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BY EMAIL AND ORDINARY MAIL

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street
27th Floor
Toronto, ON M4P 1E4

Dear Ms. Walli:

Re: EB-2007-0606

Enclosed are Union's answers to interrogatories in the above proceeding. Due to time constraints, our consultants were unable to complete a few of the answers by this afternoon. It is their intention to file these the first of next week.

Yours very truly,

Michael A. Penny

Tel 416.865.7526
mpenny@torys.com
MAP/jeb
Attachments

UNION GAS LIMITED

Answer to Interrogatory from
The Building Owners and Managers Association of the Greater Toronto Area ("BOMA")
The London Property Management Association ("LPMA")
The Wholesale Gas Service Purchasers Group ("WGSPG")

Question:

Please provide a schedule, similar to that in the Enbridge Gas Distribution Settlement Agreement dated February 4, 2008 (Exhibit N1, Tab 1, Schedule 1, Appendix D, Page 52 of 6 – see attached), excluding lines 22, 33, 42, 44, 45 and 46 that are related to the 50% sharing. Please reflect the appropriate EB-2005-0520 Board Decision figures in this table.

Response:

Please see Attachment.

Question: February 15 2008
Answer: February 22, 2008
Docket: EB-2007-0606

Estimated Tax Rate Change Impacts (2008-2012)

Line No.	Tax Related Amounts Forecast from CCA Rate Changes	($ millions)	2008 (a)	2009 (b)	2010 (c)	2011 (d)	2012 (e)	
1	Computer Equipment (Class 45) - Opening UCC Balance		6.77	10.50	12.55	13.68	14.30	
2	New purchases (2007 Board Approved additions)		8.74	8.74	8.74	8.74	8.74	
3	Capital cost Allowance (CCA) at 45% - former tax rule CCA rate		5.02	6.69	7.61	8.12	8.40	
4	Closing Undepreciated Capital Cost (UCC)		10.50	12.55	13.68	14.30	14.64	
5	Computer Equipment (Class 45) - Opening UCC Balance		6.34	9.19	10.47	11.05	11.31	
6	New purchases (2007 Board Approved additions)		8.74	8.74	8.74	8.74	8.74	
7	Capital cost Allowance (CCA) at 55% - 2007 Federal Budget tax rule CCA rate		5.89	7.46	8.16	8.48	8.62	
8	Closing Undepreciated Capital Cost (UCC)		9.19	10.47	11.05	11.31	11.43	
9	Distribution Assets (Class 1) - Opening UCC Balance		130.56	255.90	376.23	491.74	602.64	
10	New purchases (2007 Board Approved additions)		133.23	133.23	133.23	133.23	133.23	
11	Capital cost Allowance (CCA) at 4% - former tax rule CCA rate		7.89	12.90	17.71	22.33	26.77	
12	Closing Undepreciated Capital Cost (UCC)		255.90	376.23	491.74	602.64	709.09	
13	Distribution Assets (Class 1) - Opening UCC Balance		129.23	250.71	364.89	472.23	573.13	
14	New purchases (2007 Board Approved additions)		133.23	133.23	133.23	133.23	133.23	
15	Capital cost Allowance (CCA) at 6% - 2007 Federal Budget tax rule CCA rate		11.75	19.04	25.89	32.33	38.38	
16	Closing Undepreciated Capital Cost (UCC)		250.71	364.89	472.23	573.13	667.97	
17	CCA Difference		4.74	6.90	8.73	10.36	11.84	
18	Tax Rate (Anticipated Corporate Income Tax Rates during IR term)		33.50%	33.00%	32.00%	30.50%	29.00%	
19	Tax Impact		1.59	2.28	2.79	3.16	3.43	
20	Grossed-up Tax Amount (Cumulative Total Forecast)		2.39	3.40	4.11	4.54	4.84	19.27
21	Incremental Amount		2.39	1.01	0.71	0.44	0.29	
	Tax Related Amounts Forecast from Income Tax Rate Changes							
22	Taxable Income (Rate Order Working Papers/S4/col (e)/line 10)		80.782	80.782	80.782	80.782	80.782	
23	Gross Deficiency (Rate Order Working Papers/S1/col (e)/line 7)		23.12	23.12	23.12	23.12	23.12	
24	Interest Income (included in Taxable Income, line 23)		-	-	-	-	-	
25	Board Approved Taxable Income for Income Tax Expense Calculation		103.9	103.9	103.9	103.9	103.9	
26	2007 Approved Tax Rate		36.12%	36.12%	36.12%	36.12%	36.12%	
27	Anticipated Tax Rates During the IR Term		33.50%	33.00%	32.00%	30.50%	29.00%	
28	Tax Rate Variance		2.62%	3.12%	4.12%	5.62%	7.12%	
29	Annual Income Tax Savings vs. 2007 Approved Taxes (Cumulative Total Forecast)		2.72	3.24	4.28	5.84	7.40	
30	Grossed-up Tax Savings		4.09	4.84	6.30	8.40	10.42	34.05
31	Incremental Amount		4.09	0.74	1.46	2.11	2.02	
	Tax Related Amounts Forecast from Capital Tax Rate Changes							
32	2007 Taxable Capital as Filed (EB-2005-0520, Exhibit D3/T5/S1)		3,020.9	3,020.9	3,020.9	3,020.9	3,020.9	
33	2007 Decision and Settlement Agreement Adjustments to Taxable Capital		-	-	-	-	-	
34	2007 Board Approved Taxable Capital		3,020.9	3,020.9	3,020.9	3,020.9	3,020.9	
35	2007 Board Approved Capital Tax Rate (EB-2005-0520 ADR Agreement, p.20)		0.285%	0.285%	0.285%	0.285%	0.285%	
36	Anticipated Capital Tax Rates During the IR Term (1)		0.225%	0.225%	0.075%	0.000%	0.000%	
37	Capital Tax Variance		0.060%	0.060%	0.210%	0.285%	0.285%	
38	Annual Capital Tax Savings vs. 2007 Approved Taxes (Cumulative Total Forecast)		1.81	1.81	6.34	8.61	8.61	27.19
39	Incremental Amount		1.81	-	4.53	2.27	-	
40	Cumulative Total Forecast Tax Related Amount (lines 20+30+38)		**8.29**	**10.05**	**16.75**	**21.56**	**23.86**	**80.51**

Note:
(1) The capital tax rate used in EB-2007-0615, Exhibit N1, Tab 1, Schedule 1, Appendix D was 0.150%. Effective January 1, 2010 the Ontario capital tax rate is set at 0.150% and effective July 1, 2010 the Ontario capital tax is scheduled to be eliminated completely. As stated in the government's documents that accompanied its Economic Statement in December, these reductions are to be pro-rated for taxation years straddling the effective dates. Since Union Gas has a December 31st year end, the Company's capital tax rated for 2010 will be (0.150% + 0.0%) x 0.5 = 0.075%.

UNION GAS LIMITED

Answer to Interrogatory from
The Building Owners and Managers Association of the Greater Toronto Area ("BOMA")
The London Property Management Association ("LPMA")
The Wholesale Gas Service Purchasers Group ("WGSPG")

Question:

a) What was the provincial capital tax rate that was used in EB-2005-0520 proceeding for the 2007 test year?

b) What is the actual provincial capital tax rate applicable to 2007?

