O'DEA EARLE

February 18, 2016

Ms. G. Cheryl Blundon
Board of Commissioners of Public Utilities
120 Torbay Road, P.O. Box 12040
St. John's, NL A1A 5B2

Dear Ms. Blundon:

Re: Newfoundland Power 2016/2017 General Rate Application
Expert Evidence

In relation to the above noted application please find enclosed an original and 11 copies of the evidence of Dr. Cleary, CFA, BMO Professor of Finance, submitted on behalf of the Consumer Advocate.

Copies of this correspondence, together with enclosures, have been forwarded directly to the parties listed below.

We trust the foregoing is found to be in order.

Yours very truly,

O'DEA EARLE

THOMAS J. JOHNSON, Q.C.

cc. Newfoundland & Labrador Hydro
Attention: Geoffrey P. Young (3 copies)

Newfoundland Power
Attention: Peter Alteen, Q.C.
Attention: Ian F. Kelly, Q.C. (3 copies)

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BEFORE THE NEWFOUNDLAND AND LABRADOR BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

EVIDENCE OF DR. SEAN CLEARY, CFA,

BMO PROFESSOR OF FINANCE

SUBMITTED ON BEHALF OF:
THE NEWFOUNDLAND CONSUMER ADVOCATE

REPORT ON CAPITAL STR UCTURE & RELATED ISSUES

February 17, 2016

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1. INTRODUCTION

1.1 Qualifications

This evidence is prepared by Dr. Sean Cleary, CFA of Queen's University. I am currently the BMO Professor of Finance at the Smith School of Business at Queen's University. I earned my Ph.D. in Finance at the University of Toronto in 1998 and earned my CFA designation in 2001.

Most recently, I served as an expert witness on behalf of the Utilities Consumer Advocate (UCA) of Alberta in 2014, where I prepared evidence and testified regarding appropriate risk margins for commodity risk for regulated Alberta utilities. I also served as an expert witness for the UCA of Alberta in the generic cost of capital proceedings in 2013-14, preparing evidence and testifying regarding an appropriate ROE and capital structure for regulated Alberta utilities. Prior to that, I provided a report for the Chicken Farmers of Ontario (CFO) recommending an appropriate ROE, capital structure, and cost of capital for the average chicken farmer in Ontario. This information was used in determining a new pricing formula for Ontario chickens.

In addition to this consulting work, my research has extensively involved examining corporate finance and cost of capital matters, since most of my research has dealt with empirical corporate finance and capital market issues, consisting of 28 publications. My work has been cited over 2,000 times. Most of this work has dealt directly or indirectly with capital structure and cost of equity issues. I have authored or co-authored 13 finance text books, all of which deal with capital structure, cost of equity, and cost of capital analysis. The four editions of "Introduction to Corporate Finance" (co-authored with Laurence Booth, University of Toronto) include estimates of the cost of equity and cost of capital for actual companies. I estimate the cost of capital for actual companies on a regular basis, which I use for teaching purposes. In addition, I previously worked as a commercial lender.

My CV is included in Attachment A to my evidence.

1.2 Purpose of Testimony

On page 17 of Order No. P.U. 13 (2013), the Newfoundland and Labrador Board of Commissioners of Public Utilities (hereafter the Board) stated:

"The Board notes that it has been some time since Newfoundland Power's capital structure has been comprehensively reviewed and that it may be appropriate for this issue to be addressed in Newfoundland Power's next general rate application."

In response to this call for a review, the Consumer Advocate of Newfoundland and Labrador has requested that I recommend an appropriate capital structure (i.e., equity ratio) for Newfoundland Power.

1.3 Summary of Capital Structure Recommendations

The Canadian economy is forecast to grow slowly, but positively, over 2016 and 2017 as a result of low oil and commodity prices and a low Canadian dollar, which is beginning to provide anticipated benefits. The Newfoundland and Labrador economy has been hit harder than most provinces and economic growth is expected to be negative in 2015 and 2016, before returning to positive territory in 2017 and beyond. Newfoundland Power (NP) has been resilient to such economic downturns in the past, and I expect that it will be this time around.

My qualitative analysis confirms that NP continues to be a low business risk electric distribution utility operating in a very supportive regulatory environment, similar to the conclusions reached by the Board in previous decisions, and also consistent with the analyses of credit rating agencies of NP. My quantitative analysis provides strong verification of these qualitative conclusions, as NP is shown to display much lower volatility in operating income than comparable U.S. firms, and slightly below Canadian comparable utilities. As such, I conclude that NP continues to be a very low business risk firm.

My analysis in section 3.3.1 shows that NP has lower financial risk than other Canadian utilities based upon a combination of an allowable ROE which is about average and equity ratios which are much higher than average. Given this attractive ROE to equity ratio combination, it is therefore not surprising that NP has displayed superior credit metric ratios than its Canadian peers, as discussed in Section 3.3.2. An examination of credit metric sensitivity to changes in allowed ROEs and equity ratios indicates that NP would maintain solid metrics if the equity ratio was reduced to 40% and the allowable ROE was also reduced.

It is not clear why a low business risk firm like NP requires an equity ratio that is much higher than average, while being allowed to earn an ROE that is around average. I recommend that the Board reduce the equity ratio to 40%, which would bring it in line with, but still slightly above, Canadian utility averages. The additional "above average" 5-6% equity thickness is not warranted based on NP's business

risk, nor is it required to maintain solid credit metrics that will permit NP to maintain its ability to raise credit on reasonable terms.

2. ECONOMY OVERVIEW

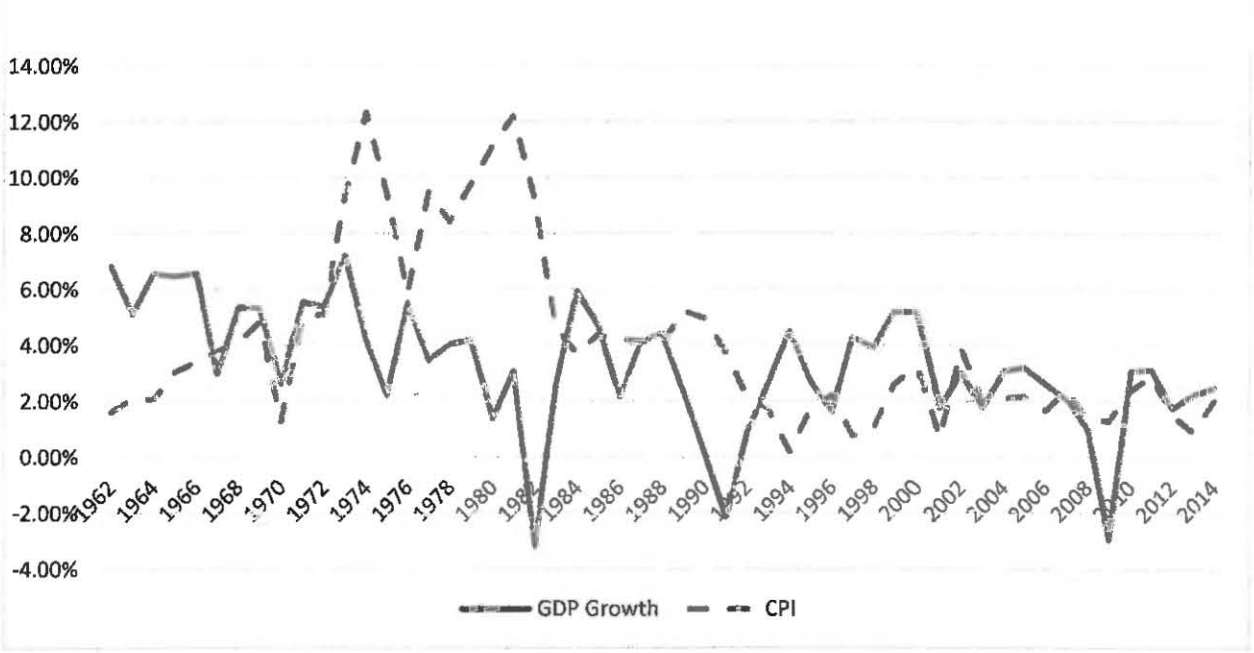
2.1 The Canadian Economy

2.1.1 Historical Evidence

The figure below shows real GDP growth (%) and total inflation as measured by the Consumer Price Index (CPI) over the 1962 to 2014 period. The graph shows that real GDP growth has generally been in the 2 to 6 percent range, with the exceptions of the three recessionary periods that occurred in the early 1980s, the early 1990s, and during our most recent financial crisis. Table 1 reports summary statistics that show the average for GDP growth over the entire period was 3.3% (median 3.1%). It is interesting to note that GDP growth declined to an average of 2.6% (median 2.7%) over the 1992 to 2014 period. This represents the period "following" the Bank of Canada's initiation of a 2% inflation target in 1991, giving a year's grace period until its implementation had begun to take solid footing. This decline in average growth is accompanied by reduced volatility which is obvious from the figure, and also as measured by the standard deviation reported in Table 1.

FIGURE 1

REAL GDP GROWTH AND CPI – CANADA (1962-2014)



Data Source: Statistics Canada.

TABLE 1

REAL GDP GROWTH AND CPI SUMMARY STATISTICS – CANADA (1962-2014)

	1962-2014 (%)		1992-2014 (%)	
	Real GDP	**CPI**	**Real GDP**	**CPI**
Average	3.28	4.06	2.57	1.86
Median	3.09	3.23	2.66	1.99
Max	7.20	12.33	5.18	3.88
Min	-3.20	0.20	-2.95	0.20
Std Dev.	2.24	3.13	1.68	0.86

Data Source: Statistics Canada.

Figure 1 also reports annual changes in CPI, which averaged 4.06% (median 3.23%) over the entire period. These summary stats are obviously driven by the high rates of inflation during the 1970s and 1980s. Inflation rates have generally been within the Bank of Canada's 1 to 3% target range since the policy's adoption in 1991, being in line with the 2% target as evidenced by the average of 1.86% (median 1.99%). CPI growth has also been very stable during this latter period, which is obvious from the graph, and also by the huge decline in standard deviation from 3.1% to 0.9%. Obviously, forecasting inflation is much easier today than it was in previous years.

2.1.2 Global Economic Activity

The global economy has faced several challenges since 2008, but is expected to grow at a moderate pace in 2016 and 2017. For example, Table 2 shows the January 2016 Consensus Economics Inc. Forecasts for average global real GDP growth figures of 2.7% and 3.0%, while the Bank of Canada's January 2016 Monetary Policy Report (MPR) estimates were slightly higher at 3.3% and 3.6%. Table 2 shows that the expected global improvements are based in large part on expectations that the U.S. economy will continue to grow steadily over 2016 and 2017 in the 2.4-2.5% range, while the Euro zone will continue to rebound back closer to normal growth levels with expected growth rates of 1.6-1.7% for 2016-17.

TABLE 2

REAL GDP GROWTH GLOBAL FORECASTS (2016-2017)

Real GDP Growth (%)	2016		2017	
	Consensus	Bank of Canada	Consensus	Bank of Canada
World	2.7	3.3	3.0	3.6
U.S.	2.4	2.4	2.5	2.5
Euro Zone	1.7	1.6	1.7	1.6

Source: Consensus Economics Inc. (January 2016) and Bank of Canada MPR (January 2016).

The Bank of Canada notes in its January 2016 MPR that global growth will be the result of diverging prospects at the individual country level. They note that U.S. economic growth has been healthy, with consumer confidence improving, wage growth showing signs of increasing, and increases in the levels of

business investment outside of commodity-related sectors. They also note that the U.S. Federal Reserve's implementation of gradual withdrawal of monetary stimulus had only a minor impact on market prices, since it was widely anticipated. The Bank suggests that, in contrast to the U.S., expected areas of economic growth in Japan and the Euro area will be driven by "accommodative monetary policy, low oil prices and past exchange rates."

At the same time, as a result of a rebalancing from manufacturing to service industries, the Bank forecasts that China's growth will stabilize at just over 6% by the end of 2017, down from just over 7% in 2014. While the Bank expects infrastructure investment to slow, it will "remain robust through 2017, in line with the Chinese government's stated priority to address ongoing infrastructure needs." They also note mixed economic growth messages in other emerging economies. While the recession in Brazil is now expected to last longer than previously expected, they forecast improvements in growth in oil-importing emerging markets such as emerging Asian countries. Finally they expect continued solid growth in India of 7-8%.

2.1.3 Today's Outlook

Of course, three of the main stories contributing to this divergence of global fortunes have been the falling price of oil, the decline in other commodity prices, and the continued strengthening of the U.S. dollar. These stories have had a similarly diverse impact on the Canadian economy. For example, the Bank shows in Chart 13 (page 17) of the January MPR that over the January 2013-October 2015 period output growth followed very different patterns for: (1) oil and gas related industries (9 percent of GDP); (2) non-energy commodity related industries (7 percent of GDP); and, (3) non-resource sector industries (84 percent of GDP). In particular, the graph shows that output grew faster in sectors (1) and (2) during 2013, but since mid-2014 the decline in oil and gas related industries has been significant, while there has been a slight decline in output for non-energy commodities. In contrast, output from other sectors of the economy have continued to grow at a steady rate.

