



WHAT'S MISSING FROM YOUR WALLET?

How gas price regulation
robs from consumers



BOBBY O'KEEFE



AIMS BACKGROUND PAPER



February 2009

Atlantic Institute for Market Studies

The Atlantic Institute for Market Studies (AIMS) is an independent, non-partisan, social and economic policy think tank based in Halifax. The Institute was founded by a group of Atlantic Canadians to broaden the debate about the realistic options available to build our economy.

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- b) investigating and analyzing the full range of options for public and private sector responses to the issues identified and acting as a catalyst for informed debate on those options, with a particular focus on strategies for overcoming Atlantic Canada's economic challenges in terms of regional disparities;
- c) communicating the conclusions of its research to a regional and national audience in a clear, non-partisan way; and
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ABOUT THE AUTHOR

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Bobby O’Keefe is Research Manager at AIMS and project manager for AIMS’ Annual Report Card on Atlantic Canadian High Schools. He is responsible for data collection and analysis for the Report Card as well as research assistance on other Education projects. Bobby is also project manager for AIMS’ Municipal Report Card, which will assess the performance of municipalities on a broad range of indicators, and has co-authored several commentaries on Canada’s equalization program.

Prior to joining AIMS, Bobby worked at the Saint Mary’s University Business Development Centre, assisting entrepreneurs and small businesses by providing research and advice for start-up and expansion plans as well as guiding students through the consulting process to produce business plans, market studies, and feasibility assessments for clients. He also has experience in the health care and non-profit sectors. Bobby’s diverse educational background includes an MBA from Saint Mary’s University and a Bachelor of Science (Kinesiology) from Dalhousie University. Bobby joined the team at AIMS in 2005.

AIMS BACKGROUNDER

What's Missing from Your Wallet? How gas price regulation robs from consumers

This week marks the 18th anniversary of gas price regulation in Prince Edward Island. In that time, the other three Atlantic Provinces have all jumped on board the regulation bandwagon. Or back on, in the case of Nova Scotia, which lived with price regulation from 1930 to 1991. All in all, that's at least 79 years of regulating gasoline prices in Atlantic Canada.

And for what? Preliminary results from one recent study of gasoline price regulation in the Atlantic Provinces found no significant relationship between regulating a maximum price and price volatility or between regulation and keeping smaller independent retailers in business – two common justifications used for regulating prices. This same study also found, yet again, that establishing maximum prices for gasoline does not lower prices for consumers – it actually increases them.¹

This study, like others before it, has again confirmed that that one of the few things we have discovered for sure in 79 years is that you, the consumer, pay more for gas under regulation than you would have without regulation.

To help you see just how much more you are paying, AIMS is launching the Money Guzzling Gas Regulation Gauge. This Backgrounder shows exactly how those totals are calculated. As the dollars keep racking up on the guzzling gauges, you will no longer have to wonder what is missing from your wallet.

So, just how much more are we paying? As of February 1st, 2009 Atlantic Canadians have paid over \$155.6 million more for gasoline because of price regulation. For New Brunswickers, it's \$9.4 million extra since July 1, 2006 when regulation came into effect. In Nova Scotia, where regulation started that same day, consumers have paid \$17.8 million more. In Newfoundland and Labrador the tally is more than \$65.2 million since October of 2001. And our long suffering friends in PEI, who have lived with gas price regulation for almost 18 years, since February of 1991, it's an extra \$63.0 million.

¹ Sen, Anindya, Dennis Lu and Anthony Clemente. 2008. "Do price ceilings result in lower gasoline prices? Evidence from Canada." Unpublished manuscript, Department of Economics, University of Waterloo, Waterloo. Sen et al. estimate an annual transfer of about 0.84 cents per litre from consumers to industry as a result of regulation.