Response:

a) The provincial capital tax rate used in the pre-filed evidence in the 2007 rate case was 0.3%. In the Settlement Agreement, Union and the intervenors agreed to change the rate to 0.285%.

b) The actual provincial capital tax rate applicable to 2007 is 0.225%, assuming the passing of Bill C24 by the Ontario legislature.

Question: February 15 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
The Building Owners and Managers Association of the Greater Toronto Area ("BOMA")
The London Property Management Association ("LPMA")
The Wholesale Gas Service Purchasers Group ("WGSPG")

Question:

a) What was the CCA rates that were used in EB-2005-0520 proceeding for the 2007 test year related to i) computer equipment, ii) non-residential buildings, and iii) distribution assets?
b) What are the actual CCA rates applicable to 2007 for the assets in each of the three categories listed in (a) above for assets acquired after March 18, 2007?

Response:

a) The CCA rates used in EB-2005-0520 for the 2007 test year were:

i. Computer equipment – 45%
ii. Non-residential buildings – 4%
iii. Distribution assets – 4%

b) Assuming the government enacts the new rates, the actual CCA rates for 2007 for new, previously unused assets acquired after March 18, 2007 are:

i. Computer equipment – 55%
ii. Non-residential buildings – 4%
iii. Distribution assets – 6%

Question: February 15 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
The Building Owners and Managers Association of the Greater Toronto Area ("BOMA")
The London Property Management Association ("LPMA")
The Wholesale Gas Service Purchasers Group ("WGSPG")

Question:

Is Union proposing to adjust base rates to reflect the changes in the provincial capital tax and in the CCA rates for computer equipment, non-residential buildings and distribution assets that were effective in 2007? If not, please explain why not.

Response:

No. Union is not proposing to adjust base rates to reflect the 2007 impact of changes in capital tax rates ($1.8 million impact) or CCA rates ($1.0 million impact). A detailed cost of service proceeding was conducted to establish rates for 2007, which were to be base rates for incentive regulation. In Union's view, there is no difference between a 2007 tax variance and any other 2007 cost variance. The base rate adjustments that Union accepted in the settlement agreement were part of the overall agreement, and related to either items that have been dealt with by the Board in other proceedings (GDAR costs/deferred tax drawdown) or were related specifically to issues in this proceeding (regulatory cost reductions and S&T deferral account eliminations).

Question: February 15 2008
Answer: February 22, 2008
Docket: EB-2007-0606

Exhibit E3.1.5

UNION GAS LIMITED

Answer to Interrogatory from
The Building Owners and Managers Association of the Greater Toronto Area ("BOMA")
The London Property Management Association ("LPMA")
The Wholesale Gas Service Purchasers Group ("WGSPG")

Question:

Has legislation that fully eliminates the provincial capital tax on July 1, 2010 been passed? If yes, please provide the date that the legislation was passed.

Response:

Ontario legislation fully eliminating the provincial capital tax on July 1, 2010 is contained in Bill C24 that has not yet been passed.

Question: February 15 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
The Building Owners and Managers Association of the Greater Toronto Area ("BOMA")
The London Property Management Association ("LPMA")
The Wholesale Gas Service Purchasers Group ("WGSPG")

Question:

Is Union proposing to adjust base rates to reflect the changes in the federal corporate tax rate for 2008 that were known in 2007? If not, please explain why not?

Response:

No. See response provide in Exhibit 1.04. Further, there are no 2007 impacts associated with federal corporate income tax rate changes.

Question: February 15 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
The Building Owners and Managers Association of the Greater Toronto Area ("BOMA")
The London Property Management Association ("LPMA")
The Wholesale Gas Service Purchasers Group ("WGSPG")

Question:

As part of the response to Tax Interrogatory 1, it has been requested that the tax impact of the CCA rate changes that took place in 2007 be calculated for 2008 through 2012 using the combined federal and provincial income tax rates expected to be in place for those years (i.e. 33.5%, 33.0%, 32.0%, 30.5%, 29.0%) to calculate the grossed up amount. Please provide the tax impact of the CCA rate changes that took place in 2007 for each year in 2008 through 2012 assuming the combined federal and provincial income tax rate for 2007 of 36.12% was to remain in place for the period 2008 through 2012 to calculate the grossed up amount.

Response:

Please see Attachment.

Question: February 15 2008
Answer: February 22, 2008
Docket: EB-2007-0606

Estimated Tax Rate Change Impacts (2008-2012) using 2007 Board Approved Tax Rate

Line No.	Tax Related Amounts Forecast from CCA Rate Changes	($ millions)	2008 (a)	2009 (b)	2010 (c)	2011 (d)	2012 (e)	
1	Computer Equipment (Class 45) - Opening UCC Balance		6.77	10.50	12.55	13.68	14.30	
2	New purchases (2007 Board Approved additions)		8.74	8.74	8.74	8.74	8.74	
3	Capital cost Allowance (CCA) at 45% - former tax rule CCA rate		5.02	6.69	7.61	8.12	8.40	
4	Closing Undepreciated Capital Cost (UCC)		10.50	12.55	13.68	14.30	14.64	
5	Computer Equipment (Class 45) - Opening UCC Balance		6.34	9.19	10.47	11.05	11.31	
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7	Capital cost Allowance (CCA) at 55% - 2007 Federal Budget tax rule CCA rate		5.89	7.46	8.16	8.48	8.62	
8	Closing Undepreciated Capital Cost (UCC)		9.19	10.47	11.05	11.31	11.43	
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12	Closing Undepreciated Capital Cost (UCC)		255.90	376.23	491.74	602.64	709.09	
13	Distribution Assets (Class 1) - Opening UCC Balance		129.23	250.71	364.89	472.23	573.13	
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15	Capital cost Allowance (CCA) at 6% - 2007 Federal Budget tax rule CCA rate		11.75	19.04	25.89	32.33	38.38	
16	Closing Undepreciated Capital Cost (UCC)		250.71	364.89	472.23	573.13	667.97	
17	CCA Difference		4.74	6.90	8.73	10.36	11.84	
18	2007 Board Approved Tax Rate		36.12%	36.12%	36.12%	36.12%	36.12%	
19	Tax Impact		1.71	2.49	3.15	3.74	4.28	
20	Grossed-up Tax Amount (Cumulative Total Forecast)		2.68	3.90	4.93	5.86	6.69	24.07
21	Incremental Amount		2.68	1.23	1.03	0.92	0.84	

UNION GAS LIMITED

Answer to Interrogatory from
The Building Owners and Managers Association of the Greater Toronto Area ("BOMA")
The London Property Management Association ("LPMA")
The Wholesale Gas Service Purchasers Group ("WGSPG")

Question:

With respect to the phrase "broad corporate tax reductions would be reflected in a lower aggregate price index" please provide the following:

i) the proportion of corporations in Canada that pay federal corporate income tax;
ii) the proportion of corporations in Canada that pay provincial income tax;
iii) the proportion of corporations in Canada that pay a provincial capital tax.

Response:

The requested data are not readily available. They may be purchased in the form of special tabulations from Statistics Canada.

