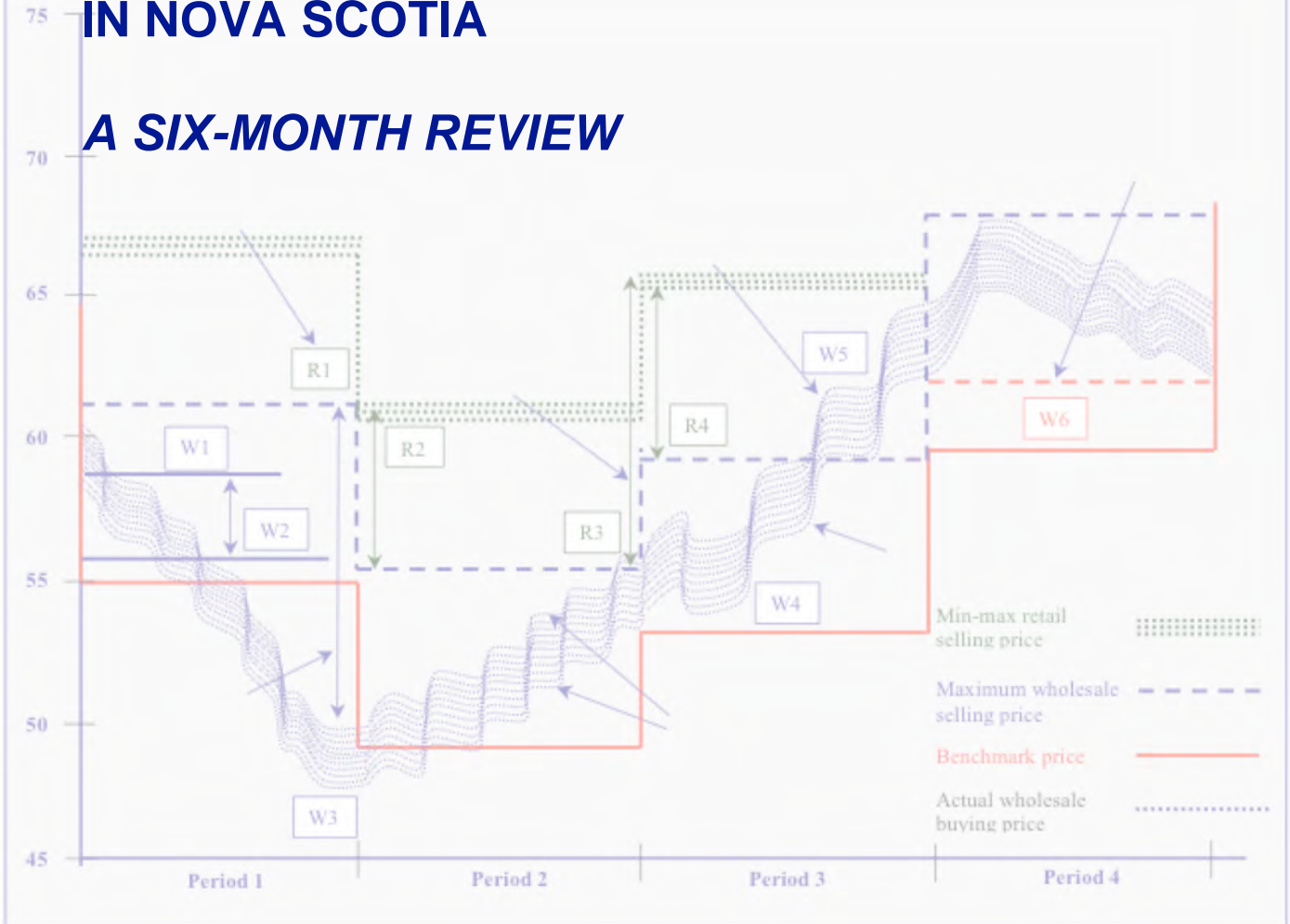


PETROLEUM PRODUCTS PRICE REGULATION IN NOVA SCOTIA

A SIX-MONTH REVIEW



Prepared for: Service Nova Scotia and Municipal Relations

Prepared by: Gardner Pinfold Consulting Economists

March 2007

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Gardner Pinfold Consulting Economists Limited

1331 Brenton Street, Halifax, NS B3J 2K5

(902) 421-1720

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SUMMARY

1. Why this review

This report contains the findings and recommendations of a review of the first six months of gasoline price regulation in Nova Scotia. Regulation was introduced on July 1st, 2006 in order to achieve three main objectives, and this review examines whether and to what extent they have been achieved:

- ❑ Stabilize price: reduce the frequency and seeming arbitrariness of price changes, and as well to create more uniform pricing across the province
- ❑ Maintain industry infrastructure: slow or halt the decline in the dealer network, particularly in rural areas, by improving viability through regulated margins
- ❑ Minimize cost to consumers: higher prices are expected to result from the actions needed to maintain price stability and the higher margins needed to maintain industry infrastructure.

2. Main findings

So far, regulation is meeting its stability and cost objectives, but insufficient time has gone by to provide a reliable basis for determining whether the infrastructure objective is being met.

Price stability

- ❑ Prices are more stable. With the bi-weekly adjustments, regulation results in fewer price changes and the timing is more predictable.
- ❑ Price changes tend to be higher. The trade-off for less frequent price changes is that each change tends to be higher. This is because price pressure is bottled up for two weeks between adjustments.
- ❑ Prices are more uniform. Regulation has removed much of the price variation within zones and across Nova Scotia that cannot be explained by transportation costs alone. Consumers like this because it simplifies the gasoline purchase, even though in some areas prices are relatively higher than they were before regulation.