Oil prices had declined by over 70 percent of their June 2014 peak as of January 2016. While the Bank does not make forecasts for oil prices, they felt that risks were tilted to the downside in the near term based on existing inventories, climate forecasts, and geopolitical risks (which could impact prices in either direction, depending on the scenario). In contrast, the Bank feels the risks of oil price changes are tilted to the upside in the medium term, as reductions in investment in the oil industry impact supply. Interviews with energy firms in the fall of 2015 suggested that US$45 per barrel of WTI was a break-even price. Not surprisingly, oil firms cut capital spending by about 40 percent in 2015, and estimated they

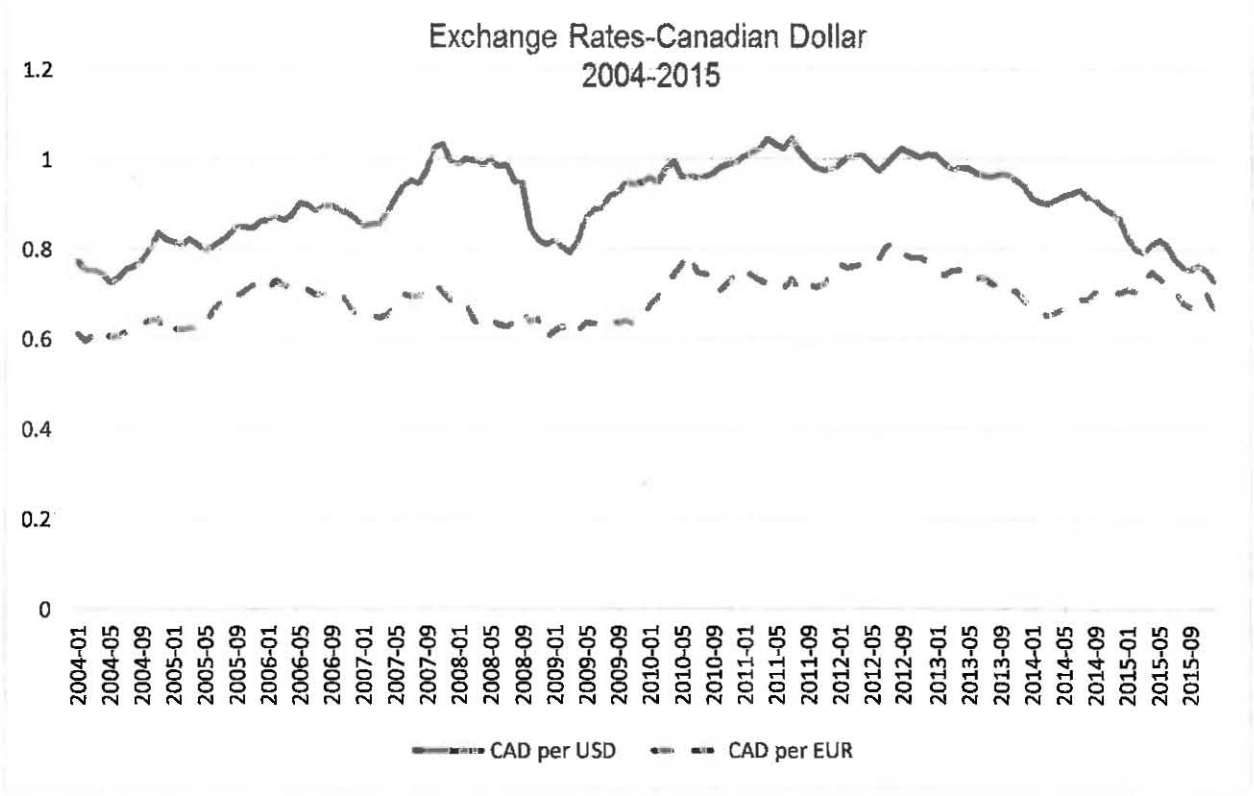
would reduce 2016 spending by 25 percent, if prices remained in the low US$30s. Firms have also worked at improving productivity and have reduced labour costs through layoffs and by cutting salaries and bonuses.

Reduced commodity prices have led to an appreciation in the currencies of commodity importers, and a depreciation in the currencies of commodity exporters. Figure 2 depicts the significant decline in the Canadian dollar relative to the U.S. dollar (USD) since 2013. The graph shows that the CAD traded around par during at the start of 2013, but has trended downward, sitting at around $0.73 at the end of 2015. Obviously, such a rapid and severe decline in the value of the loonie has impacted our economy, as discussed below. The expected improvement in exports due to the decline in the dollar have been slow to materialize, but are now doing so, and are expected to improve in 2016 and 2017. Finally, the Bank of Canada's easy monetary policy and the resulting accommodative financial conditions[1] have provided ongoing support to the economy.

[1] For example, in the Bank of Canada's winter Business Outlook Survey, most firms surveyed characterized credit as "easy or relatively easy to obtain."

FIGURE 2

EXCHANGE RATES – CANADIAN DOLLAR (2004-2015)



Data Source: Bank of Canada website at http://www.bankofcanada.ca.

As a result of the factors discussed above Canada's economy has experienced slower than expected GDP growth during 2015, resulting in a slight increase in the overall unemployment rate to 7.1%. Lower oil and commodity prices have depressed activity and investment in those sectors and the provinces that are most heavily reliant upon those sectors (i.e., Alberta, Newfoundland and Saskatchewan). In contrast, the Bank predicts that non-commodity export industries that are sensitive to the exchange rate will outperform, which will lead to an increase in non-resource based business investment.

Combining all of these varied effects is never easy, but the Bank predicts that the Canadian economy will continue its adjustment to lower oil and commodity prices, with the worst of these adjustments being behind us. The Bank predicts, at the aggregate level, that household expenditures will expand moderately, and that real GDP growth will improve from 0.3% during 2015 to 1.9% in 2016 and 2.5% in 2017. Table 3 shows that the 2016 and 2017 forecasts are in line with, but slightly higher than the Consensus forecasts (1.7% and 2.2%), and with those of the IMF (1.7% and 2.4%) and the OECD (2.0% and 2.3%).

TABLE 3

REAL GDP GROWTH FORECASTS – CANADA (2016-2017)

Conf. Board of Canada	1.8	2.3
CIBC World Markets	1.7	2.3
IHS Economics	1.6	2
Citigroup	1.7	2.1
BMO Capital Markets	1.6	2.2
Desjardins	1.7	2.2
Econ Intell Unit	1.8	2.1
EconoMap	1.6	2.3
Oxford Economics	1.7	2.2
JP Morgan	1.5	2.2
National Bank	1.6	1.7
RBC	1.8	2.6
TD Bank	1.6	1.8
University of Toronto	1.8	3
Scotia Econ	1.6	2.3
Informetrica	2.2	2.1
Average	**1.7**	**2.2**
Median	**1.7**	**2.2**
Max	**2.2**	**3**
Min	**1.5**	**1.7**
IMF (Oct 15)	**1.7**	**2.4**
OECD (Nov 15)	**2**	**2.3**
Bank of Canada (Jan 2016)	**1.9**	**2.5**

Source: Consensus Economics Inc. (January 2016) and Bank of Canada MPR (January 2016).

Based on the discussion above, the Bank predicts that excess capacity will diminish, and that inflation will remain at 1.4% in 2015 and 2016, before increasing to 1.9%, close to its target rate in 2017. Their corresponding core inflation estimates for 2015-17 were 2.0, 2.0 and 2.0 respectively. The Bank's total inflation projections were below, but in line with the Consensus forecasts, as well as with those of the IMF and OECD, all of which can also be found in Table 4.

TABLE 4

CPI FORECASTS – CANADA (2016-2017)

CPI Forecast	2016	2017
Conf. Board of Canada	1.6	2
CIBC World Markets	2	2.3
IHS Economics	2.1	2
Citigroup	1.8	2
BMO Capital Markets	1.7	1.9
Desjardins	1.5	2
Econ Intell Unit	1.8	2.2
EconoMap	1.6	2
Oxford Economics	1.6	1.9
JP Morgan	1.6	2
National Bank	1.7	1.6
RBC	2	1.8
TD Bank	1.5	1.9
University of Toronto	1.8	2.2
Scotia Econ	1.8	2.2
Informetrica	2.1	2
Average	**1.8**	**2**
Median	**1.85**	**2**
Max	**2.1**	**2.3**
Min	**1.5**	**1.6**
IMF (Oct 15)	**1.6**	**2.3**
OECD (Nov 15)	**2**	**2.3**
Bank of Canada (Jan 2016)	**1.4**	**1.9**

Source: Consensus Economics Inc. (January 2016) and Bank of Canada MPR (January 2016).

Of course, there are several uncertainties associated with the projections above. The Bank noted the following key risks to their inflation outlook, and suggested that these risks are "roughly balanced over the projection period": (1) lower potential output; (2) greater exchange rate pass-through; (3) lower oil prices and threshold effects; and, (4) slower growth in emerging-market economies (EMEs).

The Bank acknowledges it is challenging to estimate the timing and impact of labour and capital allocations to non-commodity sectors. They suggest that they have focused on the low end of output and growth rates, and that the actual output gap could turn out to be below their estimates (i.e., if they were too conservative). As a result, they suggest that potential output represents a potential positive for economic growth, and hence a corresponding upside risk to inflation.

The Bank's estimate of the impact of past CAD depreciation of 0.7 percentage points to 2016 inflation may be on the low side, based on historical experience. Hence, if exchange rate pass-through exceeds this estimate, both economic growth and inflation will be higher, and the Bank judges this to be an upside risk to inflation.

If existing or future oil prices remain low or decline further, they may be below threshold levels for some oil firms to cover ongoing operating costs, which could further impact investment and employment in the industry. This would impact employment, as well as general confidence, and as such would represent a potential drag on economic growth, and hence a downside risk to inflation.

Weaker EME growth (e.g., China, Brazil, etc.) could be caused by several factors. If EME growth lags expectations, this could lead to reduced exports by the U.S., lower commodity prices, and/or increased market uncertainty. All of these outcomes would adversely affect Canada's economic growth prospects, and hence represent a downside risk to inflation.

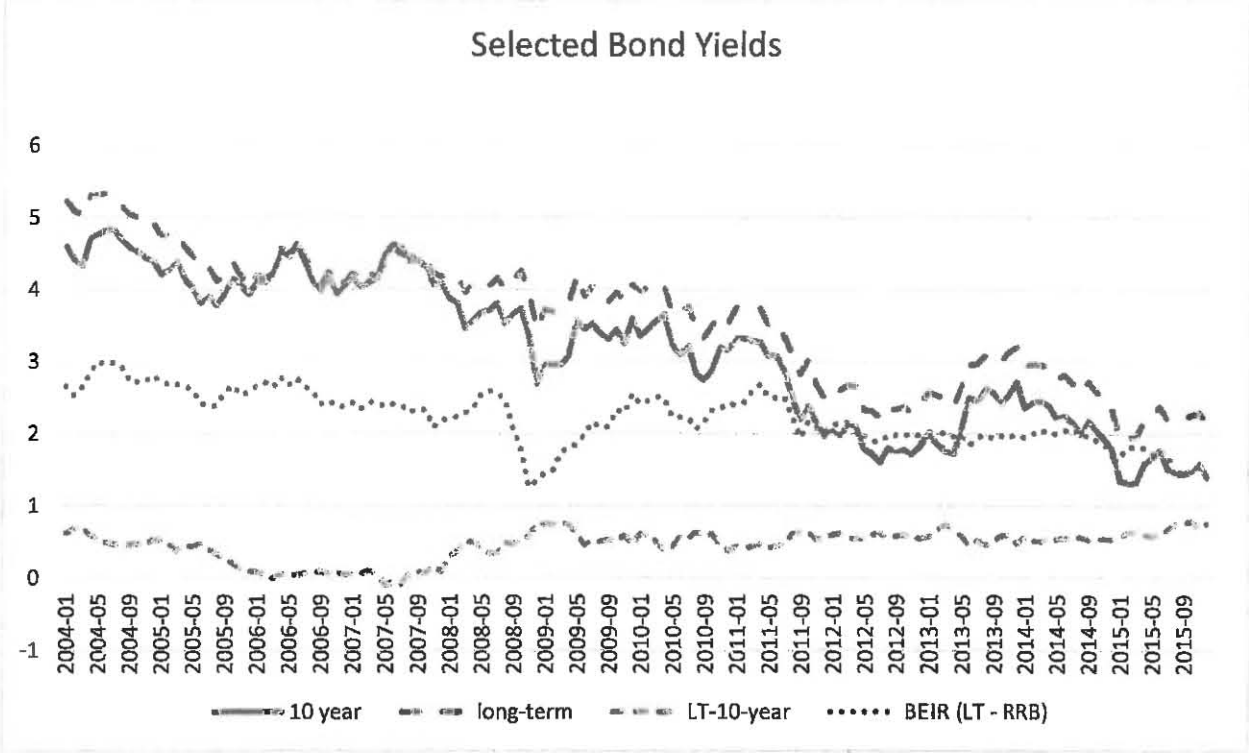
2.1.4 Interest Rate Levels

In light of recent levels of GDP growth and CPI, as well as their forecasted values in the immediate future, it is not surprising that interest rates in Canada have remained low over the most recent time period. Figure 3 shows 10-year and long-term bond yields in Canada over the last 12 years, which have moved in tandem for the most part, with a correlation coefficient of 0.98 over the period. The graph also shows the spread between the two rates, which had an average (median) of 0.46% (0.52%) over the entire period. It is obvious from the graph that this spread increased during the last half of 2015 and sat at 0.76% at the end of 2015, with long-term rates of 2.16% and 10-year rates of 1.40%. The graph also shows the break-even inflation rate (BEIR), which is the difference between the yield on long-term Canada bonds and the yield on Canadian Real Return Bonds. The BEIR can be viewed as an indicator of future inflation rates. This rate remained within the Bank's target band for inflation over the entire period, peaking at 3.0% in 2004, hitting a trough of 1.26% in November of 2008 around the peak of the crisis, and averaging

2.2% overall, slightly above the Bank's target. It sat at 1.49% at the end of 2015, a mere 9 basis points above the Bank's CPI forecast for 2016, and 21 basis points below the Consensus CPI forecast.