Witness: Jack Mintz / Tom Wilson
Question: February 15 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
The Building Owners and Managers Association of the Greater Toronto Area ("BOMA")
The London Property Management Association ("LPMA")
The Wholesale Gas Service Purchasers Group ("WGSPG")

Question:

a) Would the full amount of the cost reductions referred to on page 2 of the report related to the decrease in the taxes be offset by the reduction in revenues due to the reduced prices charged on products and services? Please explain.
b) Could any of the reduction in costs associated with the decrease in taxes go to employees through higher compensation, suppliers through higher costs and/or shareholders through higher profits? Please explain.

Response:

a) When average costs are reduced, prices will be reduced accordingly. Real output will be higher because of improved labour productivity (as the capital/labour ratio increases).

b) In the short run increased profits could lead to increases in dividends or retained earnings. Once the adjustment to lower taxes is complete, average prices will be reduced. The average real wages of employees will be higher because of lower prices.

Witness: Jack Mintz / Tom Wilson
Question: February 15 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
The Building Owners and Managers Association of the Greater Toronto Area ("BOMA")
The London Property Management Association ("LPMA")
The Wholesale Gas Service Purchasers Group ("WGSPG")

Question:

Do you agree with the statement that corporations would simply pass on tax reductions to customers through lower prices, to supplier and labour through lower costs and wages and to shareholders through higher returns? Please explain.

Response:

The adjustment to lower capital costs takes time. As indicated above, as the stimulus to capital investment is realized prices would decline and real wages would increase.

Witness: Jack Mintz / Tom Wilson
Question: February 15 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
The Building Owners and Managers Association of the Greater Toronto Area ("BOMA")
The London Property Management Association ("LPMA")
The Wholesale Gas Service Purchasers Group ("WGSPG")

Question:

In light of the statement that significant tax changes particular to an industry should be incorporated in the Z factor please explain why the change in the CCA rate for distribution assets should not be considered a Z factor event.

Response:

All else equal a reduction in the effective tax in rate for the utility industry alone would require an appropriate Z factor adjustment. However, given the many corporate tax changes at both federal and provincial levels, the utility industry's tax changes must be evaluated in comparison to tax changes of other industries. Based on Table 1, the utility industries are, on balance, actually disadvantaged relative to other industries in the economy as a whole.

Witness: Jack Mintz / Tom Wilson
Question: February 15 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
The Building Owners and Managers Association of the Greater Toronto Area ("BOMA")
The London Property Management Association ("LPMA")
The Wholesale Gas Service Purchasers Group ("WGSPG")

Question:

The evidence indicates that tax reductions would be reflected in a lower aggregate price index used to adjust rates under the price-cap index.

a) Please provide any studies that indicate that all of the tax reductions would be reflected in a lower aggregate price index.

b) Please provide any studies that indicate the length of the lag between the effective date of a tax reduction and when this impact is first seen in the aggregate price index.

c) Is it possible, in your opinion, to empirically measure the lag effect related to corporate income tax changes with any degree of certainty?

d) It if were able to determine, for example, that there is a lag of one year between when a tax change is effective to when it is reflected in a change in the aggregate price index, would it be possible to use a mechanism like a non-routine adjustment (z factor) to capture the tax impact in the first year, and then reverse this adjustment for subsequent years under the assumption that the aggregate price index for those years would capture the impact of the tax changes? Please explain fully.

Response:

a) See answer to Exhibit E3.2.1.

b) We have done numerous studies of federal budgets which show that tax changes, including corporate tax changes, typically have an impact on the aggregate price index within the first year. Impacts are accelerated if the changes have been pre-announced.

c) It is difficult to measure the lags related to the response of investment to tax changes. As indicated above, in some cases tax changes implemented previously will still be creating downward pressure on the price index due to lag effects. Some changes are also pre-announced, which speeds up the adjustment of investment. In other cases, investments may be delayed if capacity utilization is low. The lags in response to corporate tax changes are similar to the lags in response to monetary policy.

Witness: Jack Mintz / Tom Wilson
Question: February 15 2008
Answer: February 22, 2008
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d) This would be very difficult to implement, given the wide spectrum of tax changes that have occurred and are planned. Tracking these adjustments over time would be difficult. Compounding the tracking problem are the current adjustments from past tax changes (due to lag effects related to past corporate tax changes) and other factors.

Consider for example, the 1% cut of the GST on January 1, 2008. Since Union gets a GST input credit on most of its purchased material and capital inputs, the initial impact of the GST cut on Union's average unit costs is negligible. However the GST cut will directly affect the GDP Final Demand deflator. Since the GST only applies to consumption (and significant components of consumption are exempt or zero rated) the GDPIPIFDD would likely decline by about 0.4%. Following the suggested methodology, Union would get a favourable Z factor adjustment of 0.4%.

Witness: Jack Mintz / Tom Wilson
Question: February 15 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
The Building Owners and Managers Association of the Greater Toronto Area ("BOMA")
The London Property Management Association ("LPMA")
The Wholesale Gas Service Purchasers Group ("WGSPG")

Question:

In his oral testimony in RP-2001-0029/RP-1999-0017 (Tr. Vol. 4 (April 9, 2002), paragraph 1118) Dr. Wilson referenced a macroeconomic model that he had. Based on this model, please provide the impact on the GDPIPIFDD aggregate price index over a five year period of a 1 percentage drop in the federal tax rate at the beginning of the first year. If the model does not have the GDPIPIFDD as an explicit variable, please provide the impact on a similar variable included in the model.

Response:

We did not use the macroeconomic model in preparing our evidence in 2002 or in 2007. Carrying out the requested model simulation would be complex and expensive.

Witness: Jack Mintz / Tom Wilson
Question: February 15 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
The Building Owners and Managers Association of the Greater Toronto Area ("BOMA")
The London Property Management Association ("LPMA")
The Wholesale Gas Service Purchasers Group ("WGSPG")

Question:

In his oral testimony in RP-2001-0029/RP-1999-0017 (Tr. Vol. 4 (April 9, 2002), paragraph 1121) Dr. Mintz indicated that when you have announced corporate tax rate cuts you stimulate investment spending by businesses. Does Dr. Mintz still believe this is true? If not, why not? Is there any impact of a minority government being in power on a long term plan for tax reductions and the anticipation by corporations of the lower tax rates actually becoming reality?

Response:

As discussed in answer to Exhibit E3.1.10, corporate income taxes do stimulate investment spending by businesses. As for the impact of a minority government, one could hold with a large degree of confidence that legislated reductions in corporate income tax rates at the federal level for the next several years will not be revoked given that both major parties are currently competing in offering lower corporate income tax rates. Given that many other countries are continually reducing their corporate income tax rates, it creates pressure on Canada to remain on course.

Witness: Jack Mintz / Tom Wilson
Question: February 15 2008
Answer: February 22, 2008
Docket: EB-2007-0606

Exhibit E3.2.1

UNION GAS LIMITED

Answer to Interrogatory from
City of Kitchener ("Kitchener")
Consumers Council of Canada ("CCC")

Question:

With regard to the statement "As a result of competitive forces, business would reduce prices charged on products and services as a result of cost reductions. Thus, broad corporate tax reductions would be reflected in a lower aggregate price index used to adjust rates under the price-cap index," (Testimony page 2), please provide any reports, studies, articles, publications or other documents that you have written or that you are aware of that support the claim that impact of the corporate tax reductions in Canada is to reduce the level of inflation.