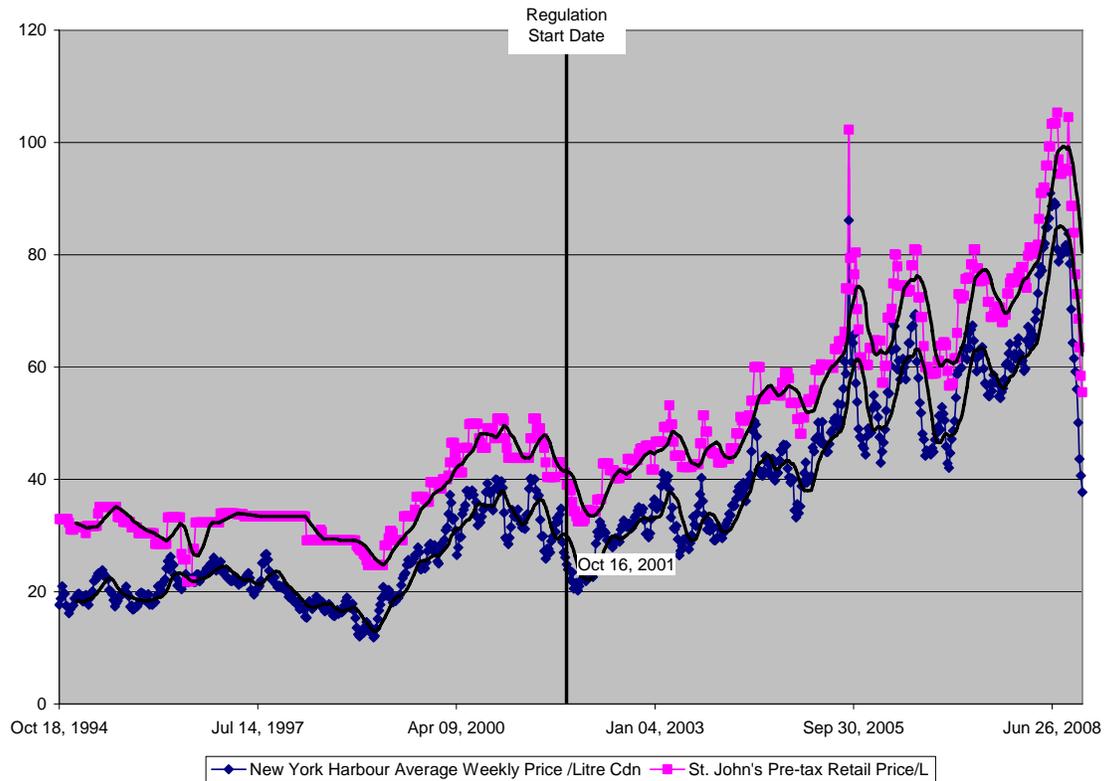
The Starting Point - Extra Cost per Litre

Comparing the regulated price to *exactly* what the unregulated price would have been without regulation is obviously not possible. Additionally, prices vary enough by geography that comparison to other regions usually does not take into account all of the potential influences on local prices. However, it is possible to estimate what unregulated prices would have been based on historical prices. As a general rule, gas price regulation is estimated to cost consumers 1.0 to 1.5 cents a litre.²

To estimate what prices would be now without regulation, we first need to find a reasonable benchmark. Fortunately, regulation in Nova Scotia, New Brunswick, and Newfoundland and Labrador all use the New York Harbor (NYH) spot price for regular gasoline to determine the price consumers pay at the pump. Given the similar trend in pump prices and the NYH spot price – both before and after regulation – it seems like a good comparison.

Figure 1 shows that comparison. The chart shows retail prices, from 1994 to 2008, both before and after regulation in St. John’s, Newfoundland and Labrador, as well as the New York Harbor Spot prices over the same period. As you can see from the black lines, which show a moving average over time of both price indicators, the two move virtually in lockstep. This tells us that the NYH price is a reasonable benchmark for price comparisons.

Figure 1 – New York Harbor Spot Prices and St. John’s, NL retail prices 1994-2008