FIGURE 3

SELECTED BOND YIELDS – CANADA (2004-2015)



Data Source: Bank of Canada website at http://www.bankofcanada.ca.

Considering the discussion above, it is reasonable to assume that bond yields will increase, albeit slowly, in the coming months. This seems to be the consensus view of most economists in January of 2016, as can be seen in Table 5. The January 2016 Consensus Forecasts for 10-year Canada bond yields were 1.7% for the end of April 2016 and 2.1% for the end of January 2017 – up from the 2015 year-end value of 1.4%. If we assume the increases occur fairly evenly throughout the year, this implies an average 10-year rate of approximately 1.75% for 2016, with a rate of 2.1% at the start of 2017. Assuming that the long-term average 50 basis point spread of 30-year yields over 10-year yields persists throughout 2016 and 2017, this implies long-term rates would increase from their 2015 year-end level of 2.16% for an average of 2.25% throughout 2016, and would lie at around 2.6% by January of 2017. The forecast averages for 3-

month T-bill yields, which are not included in the table, were 0.5% for April 2016 and 0.7% for January 2017, little changed from current levels.

TABLE 5

10-YEAR YIELD FORECASTS – CANADA (2016-17)

10-Year Canada Yields	*Apr-16*	Jan-17
Conf. Board of Canada	*1.6*	2
CIBC World Markets	*1.6*	2.1
IHS Economics	*2.1*	2.3
Citigroup	*1.7*	1.8
BMO Capital Markets	*1.5*	1.7
Desjardins	*1.5*	1.9
Econ Intell Unit	*NA*	NA
Oxford Economics	*1.6*	1.8
EconoMap	*1.5*	1.7
JP Morgan	*NA*	NA
National Bank	*1.8*	2
RBC	*1.7*	2.4
TD Bank	*1.8*	2.1
University of Toronto	*1.6*	2.7
Scotia Bank	*1.5*	1.8
Informetrica	*1.8*	2.5
Average	**1.7**	**2.1**
Median	**1.6**	**2**
Max	**2.1**	**2.4**
Min	**1.5**	**1.7**

Source: Consensus Economics Inc. (January 2016).

2.2 The Newfoundland and Labrador Economy

Unfortunately, Newfoundland and Labrador (NL) is one of the provinces affected negatively by the recent decline in oil and commodity prices. The negative outlook is obvious from Table 6, which provides forecasts of real GDP growth for NL for 2015 and 2016. The private sector average forecasts (which includes the big five banks and the Conference Board of Canada) are for -2.2% real GDP growth in 2015 (with a maximum of -0.2% and a minimum of -3.5%), and -0.7 percent in 2016 (with a maximum of

+0.3% and a minimum of -2.0%). The Department of Finance forecasts a decline of only 0.3 percent in 2015, followed by a decline of 1.6 percent in 2016. So there is general agreement that the economic growth will be slow for NL in the short term.

TABLE 6

NEWFOUNDLAND AND LABRADOR REAL GDP GROWTH FORECASTS (%) - 2015-16

		2015	2016
CIBC World Markets	24-Sep	-1.5	-1.0
Scotiabank Group	5-Jan	-2.7	0.2
TD Economics	8-Oct	-3.5	-0.9
BMO Nesbitt Burns	8-Jan	-1.7	-2.0
Conference Board of Canada	2-Nov	-0.2	-0.8
Royal Bank of Canada	8-Dec	-3.5	0.3
Private Sector Average		**-2.2**	**-0.7**
Department of Finance	19-Oct	**-0.3**	**-1.6**

Forecasts as of January 11, 2016

Source: http://www.economics.gov.nl.ca/frcstGDP.asp, February 6, 2015.

As the Conference Board of Canada (CB) notes in its fall provincial outlook, the NL economy has been hit by a number of factors: major projects passing their peak investment levels; mature offshore oil fields producing less oil; low oil prices; and, low commodity prices. Combined with a weak outlook for oil and commodity prices, the CB expects production and investment levels to continue to be weak.

The CB expects that oil production will remain flat over the next two years, and that oil prices will bounce back in the later part of 2016 and through 2017-18. In contrast, they expect commodity prices to remain low throughout 2016-18. This will lead to slightly negative metal production over the next two years, when combined with project life-cycle factors (e.g., iron ore production at Elross Lake and Labrador Trough peaking this year and declining going forward). One positive factor in metal production, is nickel production as Vale's Voisey's Bay mine enters phase two. This will have a positive impact on manufacturing. Combining this with the expected positive impact of a strong U.S. economy and a weak Canadian dollar, leads the CB to conclude that manufacturing will remain one of the bright spots for the NL economy in 2016-17.

The CB predicts that while business investment levels will remain higher than they were a few years ago, they will decline from their peak of over $8 billion in 2014, and lie around $6 billion in 2016 and 2017, before leveling off at just above $5 billion during 2018-20. While work continues on Muskrat Falls and Hebron oil developments, other projects have been delayed such as the West White Rose extension project, and the Alderon Iron Ore mine projects associated with transmission and development. Residential real estate investment will be hampered by slow economic growth and weaknesses in the labour market, and will also decline.

All of these factors have led to an overall weakened economy and labour market at the start of 2016. Table 7 shows that the CB forecasts that this will lead to real GDP growth declining by -0.8% in 2016, with the unemployment rate peaking at 13.1% over the 2015-20 period. This 2016 GDP growth estimate is slightly below the average estimate of the big five banks provided in Table 6, which is -0.68%. The CB estimates that recovery will occur during the latter part of 2016, and that real GDP growth will be slightly positive (at +0.2%) in 2017, with the unemployment rate declining to 12.4%. Beyond 2017, the CB predicts that the unemployment rate will fall below 12% and decline steadily to around 11% by 2020 on the back of 2018-20 real GDP growth rates of +1.4%, +7.0% and -1.6% respectively. Finally, it is interesting to note that the CB expects the contribution to NL GDP from the utilities sector to remain positive in 2016-17 (+0.4% and +0.6% respectively), and also in the ensuing three years (+0.8%, +1.3%, and +5.9% respectively). This is consistent with the low risk nature of utilities such as Newfoundland Power, whose demand is less cyclical than most industries.

TABLE 7

CONFERENCE BOARD OF CANADA ECONOMIC FORECASTS FOR NL - 2015-2020

	NEWFOUNDLAND AND LABRADOR FORECASTS					
Growth (%)	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Real GDP	-0.2	-0.8	0.2	1.4	9.2	0.4
CPI	0.7	4.6	2.2	2.1	2.3	2
Household Disposable Income	4.1	1.7	2.1	2.7	2.6	1.6
Employment	-0.9	-0.6	-0.4	-0.5	0.1	-0.9
Unemployment Rate	12.7	13.1	12.4	11.9	11.4	11.1
Utilities Sector GDP Contribution	9.9	0.4	0.6	0.8	1.3	5.9

3. CAPITAL STRUCTURE CONSIDERATIONS

3.1 Background

As previously noted, on page 17 of Order No. P.U. 13 (2013), the Newfoundland and Labrador Board of Commissioners of Public Utilities (hereafter the Board) stated:

> *"The Board notes that it has been some time since Newfoundland Power's capital structure has been comprehensively reviewed and that it may be appropriate for this issue to be addressed in Newfoundland Power's next general rate application."*

I begin my discussion with a review of the risk assessment of Newfoundland Power (NP) in previous hearings. In Order No. P.U. 19 (2003), the Board stated (on page 33) that they did "not anticipate a change in the business risk of NP in the foreseeable future and concurs with the assessment of NP and the cost of capital experts that NP is of average business risk compared to other utilities." On page 30, the Board noted that NP stated "All experts agreed that Newfoundland Power has an approximately average utility risk." The Order also notes (on page 32) an October 2002 report by S&P confirming an "A" rating for NP's first mortgage bonds, wherein S&P noted:

> *"Newfoundland Power's relatively low risk profile is supported by cost of service/rate of return regulation; the ability to flow through all power costs; a weather normalization mechanism; and no exposure to cyclical industrial consumers, which are serviced directly by the provincial government-owned utility, Newfoundland and Labrador Hydro."*

Recent debt rating reports (as provided in Exhibit 4 of NP's evidence) suggest that DBRS and Moody's continue to share S&P's 2002 opinion that NP possesses low business risk.

In similar fashion, the Board concluded that NP continued to be an average risk Canadian utility on page 13 of Order No. P.U. 43 (2009). On page 12 of this 2009 Order the Board noted that:

> *"The evidence shows that Newfoundland Power operates in a low risk environment. It is accepted that the regulatory regime is supportive with a range of mechanisms in place to mitigate risk..."*

The Board also noted on page 12 that Mr. Cicchetti suggested NP "operates in a low risk market under supportive regulation," and that he had characterized the regulatory regime under which NP operates as "exceptional."

Once again, on page 17 of Order No. P.U. 13 (2013), the Board suggested that at that time, they considered that "Newfoundland Power continues to be an average risk Canadian utility." The Board noted on page 14 of this Order that "Newfoundland Power argues that it continues to be an average risk Canadian utility," while the Consumer Advocate argued that NP was "at most, of average business risk and lower financial risk compared to other Canadian utilities."

The last quote in the paragraph above refers to both business and financial risk, where business risk includes an assessment of regulatory risk. The combination of business risk and financial risk determines a firm's total risk. This point is commonly accepted by expert witnesses, regulators, and by the debt rating agencies which make their overall risk (and rating) assessment by giving significant weight to both business and financial risk. In similar fashion, I will consider business risk, including regulatory considerations, then financial risk, and then discuss resulting conclusions regarding NP's capital structure.

3.2 Business Risk

The Board noted on page 11 of Order No. P.U. 43 (2009) the following summary of NP's risk position according to the Consumer Advocate (Transcript, October 14, 2009, page 25/11-20):

> *"Newfoundland Power has been and will continue to be a very well protected, stable, predictable, conservative, low risk utility operating in a very supportive regulatory environment where the company enjoys moderate, yet fairly steady customer growth, free from significant competition. With only a small amount of generation, Newfoundland Power is predominantly poles and wires. In essence, it is very low risk."*

This is an excellent summary of NP's operating environment and its resulting business risk, and is consistent with the views expressed by debt rating agencies. Hence, it seems reasonable to consider that NP continues to possess low business risk (which is consistent with the views of the debt rating agencies), unless compelling and material evidence demonstrates that NP's operating or regulatory environment has changed materially since 2013, or as far back as 2003 for that matter. My analysis below leads to me to conclude that such material changes have not taken place. Further, I provide empirical evidence which confirms *quantitatively* - what has generally always been agreed upon by NP, expert witnesses, and the Board, based on extensive *qualitative* analysis – NP is a low business risk utility.

3.2.1 Regulatory Risk

Newfoundland Power operates in an extremely supportive regulatory environment, which represents a big strength in terms of minimizing its business risk. This is reflected in evidence provided in previous decisions, and by the evidence provided by Mr. Coyne, who rates the Newfoundland regulatory environment among the top four in Canada. This point is also front and centre in credit rating reports for NP, both past and present. For example, the August 21, 2015 DBRS Rating Report lists a "stable and supportive regulatory environment" as the #1 strength among its "Rating Considerations." DBRS notes the effectiveness of the following mechanisms that are in place to smooth out the effects of various expenses and events: weather normalization reserve (WNR); rate stabilization account (RSA); demand management incentive account (DMIA); and, the pension expense variance deferral account (PEVDA). They conclude that NP operates in a regulatory framework that "allows Newfoundland Power to recover all prudently spent operating expenses and earn a reasonable return." I will verify the validity of this statement quantitatively later in my evidence.