Response:

[Pending]

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606 / EB-2007-0615

UNION GAS LIMITED

Answer to Interrogatory from
City of Kitchener ("Kitchener")
Consumers Council of Canada ("CCC")

Question:

With regard to the statement "As a result of competitive forces, business would reduce prices charged on products and services as a result of cost reductions. Thus, broad corporate tax reductions would be reflected in a lower aggregate price index used to adjust rates under the price-cap index," (Testimony page 2), please provide any reports, studies, articles, publications or other documents that you have written or that are in your possession that support the claim that impact of the corporate tax reductions in any other economy is to reduce the level of inflation.

Response:

[Pending]

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606 / EB-2007-0615

UNION GAS LIMITED

Answer to Interrogatory from
City of Kitchener ("Kitchener")
Consumers Council of Canada ("CCC")

Question:

With regard to the statement "As a result of competitive forces, business would reduce prices charged on products and services as a result of cost reductions. Thus, broad corporate tax reductions would be reflected in a lower aggregate price index used to adjust rates under the price-cap index," (Testimony page 2), is it your opinion that the impact of the broad corporate tax reductions occurs within the first year of the tax reduction or does the impact occur over a length of time. If the impact occurs over time, please specify the length of the time lag that it takes for a change in a broad corporate tax reduction to impact the inflation index.

Response:

The impact of corporate tax changes on the aggregate price index will take time, as the adjustment to lower capital costs stimulates investment. When the investments are completed and the new capital put in service, the full adjustment of prices will have occurred. The exact timing of these changes is difficult to determine since: a) some corporate tax changes were pre-announced (eg. under the federal 5-year tax reduction plan announced in November 2000); and, b) the timing of investments may be affected by other factors, such as the state of the business cycle.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606 / EB-2007-0615

UNION GAS LIMITED

Answer to Interrogatory from
City of Kitchener ("Kitchener")
Consumers Council of Canada ("CCC")

Question:

Please provide all work papers that show the calculations that support the results shown in Table 1: Changes in Marginal Effective Tax Rates on Capital: Utilities and All Industries from 2006 to 2007 and 2007 to 2008.

Response:

Background Information:

Assumptions, Model and Parameters for the Calculation of the Marginal Effective Tax Rate (METR)

A. Main theoretical assumptions for the METR model:

1. Firms maximize profits by investing the optimal amount of capital; that is, an amount such that the marginal rate of return on capital is equal to the cost of capital including the tax component. Therefore, the marginal effective tax rate (METR) is the tax, expressed as a proportion, between the gross-of-tax rate of return to capital and the net-of-tax rate of return to capital.
2. It is assumed that firms are fully taxpaying in that they either earn profits subject to tax or use losses on marginal projects against profits earned on infra-marginal projects.
3. Taxes included in the marginal effective tax rate on capital include corporate income taxes, capital taxes and sales taxes on capital purchases.
4. Canadian firms can acquire financing from both domestic and international markets. As such, the cost of this financing is determined independently of the Canadian personal tax system. Therefore, our estimates of the effective personal income tax (PIT) rates on interest income and equity income are based on the personal tax systems of all G-7 countries (see B3 below for the numbers).
5. A firm's cost of equity is determined such that, to a financial investor, the net-of-PIT interest rate equals the net-of-PIT rate of return from equity investment. That is, the cost of equity = the nominal interest rate x (1 – PIT on interest income) / (1 – PIT on equity income). See B4 below for the actual number.
6. The cost of risk is modeled as "income" risk whereby uncertainty in net revenues require the return on capital to be adjusted downwards by risk. Given the losses are fully utilized, governments share risk through the deduction of losses from profits under the corporate income tax.

B. Main data assumptions:

1. The debt to asset ratio is the same across all industries. It is 40 percent.
2. The real interest rate is 4 percent and the annual inflation rate is 2 percent. As a result, the nominal interest rate is 6 percent.
3. The effective personal income tax rate on interest is 28.4 percent and that on equity income is 16.5%.
4. The firm's cost of equity is 5.14 percent (= 6% x (1-28.4%)/(1-16.5%)).

Note that among the above four data assumptions, the first two are adopted from the Department of Finance, and the last two our own estimates following the last two theoretical assumptions (see Section A) of our METR model.

C. Main references:

For theoretical derivation, see

Boadway, R., N. Bruce, and J.M. Mintz. 1984. "Taxation, Inflation, and the Effective Marginal Tax Rate in Canada." *Canadian Journal of Economics* 17 (1): 62–79.

Mintz, Jack, "The Corporation Tax: A Survey", *Fiscal Studies*, Vol. 16. No. 4, 1995, pp. 23-68. Reprinted in *The Economics of Tax Policy*, edited by M. Devereux, Oxford University Press, London, 1996, pp. 127-188.

For practical implications, see:

Duanjie Chen, "The Marginal Effective Tax Rate: The Only Tax Rate that Matters in Capital Allocation," C.D. Howe Institute, Backgrounder, August 22, 2000, available at http://www.cdhowe.org/PDF/chen.pdf

D. Equations for estimating METR presented in Table 1

The standard method used to estimate effective tax rates has been extensively documented. The following are the general formulas used in this study.

i) Effective tax rate (*t*)

The effective tax rate on a given type of capital is defined as the proportional difference between the gross-of-tax rate of return required by a firm (r^G) and the net-of-tax rate of return required by an investor (r^N). r^G is the marginal revenue product (or user cost of capital, in equilibrium) net of economic depreciation and risk. The net-of-tax rate of return is the weighted average of the return to debt and equity securities held by the financial investor. Thus, the effective tax rate (t) is defined as

$$t = (r^G - r^N)/r^G \quad (1)$$

Equations for calculating r^G and r^N are presented respectively in sections (iii) and (iv) below. Before getting into r^G and r^N, we first present the equation determining the real cost of financing, r^f, which is one of the main components of r^G.

(ii) The real cost of financing (r^f)

The real cost of financing (r^f) for a firm is defined by

$$r^f = \beta i(1 - U) + (1 - \beta)\rho - \pi \quad (2)$$

With β = the ratio of debt to assets ratio, i = cost of debt, U = the statutory corporate income tax rate, ρ = cost of equity, and π = inflation rate. That is, the cost of financing for an investor is the weighted-average cost of financing net of the inflation rate.

(iii) The net-of-tax rate of return on capital (r^N)

For domestic investors, the net-of-tax rate of return on capital is defined by the formula

$$r^N = \beta i + (1 - \beta)\rho - \pi \quad (3)$$

This is the rate of return on capital required by financial investors, or suppliers of investment funds to firms. Note that financial investors often include firms themselves when there is equity generated internally.

