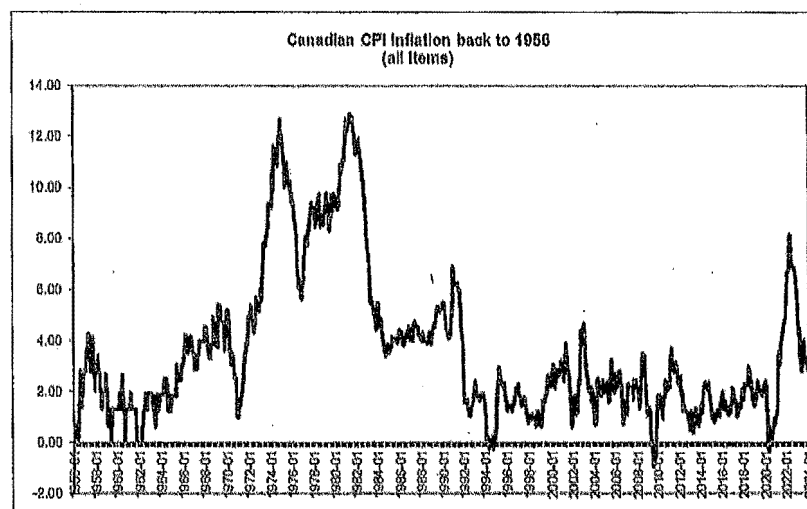


1 Q. Reference: *Fair Return and Capital Structure for Newfoundland Power (NP)*,
 2 Evidence of Laurence D. Booth, April 2024, page 54, lines 16-19.

3
 4 *"This is currently not a significant problem since long run forecast inflation is still low,*
 5 *but part of the reason the DCF fell out of favour was that it was giving bad signals*
 6 *when applied mechanically in the 1990s, when there was a structural break in the*
 7 *forecast inflation rate."*

- 8
 9 a) Please explain what Dr. Booth means by "a structural break" in the forecast
 10 inflation rate.
 11
 12 b) Please provide any evidence that utility regulators in Canada stopped using the
 13 DCF model during the 1990s for this reason. Please cite specific decisions where
 14 this was stated.
 15
 16 c) Please indicate whether Dr. Booth believes that the DCF model remains "out of
 17 favour" with North American utility regulators, and if so, provide the basis for
 18 that belief.

19
 20 A. a) The following graph shows the CPI back to 1956. Prior to 1979, inflation was
 21 gradually increasing, peaking at over 12% as late as 1981. This was brought back
 22 by tight monetary policy, but subsequently both the Bank of Canada and the federal
 23 government came to an agreement to bring the inflation rate down to a target level
 24 with a band around that level. This was the structural break referred to, as initially
 25 the target was 6% for a five-year period, and then 2% as it is now. Expected growth
 26 rates for dividend paying firms incorporated this change in inflationary
 27 expectations, as previously high growth rates were consistent with high inflation,
 28 but with 2% inflation it is difficult to get the +12% growth rates of earlier years.
 29



1 b) This is Dr. Booth’s experience of hearings during the 1980s when one witness that
 2 used historic growth rates in his DCF estimates changed the time period from 10
 3 years to 15 years to capture the higher inflation rates of earlier years, which were
 4 otherwise dropping out of his estimation period. Please see Dr. Booth’s Appendix
 5 E, where the NEB and the BCUC both approved ROE adjustment mechanisms
 6 based on risk premium models. The NEB was very specific when it stated in RH-
 7 2-94 decision (page 6):
 8

9 *“Given the problems associated with the application of the comparable earnings
 10 and DCF tests at this time, the Board has decided to give primary weight to the
 11 results of the equity risk premium test..... The Board is of the view that
 12 the equity risk premium for the market as a whole is 450 to 500 basis points”*
 13

14 c) Dr. Booth cannot comment on US regulators, as that is a foreign country operating
 15 in a different capital market, economic environment and cultural values. In Canada,
 16 most decisions Dr. Booth has seen have couched the result in a risk premium
 17 framework. The NBEUB was very specific when it reached a decision on the fair
 18 ROE for Liberty Utilities in 2021.
 19

v. Benchmark ROE

[87] As mentioned above, the primary model for arriving at a benchmark ROE is CAPM. The Board,
 however, has used in its analysis the multi-stage growth DCF model as a reasonableness check.

[88] Considering the above components, CAPM indicates that the appropriate ROE, before adding
 Liberty’s risk premium, is 7.0 percent. The calculation is summarized below:

CAPM Components	Percentage	Total
Risk-Free Rate	3.07 %	3.07 %
(Market Risk Premium * Beta)	(6.23 % * 0.55)	3.43 %
Flotation Costs	0.50 %	0.50 %
Total ROE, not including Company-Specific Risk Premium		7.0 %

20 Further, in the recent 2023 decision the AUC repeated its serious reservations about
 21 the growth rates used by experts on behalf of the utilities when estimating a
 22 standard DCF model,
 23

152. Nevertheless, as in past decisions, the Commission remains concerned with the aggressive dividend growth rates and forecasts relied on by some experts for the utilities, both for utilities as a sector of the economy, and the economy as a whole. It notes Dr. Cleary's observation regarding high growth estimates put forward by experts for the utilities and for the economy as a whole:

The contradiction in these assumptions is obvious – i.e. if the economic environments are expected to experience high-risk and slow growth conditions, how is it reasonable to assume that corporate earnings and dividends (for the entire stock market of all publicly listed companies) can be expected to grow indefinitely at these abnormally high rates?¹⁶⁶

153. In the 2018 GCOC decision, with reference to Dr. Cleary's evidence, the Commission recognized that the utilities are essentially monopolies in mature markets and, because of this, the use of long-term growth in excess of the long-term growth of GDP is unreasonable.¹⁶⁷ Indeed, D. Madsen quoted in his evidence from a publication by Dr. Damodaran, who opined that it is questionable whether any firm is able to sustain high growth in the long term as it will eventually stop growing either due to limitations on size or to the effects of competition.¹⁶⁸

Dr. Booth would judge that Canadian regulators are not as one sided in favour of risk premium (CAPM) models as ten years ago, and now consider DCF estimates, but they are still reluctant to accept DCF estimate based on short run analyst earnings estimates. These concerns mirror those of Dr. Booth.