In its January 19, 2015 Credit Opinion Moody's echoed the sentiment of DBRS, citing a "supportive regulatory and business environment" as one of three "Rating Drivers." In support of their conclusion, Moody's notes the pass through mechanisms mentioned by DBRS above and also notes that they consider the Public Utility Board (PUB) to be "supportive with a track record of reasonably timely and balanced decisions that enable NPI to generate stable cash flow and earn its allowed ROE and are not directly subject to political considerations." They also note that the "PUB's review and approval of NPI's capital spending plans and long-term debt issuances significantly reduce the risk of cost disallowances and support NPI's ability to fully recover costs on a timely basis." Once again, I will provide empirical evidence later in this report to support the validity of these statements regarding NP's cash flow stability and their consistency in earning profits.[2]

3.2.2 Operating Environment

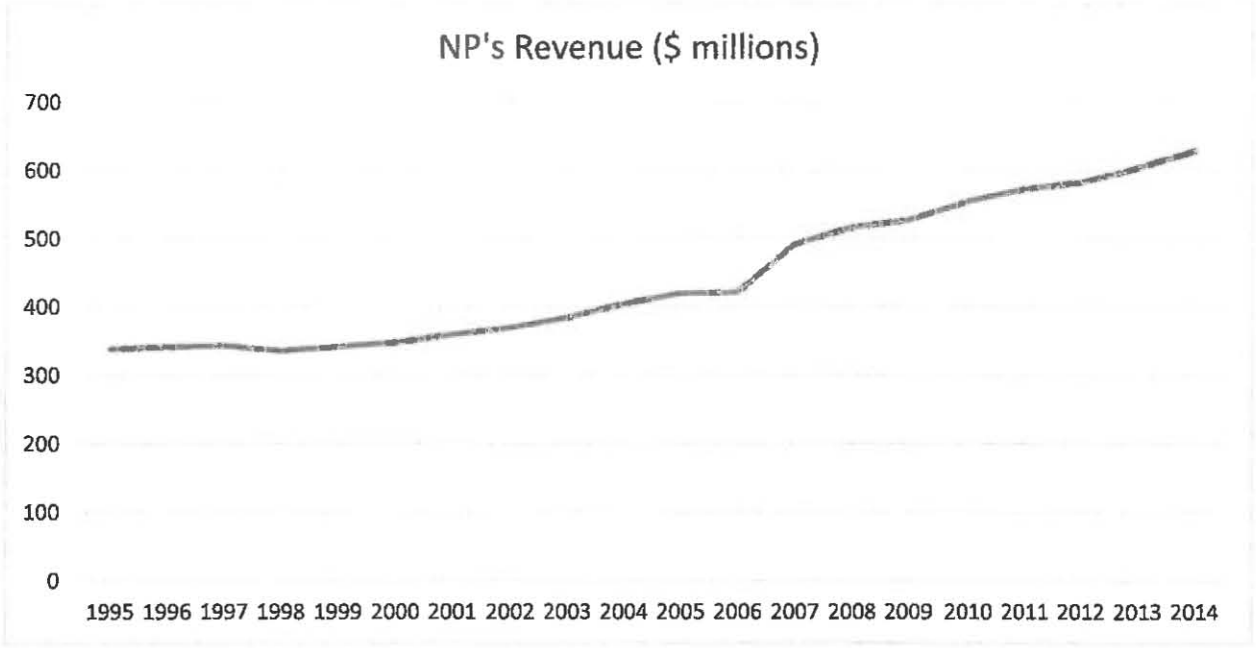
NP operates a virtual monopoly in a low business risk environment. As a result, revenue growth has been slow but steady, as one would expect for a company operating in a mature market with virtually no competition. Figure 4 verifies this steady growth in NP's revenue for the years 1995-2014. Annual

[2] For example, Table 1 in the response to information request CA-NP-019 shows that NP has earned an ROE above the allowed ROE in 19 straight years, averaging 49.5 basis points above the allowed ROE.

revenue growth averaged 3.38% over this period, and growth was only negative in one year, 1998, when revenue declined 2.31%.

FIGURE 4

NP REVENUE (1995-2014)



* Data Source: Newfoundland Power's annual reports, 1996 to 2014.

Certainly the economic forecast for Newfoundland and Labrador is not encouraging for the next two to three years. For example, as noted in Section 2, the Conference Board of Canada has forecasted negative Real GDP growth of -0.8% in 2016, followed by a slight rebound to +0.2% in 2017 and to +1.4% in 2018. However, NP has survived previous declines in economic activity and their sales and operating income continued to grow steadily. While the forecast economic decline is not a positive development, fortunately for NP it is less affected than companies operating in cyclical industries such as real estate or consumer durables. Further, given its low-risk business model accompanied with strong regulatory support, there is no obvious reason that a weak economy represents a significant increase in permanent business risk for NP. Indeed, the historical record confirms that NP has weathered previous economic "storms" and managed to maintain growth in sales and operating income, and earn ROEs at or above the allowed ROEs. For example, Figure 5 plots the annual growth rate in NP revenue versus the real GDP

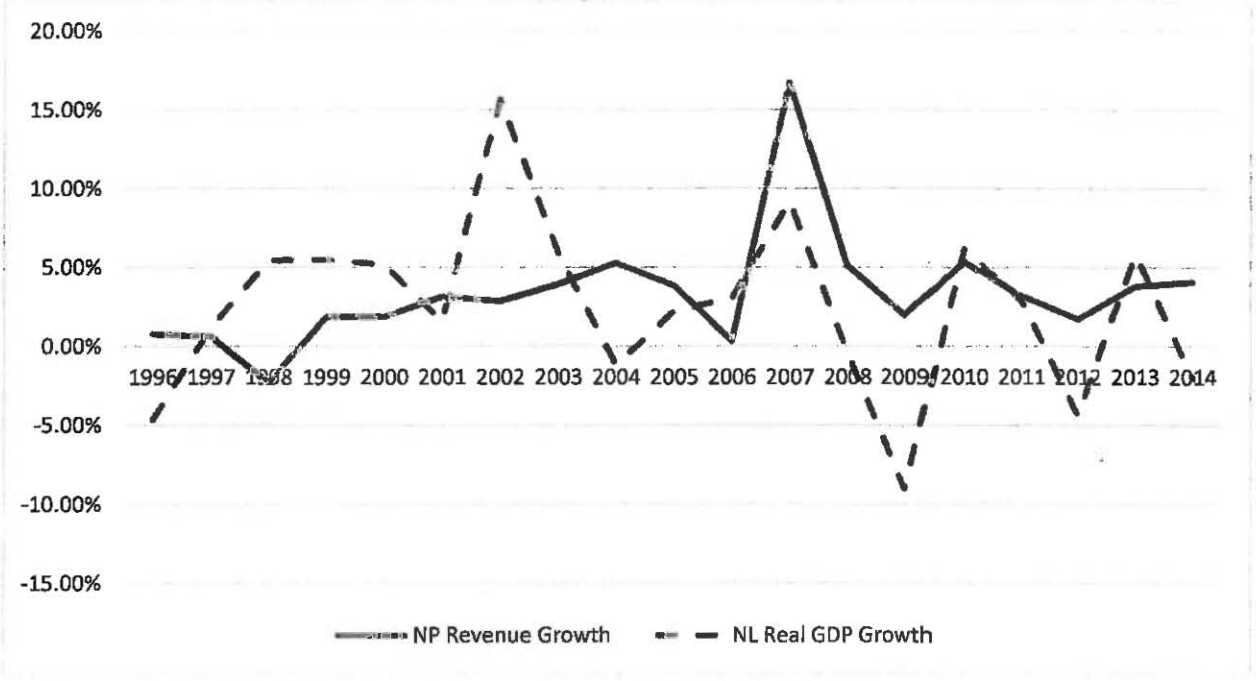
growth rate for Newfoundland and Labrador over the same period. As noted previously, NP experienced only one decline in revenue growth over this period, and grew in all six of the years when the real GDP growth rate was negative.

Over this period, the average annual growth rate in NP's sales was 3.4%, versus 2.5% for real GDP growth, but the volatility of NP's sales growth was much lower, as measured by its standard deviation of 2.9% versus 5.6% for NL's real GDP growth. Further, the correlation coefficient between NP's sales growth rates and real GDP growth rates over this period was positive as expected, but low at 0.27 - reflecting the fact that NP's sales are more resilient than NL's real GDP growth rates. In other words, while the Newfoundland and Labrador economic forecast is not a positive, the evidence suggests that NP can be expected to weather this economic decline, just as it has in the past.

FIGURE 5

NP REVENUE ANNUAL GROWTH VERSUS

NL REAL GDP GROWTH (%) - 1995-2014



* Data Source: Newfoundland Power's annual reports, 1996 to 2014, and CANSIM database.

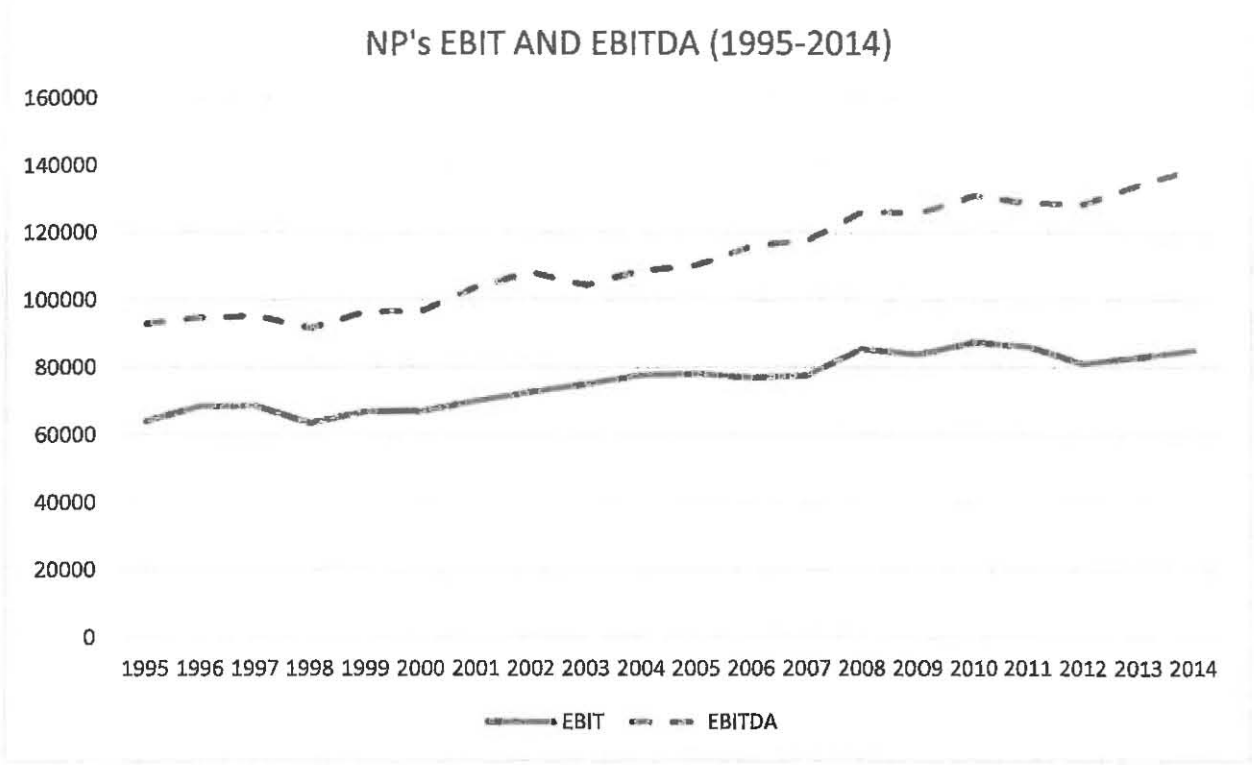
NP serves as a low-risk distributor, with almost all of their energy generation needs provided by Newfoundland and Labrador Hydro (NLH). As mentioned above, since capital expenditures and long-term debt issues are reviewed and approved by the PUB, the risk of cost disallowances is very low. The RSA, WNR, DMIA and PEVDA all serve to minimize variance in operating income related to supply costs, the impact of abnormal weather conditions, as well as other costs to NP. Hence NP faces very little risk that it will not be able to pass legitimate expenses on to customers and earn an adequate rate of return in such a supportive regulatory and business framework.

The points above are consistent with the beliefs expressed in previous hearings and with those expressed by rating agencies. For example, in its January 19, 2015 Credit Opinion, Moody's notes NP's "low-risk business model" as the # 1 rating consideration. Moody's notes that NP is "effectively protected from potential competition," and that sales have grown "at a relatively low and predictable rate of 1-2% annually," and that "growth has not taxed NPI either operationally or financially due to the relatively timely recovery of capital and operating costs." In other words, NP has low business risk because it is operating a virtual monopoly with revenue growing slowly but steadily where it is able to pass reasonably incurred costs onto consumers due to various pass through mechanisms.

It is not surprising that when we combine all of these factors with the stable growth in revenue documented previously, that we also find that NP displayed slow but steady growth in operating income over the 1995-2014 period as proxied by either EBIT or EBITDA, with EBIT (EBITDA) growing at an average annual rate of 2.2% (1.6%). The steady growth of EBIT and EBITDA displayed in Figure 6 is similar to that portrayed for revenue in Figure 4. All of the empirical observations evident in Figures 4 to 6 are consistent with a company that has low business risk. Not surprisingly, NP has been able to earn its allowed ROE or higher for 19 consecutive years.

FIGURE 6

NP'S EBIT AND EBITDA (1995-2014)



* Data Source: Newfoundland Power's annual reports, 1996 to 2014.

3.2.3 Other Considerations Raised by Mr. Coyne

On page 15 of Appendix A: Capital Structure of his evidence, Mr. Coyne states that the Muskrat Falls supply system will lead to increased "potential weather-related risk to Newfoundland Power's electricity supply." As noted in CA-NP-175, this contradicts assertions made by NLH in response to CA-NLH-115 (for the Board's Outage Inquiry) where it states that "the reliability of supply to customers will be improved." Mr. Coyne acknowledges in his response to CA-NP-175 that there is no evidence to support his claim in Appendix A, since the matter is currently being studied. As a result, there appears to be no concrete evidence to suggest that Muskrat Falls has led to an increase (or decrease) in NP's business risk.

