THE ONTARIO ENERGY BOARD'S ROE ADJUSTMENT MECHANISM: QUESTIONS TO CONSIDER AND ANSWERS

Comments of

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FOR THE

Stakeholder Conference on the OEB's ROE Adjustment Formula

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I INTRODUCTION

Q. PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE.

A. I am a professor of finance in the Rotman School of Management at the University of Toronto, where I hold the CIT Chair in Structured Finance. I have appeared before most of the major utility regulatory boards in Canada including the National Energy Board, the CRTC, the Ontario Energy Board (OEB or the Board), the Regie D'Energie and the Alberta Energy and Utility Board (AEUB). I have also filed testimony before the Ontario Securities Commission and in a variety of civil suits pertaining to financial matters. Further information and copies of my working papers can be can be downloaded from my web site at the University of Toronto at http://www.rotman.utoronto.ca/~booth.

Q. PLEASE DESCRIBE THE PURPOSE OF THIS REPORT

A. The Consumers Council of Canada, the Vulnerable Energy Consumer's Coalition, the Industrial Gas Users Association, the Canadian Manufacturers & Exporters (CME), the London Property Management Association and the Building Managers and Owners Association of the Greater Toronto Area have all asked me to consider the questions outlined in Attachment B to the Board's letter of July 30, 2009 as amplified in a response to Mr. Warren in a letter dated August 20, 2009. The specific request is for me to advise them on the answers to the questions and provide a brief document summarising my views.

I take the key issue as flowing from the following statements in the letter to Mr. Warren,

> "The Board's consultation is prompted by the state of the financial markets. As indicated in the Board's June 18, 2009 letter, the Board is satisfied that further examination of its policy regarding the cost of capital is warranted to ensure that, on a going forward basis, changing economic and financial conditions are accommodated if required. [1]
>
> The Board is therefore proceeding with a review of its policy regarding the cost of capital. While the issues list refers to the consultation as one addressing the cost of capital for electricity distributors, that does not necessarily preclude the results of this review, which is on the application and derivation of the equity risk premium approach (ERP), from being applicable to other rate-regulated sectors. [2]"

I interpret these statements as meaning that the focus of this consultation process is on the risk premium model and the Board's generic ROE adjustment mechanism. Since this is applied to both gas and electric utilities the focus is not on business risk and deemed capital structures of specific utilities or alternative regulatory mechanisms, such as the ATWACC approach that the National Energy Board has tentatively adopted. Further I have been guided by the explicit statement that what has prompted this has been "the state of financial markets."

Q. HOW IS YOUR REPORT STRUCTURED?

A. Since the focus is on the state of financial markets and how they affect the ROE adjustment mechanism, I first review the current macroeconomic environment and the state of financial markets, since they go hand in hand. Further, I will draw out what we can expect as the economy goes through the business cycle, since much of what we have observed in the last year represents *predictable* business cycle phenomena, which will pass as boom follows bust and bust follows boom. The fact that similar ROE adjustment mechanisms, to that of the Board's, have been effect in BC and at the NEB since 1994[1] means that they have already survived several financial meltdowns and economic slowdowns that have produced similar cyclical phenomena to those observed at present. In particular, it is important to note the Board's own review of its 1997 ROE guidelines in 2003.

In 2003 at the request of the applicants (Enbridge Gas Distribution Inc (EGDI) and Union Gas (Union)) the Board initiated a formal review of its ROE mechanism (RP-2002-0158), where there was full testimony submitted by four experts with full cross examination and final argument. Like this current discussion with stakeholders, the 2003 Board review was based (paragraph 114) on the assertion by the applicants ***"that there have been significant changes in the capital markets. There is no claim that the utility risk per se has increased."*** Like the current review, as I will show, the 2003 review followed a stock market meltdown, in that case the collapse of the "Internet Bubble," and recession in the US and slowdown in Canada. As a result, it is important to note that the motivation behind the 2003 review and the current review

[1] Note the NEB in its decision (RH-1-2008) was specific that the award of an ATWACC of 6.4% to TQM was specific to TQM and only for the two specified years. The NEB's ROE formula remains in effect.

seems to be identical. It is, therefore, interesting to first highlight their commonality and the Board's decision.

In 2003 the Board noted that application of its ROE mechanism would award an ROE of 9.71% for EGDI and 9.86% for Union based on a forecast LTC Yield of 6.0% for all-in utility risk premium of 371-386 basis points. In contrast, the applicants made three basic requests:

- First, for an ROE of 11.50% for EGDI and 11.65% for Union based on a forecast long term Canada (LTC) yield of 6.0% or a utility risk premium of 550-565 basis points (bps).
- Second that the ROE formula be adjusted by 50% of the change in the forecast LTC yield, rather than by 75%;
- Third that the spread over the forecast ten-year LTC yield used by forecasters be fixed rather than using the spread at the time of fixing the ROE.

Noticeably, the applicants requested about a 180 bps increase in the utility risk premium.

In its decision, the Board came to several conclusions. The most important were:

- (Paragraph 127) *We found no evidence of the Applicants being in financial hardship as a result of the authorized ROE. The Applicants confirmed that they continue to be responsible for raising their own debt capital. There was no evidence, for example, that the allowed ROE has resulted in inadequate financial ratios to preclude raising debt capital on reasonable terms. Similarly, there was no evidence before the Board to suggest that credit ratings of the Applicants were deteriorating. The evidence is that the Applicants enjoy favourable credit ratings. In fact, Union's credit rating is more favourable than its parent company.*

- (Paragraph 136) *No party has disputed the use of the long-term Government of Canada bond yield as the basis of the risk free rate, or the basis for its forecast as contained in the current ROE guidelines other than the suggestion to fix the spread between the 10 and 30 year bond yields. Also, there was no dispute about the 50 basis points cushion. The disputes are around the determination of the market risk premium and the risk adjustment to reflect the lower risk for utilities.*

- (Paragraph 141) *We conclude that not only does the equity risk premium formula approach not lead to perverse results, but that the results it currently provides continue to represent fair and reasonable returns. If we had to set a new benchmark rate of return based on the ERP evidence in this proceeding, this rate would not be materially different from that produced by applying the current formula.*

Since the Board found that the ROE formula gave fair and reasonable ROEs, it dismissed the argument for using a 0.50 calibration to forecast LTC yields as "moot", and the request to fix the spread between the 30 and ten year LTC bond yield as not being of "sufficient consequence." In reviewing this decision, there are obvious parallels with the current list of questions the Board is seeking advice on, but the key difference is whether the LTC forecast yield is still a valid base for the ROE adjustment mechanism, whereas in 2003 this was not an issue. Again this is a capital market issue, which I will address in discussing current capital market conditions.

After discussing what we can expect of a normal business cycle and its implications for financial markets, I will discuss what has been special about the current financial crisis. To some extent every stock market crash and recession is special, in the sense that the immediate causes are often different, even if the capital market response is the same. Finally with this as a backdrop I will sequentially answer the questions on the issues list. Of importance is that I am currently recommending 7.75% for a typical Canadian utility, whereas the OEB formula ROE would currently award 8.38% based on the August Consensus Economics interest rate forecast. Although generous, I would regard the OEB ROE formula as generating fair and reasonable ROEs and having served the utilities and ratepayers well since its introduction in 1997.

II. FINANCIAL AND ECONOMIC OUTLOOK

Q. WHAT ARE ECONOMIC CONDITIONS AT PRESENT?

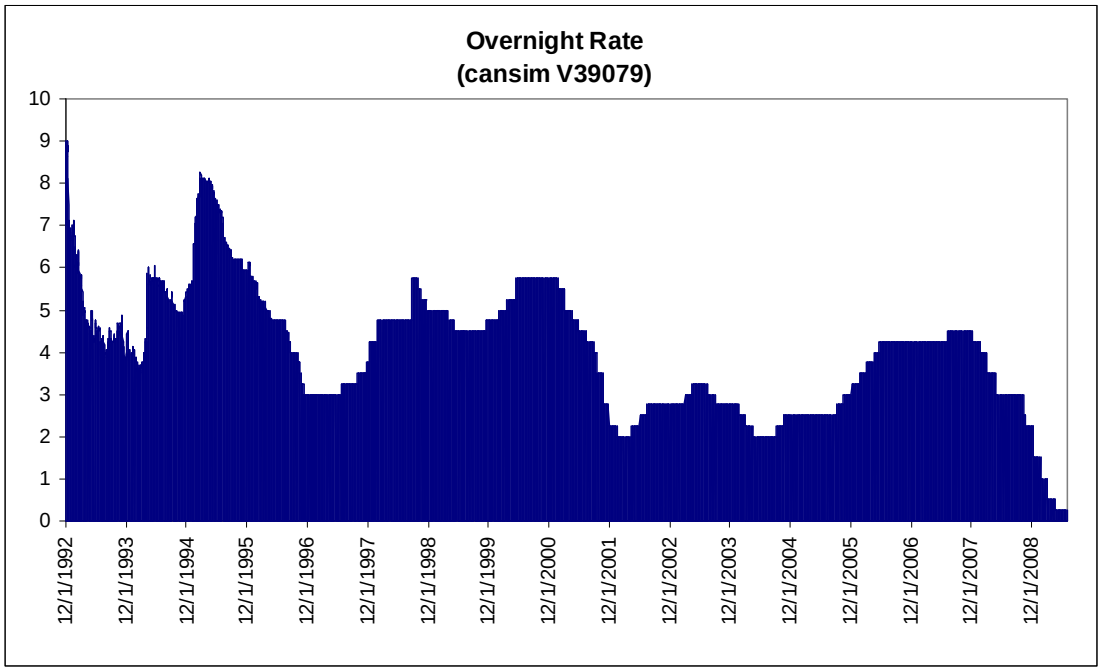
A. Basic macroeconomic data since 1987 is provided as background in Schedule 1. A review of the last twenty years indicates that from 1990 until 1993 Canada was mired in a deep recession in response to a normal cyclical slowdown as well as the restructuring that accompanied the passage of the Free Trade Agreement (FTA). For the three years from 1990-1992, real growth was non-existent and the unemployment rate reacting with a lag to the real economy, was well above 10.0%. We can also see the strong economy of the mid 1980s and again the mid to late 1990s, when real economic growth was over 4.0%, as the output gap caused by the recession was soaked up. We can then see the mild slowdown of the early 2000's, as recession in the United States and the effects of the stock market crash in Canada weakened the economy. The recovery was then slowed in 2003 as Canada was hit by a "perfect storm" of a strengthening exchange rate, slowing growth in the United States, severe acute respiratory syndrome (SARS), and a single incident of BSE or mad cow disease. These effects were largely temporary, as the Bank of Canada lowered interest rates in July 2003 and economic growth picked up to close to trend.

Until recently, we have again had good economic growth as strong growth soaked up the remaining available labour and the unemployment rate was for a time below the natural or non-accelerating inflation rate of unemployment (Nairu) of 6.0%. Consumer spending was strong as low interest rates supported the purchase of consumer durables, as well as record residential housing sales as housing starts exceeded 200,000 for the sixth year in a row. Further business investment was strong, with inventory rebuilding and an increase in business investment for 2008. This business investment was propelled by an increase in oilsands investment, which grew from $5.3 billion in 2003 to a projected $19.7 billion for 2008, eclipsing the 7% forecasted increase in manufacturing investment of $19.6 billion.

The strong investment position in Canada was partly due to a dramatic improvement in Canada's terms of trade as commodity prices increased. This created a perception that Canada was again a commodity based economy, as commodity prices reached record highs in the Summer of 2008.This perception led to a strengthening Canadian dollar and incipient inflationary pressures.

The result was a change in monetary policy starting in September 2005, as the Bank of Canada increased its overnight rate from 2.5% to reduce the stimulus being injecting into the economy.

As the following graph shows this tighter monetary policy continued throughout 2006 into December 2007, when the target overnight rate was cut from 4.5% to 4.25%.



The previous graph of the overnight rate is critical to understanding what is going on in the economy and financial markets since it signals where the Bank of Canada is leaning in terms of interest rate rates. Of particular importance is that we can "see" the business cycle in the overnight rate. For example, from the start of 1997 we can see the overnight rate increasing as the Bank started to slow down the economy as it recovered, whereas this policy was reversed rapidly in 2000 in response to the bursting of the Internet Bubble" in the stock market. It then started to increase rates again until the problems of 2003, and as these passed it then started increasing them again during the strong period prior to 2008.

The reason for the change in monetary policy was the presence of financial problems stemming from the sub-prime mortgage crisis in the United States and its spill-over effects into Canada. The crisis actually started at the end of 2006 as US house prices peaked and started to fall. But it wasn't until July 2007, with the failure of two hedge funds managed by Bear Stearns, that

investors realised that it was spreading beyond the mortgage markets. When the crisis really broke in August 2007, funds that had issued commercial paper to invest in mortgage related assets could not roll over the commercial paper and investors bolted from anything associated with sub-prime US mortgage debt. In Canada this lead to the Montreal Accord, as about $32 billion in asset backed commercial paper was essentially frozen and turned into long term notes. However, in the US the real damage became apparent, as Citigroup and Merril Lynch wrote off tens of billions of losses, and sought emergency equity infusions from offshore sovereign wealth funds, and the Federal Reserve had to put together a "rescue package" on March 16, 2008 to get JP Morgan to buy Bear Stearns for $2 a share, when Bear Stearns was selling for $155 the previous summer.