Source: Energy Information Administration and MJ Ervin Weekly Gas Price Survey

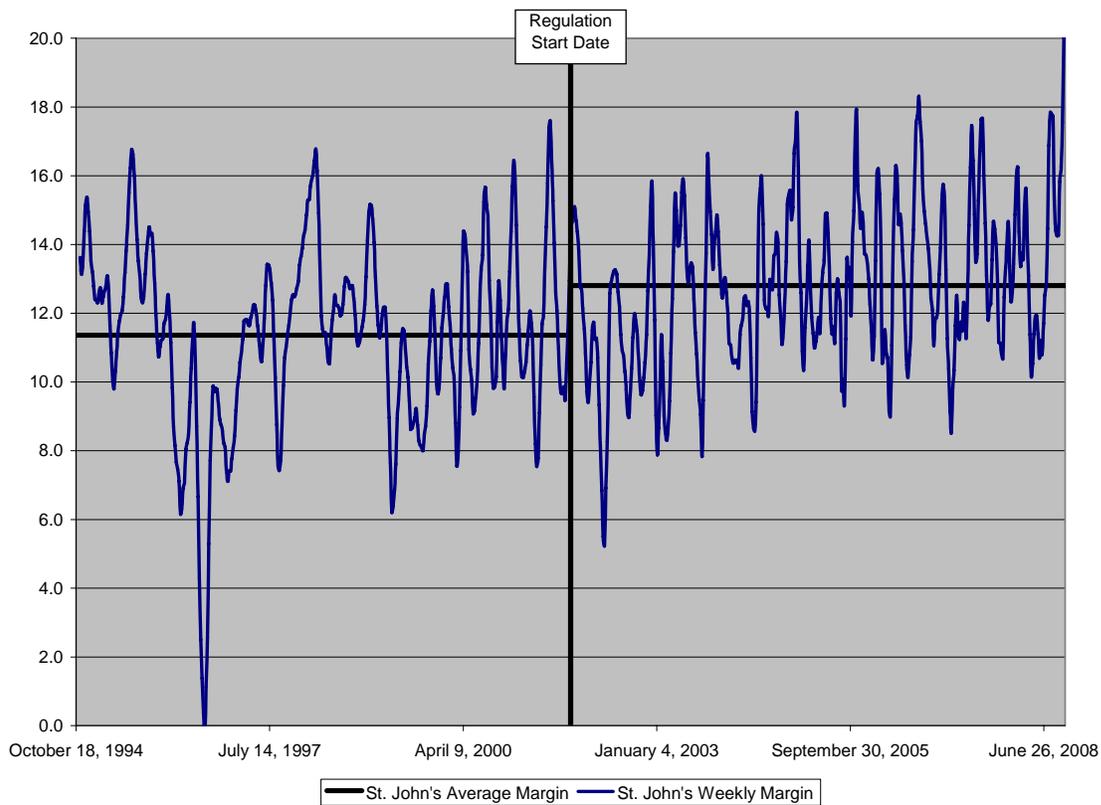
² http://www.cppi.ca/Regulated_Markets_Review.html

So how do we determine what makes us better off between unregulated and regulated prices? With the NYH benchmark in place, we simply examine the gap between the NYH price and the retail price – what is referred to as the marketing margin. If the gap between the NYH price and the price we pay on average widens, then regulation is costing us money. If it narrows, then regulation saves us money.

As an example, let’s look at the average gap between the two lines in the chart above. There may not appear to be much difference in the gap between NYH prices and retail prices in St. John’s before and after regulation in Figure 1. Figure 2 on the other hand, shows three things:

1. Pre-regulation, the lowest margins were much lower;
2. Post-regulation, the highest margins tend to be higher (and more frequent); and
3. The average gap after regulation jumps from about 11.4 cents a litre to 12.8 cents a litre – meaning more cost to the consumer.

Figure 2 – Average “Gap” between New York Harbor Spot Prices and St. John’s, NL retail prices 1994-2008



Service Nova Scotia hired consultant Gardner Pinfold to review gas price regulation in that province and they also examined the difference in this gap before and after regulation. What did they find? By their calculation, the regulated gap was bigger, by about 0.51 cents a litre.³ And that means you and I pay more for our gasoline.

In its review, Gardner Pinfold used information from four centres where gas price data was widely available – Halifax, Sydney, Truro, and Yarmouth – and examined the gap in the two years before regulation compared with two years after regulation came into effect (see Figure 3).⁴ The difference before and after regulation varied from a low of 0.2 cents a litre in Halifax to a high of 0.9 cents a litre in Truro, which gives the average of 0.51 cents a litre higher prices across the province.⁵

Figure 3 – Marketing Margins Before and After Gas Price Regulation in Nova Scotia

	Halifax	Sydney	Yarmouth	Truro
Pre-Regulation Average Margin	10.3	11.8	11.7	10.7
Post-Regulation Average Margin	10.5	12.4	12.5	11.6
Difference	0.2	0.6	0.8	0.9
Total difference⁶	0.51			

Source: Gardner Pinfold Consultants

And what about the other provinces?

In New Brunswick, price data was also available for four major centres – Saint John, Moncton, Fredericton, and Bathurst – during the time period before regulation and in the two and a half years since regulation was put in place. While weekly price data was available stretching back to 1987, for consistency we looked at an equal time period before and after regulation. The average marketing margin for each, in the two and a half years before and after regulation, is shown in Figure 4.

Figure 4 – Marketing Margins Before and After Gas Price Regulation in New Brunswick

	Saint John	Fredericton	Moncton	Bathurst
Pre-Regulation Average Margin	11.4	11.4	11.5	11.5
Post-Regulation Average Margin	11.5	11.9	11.8	12.0
Difference	0.1	0.5	0.4	0.4
Provincial Average⁷	0.31			

Source: Energy Information Administration, MJ Ervin Weekly Gas Price Survey, Bank of Canada Historical Exchange Rates, Author’s calculations

Once again, New Brunswickers are paying more for gasoline under regulation, ranging from half a cent in Fredericton to a tenth of a cent in Saint John. Across the province, that’s an additional cost of about 0.31 cents a litre.