While I do not claim to be an expert on weather patterns, I have not read any compelling evidence that suggests severe weather events are more likely to occur in 2016-17 than they have in the past. It is also difficult to see why this creates so much additional business risk for NP than it does for other Canadian utilities who are also subject to similar risks. Similarly, many U.S. utilities operate in environments where severe hurricanes and/or flooding are as likely to occur as are extreme weather events in Newfoundland

and Labrador. Of course, we all hope that such events will not happen, but they have occurred in the past, and given the supportive mechanisms in place and the support of the PUB, NP has always managed to maintain their profitability. In light of this lack of supporting evidence, I disagree with the notion that such events lead to higher business risk for NP.

Finally, Mr. Coyne suggests that NP faces greater business risk because of its size. First of all, NP has always been small relative to some, but not all, other utilities, so this does not seem to warrant attention as something that has changed since the last hearings to affect NP's business risk. Secondly, NP operates in a mature segmented market with virtually no competition and with a proven business and regulatory model that allows it to steadily grow its revenue base and pass through its costs to maintain earnings and cash flow stability. In other words, there is no reason to believe that a small firm operating a virtual monopoly in such a supportive environment is any riskier than a big firm operating in markets where there is more competition, or where they face greater regulatory risk, for example. Finally, there is no evidence that its small size has hindered NP from accessing public (or private) debt markets, as attested to by its successful long-term bond issue in 2015, and its existing short-term credit facility that is available to it.

In summary, none of the concerns expressed by Mr. Coyne in this sub-section affect my previous conclusion that NP has low business risk, which is consistent with the views expressed by rating agencies.

3.2.4 A Quantitative Assessment of NP's Business Risk

My examination of NP's operating and regulatory environment above suggests that NP possesses low business risk. The same can likely be said for most other regulated utilities, especially those that are distributors and that operate virtual monopolies in supportive regulatory environments. Certainly, it is easy to see that regulated utilities such as NP have very low business risk when compared to companies operating in other non-regulated industries that face greater demand variability, greater competition, and that do not have as great an ability to pass through increases in their costs to their customers. As noted in Section 3.2.1 there has been general agreement in previous hearings that NP is an average risk regulated Canadian utility. Finally, rating reports consistently suggest that NP and most other regulated Canadian utilities have low business risk.

Most experts assessing "business risk" would agree that it refers to some variation of factors that cause uncertainty, or volatility, in operating income. For example, the 2013 CFA curriculum (Reading 38, page

82) states: "**Business risk** is the risk associated with operating earnings. Operating earnings are risky because total revenues are risky, as are the costs of producing revenues."

In this section, I use three variations of a commonly used measure of operating income volatility, the coefficient of variation of EBIT (hereafter CV-EBIT), to *quantify* a firm's level of business risk. The CV is determined by dividing the standard deviation (SD) of EBIT by the expected or average EBIT level. The rationale for using the CV as a measure of EBIT volatility rather than simply using the SD of EBIT, is that the SD is affected by the size of EBIT. In other words, firms with larger EBITs will have higher SDs of EBIT, even if they have less volatility, simply because the level of the EBIT figures used to determine the SD are much higher. The CV is more appropriate in such instances and is commonly used to measure volatility since it effectively "scales" the SD of EBIT when it is divided by the expected or average level of EBIT.

I use the three variations of CV-EBIT described below:

(1) **CV(EBIT)** is calculated as the standard deviation of EBIT for a given utility over my sample period (1995-2014) divided by the expected EBIT next year (which is determined by multiplying the most recent EBIT figure times one plus the median growth rate in EBIT for that firm).

(2) **CV(EBIT)-5 year** is calculated as the average of 5-year "rolling" estimates of CV(EBIT) using the standard deviation of EBIT over the previous five years divided by the average EBIT over the previous five years. I then take the average of these five-year CV(EBIT) estimates for each firm.

(3) **CV (EBIT/Sales)** is calculated as the standard deviation of the EBIT/Sales ratio (1995-2014) divided by the average of the EBIT/Sales ratio over this period.

Measure (1) uses expected EBIT as the denominator in determining the CV of EBIT, which is one common approach used to estimate CV-EBIT, as in Petty et al (2011) for example.[3] Notice that this approach estimates the standard deviation using all available EBIT observations. Measure (2) is another commonly used approach which uses the average EBIT as the denominator, as in the 2013 CFA curriculum (Reading 28, page 351). However, as discussed previously EBIT has continued to grow steadily for NP and also for the other utilities I use for comparison purposes. This implies that using a long-term average that will by nature be well below current EBIT levels may be inappropriate. I adjust for

[3] Source: Financial Management: Principles and Applications, 6th edition, by J. William Petty, Sheridan Titman, Arthur J. Keown, Peter Martin, John D. Martin, Michael Burrow, Hoa Nguyen, 2011, Pearson Higher Education.

this by estimating the CV-EBIT using data for every year with available data using the most recent five year period. I then take the average of these rolling annual CV(EBIT) estimates for each company. Finally, measure (3) uses the EBIT/Sales ratio rather than the level of EBIT. This is a valid measure of business risk, since it measures volatility in the operating profit margins for firms. It also has the advantage that, as a ratio, the expected value and past average values will often coincide since these profitability margins often tend to gravitate to some long-term average. This makes it unnecessary to make the adjustments required to determine the CV-EBIT estimates as in (1) or (2) above.

Figure 7 depicts a summary of the main results of this analysis. The evidence clearly shows that U.S. utilities have much higher volatility in EBIT according to all three measures of CV-EBIT, relative to the Canadian comparable group, and relative to NP. We also see NP displays much lower business risk than the U.S. firms, and also slightly lower business risk than its Canadian peers. This leads to the conclusion that NP is very low business risk – confirming empirically, the conclusions made above in my qualitative assessment of NP's business risk. The EBIT/Sales chart in Figure 7 demonstrates that the average and median EBIT/Sales ratios are similar for the U.S. firms, the Canadian group, and NP. So, in essence, Canadian utilities, including NP, generate similar operating profit margins to U.S. utilities, but with much, much less volatility in operating income. This of course, suggests U.S. utilities have much higher business risk, which has often been argued in previous Canadian hearings.

FIGURE 7

COEFFICIENT OF VARIATION OF EBIT ESTIMATES (1995-2014)

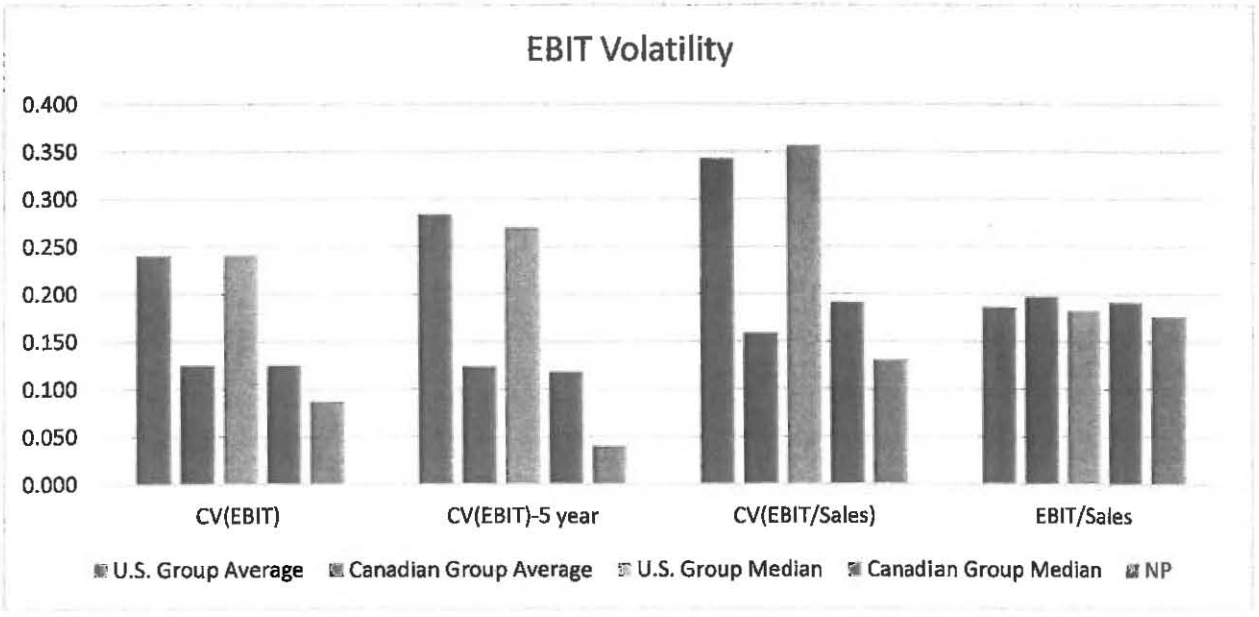


Table 8 confirms that the patterns displayed in Figure 7 are not driven by the use of averages or medians, as it reports the results for all U.S. and Canadian firms used in the comparison groups. Table 8 clearly shows that all three CV-EBIT measures are higher for each U.S. utility than for NP – much, much higher in most cases. This also true when the U.S. CV-EBIT measures are compared to the other Canadian firms, with the exception of the last two measures for NSTAR which are lower than one or two Canadian firms respectively (but not NP). Again, these results confirm that NP has very low business risk, as do the other Canadian regulated utilities examined.

TABLE 8

COEFFICIENT OF VARIATION OF EBIT ESTIMATES FOR ALL FIRMS (1995-2014)

		Coefficient of Variation of EBIT Measures (1995-2014)			
U.S. Firms		**CV(EBIT)**	**CV(EBIT)-5 year**	**CV(EBIT/Sales)**	**EBIT/Sales**
	Allette inc.	0.300	0.298	0.206	0.182
	Duke Energy Inc.	0.241	0.395	0.459	0.193
	Great Plains Energy	0.252	0.270	0.357	0.180
	OGE Energy	0.218	0.148	0.422	0.152
	Pinaccle West Corp.	0.161	0.167	0.261	0.222
	Westar Energy	0.333	0.580	0.545	0.204
	NSTAR*	0.176	0.128	0.151	0.170
	U.S. Group Average	**0.240**	**0.284**	**0.343**	**0.186**
Canadian Firms					
	NSPI	0.121	0.118	0.231	0.257
	Enbridge Gas	0.129	0.115	0.191	0.191
	Gaz Metro**	0.125	0.137	0.054	0.142
	Canadian Group Average	**0.125**	**0.124**	**0.159**	**0.197**
Newfoundland Power	**NP**	**0.087**	**0.040**	**0.130**	**0.176**
	U.S. Group Median	0.241	0.270	0.357	0.182
	Canadian Group Median	0.125	0.118	0.191	0.191

NOTES: U.S. data was obtained from the Compustat database. Canadian data was obtained from annual reports 1995-2014 for Newfoundland Power, Enbridge Gas Distribution Inc., Emera (for NSPI), and from 2009-2015 for Valener (for Gaz Metro).
* Data only available to 2011. Subsidiary of Eversource.
** Data only available 2009-2015.

Finally, while U.S. regulated utilities may not be high business risk firms relative to firms in other industries, they clearly have more business risk than their Canadian counterparts, including NP. Since total risk is comprised of both business and financial risk, it is a basic tenet of finance that firms with lower business risk can assume greater financial risk, and vice versa. This may explain some of the rationale for U.S. regulators providing for higher average allowed ROEs and equity ratios than their Canadian counterparts – although I cannot say for sure, since I have not examined the rationale provided for recent U.S. regulatory decisions. However, the higher business risk displayed by U.S. utilities is completely consistent with the observation that U.S. utilities have higher betas than Canadian ones, as noted in Figure 12 of Mr. Coyne's evidence for example. Higher betas indicate higher investment (i.e., total) risk. Since U.S. utilities have higher allowed ROEs and equity ratios, on average, it is reasonable to conclude that the higher betas may be attributed to the higher business risk faced by U.S. utilities.

In fact, it is possible to estimate the "unlevered" beta for a company, which is the beta after adjusting for the firm's level of financial leverage. This is commonly viewed as the beta on the firm's underlying assets or operations. Intuitively, the unlevered beta will be related to business risk. I will illustrate using Mr. Coyne's evidence for U.S. and Canadian betas of 0.70 and 0.64 respectively, for example.[4] I will then combine these beta estimates with the implied debt-equity (D/E) ratios using the debt-to-capitalization ratios of 0.52 and 0.65 respectively for U.S. and Canadian utilities as provided by Mr. Coyne in Appendix A, Exhibit JMC-2. These imply D/E ratios of 1.08 and 1.86 for U.S. and Canadian utilities, respectively. Using the commonly used equation to determine unlevered betas (i.e., where B(unlevered) = B(levered)/(1 + D/E)), we can then see that the implied "unlevered" betas for Canadian and U.S. utilities are 0.22 and 0.34 respectively. This also implies lower business risk for Canadian utilities, consistent with the evidence provided above for the CV-EBIT measures.