The result in the US was fear of any sort of credit risk, and a rush to quality as lenders belatedly increased credit standards. In response, the Federal Reserve dramatically cut interest rates, bailed out Bear Stearns, and made repurchase agreements more widely available in an attempt to stop the credit crisis from tipping the US into a full blown recession. However, events got much worse in September 2008, as US banks failed and contagion hit the world's financial markets. The catalyst was the collapse of Lehman Brothers on September 14, 2008, when the US Treasury Secretary Henry Paulson refused to provide short term funding in the face of a classic bank run. Instead Paulson seemed to think that it was good for the markets to make Lehman "accountable",[2] without fully understanding that through the credit derivatives markets Lehman's collapse would infect banks around the world.

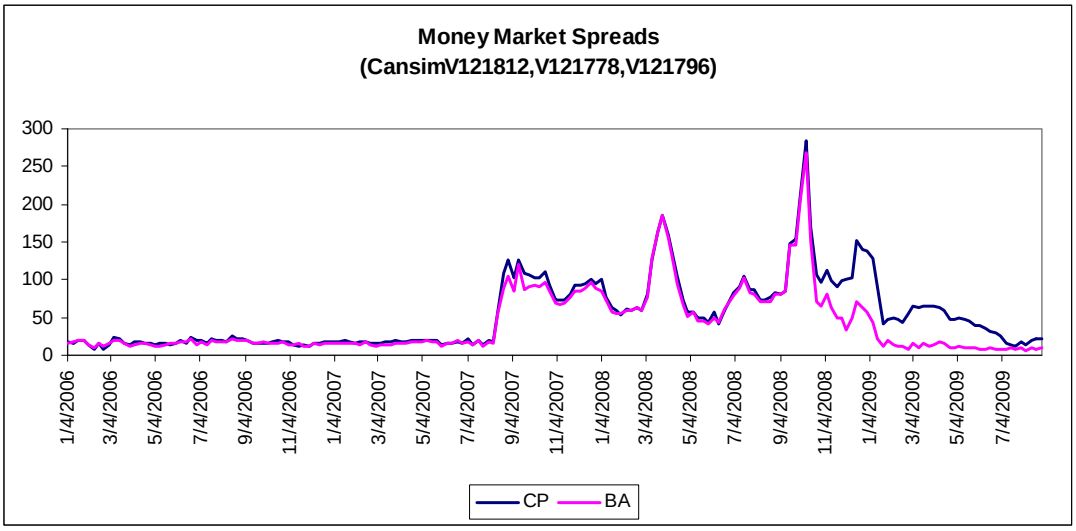
Paulson's actions in effect turned a US crisis into a global crisis. As the French Finance minister said, the decision of the US Treasury Secretary Henry Paulson to let Lehman go bankrupt was "horrendous for the equilibrium of the world financial system, this was a genuine error." Soon AIG, by market value at one time the world's biggest insurer, was taken over by the US government, and Merrill Lynch sold itself to Bank of America. However, the fact that Lehman was allowed to fail had a domino effect on other banks. As the French Finance Minister went on

[2] The view was that there was a moral hazard problem in that banks took on more risk as they felt the Fed or US Treasury would bail them. This was the famous Greenspan Put. Paulson seemed to think that by letting Lehman fail the Greenspan Put would disappear and bankers would be more responsible. Obviously the moral hazard problem is now greater than ever.

to say, "When we let one go, the risk is that others at that moment don't know who their counterparty is anymore, and find themselves exposed. Once we let one domino fall, the rest risk collapsing."[3]

Very quickly, the Lehman virus went airborne causing investors to withdraw money from banks and precipitating their collapse around the world. Although the US government quickly realised the mistake it had made, it could not be corrected quickly enough. The Treasury introduced the Troubled Asset Relief Program (TARP), but it initially failed to get through Congress causing the failure of first Washington Mutual and then Wachovia. All around the world institutional investors sold off short term money market investments in banks, and when US money market funds "broke the buck" and dropped below $1 due to losses on Lehman Brothers' debt, the only safe refuge was US Treasury Bills, where for a time yields went negative. In short order the financial markets were frozen, as liquidity dried up and securities could not be sold at any reasonable price.

The following graph shows the spreads between commercial paper (CP) and Bankers Acceptances (BAs) and Treasury Bills since the crisis broke in July 2007.



BAs are short term commercial paper issued by the Canadian banks and quite astonishingly after the collapse of Lehman Brothers, their spread over T. Bills rocketed to peak at almost 300 basis

[3] International Herald Tribune, October 10, 2008

points or 3.0%. By the middle of October banks were reluctant to lend to other banks, let alone corporate borrowers. As interbank lending dried up, stock markets collapsed as the real economy can not function if the financial system is broken.

The combination of heightened credit standards and enormous destruction of wealth led to the second stage of the crisis, as the impact of the credit crunch swept into the real economy: consumers and businesses both took preventive measures to survive the crash by slowing spending and building up reserves. The result was the Keynesian "paradox of thrift": as individuals save, demand drops, firms cut production, workers get laid off and those with jobs save even more, which inevitably precipitates a severe recession.

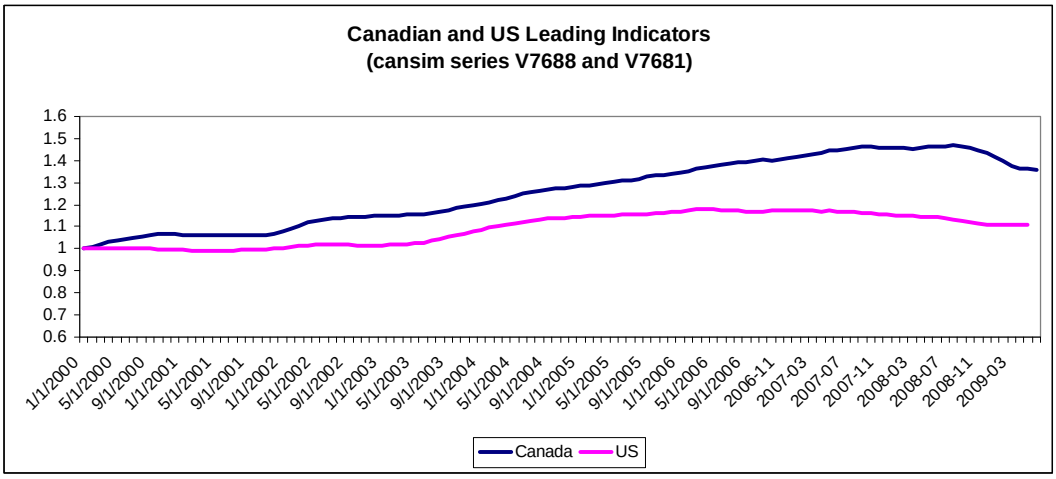
However, of importance, is that the enormous measures taken by central banks to stabilise the financial system have worked. The BA spread, for example, peaked at almost 300 basis points in October 2008, but is now back to normal levels as confidence in the stability of the Canadian banking system has been restored. In fact at 5 basis points (bps), or 0.05%, the BA spread is at its lowest level since October 2004. Canadian banks can now access funds in the paper market on normal terms and as their funding costs have come down, they can pass on these savings to consumers and business. The result has been lower consumer and mortgage rates, and a pick up in real estate activity as sales and housing starts have both recovered. Similarly, the equivalent "Ted" spread[4] in the United States has fallen from almost 500 basis points in October to more reasonable levels, and triggered significant mortgage refinancing.

Of even more importance is that the Commercial paper spread is currently about 20 bps, which is back to where it was before the crisis broke. This means that large stable Canadian companies can access short term financing on similar terms to those prevailing on July 25, 2007, in terms of spreads over Treasury Bills. However, since T Bill yields have themselves dropped significantly from 4.57% to 0.26%, actual CP funding costs have similarly dropped from 4.70% to 0.40%. This collapse in short term interest costs has rippled through into bank lending costs, where Canadian prime has dropped from 6.25% to 2.25%. As a result, all prime and BA based bank

[4] This is the three month Libor rate minus the US Treasury yield

lending, such as revolving loan facilities and term loans, have seen a significant drop in their costs.

However, even though dramatic policy measures in the US have stabilised the initial causes of the current crisis, it takes time to reverse their effects on the real economy, since the "second shoe" has now dropped. This prognosis is confirmed by the trend in the leading indicators for both the US and Canada in the following graph.



Both indices are initialised to 1.0 in January 2000, so we can see the trend over time. As a result, we can clearly see that while the US leading indicator was gradually getting weaker since the middle of 2006 when their economy peaked, the Canadian leading indicator remained strong until the beginning of the Fall in 2008. It then fell dramatically along with weak global commodity prices as the rest of the world went into recession. However, the leading indicators in both the US and Canada have now stabalised and begun to turn up. Significantly, the leading indicators remain much stronger for Canada than the United States reflecting the much worse economic conditions in the US, and the stronger effect on the Canadian economy of a general global recovery.

I have been arguing that Canada will recover in the second half of 2009 for the last six months since I filed testimony in the Alberta generic hearing. This was a difficult stance to take at the time, since many were forecasting that the "sky is falling." However, in my judgement the foundations for a strong recovery is in place and this is now being more generally recognised

both by experts and the stock market. Notably, the Bank of Canada in its July 2009 monetary policy update, said much the same thing with the following table summarising their assessment.

Summary of the base-case projection[a]

	2008	2009				2010				2011			
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Real GDP (quarter-over-quarter percentage change)	-3.7 *(-3.4)*	-5.4 *(-7.3)*	-3.5 *(-3.5)*	1.3 *(-1.0)*	3.0 *(2.4)*	4.0 *(3.4)*	4.0 *(3.6)*	3.8 *(4.4)*	3.8 *(4.8)*	3.8 *(5.0)*	3.3 *(5.0)*	2.8 *(4.7)*	2.8 *(4.3)*
Real GDP (year-over-year percentage change)	-1.0 *(-0.7)*	-2.1 *(-2.4)*	-3.1 *(-3.4)*	-2.9 *(-3.8)*	-1.2 *(-2.4)*	1.2 *(0.3)*	3.1 *(2.1)*	3.7 *(3.4)*	3.9 *(4.0)*	3.8 *(4.4)*	3.7 *(4.8)*	3.4 *(4.9)*	3.2 *(4.7)*
Core inflation (year-over-year percentage change)	2.2 *(2.2)*	2.0 *(1.9)*	1.9 *(1.6)*	1.6 *(1.3)*	1.4 *(0.9)*	1.4 *(1.0)*	1.6 *(1.1)*	1.6 *(1.3)*	1.7 *(1.5)*	1.9 *(1.7)*	2.0 *(1.9)*	2.0 *(2.0)*	2.0 *(2.0)*
Total CPI (year-over-year percentage change)	2.0 *(2.0)*	1.2 *(1.2)*	0.1 *(-0.1)*	-0.7 *(-0.8)*	1.2 *(1.0)*	1.4 *(1.6)*	1.4 *(1.6)*	1.3 *(1.6)*	1.7 *(1.7)*	1.8 *(1.8)*	2.0 *(1.9)*	2.0 *(2.0)*	2.0 *(2.0)*
WTI[b] (level)	58 *(58)*	43 *(43)*	62 *(51)*	62 *(57)*	64 *(60)*	67 *(62)*	68 *(64)*	69 *(66)*	70 *(67)*	71 *(68)*	72 *(69)*	73 *(70)*	74 *(71)*

a. Figures in parentheses are from the base-case projection in the April *Monetary Policy Report*.
b. Assumptions for the price of West Texas Intermediate crude oil (US$ per barrel), based on an average of futures contracts over the two weeks ending 17 July 2009.

The Bank of Canada is forecasting a return to real growth in Q3 and a stronger pick up in Q4 and steady growth in 2010. With this recovery, it is forecasting that inflation will also recover from its current deflationary position to return to the middle of the Bank's operating range by 2011 Q2.

As inflation returns to the Bank of Canada's 2.0% target level in 2011, and the economy returns to normal growth I see the yield on the long Canada bond returning to the 4.50-4.75% level of 2007. For 2010, I am currently basing my ROE recommendations on a 4.50% long term Canada (LTC) bond yield. This is consistent with the recent behaviour of the LTC yield, and the Royal Bank of Canada's forecast that also sees it increasing to 4.75% by the end of next year. The current RBC forecast is set out below (Financial Markets Monthly, August 4, 2009).