³ Gardner Pinfold Consulting Economists for Service Nova Scotia and Municipal Relations, *Evaluation Of Petroleum Products Pricing Regulation in Nova Scotia: A Two-Year Review*, November 2008

⁴ Gardner Pinfold, *ibid.*

⁵ The numbers for each individual community did not appear in the review of regulation, however the author contacted the consultant who confirmed the margins and differences for each community.

⁶ The average is weighted by the relative volume of gasoline sold in the four cities/towns.

⁷ The average is weighted by the relative volume of gasoline sold in the four cities.

In Newfoundland and Labrador, one previous report, done by the Canadian Petroleum Products Institute, used a similar method as Gardner Pinfold and found an additional cost of 1.4 cents a litre for St. John's residents in the first three years of that province's regulation scheme compared to the eight years before regulation.⁸ To be sure, we repeated the analysis done by Gardner Pinfold using data from three Newfoundland and Labrador communities reported by MJ Ervin's weekly price survey. Using a similar time frame as we did in New Brunswick, comparing two and a half years before and after regulation (from April 1999 to April 2004), we found a similar cost to consumers as the CPPI report of 1.31 cents a litre across the province. Figure 5 shows the breakdown for each community.

Figure 5 – Marketing Margins Before and After Gas Price Regulation in Newfoundland and Labrador

	St. John's	Gander	Corner Brook
Pre-Regulation Average Margin	11.2	13.1	12.8
Post-Regulation Average Margin	12.7	14.3	12.6
Difference	1.5	1.2	-0.2
Provincial Average⁹	1.31		

Source: Energy Information Administration, MJ Ervin Weekly Gas Price Survey, Bank of Canada Historical Exchange Rates, Author's calculations

Note here that Corner Brook saw a decline in the gap after regulation. Given that every other community examined in Atlantic Canada saw the opposite trend, this single occurrence does not instill confidence that regulation can realistically reduce prices. More likely this "exception" serves to prove the rule.

Since April of 2004 is now almost five years in the past, we also checked this number by examining all the price data available since regulation came into effect. In the seven years since regulation came into effect, from October 2001 to October 2008, the average gap between pump prices and NYH prices was 12.8 cents a litre in St. John's. Looking at an equal time period before regulation, that same gap was only 11.4 cents a litre – 1.4 cents less than the post regulation gap, meaning an extra 1.4 cents cost to consumers.¹⁰ Given CPPI's identical finding in their report, and the similar finding in the two and a half years before and after regulation, it appears that the extra costs are consistent over time.

Prince Edward Island has lived with gasoline price regulation for 18 long years, dating back all the way to 1991. Fortunately sufficient data exists to perform a similar comparison for Charlottetown. Examining the two and half years before and after regulation finds an extra cost of 1.54 cents per litre after regulation was put in place.

⁸ Canadian Petroleum Products Institute, *Impact of Regulation on Petroleum Market Dynamics*, Presented to Nova Scotia Legislature Select Committee On Petroleum Product Pricing, Halifax, July 30 2004

⁹ The average is weighted by the relative volume of gasoline sold in the three cities.

¹⁰ This examines only St. John's as price data was not available for Gander and Corner Brook for the full seven years prior to regulation.

Adding it up – the Total Cost

The total cost since each province brought regulation into effect is then calculated by multiplying the extra cost per litre in each province by the volume of gas sold. Statistics Canada Has estimates of monthly gasoline sales volumes up to the end of 2007.¹¹ To estimate the volumes sold in 2008, we used a compound annual growth rate (CAGR) from the past five years, calculated on a monthly basis. As an example, Figure 6 shows the New Brunswick sales volumes for 2003-2007, along with the calculated CAGR and estimated monthly sales volume for 2008.