3.2.5 Concluding Remarks Regarding Business Risk

[4] I use these estimates **for illustrative purposes only**, since they illustrate the "relative" relationship between U.S. and Canadian utility betas – i.e., U.S. utility betas are higher. For the record, both betas appear unreasonably high to me. This is at least partially due to the use of "adjusted" betas, which adjust for betas tendency to gravitate to one. This adjustment does not make sense for utility betas, which are not likely to gravitate to a level anywhere nearly as high as one, since they are much less risky than the average company trading in the market.

The qualitative analysis above confirms that NP continues to be a low business risk electric distribution utility operating in a very supportive regulatory environment, similar to the conclusions reached by the Board in previous decisions, and also consistent with the analyses of credit rating agencies of NP. My quantitative analysis provides strong support for these qualitative conclusions, as NP is shown to display much lower volatility in operating income than comparable U.S. firms, and slightly below Canadian comparable utilities. As such, I conclude that NP continues to be a very low business risk firm.

3.3 Financial Risk

In this section, I examine the financial risk of NP by reference to a(n):

(1) comparison of allowed ROEs and equity ratios with other Canadian utilities;

(2) comparison of NP's credit metrics to other Canadian utilities; and,

(3) examination of the effect on NP's credit metrics of changes in allowed ROEs and equity ratios from the existing base case.

My analysis concludes that NP has lower financial risk than its Canadian counterparts on average, and that there is definite room for the Board to decrease the allowed equity ratio, without affecting NP's ability to access credit on reasonable terms.

3.3.1 Allowed ROEs and Equity Ratios

Tables 9 and 10 provide data on allowable ROEs and equity ratios for Canadian electric and gas distributors from 2011 to 2015. The data is taken from the 2013, 2014 and 2015 Concentric reports that were provided in response to CA-NP-157. I have no reason to dispute the integrity of the data and have verified from other sources the 2015 data, which is the primary focus of my discussion.

TABLE 9

ALLOWED ROES (%) - 2011-2015

	2011	2012	2013	2014	2015
Canadian Electric Distributors					

ATCO Electric Ltd.	8.75	8.75	8.30	8.30	8.30
ENMAX Power Corp.	8.75	8.75	8.30	8.30	8.30
EPCOR Distribution Inc.	8.75	8.75	8.30	8.30	8.30
FortisAlberta Inc.	8.75	8.75	8.30	8.30	8.30
FortisBC Inc.	9.90	9.90	9.15	9.15	9.15
Hydro-Quebec Distribution	7.32	6.37	6.19	8.20	8.20
Maritime Electric Company Limited	9.75	9.75	9.75	9.75	9.75
Nova Scotia Power Inc.	9.35	9.20	9.00	9.00	9.00
Ontario's Electric Distributors	9.58	9.12	8.98	9.36	9.30
Saskatchewan Power Corp.	7.40	7.40	8.50	8.50	8.50
Average	**8.83**	**8.67**	**8.48**	**8.72**	**8.71**
Median	**8.75**	**8.75**	**8.40**	**8.40**	**8.40**
Canadian Gas Distributors					
AltaGas Utilities Inc.	8.75	8.75	8.30	8.30	8.30
ATCO Gas	8.75	8.75	8.30	8.30	8.30
Enbridge Gas Distribution Inc.	8.39	8.39	8.93	9.36	9.30
FortisBC Energy Inc.	9.50	9.50	8.75	8.75	8.75
Gaz Metro Limited Partnership	9.09	8.90	8.90	8.90	8.90
SaskEnergy Inc.	8.75	8.75	8.75	8.75	7.74
Union Gas Limited	8.54	8.54	8.93	8.93	8.93
Average	**8.82**	**8.80**	**8.69**	**8.76**	**8.60**
Median	**8.75**	**8.75**	**8.75**	**8.75**	**8.75**
Including All Firms in Both Groups					
Average	**8.83**	**8.72**	**8.57**	**8.73**	**8.67**
Median	**8.75**	**8.75**	**8.75**	**8.75**	**8.50**
Newfoundland Power	**8.38**	**8.80**	**8.80**	**8.80**	**8.80**

Table 9 shows that NP has provided an allowable ROE over this period that is slightly above the average and/or median levels for other Canadian distributors. For example, with a 2015 allowable ROE of 8.8%, NP is slightly above the average (median) for Canadian gas distributors of 8.60% (8.75%), and also slightly above the figures for Canadian electric distributors of 8.71% (8.40%). If we aggregate the data for both types of distributors NP's allowed ROE is slightly above the average of 8.67% and the median of 8.50%. In other words, NP's allowed ROE is close to the average for Canadian distribution utilities. With respect to the equity ratios provided in Table 10, we can see that NP's equity ratio of 45% is well above the mean and medians in the 38-40% range for each group, and for both groups combined. In fact, 45% is

3% higher than the next highest equity ratio, and 10 of the 17 utilities listed in this table have equity ratios of 40% or lower.

TABLE 10

EQUITY RATIOS (%) - 2011-2015

	2011	2012	2013	2014	2015
Canadian Electric Distributors					
ATCO Electric Ltd.	39.00	39.00	38.00	38.00	38.00
ENMAX Power Corp.	41.00	41.00	40.00	40.00	40.00
EPCOR Distribution Inc.	41.00	41.00	40.00	40.00	40.00
FortisAlberta Inc.	41.00	41.00	40.00	40.00	40.00
FortisBC Inc.	40.00	40.00	40.00	40.00	40.00
Hydro-Quebec Distribution	35.00	35.00	35.00	35.00	35.00
Maritime Electric Company Limited	42.70	41.70	43.50	43.10	41.90
Nova Scotia Power Inc.	40.00	37.50	37.50	37.50	37.50
Ontario's Electric Distributors	40.00	40.00	40.00	40.00	40.00
Saskatchewan Power Corp.	40.00	40.00	40.00	40.00	40.00
Average	**39.97**	**39.62**	**39.40**	**39.36**	**39.24**
Median	**40.00**	**40.00**	**40.00**	**40.00**	**40.00**
Canadian Gas Distributors					
AltaGas Utilities Inc.	43.00	43.00	42.00	42.00	42.00
ATCO Gas	39.00	39.00	38.00	38.00	38.00
Enbridge Gas Distribution Inc.	36.00	36.00	36.00	36.00	36.00
FortisBC Energy Inc.	40.00	40.00	38.50	38.50	38.50
Gaz Metro Limited Partnership	38.50	38.50	38.50	38.50	38.50
SaskEnergy Inc.	37.00	37.00	37.00	37.00	37.00
Union Gas Limited	36.00	36.00	36.00	36.00	36.00
Average	**38.50**	**38.50**	**38.00**	**38.00**	**38.00**
Median	**38.50**	**38.50**	**38.00**	**38.00**	**38.00**
Including All Firms in Both Groups					
Average	**39.36**	**39.16**	**38.82**	**38.80**	**38.73**
Median	**40.00**	**40.00**	**38.50**	**38.50**	**38.50**
Newfoundland Power	**45.00**	**45.00**	**45.00**	**45.00**	**45.00**

The analysis above shows that NP has lower financial risk than the average Canadian distributor based solely on allowed ROEs and equity ratios. While NP's allowed ROE is very close to the average, the allowed equity ratio is much, much higher, indicating lower financial risk, all else being equal. It is worthy of note at this time that this lower financial risk does not seem warranted due to higher business risk for NP versus similar Canadian utilities based on the discussion in the previous section – recall that the analysis in that section concluded that NP had average-to-slightly below average business risk when compared to other Canadian utilities, and much less than U.S. utilities.

3.3.2 Credit Metric Comparisons

In this section, I compare the credit metrics of NP to those for some comparable Canadian utilities. Unfortunately, due to variances in size, ownership structure and the availability of public information such as debt rating reports, and/or financial statement information, the sample size is limited. Table 11 provides the statistics for the three main ratios used by DBRS that were obtained from the most recent DBRS reports that I was able to find.[5] Using the ratios as calculated by one source should enhance the consistency in the calculation of such ratios.

TABLE 11

DEBT RATINGS AND CREDIT METRICS - 2014

	DBRS RATINGS AND CREDIT METRICS			
	Issuer Rating	Total Debt to Capital	CF/Debt	EBIT Interest Coverage
Canadian Regulated Utilities				
1. CU Inc.	A (high)	60.20%	12.60%	2.67
2. Enbridge Gas Distribution Inc.	A	55.70%	16.40%	2.60
3. FortisAlberta Inc.	A (low)	56.70%	17.00%	2.18
4. FortisBC Inc.	A (low)	58.40%	14.10%	2.44
5. Gaz Metro Limited Partnership	A	67.20%	15.70%	1.82
6. Nova Scotia Power Inc.	A (low)	61.20%	15.80%	2.19
Average		**60.88%**	**15.65%**	**2.16**
Median		**59.80%**	**15.75%**	**2.19**
Newfoundland Power (Aug 21, 2015 DBRS)				
2014	A	**55.30%**	**17.70%**	**3.06**

[5] The figures are for 2014 for all firms except for Enbridge Gas Distribution Inc., which are for 2013, and Metro Gaz which are for 2015.

Data obtained from DBRS Reports: 1. April 12, 2015; 2. March 12, 2014 - report 2013 figures; 3. December 16, 2015; 4. April 8, 2015; 5. December 21, 2015 (for Gaz Metro Inc., based on the guarantee of GMLP) – report 2015 figures; and, 6. February 18, 2015.

The results provided in Table 11 are consistent with what one would expect based on the discussion in the previous sub-section – namely, according to analysis of credit metrics provided by DBRS, NP appears to have lower financial risk than its Canadian counterparts. In particular, NP has a debt-to-capital ratio of 55% that is well below the group average or median of 60%, and is in fact below the ratio for all firms in the sample. Similarly, NP's interest coverage ratio of 3.06 for 2014 is well above the group average and median figures of 2.16 and 2.19 - it is also higher than the coverage ratio for each firm in the sample. NP's 2014 CF/Debt ratio of 17.7% is also higher than those for all of the other listed Canadian utilities.

NP's debt-to-capital ratio of 55% lies on the cut-off point between an A and AA rating for low business risk firms, according to DBRS criteria. The EBIT coverage ratio for NP is well above the 2.8 cut-off value for a AA assessment, while their CF/Debt ratio also slightly exceeds the 17.5% AA cut-off point. Therefore, it is not surprising their A rating was confirmed, since their metrics suggest they lie somewhere between the bottom half of the AA category and the top half of the A category, and even if they deteriorated somewhat they would be well in the "A range." The average debt-to-capital ratio for the other Canadian firms lies firmly in the middle of the A category (i.e., 55-65%). The interest coverage and CF/Debt ratios for the sample group also fall squarely in the A range, also consistent with their range of A(low) to A(high) ratings. It is noteworthy that NP has an A rating, falling in the middle of the range of ratings for the firms in this group, despite the fact that the group firms possess weaker credit metrics than NP. This also implies that even if NP's metrics were weaker they would probably maintain their A rating status, given their below-to-average business risk discussed previously.

3.3.3 Credit Metric Scenarios

In this section I evaluate the potential impact of various allowed ROE and equity ratio scenarios on the credit metrics of NP. I use the data provided in Exhibit 3 of NP's evidence to construct the base case for 2013-2017. I then estimate the primary credit metrics relied upon by DBRS and Moody's respectively. Finally, I provide forecasts of what would happen to these metrics under various assumptions regarding ROE and equity ratios, and discuss the implications. For ease of reference, Table 12 provides the ranges

for the metrics used in assessing utilities' financial risk by Moody's and DBRS (for low business risk firms – which is what DBRS uses in assessing utilities such as NP).

TABLE 12

CREDIT METRIC CRITERIA

Moody's Metrics	**A**	**Baa**
(CFO pre-WC + Interest)/Interest	4.5 to 6.0	3 to 4.5
CFO pre-WC/Debt	19 to 27%	11 to 19%
(CFO pre-WC - Dividends) /Debt	15 to 23%	7 to 15%
Debt/Capitalization	40 to 50%	50 to 59%

		(Low Bus. Risk)	
DBRS Metrics	**AA**	**A**	**BBB**
Cash flow to debt	above 17.5%	12.5 to 17.5%	10.0 to 12.5%
Debt to Capital	below 55%	55 to 65%	65-75%
EBIT to Interest	Above 2.8	1.8 to 2.8	1.5 to 1.8

Table 13 presents the base case scenario using the data provided in Exhibit 3 by NP, based on existing rates and equity ratios. The data shows that from 2013 to 2017, under existing rates and according to NP's own data, that NP's metrics remain solid and lie at the high Baa to low A range for Moody's, and lie at the high A to low AA range according to DBRS metrics. In addition, their interest coverage remains well above 2.0, never falling below 2.36. In other words, NP's metrics continue to look strong for 2015-2017 at existing rates, using NP's own data, and assuming no changes in the equity ratio.

