, they are of no value and are not part of Dr. Booth's report.

12. RE: Dr. Booth Evidence, Appendix D, Page 18, lines 10-11

Dr. Booth notes that EPS for US companies has grown at 6.24% per year since 1967. What has been the average dividend yield over this same time period for these US companies?.

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The average dividend yield was 2.92% and is graphed at Schedule 12 in Dr. Booth's Appendix D. That graph shows the clear decline in the dividend yield since the mid 1990's.

13. RE: Appendix D, Schedule 17 of Dr. Booth's Expert Report

Please provide the following information:

- a) The specific sources that Dr. Booth relied on for the information contained in each column of Schedule 17;
  - b) For the sustainable growth rate calculation, please provide:
    - 1) The data underlying the sustainable growth rate for each company listed in Schedule 17 in electronic, executable format with all formulas intact;
    - 2) The time period used to compute the sustainable growth rates in Schedule 17.
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a). Dr. Booth used Yahoo finance which gets the underlying data from S&P's Compustat (Capital IQ) data base. This is the same source as the screen captures at Appendix A to Appendix C. For example, using the tab "statistics" provides the price to book, ROE, dividend yield, whereas the tab "analysis" provides the numbers of analysts, and current and past five-year growth rates.

b). Data provided as booth answer to MECC information request 13. The time-period is simply the current data downloaded from Yahoo Finance.