%, end of period

		09Q1	09Q2	09Q3	09Q4	10Q1	10Q2	10Q3	10Q4
Canada									
	Overnight	0.50	0.25	0.25	0.25	0.25	0.25	0.75	1.25
	Three-month	0.40	0.24	0.30	0.35	0.50	0.75	1.25	1.85
	Two-year	1.11	1.21	1.20	1.20	1.30	1.50	2.10	2.60
	Five-year	1.79	2.46	2.45	2.55	2.75	2.85	3.10	3.40
	10-year	2.80	3.36	3.25	3.15	3.35	3.35	3.75	4.00
	30-year	3.55	3.86	3.95	3.75	4.00	4.25	4.45	4.75
United States									
	Fed funds	0 to 0.25	0 to 0.25	0 to 0.25	0 to 0.25	0 to 0.25	0 to 0.25	0 to 0.25	0.50
	Three-month	0.21	0.20	0.20	0.20	0.25	0.30	0.40	1.00
	Two-year	0.81	1.12	1.00	0.95	1.00	1.20	1.50	1.85
	Five-year	1.67	2.56	2.25	2.00	2.25	2.50	2.60	3.00
	10-year	2.71	3.54	3.15	3.00	3.25	3.35	3.75	3.95
	30-year	3.56	4.33	4.25	4.00	4.25	4.50	4.75	5.00

Q. WHERE ARE WE IN THE BUSINESS CYCLE?

A. The current business cycle reached a peak in 2006-7, started to go into recession in 2008Q4 and now is starting the recovery stage. In my judgment what makes the current situation unique is that we are exiting the second of two distinct recessions. The first slowdown in the US started in 2006, as the US housing market slowed, together with construction activity and new housing starts. I thought the US hit bottom with the bailout of Bear Stearns in March 2008, and as the Federal Reserve dropped interest rates and started dramatic measures to increase credit in the US financial system. Many of the US banks had already raised new private equity financing by then and things seemed to be getting better. In fact, in Canada although the Bank of Canada had started monetary easing in December 2007, inflationary pressures were still high, as commodity prices and the equity market peaked. Consequently, this would have been regarded as a normal recession in the US, and a slowdown in Canada, similar to 2000-2001. However, then came the events of September 2008.

The seeds for the second recession started in August 2008, as the banks that relied on the wholesale money market found it increasingly more difficult to roll over short term funding, as sub prime fears become more evident. The decision to let Lehman Brothers go into bankruptcy on September 14, 2008, caused the second and far more serious recession as for the first time investors realised that the US government was willing, for ideological reasons to let its banking system collapse. The fact that no developed economic system can survive without a functioning financial system meant that the prospect of a "Great Depression II" suddenly became a reality. Even though the US government quickly realised it had made a disastrous mistake, the failure to

get TARP funding through Congress on the first attempt simply confirmed the lack of leadership in the US. The result was frozen credit markets and a stock market collapse, causing the US to go from a mild to a serious recession and pushing the world into its first ever global crisis.

In all of this, Canada was largely a bystander wondering how such disastrous and elementary mistakes could be made in the US. As Prime Minister Stephen Harper said at the G-20 summit

> *"Unregulated financial markets do not work. Canada has known that for a long time. I thought frankly, we all knew that from events of many decades ago – but obviously the United States went on a different path."*

With stronger regulation of its financial system, Canada avoided the problems that currently bedevil the US. However, Canada could not avoid the turmoil resulting from events in the US, and, like every other country in the world, has suffered as a result. The collapse in the price of oil from $144US down to $40US in the Fall of 2008, the collapse in US demand for cars and light trucks, the collapse in US housing starts (and the need for Canadian softwood lumber), as well as the credit crunch, have all led to a precipitous drop in economic activity in Canada.

In 2008Q4, Canadian GDP contracted by 3.7%, as consumers and firms responded very quickly to changing market conditions. The first quarter of 2009 was even worse as GDP declined by 5.4%, with a marginal improvement in the second quarter as GDP declined by 3.5%. The Bank of Canada, in its July 2009 monetary update, expects a 1.3% recovery in the third quarter increasing to 3.0% for the fourth, as recovery gets seriously under way. It has become increasingly clear that the economy bottomed out in Q2, and that we are now into the recovery stage of the business cycle.

Q. HOW DO ECONOMIC CONDITONS COMPARE TO THOSE IN 2003 WHEN THE OEB LAST REVIEWED ITS ROE FORMULA?

A. In the *BC Electric* decision, the Supreme Court of Canada adopted Mr. Justice Lamont's definition of a fair rate of return as enunciated in the *Northwestern Utilities Limited v. City of Edmonton* ([1929] S.C.R. 186) decision:

> "By a fair return is meant that the company will be allowed as large a return on the capital invested in its enterprise (which will be net to the company) as it would receive if it were investing the same amount in other securities possessing an attractiveness stability and certainty to that of the company's enterprise."

Mr. Justice Lamont's definition embodies what a financial economist would call a risk-adjusted rate of return, or "opportunity cost", that arose as a result of changed conditions in the "money" market. It specifically looks at investment opportunities in other ***securities***. This is because investors can only invest in the securities issued by corporations to earn the ROEs earned by those corporations. Consequently, the bed rock of a fair ROE for a utility is what is happening in the capital market, and the return that investors can expect to earn on alternative securities of equivalent risk.[5] As Mr. Justice Lamont indicates we need to look at changed conditions in the money market to indicate changes in the fair ROE.

The following table gives key macroeconomic data for 2003 and as of now.

	2003	**2009**
Economic growth	1.88%	**-2.4%**
Current Year Inflation	2.87%	**0.5%**
Break-even Inflation Rate	2.26%	**2.24%**
Current T Bill Yield	3.18%	**0.26%**
Current LTC Yield:	5.36%	**4.02%**
Long term Canada Bond Yield forecast	6.00%	**4.50%**
A spreads	1.18%	**1.76%**
Real Canada Yield	3.1%	1**.84%**
Market Risk Premium	4.50%	**5.00%**
Beta estimates	0.45-0.55	**0.45-0.55**
Benchmark risk premium	275 bp	**300 bp**
ROE Adjustment coefficient	0.75	**0.75**

Comparing the two time periods we can see that the stage in the business cycle is different. In 2003, we were pulling out of a mild slowdown after the bursting of the Internet Bubble induced stock market crash. In contrast, we have just bottomed in terms of the real economy and are at the very early stages of recovery. So, we are earlier in the business cycle. This is reflected in lower inflation and short term interest rates, as the Bank of Canada pursues a more aggressive monetary policy. However, the break-even inflation rate is the same as both real and nominal LTC bond yields have fallen by about 120 bps. The most notable change is that even though the

[5] This does not mean a promised yield on a risky bond, since these can reach ridiculously high values. GM bonds were trading at almost 100% yields in January 2009, since people (correctly) expected GM to go bankrupt and not pay up on the bonds. That is why yields on default risky bonds are called *promised* yields: to emphasis that they are only as good as the promise.

BEIR is essentially the same, my forecast LTC nominal bond yield is lower by 150 bps at 4.50% versus 6.0% in 2003.

Partly in response to the declining inflationary environment, with the reduction in risk attached to investing in LTC bonds, I had been gradually increasing my market risk premium estimate and, by 2003, was using an estimate of 4.50%. In my judgment the market risk premium does increase to some extent to offset changes in inflation and nominal LTC bond yields. Since 2003 my estimate of the market risk premium has increased to 5.0%, despite the drop in the realised risk premium in the most recent data. Further, I continue to recommend that boards maintain their 0.75 ROE adjustment formula to long Canada bond yield changes.

In 2003, I recommended a fair ROE of 8.5%, which was the result of a 6.0% LTC yield forecast, and a 2.50% all in utility risk premium. In contrast, I am currently recommending a fair ROE of 7.75%. This is the result of a 4.50% forecast LTC yield, a 5.0% market risk premium, and beta of 0.50, which taken together means a fair return of 7.0%. To this I add 0.50% for a flotation cost allowance and 0.25% as a "margin of error" for reasons I will discuss later.

As I reflect on what has changed since 2003, it is clear that overall we are significantly earlier in the business cycle than in 2003. However, now that the policy mistakes made in the US have been rectified, we are again back on track and by the middle of 2010, LTC yields will be close to their normal range, given the Bank of Canada's stated policies of keeping inflation in a 1.0-3.0% range. However, LTC yields are still expected to be lower than at the time of the 2003 review by 150 bps, while my recommended ROE would have been 100 bps lower except for the addition of a margin of error. In contrast, the ROE adjustment mechanism would have indicated an ROE lower by 112.5 bps, which I would not regard as materially different from my recommended change.

I would therefore regard the Board's ROE adjustment mechanism as signalling the right change in the allowed ROE, even though I regard the level of the allowed ROE as being generous. Given these comments I will now answer the Board's questions.

III ANSWERS TO BOARD QUESTIONS

1. What method(s)/test(s) might the Board formally consider to determine whether the return on capital meets: (i) the comparable investment standard; (ii) the financial integrity standard; and (iii) the capital attraction standard?

A. The referenced passage from the NEB's TQM decision (RH-1-2008) represents three different requirements that have to be met for a fair return; that is, they are different implications of a fair rate of return. The definition of a fair rate of return was provided by Mr. Justice Lamont:

> "By a fair return is meant that the company will be allowed as large a return on the capital invested in its enterprise (which will be net to the company) as it would receive if it were investing the same amount in other securities possessing an attractiveness stability and certainty to that of the company's enterprise."

The key feature is that a fair return is the opportunity cost that must be met, measured by the return on investments in other *securities* of equivalent risk to the utility, where risk is the modern implication of the terms "attractiveness, stability and certainty" used by Mr. Justice Lamont. As such any financial economist would recognise Mr. Justice Lamont's definition as meaning a risk adjusted rate of return. This also follows from the fact that Mr. Justice Lamont's decision arose out of "changed conditions in the money market," and the fact that capital redeployed can only be invested at the market prices existing in the capital market. This market opportunity cost is then applied to the (net) investment in the utility, where traditionally this has resulted in a nominal fair rate of return, applied to a book valued rate base.[6] Of importance, is that since this is a market opportunity cost, it is also applied to new projects since by definition their "cost" is the market value of the funds invested, since at that instance market value equals book value.

With this definition there are two main implications:

1) An approach that uses the accounting rate of return of firms that are regarded as comparable in terms of risk, so called "comparable earnings" (CE) testimony, is not acceptable. This Board used to accept such testimony provided a market to book adjustment was used to convert it to a market opportunity cost. Without such an adjustment CE testimony can violate the fair return standard.

[6] An equally fair approach would be a real rate of return applied to an inflation adjusted rate base, similar to the way that the real return bond operates.

2) Financial theory indicates that there are two main ways of estimating the opportunity cost or cost, of equity capital. The first is a pro-active way of using a risk based model. The second is attempting to mimic the behaviour of investors by using market prices and cash flows to extract an estimate of the implicit discount rate they are using, similar to the approach used for bonds. This is the Discounted Cash Flow (DCF) approach.

In its 2003 review this Board (paragraph 332) stated

> With respect to the DCF test, we note the sensitivity of the results to assumptions, including growth estimates. We note that as a result of different assumptions, Ms. McShane's ROE result from the DCF test is over 200 basis points higher than the results obtained by Dr. Booth and Dr. Cannon. Further, in the context of the specific applications before us, we remain uncomfortable with the results of the DCF test given that the shares of the Applicants are no longer traded on the open market. [132]
>
> As a result of the above, we reiterate the Board's conclusions reached when it developed the existing ROE Guidelines that the results from the CE and DCF tests should be given little or no weight for purposes of these applications. [133]

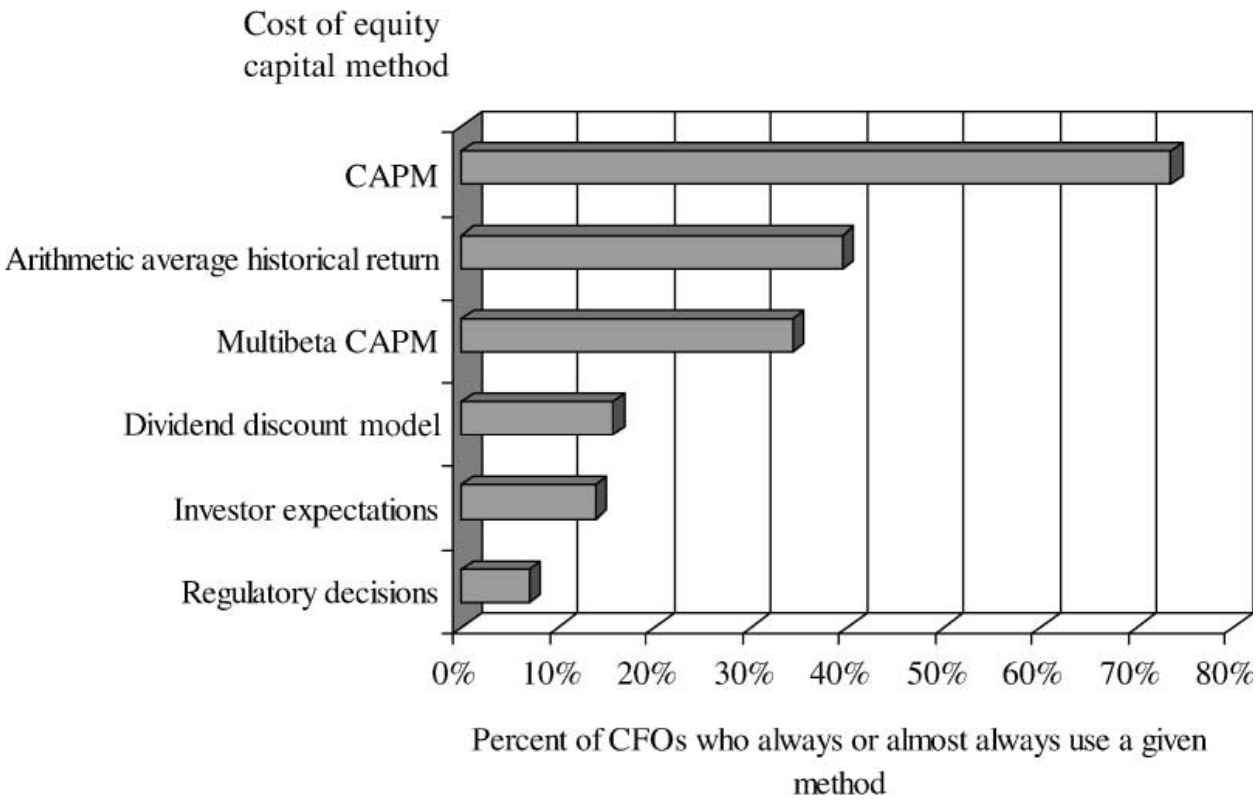
These comments by the Board continue to be true. Neither EGDI nor Union, let alone any of the Ontario electric transmission and distribution utilities, have market prices that allow a direct estimate of their DCF cost of capital. Further, growth estimates for the Canadian utility holding companies (UHCs) are difficult to get, since most Canadian analysts do not seem to be included in the analyst forecast data available from US sources. This has forced most DCF users to base their recommendations on utilities operating in foreign countries, where the basic institutional and economic environment is different.