TABLE 13

CREDIT METRIC ESTIMATES – 2013-2017

			Base Case			
Moody's Metrics	**2013**	**2014**	**2015E**	**2016E**	**2017E**	**NP**
(CFO pre-WC + Interest)/Interest	3.61	3.65	3.77	3.90	3.78	Baa(mid-high)
CFO pre-WC/Debt	18.75%	18.40%	18.01%	18.20%	17.43%	Baa(high)
(CFO pre-WC - Dividends) /Debt	14.14%	13.95%	16.20%	14.88%	15.41%	Baa(high) to A(low)
Debt/Capitalization	54.07%	54.51%	54.45%	54.12%	54.15%	Baa(mid)

DBRS Metrics - calculated						
Cash flow to debt	18.75%	18.40%	18.01%	18.20%	17.43%	A(high) to AA(low)
Debt to Capital	54.34%	54.85%	54.72%	54.38%	54.39%	AA(low)
EBIT to Interest	2.48	2.52	2.57	2.49	2.36	A(high)

The discussion with respect to business risk in Section 3.2 concluded that NP is a below-average-to-average business risk Canadian utility. The comparison of NP's allowed ROEs and equity ratios and its recent credit metrics to other Canadian utilities showed that NP has lower financial risk. This implies that the Board should consider a decrease in NP's equity ratio to bring it in line with Canadian averages. Of course, such changes would affect NP's credit metrics, so it is worth examining the extent of such. Similarly, as allowed ROEs provided by regulators have been declining in recent years in response to lower interest rate levels among other things, it is also of interest to examine what credit metrics would result from considering alternative ROEs. With this in mind, I have prepared an analysis of projected credit metrics under various ROE scenarios (i.e., 7.5%, 8.0%, 8.3%, 8.5% and 8.8%) first using the existing equity ratio of 45%, and then using a 40% equity ratio. The results using a 45% equity ratio are presented in Table 14.

TABLE 14

2016-17 CREDIT METRIC ESTIMATES USING A 45% EQUITY RATIO

	USING 45% Equity Ratio					
2016 Metrics	**ROE 7.50%**	**ROE 8.00%**	**ROE 8.30%**	**ROE 8.50%**	**ROE 8.80%**	**NP**
Moody's Metrics						
(CFO pre-WC + Interest)/Interest	3.89	3.96	4.00	4.02	4.06	Baa(high)
CFO pre-WC/Debt	18.19%	18.60%	18.85%	19.01%	19.26%	Baa(high) to A(low)
(CFO pre-WC - Dividends) /Debt	14.87%	15.28%	15.53%	15.69%	15.94%	Baa(high) to A(low)
Debt/Capitalization	54.12%	54.12%	54.12%	54.12%	54.12%	Baa(mid)
DBRS Metrics						
Cash flow to debt	18.19%	18.60%	18.85%	19.01%	19.26%	AA(low)
Debt to Capital	54.38%	54.38%	54.38%	54.38%	54.38%	AA(low)
EBIT to Interest	2.40	2.49	2.55	2.64	2.64	A(high)
2017 Metrics	**ROE 7.50%**	**ROE 8.00%**	**ROE 8.30%**	**ROE 8.50%**	**ROE 8.80%**	
Moody's Metrics						**NP**

(CFO pre-WC + Interest)/Interest	3.88	3.95	3.99	4.01	4.05	Baa(high)
CFO pre-WC/Debt	18.04%	18.45%	18.70%	18.86%	19.11%	Baa(high) to A(low)
(CFO pre-WC - Dividends) /Debt	16.02%	16.43%	16.68%	16.84%	17.09%	A(low)
Debt/Capitalization	54.15%	54.15%	54.15%	54.15%	54.15%	Baa(mid)
DBRS Metrics						
Cash flow to debt	18.04%	18.45%	18.70%	18.86%	19.11%	AA(low)
Debt to Capital	54.39%	54.39%	54.39%	54.39%	54.39%	AA(low)
EBIT to Interest	2.41	2.51	2.56	2.60	2.66	A(high)

Table 14 shows that for 2016 and 2017, using the current 45% equity ratio, and under various ROE scenarios and according to NP's own data, that NP's metrics would remain solid and lie at the high Baa to low A range for Moody's, and lie at the high A to low AA range according to DBRS metrics. In addition, NP's interest coverage remains well above 2.0, never falling below 2.4. This is true under all of the allowed ROE figures. This suggests that the PUB could lower the ROE significantly at the current allowed equity ratio and the credit metrics would remain strong.

Since the focus of my discussion is on the allowable equity ratio, I will now proceed to see how reducing it would impact credit metrics. Table 15 examines the credit metric estimates using a 40% equity ratio. As in Tables 13 and 14, I use the financial statement data provided in Exhibit 3 by NP to construct the estimates. The main assumptions that I make are that: (1) the marginal tax rates for 2016 and 2017 would be those implied in Exhibit 3 of NP's data; (2) depreciation would equal the estimates provided in Exhibit 3; (3) the items "excluding net income" that are used to estimate the CFO pre-WC estimates provided in Exhibit 3 would remain unchanged, so that CFO pre-WC can be recalculated by adjusting for changes in the net income figure only; (4) common equity would remain at the same dollar levels reported in Exhibit 3; (5) common equity will earn the allowed ROE resulting in the appropriate figure for net earnings available to common shareholders; and, (6) new long-term debt would be issued at 4.45% (i.e., the yield on the September 2015 NP bond issue) and used to bring the equity ratio down to 40%, with the additional interest expense being added to the interest expense estimates for 2016 and 2017 provided in Exhibit 3 of NP's evidence.

TABLE 15

2016-17 CREDIT METRIC ESTIMATES USING A 40% EQUITY RATIO

2016 Metrics	**ROE**	**ROE**	**ROE**	**ROE**

	7.50%	8.00%	8.30%	8.50%	NP
Moody's Metrics					
(CFO pre-WC + Interest)/Interest	3.50	3.56	3.59	3.62	Baa(mid)
CFO pre-WC/Debt	14.91%	15.25%	15.45%	15.59%	Baa(high)
(CFO pre-WC - Dividends) /Debt	12.19%	12.53%	12.73%	12.87%	Baa(high)
Debt/Capitalization	59.00%	59.00%	59.00%	59.00%	Baa(low)
DBRS Metrics					
Cash flow to debt	14.91%	15.25%	15.45%	15.59%	A(high)
Debt to Capital	59.24%	59.24%	59.24%	59.24%	A(mid)
EBIT to Interest	2.21	2.29	2.34	2.37	A(mid) to A(high)
2017 Metrics	**ROE 7.50%**	**ROE 8.00%**	**ROE 8.30%**	**ROE 8.50%**	
Moody's Metrics					**NP**
(CFO pre-WC + Interest)/Interest	3.49	3.55	3.58	3.61	Baa(mid)
CFO pre-WC/Debt	14.78%	15.12%	15.32%	15.46%	Baa(high)
(CFO pre-WC - Dividends) /Debt	13.13%	13.46%	13.67%	13.80%	Baa(high)
Debt/Capitalization	59.04%	59.04%	59.04%	59.04%	Baa(low)
DBRS Metrics					
Cash flow to debt	14.78%	15.12%	15.32%	15.46%	A(high)
Debt to Capital	59.28%	59.28%	59.28%	59.28%	A(mid)
EBIT to Interest	2.22	2.30	2.35	2.38	A(mid) to A(high)

Table 15 shows that if the equity ratio was reduced to 40%, NP's credit metrics for 2016 and 2017 would remain firmly in the Baa range for Moody's, and in the mid-to-high A range for DBRS, if the allowed ROE is also reduced. Similarly, the interest coverage ratio remains well above 2, and never falls below 2.2, under any scenario presented. In other words, NP's credit metrics would remain solid if the PUB reduced NP's allowable equity ratio to 40% and also reduced the allowed ROE.

3.3.4 Concluding Remarks Regarding Financial Risk

The discussion in Section 3.3.1 shows that NP has lower financial risk than other Canadian utilities based upon a combination of an allowable ROE which is about average and equity ratios which are much higher than average. Given this attractive ROE to equity ratio combination, it is not surprising that NP displays superior credit metric ratios to its Canadian peers, as discussed in Section 3.3.2. An examination of credit metric sensitivity to changes in allowed ROEs and equity ratios indicates that NP would maintain solid metrics if the equity ratio was reduced to 40% and the allowable ROE was also reduced.

3.4 Capital Structure Recommendation

Both the qualitative discussion and quantitative analysis in Section 3.2 show clearly that NP has low business risk, similar or slightly lower than that for similar Canadian firms. Sections 3.3.1 and 3.3.2 demonstrate that NP currently has less financial risk than other Canadian utilities based on an examination of allowable ROEs and equity ratios, and of existing credit metrics. Finally, the examination of NP's credit metric sensitivity in Section 3.3.3 indicates that NP would maintain solid metrics if the equity ratio was reduced to 40% and if the allowed ROE was also reduced.

It is not clear why a low business risk firm like NP requires an equity ratio that is much higher than average, while being allowed to earn an ROE that is around average. I recommend that the Board reduce NP's equity ratio to 40%, which would bring it in line with Canadian averages. The additional "above average" 5-6% equity thickness is not warranted based on NP's business risk, nor is it required to maintain solid credit metrics that will permit NP to maintain its ability to raise credit on reasonable terms.

APPENDIX A

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Areas of Interest

Research: Empirical studies in corporate finance and investments.
Teaching: Investments, Business Finance and Corporate Finance. I have also taught numerous courses and delivered seminars in many preparatory programs designed to prepare students to write exams for all three levels of the CFA program and the CSC for over 10 years.

Education

University of Toronto	Ph.D., Finance, 1993 - January, 1998
Saint Mary's University	M.B.A., Finance, 1987-1989
Saint Francis Xavier University	B.Ed., Secondary, 1983-84
Acadia University	B.A., Economics, 1979-1983

Career Experience

Queen's University	BMO Professor of Finance Director of Master of Finance (July 2008 – June 2014)
Saint Mary's University	Associate Dean and Pengrowth Nova Scotia Professor in Petroleum Financial Management: (July 2007 – June 2008) Professor: (September 2006 – June 2007) Associate Professor: Finance (September 2000 - June 2001, July 2002 – August 2006) Assistant Professor: Finance (July 1998 - August 2000) Lecturer: Finance and Statistics, (1990-1993, Full Time)
York University	Assistant Professor: Finance (July 2001 – June 2002)
The University of Lethbridge	Assistant Professor: Finance (1997- 1998, Full Time)
The University of Toronto	Lecturer: Business Finance (1994-1997, Part Time)
Ryerson University	Lecturer: Investment Finance (1994-1997, Full Time)
WSC Investment Services	Instructor for CSC and CFA Seminars and Prepare Course Materials and Deliver Seminars for various professional organizations; (1996-present, Part Time)
Royal Bank of Canada	Commercial Lender; (1989-1990, Full Time)

Expert Witness Experience:

April-November 2014 – Utilities Consumer Advocate (UCA) of Alberta
Prepared and testified regarding appropriate risk margins for commodity risk for regulated Alberta utilities.

December 2013-August 2014 – Utilities Consumer Advocate (UCA) of Alberta
Prepared and testified regarding an appropriate ROE and capital structure for regulated Alberta utilities.

August-September 2013 - Chicken Farmers of Ontario (CFO).
Estimated an appropriate ROE, capital structure, and cost of capital for the average chicken farmer in Ontario. This information was used in determining a new pricing formula for Ontario chickens.

Publications:

Academic Journals:

"An Efficient and Functional Model for Predicting Bank Distress: In and Out of Sample Evidence," 2016. Co-authored with Greg Hebb, Dalhousie University. Journal of Banking and Finance, Vol. 64, March 2016, 101–111.

"Managerial Practices and Corporate Social Responsibility," 2015. Co-authored with Najah Attig, Saint Mary's University. Journal of Business Ethics, Vol. 131 (No. 1), 121-136.

"Organization Capital and Investment Cash Flow Sensitivity: The Effect of Management Quality Practices," 2014. Co-authored with Najah Attig, Saint Mary's University. Lead Article - Financial Management, Vol. 43 (No. 3), 473-504.

"Corporate Legitimacy and Investment-Cash Flow Sensitivity," 2014. Co-authored with Najah Attig, Saint Mary's University, Sadok El Ghoul, University of Alberta, and Omrane Guedhami, South Carolina University. Journal of Business Ethics, Vol. 121 (No. 2), 297-314.

"Debt Rating Initiations: Natural Evolution or Opportunistic Behavior?" 2013. Co-authored with Laurence Booth, University of Toronto, and Lynnette Purda, Queen's University. Journal of Modern Accounting and Auditing, Vol. 9 (No. 12), 1574-1595.

"Institutional Investment Horizons and the Cost of Equity Capital," 2013, Co-authored with Najah Attig, Saint Mary's University, Sadok El Ghoul, University of Alberta, and Omrane Guedhami, South Carolina University. Financial Management, Vol. 42 (No.2), 2013, 441-477.

"Institutional Investment Horizon and Investment-Cash Flow Sensitivity." Co-authored with Najah Attig, Saint Mary's University, Sadok El Ghoul, University of Alberta, and Omrane Guedhami, South Carolina University. Journal of Banking & Finance, Vol. 36, (No. 4), 2012, 1164-1180.

"Capital Market Developments in the Post-October 1987 Period: A Canadian Perspective." Co-authored with Laurence Booth from the University of Toronto. Review of Accounting and Finance, Vol. 8 (No.2), 2009, 155-175.

"Cash Flow Volatility, Financial Slack and Investment Decisions," 2008, China Finance Review, Number 1, Vol 2, 63-86. Co-authored with Laurence Booth from the University of Toronto.