	S&P500	US Tsy	TSE EQUITY	Canadas
1926	11.62	7.77	24.42	5.39
1927	37.49	8.93	44.92	10.18
1928	43.61	0.10	32.92	0.56
1929	-8.42	3.42	-11.60	2.34
1930	-24.89	4.66	-30.90	9.26
1931	-43.34	-5.31	-32.96	-4.97
1932	-8.19	16.84	-12.92	12.37
1933	53.99	-0.07	51.63	7.37
1934	-1.44	10.03	20.26	19.66
1935	47.67	4.98	30.63	0.83
1936	33.92	7.52	25.35	11.12
1937	-34.96	0.23	-15.83	-0.58
1938	31.12	5.53	9.13	5.63
1939	-0.41	5.94	0.19	-2.98
1940	-9.78	6.09	-19.13	8.69
1941	-11.59	0.93	1.93	3.80
1942	20.34	3.22	13.99	3.08
1943	25.90	2.08	19.67	3.88
1944	19.75	2.81	13.47	3.16
1945	36.44	10.73	36.05	5.18
1946	-8.07	-0.10	-1.50	6.02
1947	5.71	-2.62	0.34	3.17
1948	5.50	3.40	12.13	-2.38
1949	18.79	6.45	22.61	4.85
1950	31.71	0.06	48.43	-0.12
1951	24.02	-3.93	24.04	-3.13
1952	18.37	1.16	-0.42	1.99
1953	-0.99	3.64	2.15	3.64
1954	52.62	7.19	39.05	9.99
1955	31.56	-1.29	27.80	-0.34
1956	6.56	-5.59	13.22	-3.63
1957	-10.78	7.46	-20.58	5.89
1958	43.36	-6.09	31.25	-5.69
1959	11.96	-2.26	4.59	-4.43
1960	0.36	13.78	1.78	7.10
1961	26.89	0.97	32.75	9.78
1962	-8.73	6.89	-7.09	3.05
1963	22.80	1.21	15.60	4.26
1964	16.48	3.51	25.43	6.97
1965	12.45	0.71	6.68	0.96

1966	-10.06	3.65	-7.07	1.55
1967	23.98	-9.18	18.09	-2.20
1968	11.06	-0.26	22.45	-0.80
1969	-8.50	-5.07	-0.81	-2.01
1970	4.01	12.11	-3.57	21.98
1971	14.31	13.23	8.01	11.55
1972	18.98	5.69	27.38	1.11
1973	-14.66	-1.11	0.27	1.71
1974	-26.47	4.35	-25.93	-1.69
1975	37.20	9.20	18.48	2.82
1976	23.84	16.75	11.02	19.02
1977	-7.18	-0.69	10.71	5.97
1978	6.56	-1.18	29.72	1.29
1979	18.44	-1.23	44.77	-2.62
1980	32.42	-3.95	30.13	2.06
1981	-4.91	1.86	-10.25	-3.02
1982	21.41	40.36	5.54	42.98
1983	22.51	0.65	35.49	9.60
1984	6.28	15.48	-2.39	15.09
1985	32.16	30.97	25.07	25.26
1986	18.46	24.53	8.95	17.54
1987	5.24	-2.71	5.88	0.45
1988	16.81	9.67	11.08	10.45
1989	31.48	18.11	21.37	16.29
1990	-3.17	6.18	-14.80	3.34
1991	30.55	19.30	12.02	24.43
1992	7.67	8.05	-1.43	13.07
1993	9.99	18.24	32.55	22.88
1994	1.31	-7.77	-0.18	-10.46
1995	37.43	31.67	14.53	26.28
1996	22.96	-0.93	28.35	14.29
1997	33.36	15.85	14.98	17.45
1998	28.58	13.06	-1.58	14.13
1999	21.04	-8.96	31.71	-7.15
2000	-9.10	21.48	7.41	13.64
2001	-11.89	3.70	-12.57	3.92
2002	-22.10	17.84	-12.44	10.09
2003	28.69	1.45	26.72	8.06
2004	10.88	8.51	14.48	8.46
2005	4.91	7.81	24.13	15.05
2006	15.79	1.19	17.26	3.22

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2007	5.49	9.88	9.83	3.30
2008	-37.00	25.87	-33.00	13.65
2009	26.46	-14.90	35.05	-4.26
2010	15.06	10.14	17.61	11.45
2011	2.11	27.10	-8.71	18.79
2012	16.00	3.43	7.19	4.55
2013	32.39	-12.78	12.99	-8.56
2014	13.69	24.71	10.55	15.47
2015	1.38	-0.65	-8.32	4.82
2016	11.96	1.75	21.08	-0.78
2017	21.83	6.24	9.10	3.54
2018	-4.38	-0.57	-8.89	2.59
2019	31.49	12.16	22.88	8.77
2020	18.40	16.65	5.60	10.01
2021	28.71	-5.35	25.09	-7.94
2022	-18.11	-24.42	-5.84	-18.39
2023	25.83	-1.88	11.75	7.47