In my judgment, this leaves the only conceptually sound way of estimating the market opportunity cost as the use of a risk based model, which is the basis of the Board's ROE adjustment mechanism. In 2003, the Board stated

> We do not accept the suggestions by certain parties to use the approach of averaging the recommendations or to embark on tests that do not have theoretical foundation. Therefore for the purposes of this proceeding we will rely primarily on the results of the ERP test. Other than Mr. Case, all expert witnesses used this test.

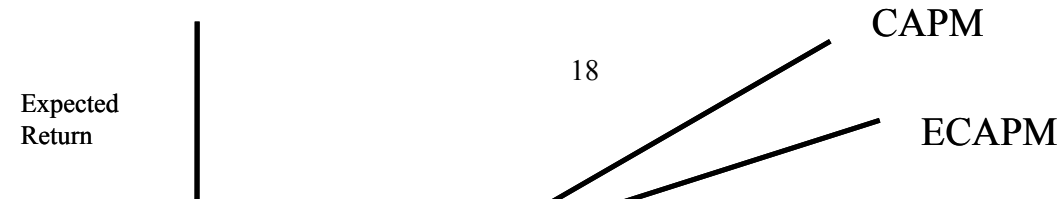
I agree with this decision, with the caveat that looking at ROEs of Corporate Canada and DCF estimates of firms operating in Canada, or the market as a whole, can serve as a useful

"reasonableness" check. This approach is supported by a survey of 392 US Chief Financial officers by Graham and Harvey in the Journal of Financial Economics 2001:



Overwhelmingly, the most popular risk based approach to estimating the opportunity cost is the Capital Asset Pricing Model or CAPM, which was mentioned by 70% of US CFOs, with a further 30% that use a multi-beta approach similar to a two factor model that I also use.

Although the CAPM is the premier model for estimating required or fair rates of return, early tests showed that it tended to over estimate returns for high-risk ($\beta>1$) and under-estimate returns for low risk ($\beta<1$) stocks. This is illustrated in the following graph.



For this reason some experts use an empirical CAPM, or ECAPM, where the risk free rate is increased, and the market risk premium should be flattened as in the above graph. However the ECAPM is based on tests that use the 30 day return on the 90 day Treasury bill yield as the risk free rate, which is only appropriate for very short horizon (30 days) investments. In regulatory hearings, it is customary to use the CAPM with the long Canada bond. To the extent that long Canada bonds earn a maturity premium of at least 1.0% over the average Treasury bill yield, this classic CAPM automatically increases the risk free rate, and lowers the slope of the CAPM in the same way as the ECAPM. In this way, it adjusts for the bias noted in these early tests of the CAPM.

The second problem is that these tests used actual betas, and were simply mechanical: whatever was the beta over the previous five year period was used in the test as a forecast beta. As we will see, this is not how betas have ever been used in a regulatory context, where more judgment-based, or adjusted betas are used. Note that using a long Canada bond yield and judgment adjusted betas automatically corrects for the two basic problems in using the CAPM, and removes the need to use some form of ECAPM

In its 2008 TQM decision (RH-2-2008) the National Energy Board stated;

> "The Board is of the view that CAPM is widely accepted as a cost of equity model. This model has been relied upon by the Board in previous proceedings and was not contested

in this proceeding as a method to estimate the cost of equity. In the Board's view, CAPM captures the risk equity holders have to bear when holding a common stock.

The Board notes Dr. Vilbert's position that ECAPM results deserve the most weight because this method adjusts for the empirical shortcomings of CAPM. In the Board's view, the fact that the long-term risk-free rate is used in CAPM already corrects for the empirical findings of this model, albeit possibly not perfectly. In order to rely on ECAPM to correct for this potential imperfection, the Board would need to be persuaded that the residual empirical shortcomings of CAPM, after using the long-term risk free rate, are significant. The Board is of the view that the evidence presented in this proceeding did not enable the Board to make such a finding. As a result, the Board will not rely on ECAPM when using the ATWACC methodology."[7]

I would therefore recommend that the Board base its fair ROE on a risk based opportunity cost model, with overwhelming weight placed on a CAPM estimate. Apart from its academic rigour and practical use, the CAPM also has the advantage that it is explicitly based on a forecast interest rate, and thus implicitly, given the firm's capital structure, takes into account the market based interest coverage ratio (times interest earned ratio). As a result, it is consistent with questions of financial integrity and market access, which I discuss in more detail later. The CAPM estimated fair return satisfies all the requirements of a fair and reasonable ROE, which is presumably why the National Energy Board gave it such prominence in its TQM decision (RH-1-2008)

2. Is the current deemed capital structure appropriate? If not, what alternative(s) might the Board consider?

A. It is well accepted that financial risk (common equity ratios) should follow business risk. This also seemed to be the position of the Province of Ontario in the NEB's TQM hearing, where the Province recommended an increase in TQM's equity ratio to 36% to reflect its business risk, and the continuation of the NEB's ROE formula. In my judgment, the best place to discuss business risk is the rate hearing for the subject utility, where utility specific information is available and the issue can be discussed by the relevant experts, which are not always capital market experts.

[7] Note ATWACC is the weighted average after tax cost of capital where the equity and debt costs are weighted using their respective market values and the dent cost is after the income tax shield.

3. Should the approach to setting cost of capital parameter values differ depending on whether a distributor finances its business through the capital markets or through government lending such as Infrastructure Ontario or through bank lending? If so, what would be the implications, if any, of doing so?

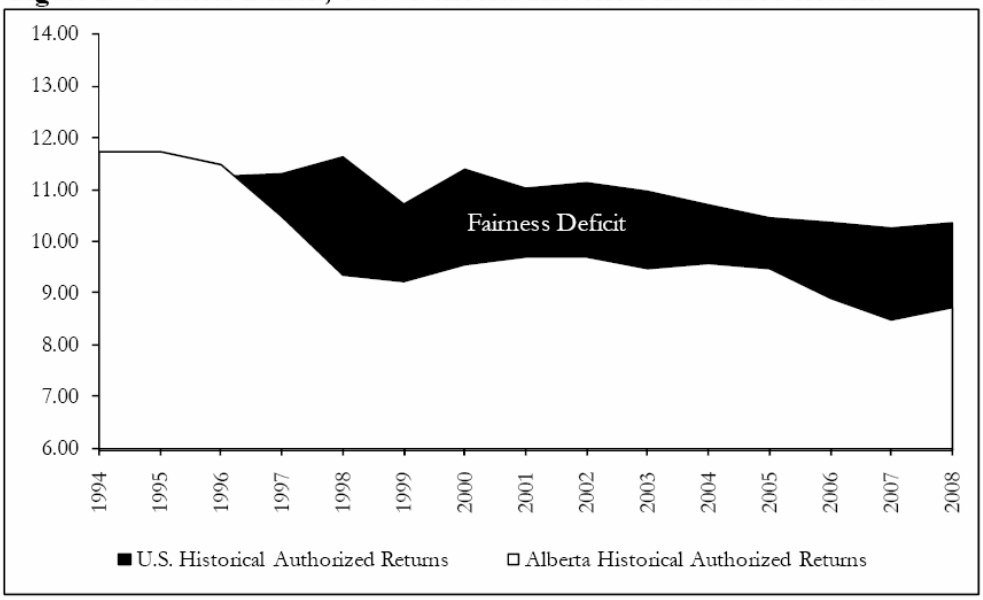
A. No. Regulation is supposed to substitute for competition. In this case, the overall cost of capital for a large utility accessing the capital market is the appropriate deemed cost of capital for even a small utility. If a smaller utility can only access higher costing bank loans, then it has a higher cost of capital, and would normally be taken over by a larger utility. In this way the ratepayers would not pay the higher cost of capital. Passing on the costs of a sub-optimal cost of capital is not efficient in the overall allocation of resources. Should there be social reasons for subsidising small rural utilities through Infrastructure Ontario, or other government programmes then they should be allowed to use these lower costs to determine rates.

However, I do not judge it to be good policy to allow publicly owned utilities to finance using current short term interest rates, while charging in rates the higher deemed cost of long term debt. When short term interest rates increase as the economy recovers, these utilities may come before the Board for "rate relief", since they may be unable to make up the deficiency between the deemed long term rate allowed by the Board, and their higher short term costs. This is the sort of interest rate mis-match that has traditionally caused problems for financial institutions and other speculators, and should not be encouraged for publicly owned utilities. Utilities following such a strategy should be required to put the difference between the long term rate and their short term costs in a deferral account, with the balance amortised over a reasonably long, perhaps five year, time period.

4. Does the analysis in the Concentric Report provide a reasonable foundation for satisfying the comparable investment standard?

A. No. In the Alberta generic hearing this summer, Mr Coyne of Concentric Energy presented evidence on behalf of the ATCO utilities, and took the view that there was a "fairness gap" that has existed for a long period of time between the allowed ROEs for Alberta utilities and those in the US. On page 4 of Mr Coyne's testimony he provided the following figure.

Figure 1: Fairness Deficit, U.S. vs. Alberta Historical Authorized Returns



Of note is that Mr. Coyne treats Canada (Alberta) as the same as the US: there are no adjustments for the fact that Canada is a separate country. Further, the Alberta Energy and Utilities Board (AEUB) did not introduce an ROE adjustment mechanism until its generic hearing in 2003. A quick glance at Mr. Coyne's figure indicates that the gap was larger, or at least as large, prior to 2003 as it is after 2003, so that implementing an ROE adjustment mechanism tied to the LTC forecast yield has nothing to do with the gap in allowed ROEs between Canadian (or at least Alberta) and US utilities.

It is also important to note that the Concentric approach violates a basic principle of international finance, in taking a cost of capital from one country and applying it to another without adjustment. The very first topic taught in most international finance courses is interest rate parity, which indicates that exchange rate adjustments offset interest rate differentials. A quick look at the newspaper reveals that the Prime borrowing rate in Canada is 2.25%, whereas US Prime is 3.25%, while long term bond yields in the US are about 0.50% higher than they are in Canada. Changes in the foreign exchange rate operate to arbitrage these differences even in the parts of the capital market that are highly integrated. Without even considering differential tax treatment, monetary policy differences and regulatory differences it is clear that the US and Canada have significant differences. Further over the last year these differences have become very apparent.

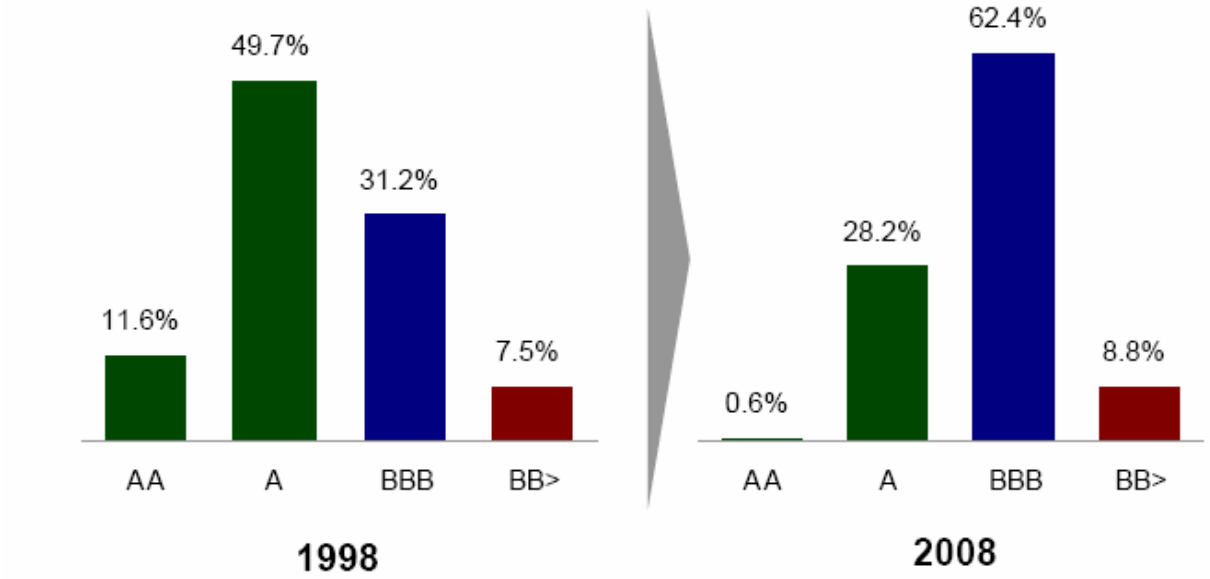
The Concentric report basically says that Canadian and US utilities have the same operating and business risk, and therefore they should get the same allowed ROEs. I doubt this since there is little substantive discussion of the impact of regulation which is the single biggest factor in the risk of a utility. The use of deferral accounts and frequent rate reviews characterises regulatory treatment in Canada, but not in the US. Further in June 2007 (the date on the report) I am sure that US witnesses would have said that US and Canadian banks were also of equivalent risk, since they have the same operating and business risk characteristics and they both operate under the same Basel 1 & 2 regulations. However, looking back from September 2009, after the failure of Washington Mutual, Wachovia, Bear Stearns, Lehman Brothers, AIG, National City and the near death experiences of CitiBank, AIG, and a host of others, it is obvious that what matters is how regulations are implemented, not whether or not they exist. As our Prime Minister stated

> "Unregulated financial markets do not work. Canada has known that for a long time. I thought frankly, we all knew that from events of many decades ago – but obviously the United States went on a different path."