"The Investment Nature of Income Trusts and Their Role in Diversified Portfolios," Canadian Journal of Administrative Sciences. Co-authored with Greg MacKinnon from Saint Mary's University, (Vol 24(4)), 2007, 314-325.

"The U-Shaped Investment Curve: Theory and Evidence." Co-authored with Paul Povel, University of Minnesota, and Michael Raith, University of Southern California, Lead article, Journal of Financial and Quantitative Analysis, Vol. 42 (No. 1), March 2007.

"Financial Constraints and Investment: An Alternative Empirical Framework." Co-authored with Bert D'Espallier, Hasselt University, Anales de Estudios Economicos y Empresariales, Vol. 17, 2007, 9-41.

"Dividend Smoothing and Debt Ratings." Co-authored with Laurence Booth and Varouj Aivazian, both from the University of Toronto. Lead article, Journal of Financial and Quantitative Analysis, Vol. 41(No. 2), June 2006, 439-452.

"International Corporate Investment and the Relationships between Financial Constraint Measures," Journal of Banking and Finance, Volume 30 (5), 2006, 1559-1580.

"Are U.S. Variables Good Predictors of Foreign Equity Risk Premiums?" 2006. Co-authored with John Schmitz, President, Sci-Vest Capital Management Inc., The Cyprus Journal of Sciences.

"Income Trusts: Past Performance and Future Prospects." Co-authored with Greg MacKinnon of Saint Mary's University. Canadian Investment Review, Winter 2005, 53-54.

"Dividend Policy and the Role of Contracting Environments" FSR Forum, December 2005, 13-20. Co-authored with Laurence Booth and Varouj Aivazian, both from the University of Toronto.

"Corporate Investment and Financial Slack: International Evidence," The International Journal of Managerial Finance, 2005, 140-163.

"Industry Factors Do Not Explain Momentum in Canadian Stock Returns," Investment Management and Financial Innovations, 2005(2), 49-60. Co-authored with John Schmitz, President, Sci-Vest Capital Management Inc., and David Doucette, Saint Mary's University.

"Do Emerging Market Firms Follow Different Dividend Policies from U.S. Firms?" The Journal of Financial Research, Fall 2003, 371-387. Co-authored with Laurence Booth and Varouj Aivazian, both from the University of Toronto.

"Dividend Policy and the Organization of Capital Markets." Journal of Multinational Financial Management, Spring 2003, 101-121. Co-authored with Laurence Booth and Varouj Aivazian, both from the University of Toronto.

"The Risk-Adjusted Performance of Closed-End Funds and the Impact of Discounts." Journal of Today, December 2002, 119-133. Co-authored with Greg Hebb of Dalhousie University and Greg MacKinnon from Saint Mary's University.

"Transactions Costs on the TSE," Canadian Investment Review, Spring 2002, 20-26. Co-authored with John Schmitz, President, Sci-Vest Capital Management Inc., and Kevin Kerr, TD Securities, Toronto.

"What Has Worked on Bay Street," Canadian Investment Review, Winter 2001, 25-34. Co-authored with John Schmitz, President, Sci-Vest Capital Management Inc.

"The Sensitivity of Canadian Corporate Investment to Liquidity," Canadian Journal of Administrative Sciences, September 2000, 217-232.

"Diversification with Canadian Stocks: How Much is Enough?" Canadian Investment Review, Fall 1999, 21-25. Co-authored with David Copp, Mount Allison University.

"The Relationship Between Firm Investment and Financial Status," Journal of Finance, April 1999, 673-692. Received at least one vote from the editorial board for the top Corporate Finance Paper Award during the year of publication.

"Momentum in Stock Returns and Time-Varying Risk," Canadian Journal of Administrative Sciences, September 1998, 279-291. Co-authored with Michael Inglis, University of Toronto. One of five nominations for "best 1998 CJAS paper."

Books and Book Chapters:

Corporate Finance, First US Edition. Co-authored with Laurence Booth from the University of Toronto and Pamela (Peteresen) Drake) from Virgina Commonwealth University. John Wiley & Sons (2013).

Introduction to Corporate Finance, First three editions. Co-authored with Laurence Booth from the University of Toronto. John Wiley & Sons Canada Limited (2007, 2010, 2013). This is an Introductory Canadian Finance text that was written from "scratch."

Investments: Analysis and Management, First, Second and Third Canadian Editions, co-authored with Charles P. Jones of North Carolina State University, John Wiley & Sons Canada Limited (1999, 2004, 2008). I was solely responsible for the development of all three Canadian editions, the first being based on an adaptation of the sixth U.S. edition, authored by Professor Jones.

The Canadian Securities Exam Fast Track Study Guide, First, Second, Third and Fourth Editions (2001, 2006, 2009, 2013) – sole author. Published by John Wiley & Sons Canada Limited.

Finance in a Canadian Setting, Sixth Edition, co-authored with Peter Lusztig and Bernard Schwab, both of the University of British Columbia, John Wiley & Sons Canada Limited, March, 2001. I was solely responsible for the development of this edition of the text, based on an adaptation of the fifth edition, authored by Professors Lusztig, Schwab and Randall Morck of University of Alberta.

Market Efficiency, a chapter in the CFA Institute Investment Series book entitled Investments: Principles of Portfolio and Equity Analysis (Wiley, 2011), which is currently used as CFA Level 1 material within the Candidate Body of Knowledge.

"Introduction to Financial Markets," (on-line course). Developed all seven modules for the Bourse de Montreal, 2002.

"Derivatives for the Retail Investor," (on-line course). Developed two modules (Forwards and Future, and Options) for the Bourse de Montreal, 2002.

"Derivatives for the Institutional Investor," (on-line course). Developed two modules (Options and Derivatives for Equity and Index Products) for the Bourse de Montreal, 2002.

"Investment Strategies and Asset Allocation," Chapter 5, Investment Management Techniques, The Canadian Securities Institute, 1999.

"Equity Securities," Chapter 12, Investment Management Techniques, The Canadian Securities Institute, 1999.

Cases:

"Time Value of Money: The Buy versus Rent Decision," with Stephen Foerster. Ivey Publishing, August 2014.

Conference Proceedings:

I have published numerous articles in conference proceedings, as summarized below:
European Financial Management Association annual conference, 2008, 2006, 2005, 2002.
Hawaii International Conference on Business, 2002.
Multinational Finance Society annual conference, 2001.
Atlantic Schools of Business annual conferences, 2000, 1998.
ASAC annual conferences, 2006, 2001, 2000.

Conference Best Paper Awards:

"The Information Content of Institutional Investment Horizon: Evidence from Firms' Implied Cost of Equity," 2012, Working Paper, Co-authored with Najah Attig, Saint Mary's University, Sadok El Ghoul, University of Alberta, and Omrane Guedhami, South Carolina University. Chosen Best Paper in Banking and Finance – 2012 European Business Research Conference.

"Income Trusts: Why All the Fuss and What About the Future?" 2006. Co-authored with Greg MacKinnon from Saint Mary's University. Chosen as the best paper in the Finance division for the 2006 ASAC Conference in Banff, Alberta.

"The U-Shaped Investment Curve: Theory and Evidence" 2004. Co-authored with Paul Povel, University of Minnesota, and Michael Raith, Rochester University. Presented at the 2004 NFA Conference and received award as the "Best Paper in Managerial Finance."

"The Sensitivity of Canadian Corporate Investment to Liquidity." Published in conference proceedings for the 1999 ASAC Conference in Saint John, New Brunswick.
Chosen as the best paper in the Finance division for this conference.

Conference Presentations:

Keynote Speaker (Finance Area) – ASAC 2012 Annual Conference.
I have presented papers at numerous conferences, as summarized below:
World Finance Conference, 2014, 2013, 2011, 2010.

Paris Financial Management Conference, 2014.
Northern Finance Association annual conferences, 2013, 2011, 2010, 2008, 2005, 2004, 2002, 2000, 1996.
Multinational Finance Society annual conferences, 2010, 2001, 1999.
European Financial Management Association annual conference, 2008, 2006, 2005, 2002.
Hawaii International Conference on Business, 2002.
Eastern Finance Association annual conferences, 2003, 2000.
Atlantic Schools of Business annual conferences, 2000, 1998, 1996.
ASAC annual conferences, 2006, 2000, 1999.
Financial Management Association annual conferences, 2013, 2011, 2010, 2008, 2005, 2004, 2001, 1999, 1996.
Southern Finance Association annual conference, 2008.

Finance Workshops (invited presentations).
Atlantic Canada CFA Society, 2006.
Melbourne Centre for Financial Studies, 2006.
Melbourne CFA Society, 2006.
Monash University (Caulfield), 2006.
University of Melbourne, 2006.
University of New South Wales, 2006.
University of Sydney, 2006.
University of Manitoba CGA Finance Conference 2005
Wilfred Laurier University, 2002.
University of Western Ontario, 2001.
York University, 2001, 2010.
Dalhousie University, 2001, 2013.
Queen's University, 2000.
Saint Mary's University, 2002, 2001, 2000, 1999.
Schulich School of Business, 2010.
Concordia University, 2013.

Research Grants

Co-investigator for a Standard Research Grant in the amount of $130,000 from the Social Sciences and Humanities Research Council of Canada (SSHRC) for the 2013 to 2017 period (Principal investigator - Najah Attig of Saint Mary's University).

Awarded three Research Grants of $90,000 each over three years from the Queen's School of Business at Queen's University (2008-11; 2011-14; 2014-17).

Principal investigator for a Standard Research Grant in the amount of $60,500 from the Social Sciences and Humanities Research Council of Canada (SSHRC) for the 2008 to 2011 period.

Co-investigator for a Standard Research Grant in the amount of $111,000 from the Social Sciences and Humanities Research Council of Canada (SSHRC) for the 2006 to 2009 period (Principal investigator - Najah Attig of Saint Mary's University).

Principal investigator for a Standard Research Grant in the amount of $70,118 from the Social Sciences and Humanities Research Council of Canada (SSHRC) for the 2003 to 2006 period.

Awarded a Research Grant of $25,000 per year for three years from the Schulich School of Business at York University (July 2001).

Principal investigator for a Standard Research Grant in the amount of $61,530 from the Social Sciences and Humanities Research Council of Canada (SSHRC) for the 1999 to 2002 period.

Awarded Research Grant for $1,500 from Saint Mary's University (2003-2004).

Awarded Research Grant for 2,500 from Saint Mary's University (2002-2003).

Awarded Research Grant for $2,500 from Saint Mary's University (2000-2001).

Awarded Research Grant for $3,030 from Saint Mary's University (1999-2000).

Awarded Research Grant for $2,000 from Saint Mary's University (1998-99).

Research Grant in the amount of $20,000 from the Intellectual Infrastructure Partnership Program (IIPP) at the University of Lethbridge (1997-98).

Research Grant from the University of Lethbridge Research Fund for $4,500 (1997-98).

Work-in Progress

"The Cash Effect and Market Reaction over Three Decades," 2015, Working Paper. Co-authored with Fatma Sonmez, Queen's University. Under review.

"Institutional Investors, Monitoring and Corporate Finance Policies," 2015, Working Paper. Co-authored with Jun Wang, The University of Western Ontario.

Professional Activities

Editorial Advisory Board – Investor Lit (2013-present)
Senior Advisor – Toronto CFA Continuing Education Committee (2014-present); Chair (2013-14); Vice-Chair (2012-13)
Chair – Awards Committee – CFA Toronto Board of Directors (2008-2011)
President - Board of Directors for the Atlantic Canada CFA Society (2007-2008). Served on the board from 2001 to 2008.
Editor (Finance area) for the *Canadian Journal of Administrative Sciences*.
Associate Editor for the *European Journal of Finance*.
Editorial Board – *Canadian Investment Review* (2008-2011).
Served as a reviewer for the *Review of Financial Studies*, the *Journal of Financial and Quantitative Analysis*, *Journal of Business, Financial Management, Journal of Money, Credit and Banking,* the *Journal of Banking and Finance,* the *European Journal of Finance*, the *Journal of Corporate Finance*, the *Journal of Applied Economics*, the *Multinational Finance Journal, Financial Review, Journal of International Financial Management,* the *International Review of Economics and Finance,* the *Canadian Journal of Administrative Sciences,* the *Review of Financial Economics, the Journal of Risk Finance,* and for the *Journal of Management and Governance*.
Reviewer for several SSHRC grant applications.
External reviewer/examiner for several tenure and renewal applications received for professors at other universities, as well as for Ph.D. dissertations.
Conference chair for 2001 Northern Finance Association Annual Meeting, held in Halifax.

Conference organizing committee and Reviewer for several conferences.
Completed the Chartered Financial Analyst (CFA) program, and awarded the CFA designation.
Completed the Professional Financial Planning Course offered by the Canadian Securities Institute, as well as the Canadian Securities Course (CSC).
Completed the Investment Funds Institute of Canada's Mutual Fund Course.
Prepared course materials for several "on-line" finance courses.
Instructor for Canadian Securities Course Seminars.
Prepared Course Materials for the Canadian Securities Institute.
Delivered Seminars for the Canadian Securities Institute on the Canadian Securities Course (CSC), Fixed Income Securities and Portfolio Management Techniques.