(iv) The gross-of-tax rate of return (r^G) on capital

For Depreciable assets (i.e. buildings and machinery and equipment)

For domestic investors

$$r^G = (1+tm)(r^f + \delta)(1- k)[1 - A + \tau(1-U)/(\alpha + r^f + \pi)]/[(1-U) - \delta \quad (4)$$

Where tm = the effective provincial sales tax rate on capital goods,
δ = economic depreciation rate,
k = investment tax credit rate,
τ = capital tax rate,
α = tax depreciation rate, and
A = the present value of tax benefit from the investment allowance and depreciation allowance = $\alpha/2+\alpha(1-\alpha/2)/[(\alpha+R)(1+R))$, *with R = nominal financing cost*

.

For Inventory

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$$r^G = (r^f + U\pi)/(1-U) + \tau \qquad (5)$$

For Land

$$r^G = r^f [1 + \tau (1-U)/(r^f + \pi)]/(1-U) \qquad (6)$$

v) METR by asset type and by industry

Applying equation (3) and equations (4) – (6) to equation (1) yields METR by asset type (i.e., buildings, machinery and equipment, inventory, and land) and by industry.

vi) Aggregation

The effective tax rate for a given industry is the proportional difference between the weighted average of the before-tax rate of return by asset type and the after-tax rate of return; the latter is the same across asset types and different industries since it involves only financial investors who seek maximization of their investment returns. That is, the marginal effective tax rate for industry *i*. t_i, is calculated as:

$$t_i = (\Sigma_j r^G_{ij} w_{ij} - r^N{}_i) / \Sigma_j r^G_{ij} w_{ij} \qquad (8)$$

where *j* denotes asset type (i.e. investments in buildings, machinery, inventories, and land), and w_{ij} denotes the weight of asset type j in industry *i*.

E. Other input data presented in the Excel file "Input data" including the following:

- Ontario and Canada-wide METR by industry and in aggregate: 2006-2008
- Federal and provincial statutory tax rates used in our METR model
- CCA rate by CCA class
- Capital weights by CCA class

METR 2006:

	Forestry	Manufacturing	Construction	transportation an	Communication	Utilities	Wolesale Trade	Retail Trade	services total	Aggregate
Canada	27.0%	33.1%	40.6%	30.6%	44.6%	34.0%	39.5%	38.9%	40.7%	36.6%
Ontario	35.5%	37.3%	46.0%	36.5%	50.4%	41.5%	43.1%	42.5%	46.7%	42.2%

METR 2007:

	Forestry	Manufacturing	Construction	transportation an	Communication	Utilities	Wolesale Trade	Retail Trade	services total	Aggregate
Canada	16.1%	23.1%	40.0%	27.1%	40.2%	29.0%	38.1%	36.8%	37.4%	30.9%
Ontario	24.8%	27.9%	45.5%	33.3%	46.6%	37.3%	42.0%	40.6%	44.0%	37.0%

METR 2008:

	Forestry	Manufacturing	Construction	transportation an	Communication	Utilities	Wolesale Trade	Retail Trade	services total	Aggregate
Canada	13.4%	19.0%	37.9%	24.8%	38.3%	26.7%	35.8%	34.4%	35.3%	28.1%
Ontario	18.7%	22.0%	43.6%	31.3%	45.0%	35.0%	39.8%	38.3%	42.1%	33.7%

Exhibit E3.2.4
Attachment

Corporate income tax rate (CIT)

2006	Forestry	Manufacturin	Construction	transportatior	Communicati	Electrical Po	Wolesale Tra	Retail Trade	services total
CIT - federal	0.2212	0.2212	0.2212	0.2212	0.2212	0.2212	0.2212	0.2212	0.2212
NFLD (1)	0.0611	0.0966	0.1338	0.1399	0.1216	0.1244	0.1261	0.1356	0.1313
P.E.I.	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
N.S.	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
N.B.	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
QUE.	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099
ONT. (1)	0.1222	0.1249	0.1386	0.1400	0.1350	0.1365	0.1369	0.1390	0.1382
MAN.	0.145	0.145	0.145	0.145	0.145	0.145	0.145	0.145	0.145
SASK. (1)	0.1052	0.1118	0.1372	0.1400	0.1226	0.1330	0.1338	0.1380	0.1363
ALTA.	0.1038	0.1038	0.1038	0.1038	0.1038	0.1038	0.1038	0.1038	0.1038
B.C.	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
YUKON (1)	0.0408	0.0459	0.1413	0.1500	0.1344	0.1283	0.1307	0.1439	0.1350
N.W.T.	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115

2007	Forestry	Manufacturin	Construction	transportatior	Communicati	Electrical Po	Wolesale Tra	Retail Trade	services total
CIT - federal	0.2212	0.2212	0.2212	0.2212	0.2212	0.2212	0.2212	0.2212	0.2212
NFLD (1)	0.0611	0.0966	0.1338	0.1399	0.1216	0.1244	0.1261	0.1356	0.1313
P.E.I.	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
N.S.	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
N.B.	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
QUE.	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099
ONT. (1)	0.1222	0.1249	0.1386	0.1400	0.1350	0.1365	0.1369	0.1390	0.1382
MAN.	0.1425	0.1425	0.1425	0.1425	0.1425	0.1425	0.1425	0.1425	0.1425
SASK. (1)	0.1046	0.1103	0.1326	0.1350	0.1198	0.1289	0.1296	0.1333	0.1317
ALTA.	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000
B.C.	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
YUKON (1)	0.0408	0.0459	0.1413	0.1500	0.1344	0.1283	0.1307	0.1439	0.1350
N.W.T.	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115

2008	Forestry	Manufacturin	Construction	transportatior	Communicati	Electrical Po	Wolesale Tra	Retail Trade	services total
CIT - federal	0.1950	0.1950	0.1950	0.1950	0.1950	0.1950	0.1950	0.1950	0.1950
NFLD (1)	0.0611	0.0966	0.1338	0.1399	0.1216	0.1244	0.1261	0.1356	0.1313
P.E.I.	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
N.S.	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16

N.B.	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
QUE.	0.114	0.114	0.114	0.114	0.114	0.114	0.114	0.114	0.114
ONT. (1)	0.1222	0.1249	0.1386	0.1400	0.1350	0.1365	0.1369	0.1390	0.1382
MAN.	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135
SASK. (1)	0.1033	0.1074	0.1233	0.1250	0.1141	0.1207	0.1211	0.1238	0.1227
ALTA.	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000
B.C.	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
YUKON (1)	0.0408	0.0459	0.1413	0.1500	0.1344	0.1283	0.1307	0.1439	0.1350
N.W.T.	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115

Capital tax rate

	2006	2007	2008
Federal LCT	0	0	0
NFLD	0	0	0
P.E.I.	0	0	0
N.S.	0.003	0.00225	0.002
N.B.	0.0025	0.002	0.001
QUE.	0.00525	0.0049	0.0036
ONT.	0.003	0.00285	0.00235
MAN.	0.0050	0.0050	0.0040
SASK.	0.003	0.0015	0
ALTA.	0	0	0
B.C.	0	0	0
YUKON	0	0	0
N.W.T.	0	0	0

Note:

(1) For a given province, the uneven CIT rates among industries indicate the two-tier CIT rates in that province: a general CIT rate and a reduced CIT rate for manufacturing and processing (M&P). The level of such combined CIT rate for a given industry depends on its M&P share: the higher the M&P share, the lower the combined CIT rate.