What is striking is that the Prime Minister referred to US markets as "unregulated", when in fact they operate technically under the same rules as we do: the difference is US light handed regulation.

Finally, we know that US utilities have both higher ROEs and more common equity. If their business risk were the same, they should have higher bond ratings, however, they don't. In a presentation to NARUC this winter Merrill Lynch (February 17, 2009) produced the following slide:

POWER & UTILITIES INDUSTRY: RELATIVE CREDIT PROFILE 1998 - 2008



This indicates two things: a dramatic weakening in the credit standards of US utilities, and the fact that, with a modal rating of BBB the typical US UHC had a higher ROE, more common equity, and worse bond ratings that the typical Canadian UHC. The obvious implication is that US, UHCs are riskier.

Finally it is also worth mentioning that the Province of Ontario rejected the core assumption of the Concentric Report that Canadian and US utilities are comparable in terms of risk in the NEB's TQM hearing, where in the Decision (RH-1-2008, page 57) it states

> In the opinion of Ontario, U.S. pipelines are not appropriate comparators for Canadian pipelines because of significant regulatory differences, and because U.S. pipelines face higher financial liability risks.

5. If not, what might the Board use as a comparator group?

A. My most important recommendation to the Board is that a fair ROE stems from the Canadian capital market. Opportunity costs and the fair rate of return reflect what I call the three iron laws of finance:

* The ***time*** value of money
* The ***risk*** value of money
* The ***tax*** value of money

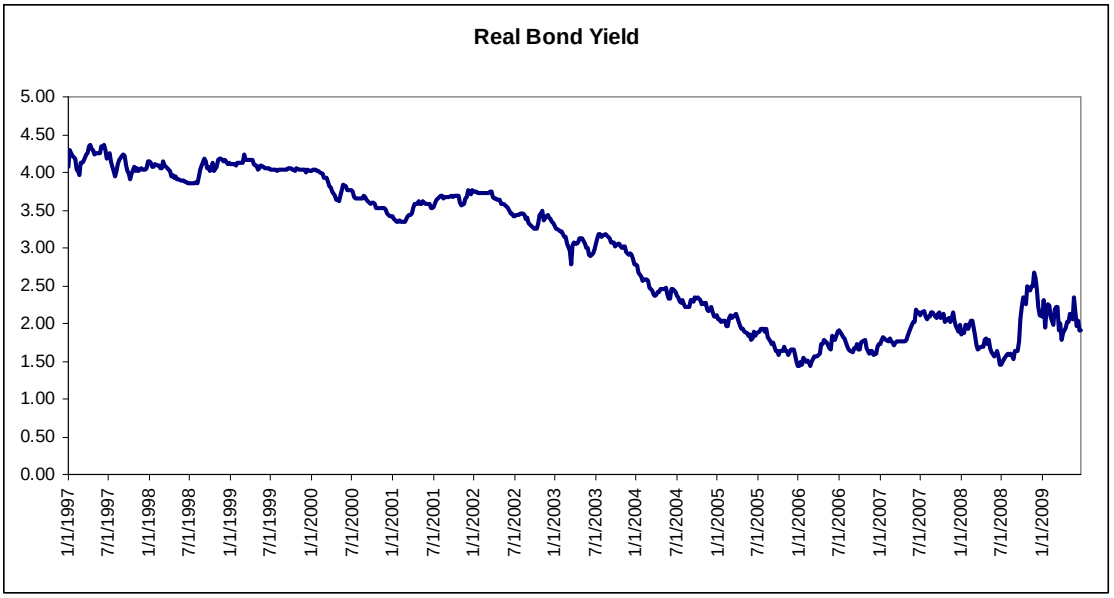
There is no reason to believe that looking anywhere other than the Canadian capital market provides insight into these three iron laws. In my judgment, it is better to look at Canadian capital markets and Canadian UHCs and make adjustments, than look elsewhere, where we know from the three iron laws it is not easy to make comparisons.

6. Were the Board to only consider the use of Canadian utilities as a comparator group, is there an issue with circularity, given that the ROEs of these utilities are, and have been established by a mechanism similar to that currently used by the Board?

A. No. What we observe is how the share prices of Canadian utilities react to information in the Canadian capital market. This is what betas estimate, or what the dividend yield in the DCF model estimates. Clearly, this reflects the impact of the various ROE adjustment formulae, as well as the impact of all the other regulatory differences between the US and Canada, such as frequent rate reviews, and the widespread use of deferral accounts in Canada. In contrast, the same data for US utilities reflects the environment in which they operate. To ignore the impact of the ROE adjustment mechanism on Canadian utilities is to ignore a salient feature of their financial environment that serves to lower their risk.

7. Should the ERP approach be reset given that when the formula was first established the reference bond rate was 8.75%?

A. Not without a full hearing, where evidence can be tested in a formal way. Further with a decline in the referenced or forecast bond rate from 8.75% to say 4.75% (for arithmetic ease), the allowed ROE drops by 3% and the utility risk premium increases by 1.0%. If the typical utility has a beta of 0.50, this means the market risk premium has increased by 2.0%. Since 1997 the yield on the real bond has changed as indicated in the following graph



The yield on the real return bond was about 4.00% in 1997, and it is currently about 2.0% for a decrease of about 2.00%. If all this decrease were due to bond market factors unrelated to the equity market, the market risk premium would have increased by 2.00%. This is a general indication that the ROE adjustment mechanism has broadly got the change in the fair ROE right.

8. Should the ERP approach be reset on a regular basis (e.g., every 4 or 5 years) to mitigate the issues described in the 1997 Compendium?

A. No. As long as the Bank of Canada has a 1.0-3.0% operating range for inflation, the LTC bond yield should not vary significantly from an average of 4.0-5.0%. It will deviate temporarily as we go through the business cycle, but over the full business cycle I would expect it to broadly stay within this range. In contrast, in 1997, the capital market was still unsure whether the Bank and the Government would meet their commitment to keep inflation within a 1.0-3.0% range. After 12 years of observing this commitment, my perception is that the Bank now has credibility, so I do not anticipate a significant change in the basic driver of the market's opportunity cost, which is the LTC bond yield.

9. How might the Board address the potential issues arising from the application of the current methodology as a single, point-in-time calculation?

A. I do not believe there is such a problem. There would be a problem if the Board used a spot interest rate for the forecast test year, but the use of a forecast smooths out these temporary problems, as forecasts rely heavily on reversion toward the mean.

10. How should the Board establish the initial ROE for the purposes of resetting the methodology?

A. This, in my view, is not relevant, as the Board's ROE mechanism is giving fair and reasonable ROEs and does not need to be re-set. If it is re-set, the re-set should be downward as the Board has allowed ROEs to continue to be generous, as is clear from the continued high market prices involved in the sale of regulated assets.

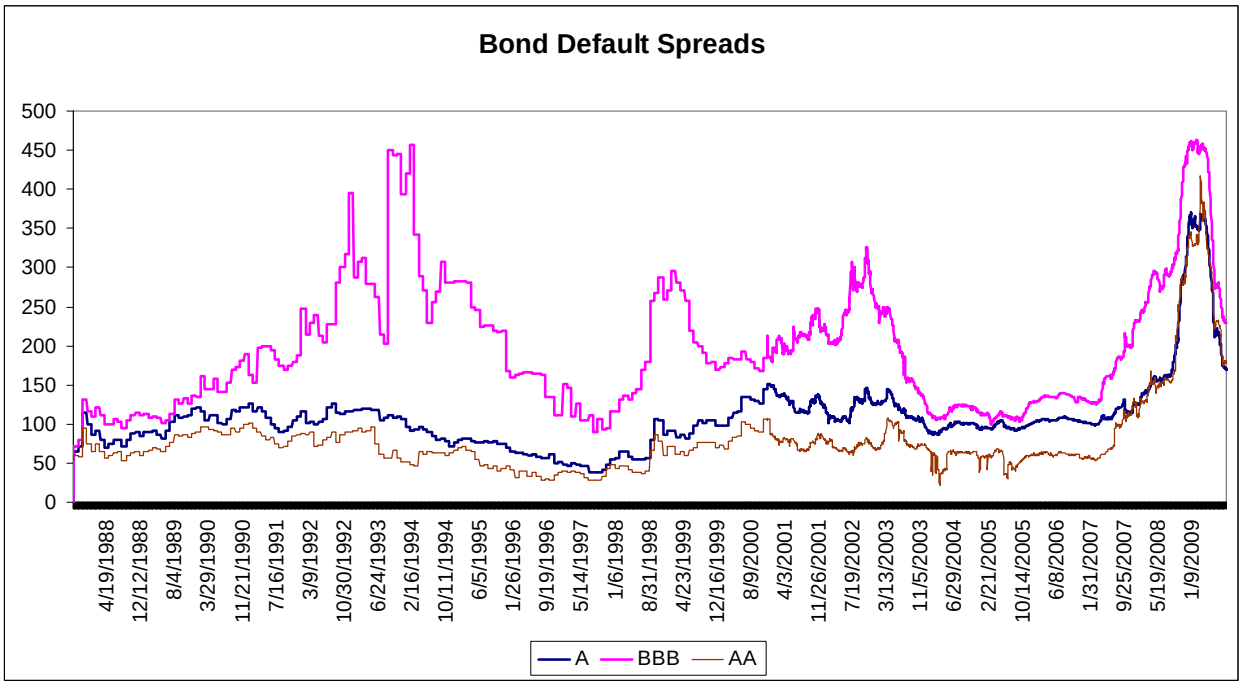
At Appendix A, is a newspaper article indicating that while we are barely out of recession AltaGas income trust is paying a 45% premium for the assets of AltaGas Utility Group. These assets are described as "energy infrastructure that provides long-term, stable cash flow and solid returns." This is a good description of utility assets: they should be regarded as generating stable cash flows and solid returns. They are not risky assets commanding high required rates of return.

11. Is the government (of Canada) bond yield the appropriate base upon which to begin the return on equity calculation?

A. Yes. The LTC bond yield is the only objective measure of a long run opportunity cost, or expected rate of return, that exists in the capital market. Further, while there is no question that the supply of LTC bonds has decreased as the government debt has been retired, there is no indication that this has affected LTC bond yields over the last year or so, since the supply impact has been minimal. Moreover, the Bank of Canada has consistently taken steps to maintain the liquidity (supply) of the benchmark bonds since they play such an important role in the capital market. The Bank does this by buying "off the run" bonds and having the Government issue more "on the run" or benchmark bonds. In this way liquidity in the benchmark bonds is preserved.

12. What is the relationship between corporate bond yields and the corporate cost of equity? Is this relationship sustainable?

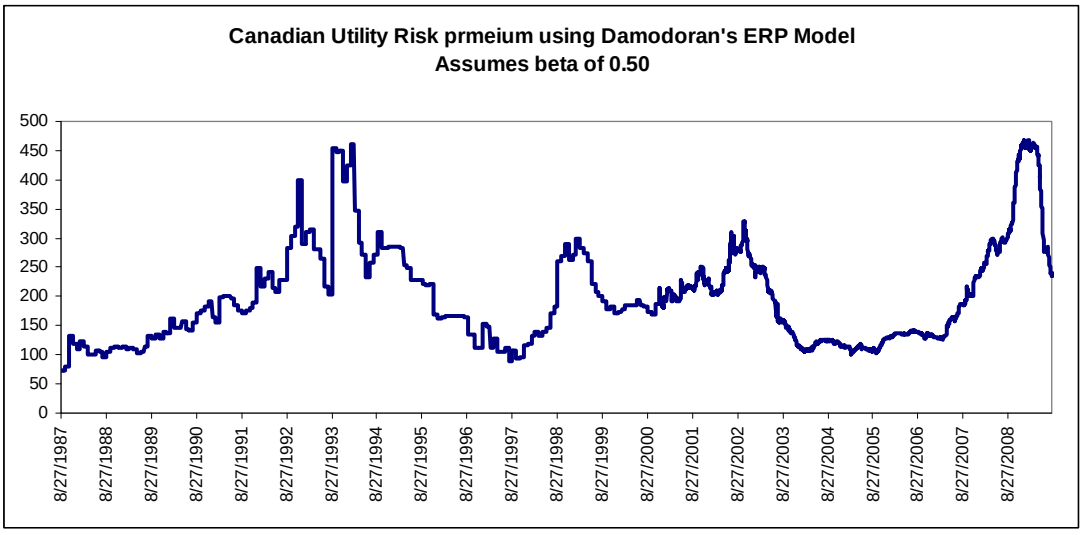
A. There is no clear and obvious relationship. Statements to the effect that "equity is riskier than debt, so increases in the cost of debt mean increases in the cost of equity" are incorrect. I can understand why these statements are made, since over the last year we have seen a significant increase in the spreads of investment grade bonds over equivalent maturity LTC bond yields. The following graph shows just how high these spreads reached.