Figure 6 – Monthly Gasoline Sales Volumes in New Brunswick (000s of litres) 2002-2008

	2002	2003	2004	2005	2006	2007	CAGR 2002- 2007	2008
January	82,097	78,635	80,617	77,872	76,251	78,477	-0.04%	78,445
February	76,327	74,863	75,125	73,136	70,487	75,516	0.17%	75,647
March	80,381	79,517	80,134	75,087	77,213	79,837	0.08%	79,901
April	79,158	76,693	82,918	76,361	72,504	78,093	0.36%	78,376
May	91,994	88,250	84,359	84,598	79,646	85,671	-0.59%	85,164
June	90,944	81,151	85,956	73,095	88,291	90,432	2.19%	92,412
July	107,227	101,536	99,047	97,350	94,947	105,720	0.81%	106,577
August	106,254	106,691	98,156	77,446	94,380	98,966	-1.49%	97,489
September	88,317	82,086	84,828	81,833	81,531	86,029	0.94%	86,840
October	86,704	89,337	84,627	76,264	85,499	86,367	-0.67%	85,785
November	89,717	83,148	83,430	79,718	81,804	83,660	0.12%	83,763
December	86,659	85,170	85,142	84,042	81,277	84,936	-0.06%	84,889

Source: Statistics Canada Table 405-0003 and Author's Calculations

Using these estimates for the volume of gas sold in each province from the start date of regulation up to February 1, 2009, we find that Newfoundland and Labrador consumers have paid \$57.0 million more for their gasoline under regulation than they did before regulation. Prince Edward Islanders have paid \$53.7 million more. Approximately \$15.7 million more has come from Nova Scotians' pockets for their fuel purchases, and New Brunswickers have paid roughly \$8.3 million more than prior to regulation.

But that's not all. Let's not forget that as with almost anything that cost us money, there is still tax to pay on top of that. The above figures are all comparisons of the difference in price before taxes. So sales taxes get added on top of that extra cost. That's right – an extra 13 percent HST in Newfoundland and Labrador, Nova Scotia, and New Brunswick, and an extra 15.5 percent for the taxman in Prince Edward Island, which adds up to \$20.9 million dollars for all four provinces.¹² Figure 7 shows the extra taxes collected by each province based on the higher price under regulation.

¹¹ Statistics Canada. Table 405-0003 - Road motor vehicles, fuel sales, monthly (litres). Statistics Canada data was available up to the end of 2007.

¹² Historical estimates use the HST or GST rates in place at the time. For example, the GST prior to January 1, 2008, was 6 percent in PEI and HST was 14 percent in the other Atlantic provinces.

Figure 7 – Additional sales tax collected as a result of regulation in the Atlantic Provinces

	NL	PEI	NS	NB
Extra Sales Taxes per Litre	\$0.17	\$0.24	\$0.07	\$0.04
Extra Sales Taxes Collected	\$8,257,587	\$9,384,127	\$2,137,348	\$1,124,130
Extra Sales Taxes for all Provinces	\$20,903,193			

Adding all those extra costs up gives us our grand total of \$9.4 million extra since July 1, 2006 in New Brunswick, \$17.8 million more in Nova Scotia, where regulation started that same day, \$65.2 million more since October 2001 in Newfoundland and Labrador, and since February 1991, an extra \$63.0 million in Prince Edward Island. That's \$155.6 million dollars – all out of your pocket.

And more disappears as every litre of gasoline bought under regulation increases that total. Using historical consumption data, we have estimated fuel consumption for each province for the next year using the compound annual growth rate from the past five years. Figure 8 shows the approximate number of litres, based on past purchases, bought every second in each Province, along with the extra cost to consumers every second, every minute, every hour, every day, and every year. And AIMS Money Guzzling Gas Regulation Gauge will be keeping track every step of the way.

Figure 8 – Estimated gasoline sales volumes and extra consumer costs under regulation in the Atlantic Provinces

	NL	PEI	NS	NB
Extra Cost before Tax (¢/L)	1.31	1.54	0.51	0.31
Extra Cost including Tax (¢/L)	1.48	1.78	0.58	0.35
Total Consumption under Regulation to Feb. 1, 2009 (millions of L)	4,292.8	3,471.5	2,985.2	2,588.4
Total Extra Cost of Regulation to Feb. 1, 2009	\$65,259,199	\$63,092,632	\$17,868,951	\$9,401,789
Estimated Consumption Rate (L/second)	19.25	6.11	37.11	32.88
Total Extra Cost per second	\$0.2855	\$0.106	\$0.214	\$0.115
Total Extra Cost per minute	\$17.13	\$6.38	\$12.83	\$6.89
Total Extra Cost per hour	\$1,027.65	\$382.83	\$770.01	\$413.69
Total Extra Cost per day	\$24,663.66	\$9,187.80	\$18,480.31	\$9,928.63
Total Extra Cost per year	\$9,002,235	\$3,353,549	\$6,745,313	\$3,623,946

So think about \$155.6 million. \$155.6 million and counting, that is. That is how much gas price regulation has cost you, your friends, your neighbours and your guests here in Atlantic Canada as of February 1, 2009, and the dial is still spinning. The question only you can answer is – is it worth it?



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