Cost of capital allowance (CCA) by class (1)

	2006	2007	2008
CL1 (2)	4.0%	6%/10%	6%/10%
CL3	5.0%	5.0%	5.0%
CL6	10.0%	10.0%	10.0%
CL7	15.0%	15.0%	15.0%
CL8	20.0%	20.0%	20.0%
CL9	25.0%	25.0%	25.0%
CL10	30.0%	30.0%	30.0%
CL12	100.0%	100.0%	100.0%
CL16	40.0%	40.0%	40.0%
CL17	8.0%	8.0%	8.0%
CL38	30.0%	30.0%	30.0%
CL42	12.0%	12.0%	12.0%
CL43 (3)	30.0%	50.0%	50.0%
Special Class Rail	10.0%	30.0%	30.0%
Compression Oil/Gas	15.0%	15.0%	15.0%
Pipelines	8.0%	8.0%	8.0%
Computers	45.0%	55.0%	55.0%
Computerized Communication	30.0%	55.0%	55.0%

Notes:

(1) CCA rates highlighed in red indicate changes introduced in the federal budget.

(2) The higher CCA rate is for manufacturing structures.

(3) The two-year fast writeoff for Class 43 took effect in 2007 and will expire at the beginning of 2009.

Financial data (see the word file for sources)

(1) The debt to assets ratio = 40%
(2) Nominal interest rate = 6%, based on long-term interest rate for corporate bond.
(3) Inflation rate = 2%
(4) PIT on interest income = 28.4%
(5) PIT on equity income = 16.5%
(6) Cost of equity = 5.14%

Capital weights by main type of assets

	Canada Utilities	Canada All industries	Ontario Utilities	Ontario All industries
Structure	85.9%	30.1%	85.9%	27.9%
Machinery	11.9%	51.4%	11.9%	51.7%
Land	0.0%	3.2%	0.0%	3.3%
Inventory	2.1%	15.3%	2.1%	17.1%
	100.0%	100.0%	100.0%	100.0%

Capital weights by detailed assets category

	Canada Utilities	Canada All industries	Ontario Utilities	Ontario All industries
CL1	83.5%	29.5%	83.5%	27.6%
CL3	0.0%	0.2%	0.0%	0.1%
CL6	2.4%	0.4%	2.4%	0.2%
CL7	0.0%	0.5%	0.0%	0.3%
CL8	3.8%	4.8%	3.8%	4.8%
CL9	0.0%	0.6%	0.0%	0.5%
CL10	0.6%	2.7%	0.6%	2.9%
CL12	1.2%	3.1%	1.2%	3.1%
CL16	0.0%	0.3%	0.0%	0.3%
CL17	3.5%	2.7%	3.5%	2.5%
CL38	0.2%	1.0%	0.2%	1.2%
CL42	0.0%	3.5%	0.0%	3.7%
CL43	0.0%	19.3%	0.0%	21.6%
Special Class Rail	0.0%	1.3%	0.0%	0.9%
Compression Oil/Gas	0.2%	0.3%	0.2%	0.1%
Pipelines	1.0%	2.5%	1.0%	1.0%
Computers	1.2%	3.4%	1.2%	3.2%
Computerized Communication	0.3%	5.3%	0.3%	5.6%
LAND	0.0%	3.2%	0.0%	3.3%
INVENT	2.1%	15.3%	2.1%	17.1%
	100.0%	100.0%	100.0%	100.0%

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition "SEC"

Question:

If a competitive company benefits from a cost reduction due to lower taxes, it must make a decision as to how that money will be distributed, spent or invested. Please describe the impact on inflation, and the specific mechanism by which that impact takes place, depending on whether competitive companies receiving tax savings make each of the following decisions:

a. Reduce prices of the company's goods or services. Please describe how the impact on inflation and the mechanism will differ depending on the percentage of the company's goods or services that are sold domestically vs. internationally.

b. Increase dividends or other profit distributions to shareholders. Please describe how the impact on inflation and the mechanism will differ depending on whether the shareholders are

   i) Canadian or non-Canadian, or
   ii) taxable or non-taxable entities.

c. Increase salaries, benefits, or other remuneration to employees. Please describe how the impact on inflation and the mechanism will differ, if at all, depending on the income or consumption levels of the affected employees (eg. executives vs. unionized employees).

d. Increase retained earnings of the company. Please describe how the impact on inflation and the mechanism will differ depending on whether the increased retained earnings result in reduced debt, or reduced investment in the company's equity securities, or no change in the company's capital structure.

e. Invest in transactions that do not create productivity or competitiveness gains (e.g. buying existing businesses or other income-producing assets). Please describe how the impact on inflation and the mechanism will differ depending on whether:

   iii) The businesses or assets purchased are Canadian or foreign.
   iv) The vendors of the assets, or their shareholders, are Canadian or foreign.
   v) The businesses or assets purchased are represented by listed securities or privately traded securities or property.
   vi) The purchase price of the businesses or assets is paid fully by the cost reductions, or is financed in part by new debt or equity of the purchaser.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
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f. Invest in increasing the productivity or competitiveness of the company receiving the cost reduction. Please describe how the impact on inflation and the mechanism will differ depending on whether:

vii) Investments are in capital assets, or on operating costs that produce long term benefits (such as R&D).

viii) Investments are to increase productive capacity in order to expand sales or revenues, or to improve efficiency in order to reduce unit costs.

Response:

When costs are reduced, whether through tax changes or as a result of other developments, profits may be initially increased, but over time, competitive market forces will typically lead to reductions in costs being passed through in the form of lower prices. In the case of corporate tax reductions, capital costs are lowered, providing a stimulus to investment in real assets. There is no impact on the effects of cost reduction on prices resulting from whether competitive companies receiving a corporate tax reduction are subject to the scenarios described in (a) to (f) or not. While individual companies may choose to respond in part through acquisitions of existing companies or assets, in the aggregate there will be an increase in real investment that augments the capital stock. These investments could include investments in intangibles (R & D, software) as well as investments in machinery & equipment and construction.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition "SEC"

Question:

In the case of each of the answers in question #1, please provide your estimate of the lag between the tax change and the inflation impact you estimate will occur. If the inflation impact is graduated (ie. builds over time), please provide your estimate of the trajectory of that impact and its timing. In either case, please provide your full calculations.

Response:

Precise estimates cannot be made and the timing issue is complicated by the announcement of tax changes prior to their implementation.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition "SEC"

Question:

In the case of each of the answers in question #1, please advise the extent to which either the impact or the mechanism will differ based on whether the inflation measure is GDPIPPIFDD or CPI (All Items).

Response:

The GDPIPIFDD differs from the CPI in terms of coverage and weights. The CPI is a base-weighted index of prices of consumer goods and services, whereas the GDPIPPIFDD is a Chain-Fisher current weighted index of the prices of all domestically provided goods and services, which includes investment and government purchases of goods and services as well as consumption. For some tax changes - such as the recent GST cut - the impact is stronger on the CPI, since the GST is largely a tax on consumption. For a broad-based corporate tax reduction, the impact on the two price indexes should be quite similar.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition "SEC"

Question:

In the case of each of the answers in question #1, please advise the extent to which either the impact or the mechanism will differ depending on whether, as effective Canadian corporate tax rates decline, tax rates for U.S. corporations:

a) Decline at a similar pace and level;
b) Remain unchanged;
c) Increase.