What is important to note is that these spreads are highly volatile. It is as regular as clockwork that, as the economy goes into recession, spreads on corporate bonds widen and then as the economy recovers, these same spreads narrow. This pattern is clear during the recession/slowdowns in the early 1990s, the Internet Bubble recession and over the last year. It is also evident during the Asian crisis in 1998. Changing credit spreads are thus a typical part of the business cycle. What has been unusual about the last year is the way that "A" and "AA" spreads have also increased, similar to the way that "BBB" spreads normally increase. I would put this down to the huge illiquidity in the bond market, as simultaneously around the world banks were unwilling to put their capital at risk in making a market in corporate bonds. This is because they

were all desperately trying to "de-risk" their balance sheets to survive after the failure of Lehman Brothers. It does not seem to be an accident that the spreads increased after the failure of Lehman and started to come back to normal levels after it was clear that the US would not allow its major banks to fail. This also explains why "AA" and "A" spreads increased almost on a par with "BBB" spreads: essentially banks were selling everything in order to generate capital.

The fact is that liquidity is a major driving force behind the yields on low risk securities. Normally, liquidity differences cause about 30% of the spread difference, but during the recent crisis I would estimate it to have been the bulk of the difference since the effects was so great on "A" and "AA" bonds that they were essentially trading as "BBB" rated bonds. Regardless these spreads are now getting back to the levels we would expect at this stage of the business cycle with a severe recession. However, this is not to say that spreads have no information about required risk premium Professor Damodoran of New York University estimates[8] that the market risk premium is associated with 2.02 times the "BBB" spread. That is, if the "BBB" Spread reaches 4.5% as it did at the peak of the panic then the market risk premium is about 9.0%. Assuming a beta of 0.50 and that this holds in Canada then the following graph illustrates how the utility risk premium changes during the business cycle.



[8] Equity risk premium, New York University working paper, October 2008.

During recession in the early 1990s, the Asian crisis in 1998, the slowdown in 2000 and most recently, the utility risk premium would be at 300-450 basis points. Conversely, in the booms, the spreads decrease, as in the late 1990s and from 2004-2007. In this case the utility risk premium drops to barely 100 bps. Over the full business cycle the utility risk premium would be about 200-250 bps, close to the utility risk premium that I normally use.

Basing the fair ROE on credit spreads thus brings in all the volatility of the corporate bond market for no apparent gain. Further, the equity market has not suffered the liquidity problems suffered in the bond market. This is because the equity market thrives on disagreement and uncertainty, so volume and liquidity increases. This is borne out by the following market statistics reported by the TSX. In their monthly E-review for December 2008 the TSX reported that trading volume reached an all time record of 109 billion shares traded for a market value of $1.8 trillion resulting from 1.8 billion trades.

	Volume(Millions)				Value ($ Millions)				Trades (1000s
	Total	Industrial	Mines	Oil	Total	Industrial	Mines	Oil	Total
1992	7326	4741	1481	1104	76161	64737	7022	4402	3504
1993	14882	8606	3536	2740	147055	108448	21915	16692	5985
1994	15460	9808	3520	2131	182202	136464	26970	18768	5533
1995	15758	9911	3523	2324	207665	159888	30726	17052	6068
1996	22341	11614	7329	3398	301299	208355	65364	27581	9186
1997	25670	15227	6332	4111	423170	337412	43537	42221	11143
1998	26765	17907	5082	3776	493212	424424	37290	31498	12463
1999	29280	18850	6382	4048	529004	463599	31777	33628	17268
2000	40752	29248	6693	4811	944254	865792	26581	51881	32775
2001	37190	27646	4065	5480	712515	598379	28580	85556	26155
2002	46351	33119	9800	3433	637709	529671	62387	45651	26541
2003	55563	35125	15001	5437	648654	511292	71110	66252	30894
2004	61278	37218	16852	7208	833907	626848	90620	116439	40267
2005	64167	34396	18236	11535	1075214	733941	112490	228782	55158
2006	82050	35679	32906	13466	1416069	758352	315529	342187	85652
2007	96109	40627	40889	14593	1697185	963021	408527	325637	118578
2008	109240	48673	40238	20328	1853162	1001703	446982	404478	182902

It is quite obvious that unlike the fixed income market, where there have been and always are serious liquidity problems during a recession and consequent flights to quality, no such liquidity problems are apparent in the equity market. As a result, rewarding equity holders with a higher ROE as a result of temporary liquidity problems in the bond market does not have any economic justification.

The Board has recognised these problems in the past. Mr. Thomson's letter to the Board of April 16, 2009 on behalf of the CME states

In the following year, in Reasons for Decision in E.B.R.O. 381 dated January 27, 1982, the Board determined Costs of Capital for EGD's predecessor for the test period ending September 30, 1982, were as follows:

(i)	Short Term Debt	18.25%
(ii)	Long Term Debt	18.5%
(iii)	ROE	16.25%

The negative spread between the then prevailing Long Term Debt Rate of 18.5% and the Board determined ROE of 16.25% was negative 225 basis points.[6]

At that time financial markets were as the Board described, "unusual" and some of the utilities were shut out of the long term bond market. However, the Board felt it was fair and reasonable to see though the "unusual" capital market conditions, and award a fair and reasonable ROE that was much less than the company's long term bond yield. In some ways conditions last year were similar to the time of EBRO 381, but we have come through them and capital market conditions are now returning to normal. However, it reinforces the cyclicality of corporate debt spreads and that the Board has successfully dealt with these issues in the past.

13. Does the current approach used by the Board to calculate the ERP remain appropriate? If not, how should the ERP be calculated?

A. Yes for all the reasons stated above.

14. Should the Board adopt a dead band? If so, what should the range of the dead band be?

A. No. The review is caused by changes in the state of financial markets and a possible recalibration, there is nothing in that to suggest the introduction of a deadband. Rates should be keyed directly off the allowed ROE.

15. Should the Board adopt trigger mechanism(s). If so, how often should the Board review the methodology?

No. The utilities can request a hearing if there have been significant changes in the capital market or in their operations. In particular, I would expect any utility to request such a review if they were unable to attract capital on fair and reasonable terms, since it is in no-one's interest to see required services not being delivered. Of importance is that, in the Ontario Power Generation Decision (EB-2007-0905), the witness on behalf of OPG, Ms. McShane, recommended that the ROE mechanism be reviewed if forecast long Canada bond yields fell outside of a 3.0%-8.0% range. Neither of these conditions have been satisfied, so that de-facto this review is being triggered not by any arbitrary reference values for key economic data, but by a legitimate concern as to the impact of the state of the capital market. This is what should happen.

16. What is the appropriate test(s) to ensure the FRS is met (e.g. corroborating results for reasonableness relative to other benchmarks or through other methods)?

A. The "proof of the pudding is in the eating." If normal utility assets are being sold at less than book value, or the market value of a utility drops below its book value, then that is a clear sign that the capital attraction test is not being met. Similarly, if a major utility's bond rating is cut to bare investment grade, due to factors related to the regulated utility's operations, then that too is also a clear test. Neither of these tests have been met at the current point in time. I have already mentioned the AltaGas sale, but there have been lots of financings by Canadian UHCs even during the depths of the recent crisis, while they have also increased their dividend payments as the following newspaper reports indicate.

On November 20, 2008 right in the middle of the stock market crash as all the major indexes touched their lows and Citibank stock price collapsed to under $3. The Canadian press gave out the following information:

> Enbridge Inc. (TSX: ENB.TO), a major pipeline and energy services company, has managed to raise $500 million by issuing corporate debt in a tough credit environment, which the chief executive says will be used to finance a raft of growth projects. The Calgary-based company said Thursday its wholly owned subsidiary Enbridge Pipelines Inc. has completed an issue of $300 million worth of 10-year bonds. The bonds carry an annual interest rate of 6.62 per cent and were sold to 30 institutional investors.
>
> This follows a $200-million five-year term debt issue by Enbridge Gas Distribution, the company's Ontario-based utility, completed last week. Enbridge said that debt carried an annual interest rate of 5.57 per cent and was sold to 32 institutional investors.

Enbridge did the right thing because as credit markets tighten not only do spreads increase but investors are loath to lend for long periods of time. In response, Enbridge shortened the maturity of their debt and issued ten year notes.

Not just debt issues have been placed. A few days after Enbridge's debt issue and just after Citigroup was bailed out by the US government, and the market rout at least stabilised for a time TransCanada announced the following:

TransCanada Closes $1.0 Billion Common Share Offering and New US$950 Million Committed Credit Facility

Tuesday November 25, 9:01 am ET

CALGARY, ALBERTA--(MARKET WIRE)--Nov 25, 2008 -- TransCanada Corporation (Toronto:TRP.TO - News)(NYSE:TRP - News) (TransCanada) today announced that it has completed its public offering of Common Shares. The offering was announced on November 17, 2008 when TransCanada entered into an agreement with a syndicate of underwriters, led by RBC Capital Markets, BMO Capital Markets and TD Securities Inc. under which they agreed to purchase from TransCanada and sell to the public 30,500,000 common shares.

Setting up almost $2 billion in new financing right bang smack in the middle of the worst stock market panic and crash in 71 years indicates just how stable Canadian utilities are. A few days later, on December 5, 2008 TransCanada made the following announcement:

CALGARY, ALBERTA--(MARKET WIRE)--Dec 5, 2008 -- TransCanada Corporation (Toronto:TRP.TO - News) (NYSE:TRP - News) (TransCanada) today announced that the syndicate of underwriters led by RBC Capital Markets, BMO Capital Markets and TD Securities Inc. of its recent Common Share offering have exercised their full over-allotment option to purchase an additional 4,575,000 Common Shares at a price of $33.00 per Common Share.

TransCanada Corporation's share issue had been so well received that the underwriters exercised their option to sell even more shares.

It is not just the really big utilities that have accessed the market for new capita.l On December 5, 2008 Fortis, arranged almost $350 million in new financing:

ST. JOHN'S, NEWFOUNDLAND AND LABRADOR--(Marketwire - Dec. 2, 2008) - Fortis Inc. ("Fortis" or the "Corporation") (TSX: FTS.TO) announced today that it has entered into an agreement with a syndicate led by Scotia Capital Inc., CIBC World Markets Inc. and RBC Dominion Securities Inc. pursuant to which they have agreed to purchase from Fortis and sell to the public 11,700,000 Common Shares of the Corporation. The underwriters will also have the option to purchase up to an additional 1,755,000 Common Shares to cover over-allotments, if any, and for market stabilization purposes, during the 30 days following the closing of the offering (the "Over-Allotment Option").

Following this issue, Fortis returned to the market in April when the equity market rally was barely under way. At Appendix B is a Globe and mail newspaper article that describes a further Fortis financing and opens with the statement "The window is wide open for stock sales by high quality Canadian companies, as utility Fortis tapped the market late Tuesday for $300-million."

Finally as many firms are cutting capital expenditure programs, and slashing their dividends to conserve cash because of the credit crunch, utilities are increasing their dividends. Just to broaden the scope of the discussion of utility financing, Emera made the following announcement:

> HALIFAX, Oct. 20 /CNW/ - (EMA-TSX): The Board of Directors of Emera Inc. today approved an increase in the annual common share dividend rate to $1.01 from $0.95 per common share. The first quarterly dividend payment, of $0.2525 per common share, is payable on and after November 17, 2008 to common shareholders of record at the close of business on November 3, 2008.

Not many firms would so confidently increase their dividend one month after Lehman Brothers collapsed and the financial markets froze up.

It is clear that the Canadian utilities are seen to be so strong that they can readily raise financing on current allowed ROEs and financial structures even in the middle of the worst financial crisis for over 70 years. This is a tribute to the protective regulation afforded them by our regulatory bodies.

Further these financings indicate that the reasoning of the Board's decision in 2003

- (Paragraph 127) *We found no evidence of the Applicants being in financial hardship as a result of the authorized ROE. The Applicants confirmed that they continue to be responsible for raising their own debt capital. There was no evidence, for example, that the allowed ROE has resulted in inadequate financial ratios to preclude raising debt capital on reasonable terms. Similarly, there was no evidence before the Board to suggest that credit ratings of the Applicants were deteriorating. The evidence is that the Applicants enjoy favourable credit ratings. In fact, Union's credit rating is more favourable than its parent company.*

is actually stronger this time. Rather than the absence of evidence indicating financial hardship, there is evidence that Canadian utilities currently have excellent market access.

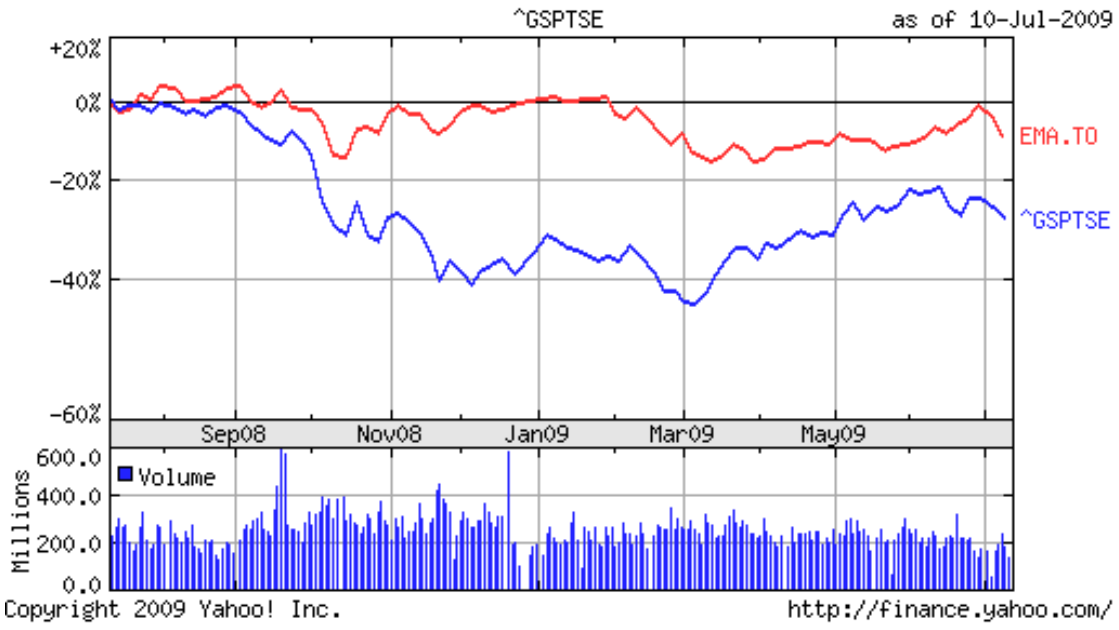
17. What information might the Board need to definitively determine that market conditions are having an effect on the variables used by the Board's cost of capital methodology?

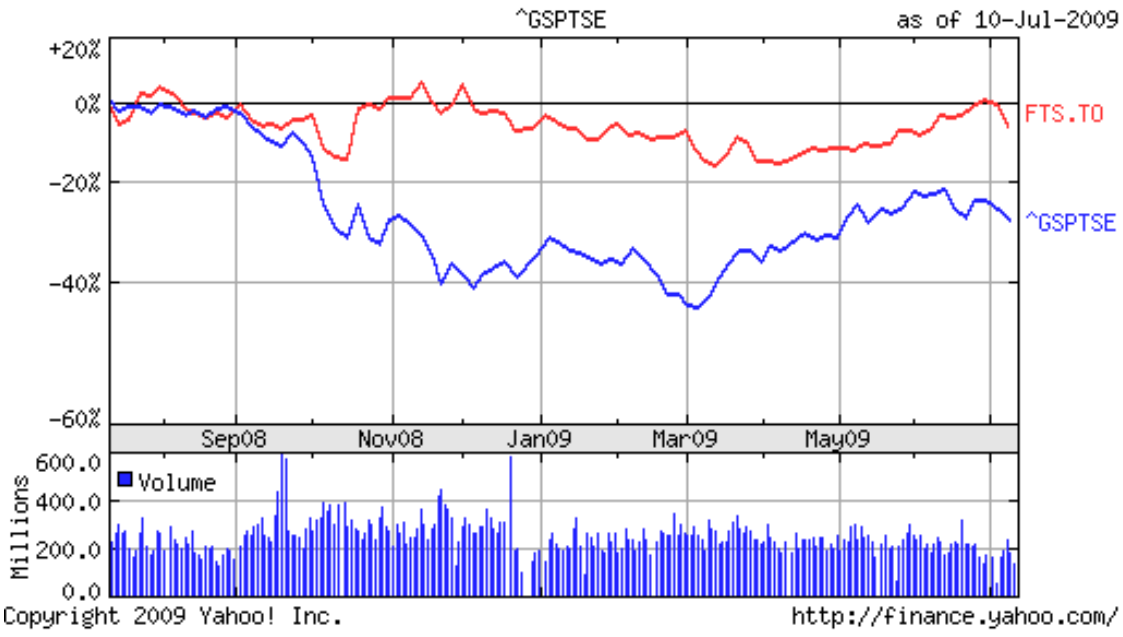
A. The inability of a "ring fenced' utility to raise capital on fair and reasonable terms to provide regulated service.

18. Should the Board consider monitoring indicators like these on an on-going basis to test the reasonableness of the results of its cost of capital methodology?

A. The statement about declining equity values is not quite correct as their prices have behaved in a way we would expect of stocks with low market risk; that is, they have declined but not to the extent of the market as a whole, and certainly not by an amount that means they could not access capital on fair and reasonable terms. So what the Board could do is simply track value lines for the major utilities, which is simply their stock price performance relative to the market as a whole. This, is what the following, taken from Yahoo Finance Canada (http://ca.finance.yahoo.com/) show.

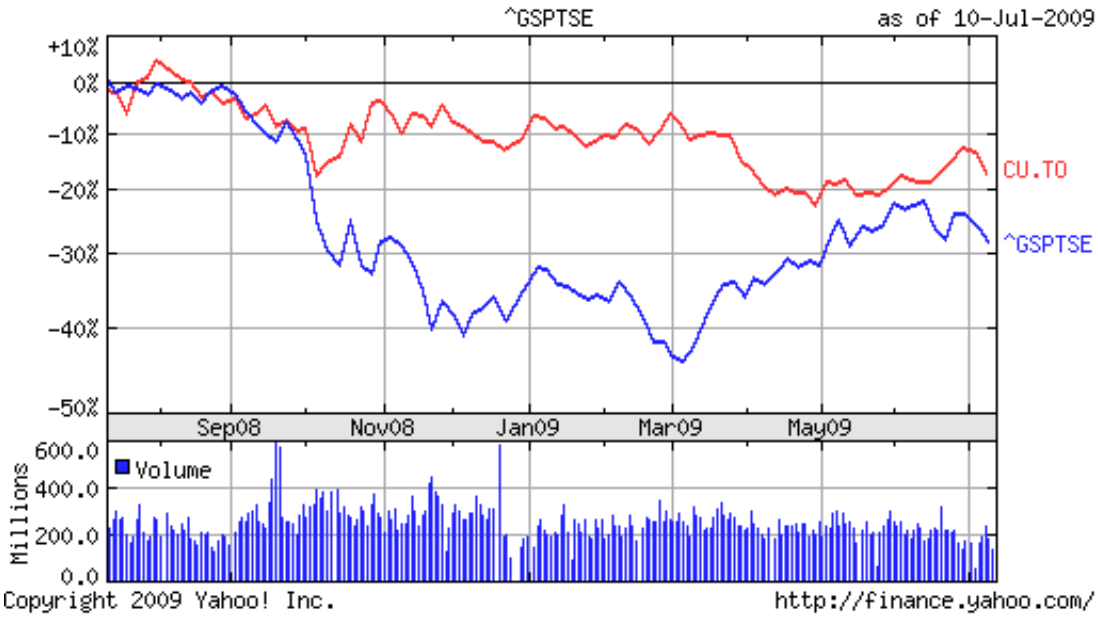
The first two are from Emera and Fortis.

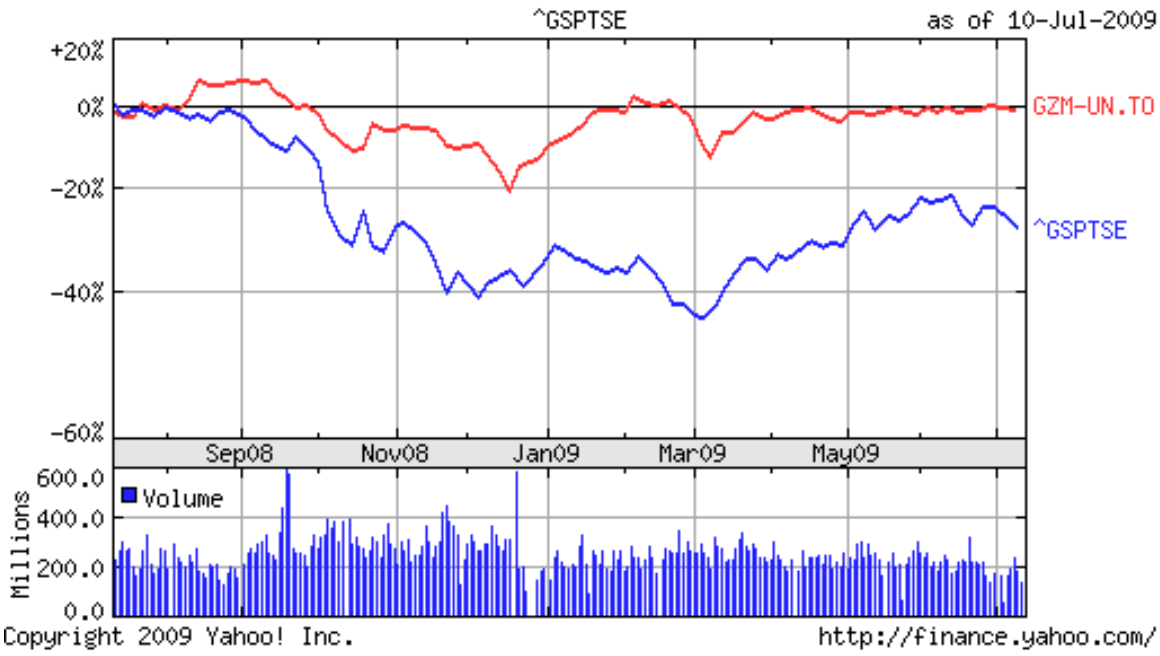




Note that, starting a year ago neither Fortis not Emera suffered the huge drops that affected the TSX and through the start of July both were trading about where they were a year ago compared to the TSX which is about 30% off.

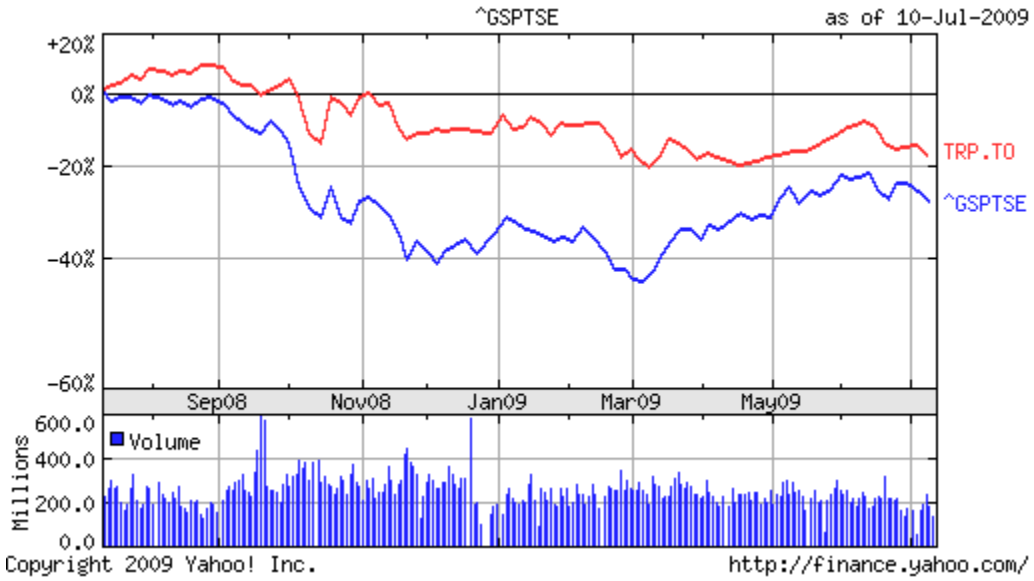
The following charts are for Canadian Utilities and Gaz Metro

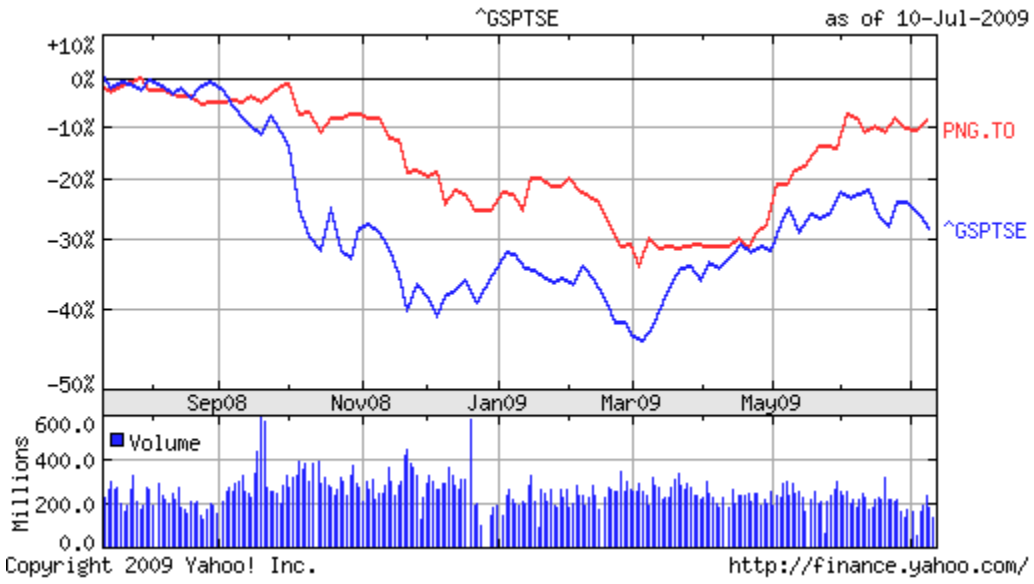




Again, the same general pattern is obvious, particularly for GMLP in that they have not moved with the general market during these turbulent times. In fact GMLP has barely moved at all and seems the least risky of all these four utilities.