Response:

Changes to corporate income taxes in the United States – which have not occurred since 1986 (except for some state corporate changes) – could have some direct or indirect effects on the Canadian economy.

The direct effect is related to US-owned investments in Canada. To the extent that income is remitted from Canada to the United States and to the extent that Canadian corporate income tax payments deemed to be paid on dividends and withholding taxes on dividends and other cross-border payments is less US tax on such income, a US reduction (increase) in corporate tax rates could increase (decrease) investment. However, a significant degree of investment by US companies is funded by retained earnings and third-party debt, therefore leading to a conclusion that US tax is irrelevant to the cost of capital for US business operating in Canada. Further, even if US tax is paid on income remitted from Canada, US corporations are able to apply credits in excess of US tax on cross-border payments received from other sources to avoid paying the US tax. Various US studies have shown that US companies tend not to pay US tax on income remitted from other countries.

The indirect effect of US corporate tax changes on the economy is related to capital flows and their impact on the macro-variables. Given that Canada is only one of many trading partners, the effect of corporate tax policies in the US would generally affect the world economy, not just Canada. For example, a reduction in the US corporate income tax rate would encourage businesses to increase capital investment in the United States. That would require a capital inflow into the US that could cause the US dollar to appreciate. For Canada, with a relatively large exposure to the US, it would be competitive in US markets thereby providing an opportunity for businesses to expand production in Canada, thereby potentially increasing the price level in Canada. However, with monetary policy

plus targeted on inflation, the Bank of Canada might counteract the expansionary effect of an appreciation in the US dollar.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition "SEC"

Question:

Please advise how the inflation outlook and/or projections of the major forecasting bodies (StatsCan, Bank of Canada, major banks, etc.) have been adjusted to reflect the announced changes in corporate tax rates in Canada. Please provide specific references to the publications of those forecasting bodies.

Response:

The inflation forecasts made by the Bank of Canada and the major banks are based on a variety of evidence and projections. Fiscal policies are taken into account in these forecasts, but typically quantitative estimates of their impact are not provided. Furthermore, as the Bank of Canada has the responsibility of maintaining core inflation within a 1 to 3% range, the impact of fiscal policies on prices may be offset in part by monetary policy adjustments, depending on their impact on prices as well as on output.

In some cases, such as corporate tax reductions, aggregate supply is increased and should be accommodated by monetary policy.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition "SEC"

Question:

Please provide your estimate of the extent to which the domestic prices of goods and services are controlled by non-Canadian markets or price-setters, as opposed to Canadian market forces. Please provide references if available.

Response:

Under a flexible exchange rate the price level in Canada is largely independent of price levels abroad. Variations in the exchange rate insulate the Canadian economy from fluctuations in foreign prices. This enables the Bank of Canada to pursue its inflation control targets.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
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UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition "SEC"

Question:

Please provide a description of the interaction, if any, between

a) reduced federal government revenues resulting from corporate tax cuts,
b) Canadian interest rates and the shape of the interest rate curve, and
c) exchange rates between Canadian dollars and the currencies of our major trading partners.

Response:

The interaction between corporate tax cuts and interest rates and exchange rates is affected by the monetary policies of the Bank of Canada. Since corporate tax cuts stimulate investment, and a large proportion of machinery & equipment is imported , the Canadian dollar would tend to initially depreciate, but monetary policies would counteract this tendency. Although corporate tax cuts could reduce government revenues, the federal government funds corporate tax reductions (and reductions in other taxes) from its "fiscal dividend", or increasing potential surplus.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition "SEC"

Question:

Please provide your calculation of the reduction in GDPIPPIFDD that can reasonably be expected to arise in each of the years 2007 through 2012 as a result of the announced changes in federal corporate tax rates, federal CCA rates, and Ontario capital tax rates, assuming each is implemented as currently scheduled. If you are unable to calculate the impact on GDPIPPIFDD, please explain why, and provide instead your calculation of the annual reductions in CPI (All Items) instead.

Response:

Precise calculations of the reduction in aggregate prices from corporate tax reductions on a year-by-year basis are not feasible. The adjustment of aggregate prices over the 2007-2012 period will include the lagged effects of tax reductions implemented before 2007. Furthermore, the adjustment to tax reductions implemented after 2008 may not be fully realized by 2012.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition "SEC"

Question:

Please describe the ways, if any, that core CPI is adjusted for changes in tax rates. Please advise how those adjustments differ based on whether the taxes are direct or indirect, or based on the nature of the tax changes. Please describe the extent, if any, to which similar adjustments are used in the calculation of GDPIPPIFDD, and describe the reason for any differences from the core CPI adjustments.

Response:

The core CPI, by definition excludes the direct impact of indirect taxes (including the GST, provincial sales taxes, and federal and provincial excise taxes). The GDPIPIFDD includes consumer goods and services, but is not adjusted for these indirect tax changes.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition "SEC"

Question:

Please confirm that, in general, if a future cost reduction is known and expected, companies in the economy may in certain circumstances change their investment patterns or amounts in anticipation of the change, but they will less often change their prices before the change has already occurred. Please provide references to any empirical studies known to you that analyse or provide further details on this phenomenon.

Response:

If a future tax reduction is known in advance, companies may change their investment patterns prior to the implementation of the tax change. For example, if companies know that future corporate tax rates will be reduced, they have an incentive to invest prior to the tax rate cut, in order to take advantage of CCA deductions at current tax rates. Regarding anticipated price changes, if producers of durable goods know that sales taxes will be reduced next month, they will likely discount their prices this month to deter buyers from postponing their purchases.

The recent federal corporate tax reductions are analyzed in Department of Finance "Corporate Income Taxes and Investment: Evidence from the 2001 - 2004 Rate Reductions" (A Research Report appended as Part 2 of Tax Expenditures and Evaluations 2007:4 Ottawa, Department of Finance, Canada).

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition "SEC"

Question:

On average, what percentage of the assets of a Canadian company are in each of Class 1 and Class 45 of the federal CCA tables? What is the percentage of the assets of Union Gas in each of those CCA classes.

Response:

The existing Class 1 balance represents 77% and the existing Class 45 balance represents 0.4% of Union's total UCC amounts. For the remainder of the answer, see answer to Exhibit E3.2.1.

Witness: Jack Mintz / Tom Wilson / Union Witness
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition "SEC"

Question:

What percentage of the price of distribution services provided by Union Gas is represented by costs driven by capital assets (ie. costs of capital, including both debt and equity, depreciation, and taxes)? What percentage of the prices of Canadian companies general is represented by costs driven by capital assets (as above)?

Response:

In 2006, the percentage was approximately 58%, which is identified in Table 15b of the November 20, 2007 PEG Report. The remainder of the answer is not readily available.

Witness: Jack Mintz / Tom Wilson / Union Witness
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition "SEC"

Question:

Please provide your estimate of the extent, if any, to which corporate income tax rate reductions are likely to be offset by increases in other taxes or government charges to reflect the additional "tax room" available.

Response:

Given that the government has been reducing, not increasing, other taxes (including personal income taxes, the GST and EI payroll taxes) it is clear that the corporate tax reductions are financed from its 'fiscal dividend' or growing potential surplus.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition "SEC"

Question:

Please provide copies of all empirical studies authored by you (or in which you were involved) in which the connection between changes in tax rates or amounts, and changes in the inflation rates, has been analysed.

Response:

[Pending]

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition "SEC"

Question:

Please provide a bibliography of all studies or other reference materials used or referred to by you in developing your evidence dated January 4, 2008. Please identify which of those materials are empirical studies of the relationship between tax changes and inflation.

Response:

Given the time pressures under which we prepared our evidence, we did not draw upon specific published studies. We relied upon our experience and expertise in preparing our submission. The estimated effects of corporate tax reductions for 2007 and 2008 shown in Table 1 of our submission are based on the model used by Mintz in several previous studies (see answer to Exhibit E3.3.11).

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition "SEC"

Question:

Please provide all of your calculations supporting Table 1, in Excel format, along with a description of each of the assumptions used and why. In each case where third party data is used, please identify the source of that data.

Response:

Please see Exhibit E3.2.4.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition "SEC"

Question:

Please describe the key ways in which the relationship between monetary policy as it relates to inflation, and fiscal policy, differs between Canada and the United States.

Response:

Monetary policy in Canada is committed to formal inflation control targets. The Bank of Canada is committed to holding price inflation within a 1% to 3% range. The Bank focuses on the 'core' CPI inflation rate, which excludes the effects of volatile food and energy prices and the direct impacts of any changes in indirect taxes (such as the recent GST rate cut). In the U. S. A., by contrast, there is no formal commitment to a specific inflation control target. The Federal Reserve therefore has somewhat more flexibility to use monetary policy to attain other objectives, such as mitigating the business cycle, or defusing the contagion effects of financial market crises. In both countries, the monetary authorities will take into account the economic effects of fiscal policies on inflation and real output growth.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumer's Coalition ("VECC")

Question:

Please describe fully the macroeconomic transmission mechanism through which lower federal corporate tax rates are reflected in the overall price level and its rate of change in the Canadian economy.

Response:

The reduction in corporate taxes acts primarily by providing a stimulus to investment by reducing capital costs. As investments are put in place, the potential GDP of the Canadian economy is increased, unit costs are lowered, and the reduction in costs passed on in the form of lower prices.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumer's Coalition ("VECC")

Question:

Please provide your views as to the factors that affect inflation in the Canadian economy.

Response:

Inflation is affected by aggregate demand relative to aggregate supply (or potential output) and by changes in average costs of production. Under the current inflation targeting regime, monetary policy plays a dominant role in controlling inflation within a 1 to 3% target range. It should be noted that the Bank of Canada primarily targets the 'core' CPI, which excludes volatile food and energy prices as well as the direct effects of indirect taxes such as the GST.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumer's Coalition ("VECC")

Question:

Please indicate your views on the extent to which monetary policy affects the rate of inflation in the Canadian economy.

Response:

Please refer to Exhibit E3.4.2.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumer's Coalition ("VECC")

Question:

In your view, does a decrease in federal corporate tax rates provide a fiscal stimulus to the Canadian economy?

Response:

A decrease in corporate taxes provides a stimulus to corporate investment, which initially increases aggregate demand and subsequently augments aggregate supply.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumer's Coalition ("VECC")

Question:

With respect to the Canadian economy in the last quarter of 2007, please provide your estimates of (i) the non accelerating inflation rate of unemployment (NAIRU) and (ii) capacity utilization.

Response:

Estimates of the NAIRU vary. The long range estimate embodied in the model of the Canadian economy maintained by Policy and Economic Analysis Program (PEAP) at the University of Toronto is 5.8%. Unlike the actual unemployment rate, the NAIRU does not vary much from quarter to quarter, so the estimates for 2007:4 and 2008:1 are the same.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumer's Coalition ("VECC")

Question:

With respect to the Canadian economy at present, please provide your estimates of (i) the non accelerating inflation rate of unemployment (NAIRU) and (ii) capacity utilization.

Response:

Please refer to Exhibit E3.4.5.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumer's Coalition ("VECC")

Question:

In your view, for the last quarter of 2007 was the Canadian economy operating approximately at its productive capacity, i.e., at its potential output?

Response:

Again different models provide different estimates. The PEAP projections would indicate that the economy was at potential in 2007:4. However, with growth slowing at the end of the year, the economy should move below potential in 2008:1.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumer's Coalition ("VECC")

Question:

In your view, at present is the Canadian economy operating approximately at its productive capacity, i.e., at its potential output?

Response:

Please see Exhibit E3.4.7.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumer's Coalition ("VECC")

Question:

Please provide your estimate of the amount of the Canadian capital stock owned by foreigners and the amount of the corporate tax cut savings that will accrue to them as a result of the announced tax rate cuts.

Response:

The requested data are not readily available. They may be purchased in the form of special tabulations from Statistics Canada.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumer's Coalition ("VECC")

Question:

Please provide your views as to how the exercises of fiscal policy and monetary policy interact in the Canadian economy.

Response:

Under inflation targeting, monetary policy will act to offset the impacts of fiscal policy on the core inflation rate. However, fiscal policies, such as corporate tax incentives, which lead to an increase in potential output should be accommodated by monetary policy, i.e., aggregate demand will be encouraged to increase in line with potential output.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumer's Coalition ("VECC")

Question:

Please provide your understanding of the terms (i) economic investment, (ii) portfolio investment, and (iii) foreign direct investment.

Response:

Economic investments refer to real investments in machinery & equipment and non-residential and residential construction and inventories. Portfolio investment refers to financial investments held by individuals or firms. Foreign direct investment (FDI) refers to investments made by companies in subsidiary companies in other countries. Inward FDI refers to investments by Foreign companies in their Canadian subsidiaries; outward FDI refers to investments by Canadian companies in their subsidiaries abroad.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumer's Coalition ("VECC")

Question:

Please provide your views as to the extent that various macroeconomic price indices, e.g., GDPIPIFDD, GDPPI, PPI, WPI, and CPI track each other.

Response:

The various price indices differ in coverage, weighting and by stage of processing. The GDPPI is the most comprehensive measure of the prices of all goods and services produced in Canada (excluding intermediate goods). The GDPIPIFDD differs from the GDPPI by excluding exports and imports and inventory investments. Both of these indices are weighted using Chain-Fisher weights, which vary from quarter to quarter. The CPI is a price index for consumer goods and services - unlike the GDPIPIFDD it excludes investment goods and government purchases of goods and services. The CPI is a base-weighted index - the weights are determined in a base year, and do not vary over time (until a new base year is selected). Unlike the GDPPI and GDPIPIFDD, the CPI is not subject to revision. The PPI measures the prices of goods at the industry level. Its coverage is more limited than the other price indexes. The annual average percent increase in the price indexes over the 1990-2006 period are quite similar, ranging from 1.7% to 2.0%. However, the annual percent changes differ among these indices.

Witness: Jack Mintz / Tom Wilson
Question: February 15, 2008
Answer: February 22, 2008
Docket: EB-2007-0606