The final two charts are for the largest most diversified utility holding company TransCanada and what I regard as the riskiest Canadian utility, Pacific Northern Gas,





Both of these companies are clearly more risky, in that they both followed the market more closely than the other companies. This is particularly true of Pacific Northern Gas. I don't put a great deal of faith in these graphs but what is clear is that these utility holding companies have confirmed their low risk status. Even in a market crisis the likes of which we have not seen for over 70 years, they have remained a beacon of relative stability. This does not mean that they are risk-free; if they were I would not normally use a beta or relative risk assessment of 0.45-0.55. What they illustrate is that Canadian utilities have market risk, but they remain low risk.

19. What other key metrics used by financial market participants to determine whether financial markets conditions are or are not "normal" might the Board consider?

A. There is no "silver bullet," if there were we wouldn't have contested rate hearings. The fact is that market conditions are never "normal": what people often mean by normal are actually very good, low risk, markets. Right now, we are pulling out of a recession and the question is what is normal for this stage in the business cycle. Based on this assessment, what we are observing is normal except that "A" and "AA" spreads are still marginally high.

One final comment is an answer to an unanswered question, which is "have estimates of the market risk premium changed?"

At the height of the financial crisis Professor Fernandez [9] surveyed finance professors around the world to find out what they used for the market risk premium. A key result is his Table 2 reproduced below.

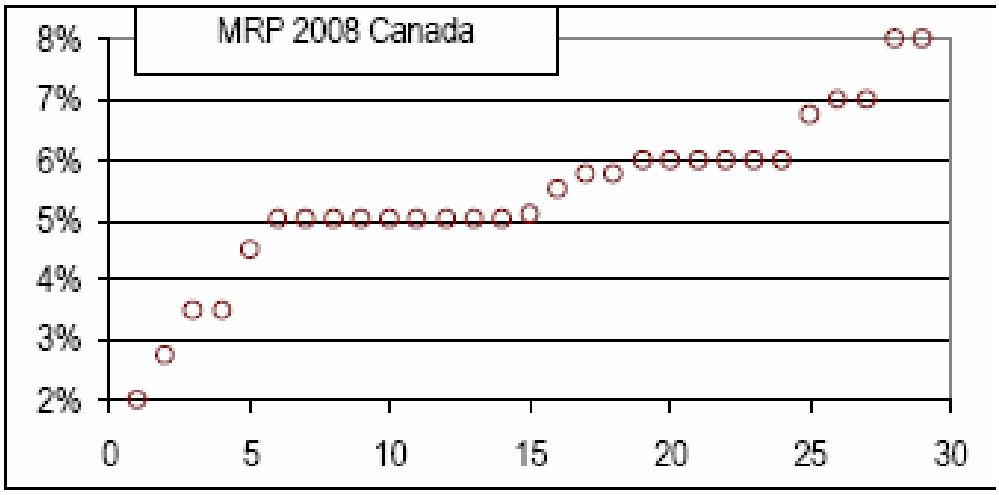
Table 2. Market Risk Premium used in 2008 by 884 finance professors

		USA	Euro	UK	Canada	Australia	Other	Sum
MRP used in 2008	Average	6.3%	5.3%	5.5%	5.4%	5.9%	7.9%	
	St. dev.	2.2%	1.5%	1.9%	1.3%	1.4%	3.9%	
	MAX	19.0%	10.0%	10.0%	8.0%	7.5%	27.0%	
	Q3	7.2%	6.0%	7.0%	6.0%	7.0%	10.0%	
	Median	6.0%	5.0%	5.0%	5.1%	6.0%	7.0%	
	Q1	5.0%	4.1%	4.0%	5.0%	6.0%	5.5%	
	min	0.8%	1.0%	3.0%	2.0%	2.0%	2.0%	
	Number	487	224	54	29	23	67	884

This table confirms results I have previously put before the Board. The US market risk premium has averaged about 1.0% more than in Canada. Interestingly the median or middle guy in the US thinks the market risk premium is 6.0%, in Europe 5.0% and in Canada 5.1%. This is a typical difference between myself and US witnesses brought in by the utilities, where one persistent difference is that they use market risk premium estimates based on their experience in the US, which are not reflective of Canada.

It is also interesting to see the actual distribution of the market risk premium estimates of the 29 Canadian faculty who completed the survey (including me).

[9] Market risk premium used in 2008 by professors: a survey with 1,400 answers," April 2009.



As is clear, most finance faculty in Canada think the market risk premium is either 5.0% or 6.0%. There are a few down at 2% or 3% and even two people up at 8.0%. However what is absolutely clear, is that my 5.0% estimate of the market risk premium is typical of Canadian finance professors, who are the people that study and teach this. In contrast, the typical estimates produced by witnesses on behalf of the utilities are in the extreme tail of the distribution and represent the views of a tiny minority of finance faculty.

This data from Fernandez explains why I have started to introduce a "margin of error" in my own recommendations. I believe the best estimate of the market risk premium is 5.0% but many of my peers also think it is 6.0%, which is essentially the typical US estimate. With a beta of 0.50 this means that the range of fair return estimates could vary by 0.50%. As a result, with the same 4.5% LTC bond yield forecast, I estimate a fair return at 7.0% while many of my colleagues could estimate 7.5%. Splitting the difference and adding 0.50% for issue costs etc produces my current 7.75% fair ROE recommendation. Either way, these estimates are below those produced by the Board's ROE mechanism, indicating that the Board's judgment is at odds with the bulk of the faculty that teach finance in Canadian universities.

SCHEDULE 1

	Unemployment Rate	Real Growth	CPI Inflation	T Bill Yield	Canada Yield	FX Rate US$	Average ROE
1987	8.81	4.25	4.42	8.17	9.93	0.75	11.19
1988	7.77	4.97	3.94	9.42	10.23	0.81	12.69
1989	7.58	2.62	5.06	12.02	9.92	0.84	11.47
1990	8.16	0.19	4.81	12.81	10.81	0.86	7.57
1991	10.32	-2.09	5.61	8.83	9.81	0.87	3.87
1992	11.24	0.88	1.45	6.51	8.77	0.83	1.69
1993	11.42	2.34	1.90	4.93	7.88	0.78	3.81
1994	10.43	4.80	0.12	5.42	8.58	0.73	6.7
1995	9.54	2.81	2.22	6.98	8.35	0.73	9.77
1996	9.73	1.62	1.48	4.31	7.54	0.73	10.35
1997	9.16	4.23	1.69	3.21	6.47	0.72	10.93
1998	8.35	4.10	1.00	4.74	5.45	0.67	8.78
1999	7.58	5.53	1.75	4.70	5.68	0.67	9.88
2000	6.85	5.23	2.69	5.48	5.92	0.67	10.93
2001	7.23	1.78	2.52	3.85	5.79	0.67	7.42
2002	7.66	2.92	2.25	2.57	5.67	0.65	5.67
2003	**7.61**	**1.88**	**2.80**	**2.87**	**5.29**	**0.72**	**9.64**
2004	7.18	3.12	1.85	2.27	5.08	0.77	11.63
2005	6.77	2.85	2.21	2.71	4.41	0.83	12.71
2006	6.32	2.53	2.00	4.02	4.29	0.88	14.18
2007	6.03	2.50	2.14	4.17	4.32	0.94	12.04
2008	6.15	0.41	2.37	2.62	4.06	0.94	10.38
Current	8.60	-1.38	1.28	0.24	4.01	0.89	N/A
Cansim	V13682111	v1992067	v41690973	V122484	V122501	V37426	V634672/V634628

Appendix A:

AltaGas Income Trust makes $200M takeover offer for AltaGas Utility Group

Mon Aug 17, 10:47 AM

The Canadian Press

By The Canadian Press

CALGARY - AltaGas Income Trust (TSX: ALA-UN.TO) said Monday it has made a $200-million takeover offer for all the outstanding common shares of AltaGas Utility Group Inc. (TSX: AUI.TO) not already owned by the income trust and its affiliates.

The income trust said it will pay $9.05 per common share for the 80.2 per cent of Utility Group it doesn't already own.

The offer represents a 45 per cent premium based on the $6.25 closing price of Utility Group's shares on Friday and is valued at approximately $200 million, including assumed debt of $130 million.

The news sent Utility Group's shares soaring $2.68 or 43 per cent to $8.93 in early trading on the Toronto Stock Exchange.

"The Utility Group acquisition is an outstanding strategic fit for AltaGas," stated David Cornhill, chairman and CEO of the income trust.

"Utility Group's steady, measured approach to doing business parallels AltaGas' strategy of investing in energy infrastructure that provides long-term, stable cash flow and solid returns. Adding Utility Group's investments, people and growth opportunities to AltaGas expands, diversifies and strengthens our gas division and overall business."

AltaGas previously held Utility Group's underlying investments as its natural gas distribution segment. They were spun out in 2005 when AltaGas converted to an income trust.

"Given the pending change in Canadian tax legislation regarding the taxable status of trusts, this acquisition aligns with AltaGas' plan to convert to a corporation in the second half of 2010," AltaGas stated.

The boards of directors of both companies have unanimously approved the agreement.

Cornhill said the trust expects the acquisition to be accretive to earnings per unit in the range of four cents to six cents, and to cash flow per unit in the range of 15 cents to 20 cents.

Utility Group president and CEO Patricia Newson said the company has grown at a compound annual rate of approximately 15 per cent over the past four years.

"In the current capital markets, the value of this growth has not been reflected in Utility Group's trading price. We are pleased that the trust has valued this growth, and that this offer for all shares of Utility Group provides our shareholders an opportunity to realize the value increase achieved by our management and staff," Newson stated.

"As part of a larger entity, Utility Group will continue to pursue significant organic growth and business acquisition opportunities."

The offer is subject to conditions including the approval of at least two-thirds of the outstanding common shares of Utility Group, excluding those already held by AltaGas and its affiliates.

AltaGas Income Trust is an energy infrastructure company with a focus on renewable energy sources.

AltaGas Utility Group holds interests in AltaGas Utilities Inc., Heritage Gas Ltd. and Inuvik Gas Ltd. which serve a combined 71,000 customers through an infrastructure of more than 20,000 kilometres of pipelines. The Utility Group also holds an interest in the Ikhil joint venture which produces and supplies natural gas in Inuvik, NWT.

Units in the income trust lost 15 cents to $16.55 on the TSX

Appendix B

Globe and Mail

Thursday, April 9, 2009 06:48 PM

Fortis shows window open for financing

Andrew Willis

The window is wide open for stock sales by high quality Canadian companies, as utility Fortis tapped the market late Tuesday for $300-million.

Fortis, a growth play among utilities if there is such a beast, did a bought deal with Scotia Capital, CIBC World Markets and RBC Dominion Securities just a few hours after Manulife raised $2.125-billion.

On one side of this sale, you have institutions putting cash to work at relatively attractive valuations.

The other side of this transaction is a realization on the part of boards and CEOs that current markets are reality. The fabulous valuations seen just a few short months ago? They, sadly, are part of your history.

That change in mind set is evident in CEOs who were running companies with top-tier valuations - Manulife's Dominic D'Alessandro and TD Bank's Ed Clark. If these guys are issuing stock at current prices, that sends a message.

Fortis, which bought a massive B.C. natural gas pipeline network last year, will use the proceeds from the share sale to knock back $200-million of debt that has come due. The deal came a week after a $1-billion stock sale from pipeline operator TransCanada. Income-seeking investors are big buyers of these utilities - Fortis features a 4 per cent dividend yield.

Get used to seeing the bank-owned dealers leading deals for companies that are major borrowers. CEOs value lending relationships these days, and are rewarding banks that provide credit. That's not tied selling. It's smart business for both banks and borrowers.

Fortis sold 11.7 million shares for $25.65 each. If the underwriters opt to exercise an overallotment option, the financing could raise $345-million.

Fortis shares closed Tuesday, ahead of the financing, at $27, so the offering came at a 2.7 per cent discount. Fortis shares are changing hands Wednesday at $25.32, against the backdrop of weakness in the overall market.