Industry infrastructure

- It is too early to determine what impact regulation has had on retail infrastructure. While regulation has been beneficial for many dealers and has adversely affected others in the short run, a reliable assessment of the impact would only be possible after the industry has experienced at least one complete price cycle (a minimum of one year) giving it sufficient time to adjust to all the implications of the regime. From a theoretical perspective, regulation could just as easily cause conditions for retailers to worsen as it could cause them to improve. Much depends on how wholesalers are affected and on how much the Regulator is willing to allow the marketing margin to expand.
- Independent retail dealers are divided on whether they are better off with regulation. Over 40% indicate they are better off, citing higher margins and increased volumes as the main factors. Over 20% indicate they are worse off, mainly because of lower volumes, cash flow constraints and lower margins in the case of some full-serve rural dealers. Over 20% indicate no change and 15% indicate it is too early to tell.
- The larger wholesalers indicate they are either better off or at least no worse off financially as a result of regulation. This is because they are generally benefiting from the higher marketing margin that regulation has provided.
- The smaller wholesalers and resellers are worse off under regulation because it fails to address the pricing and cost circumstances of their business. In the first six months, regulation has caused the margin to be squeezed relative to the larger wholesalers. With its fixed two-week adjustment periods, regulation imposes cash flow constraints and eliminates the flexibility needed to meet the challenging conditions facing the rural and remote outlets they supply.
- The first six months of regulation coincided with favourable conditions in commodity markets. The seasonal trend of generally declining prices meant wholesalers tended to benefit from higher margins because they could buy below the benchmark price. This changed in early 2007 with the seasonal trend of generally rising prices. This means lower wholesale margins because they will be buying above the benchmark price for extended periods. Forward averaging removes some of the negative impact on the wholesale margin, but extended periods of under-realization could hurt the smaller wholesaler.

Minimizing cost

- The margin has expanded since regulation was introduced. The increase ranges from 0.5 cents per litre in Halifax to 2.0 cents per litre in Sydney, with a weighted average across the province of 0.8 cents per litre. On an annualized basis, this increases revenue to wholesalers and retailers by an estimated \$10-11 million for the approximately 1.3 billion litres of fuel sold at the retail level in the province.
- The increase is just below the 1.0-2.0 cent per litre range government anticipated could be needed to meet the objectives. Without an increase it would be impossible to provide a higher margin for retailers without reducing the wholesale margin. Whether this increase supports enough of an improvement in the retail margin to improve the viability of rural dealers remains to be seen.

3. Recommendations

Recommendation 1: Reduce the benchmark price adjustment period from two weeks to one week.

The main advantage of this is to limit the duration and extent of under-recovery or over-recovery of margins following an adjustment of the benchmark price. The significance of this change should not be underestimated. It would remove much of the cost and risk associated with regulation, thereby enhancing the operating environment for suppliers, particularly independent wholesalers and resellers.

Making this change has the ancillary benefit of removing much of the need for forward averaging, with all the uncertainty this entails. It also limits the likelihood that the interrupter would be required, unless triggered by a catastrophic event.

The main disadvantage of reducing the adjustment period is that it would undermine the stability objective, at least from the perspective of the frequency of price changes. Government has given stability a high priority. But a week of stability nonetheless provides ample time to plan and prepare for a price change, if the alternative is daily or even twice daily changes. Moreover, stability also refers not just to the frequency of price changes, but also their size. Moving to a weekly adjustment period means each change is likely to be smaller than one following a two-week adjustment.

Recommendation 2: Remove the price cap on full-serve gasoline.

Seeking to strengthen the viability of rural dealers on the one hand, then limiting the scope for achieving this by constraining their ability to set suitable prices, seems contradictory. Removing the 2.0 cpl premium over self-serve would provide full-serve dealers the opportunity to regain margin in areas where it had been possible to achieve such prices in the past. Removing the cap will not lead to extortionate prices in remote locations any more than it did prior to regulation. Competition will see to that. But it will provide rural dealers with at least the opportunity to earn the higher margins they need to stay in business.

Recommendation 3: Adopt a fixed and transparent formula for forward averaging and apply it at each adjustment

A major complaint from wholesalers is that the forward averaging formula is not fixed and transparent, and nor is its use free from subjective considerations. There is merit in this complaint.

The Regulator should adopt a fixed and transparent formula for forward averaging. To reduce uncertainty, forward averaging should be applied at each adjustment, rather than on a discretionary basis. With the shift to a weekly benchmark price setting period, the size of any forward averaging adjustments are likely to be small. With a fixed formula applied regularly, industry could plan more effectively.

Recommendation 4: Consider a framework for regulatory review

This report traces some of the theoretical implications of regulation, and examines actual impacts where data allow. For example, the analysis of price stability and uniformity allow fairly clear conclusions to be drawn.

The assessment with respect to other indicators is less clear largely because insufficient time has elapsed for the full implications of regulation to work their way through the system. The available data suggests the marketing margin has expanded, but provides a limited basis for determining how this is distributed between suppliers and retailers. Many retailers indicate a positive impact on margins, but the overall impact on net revenues and long-term viability is less clear. Some wholesalers and most resellers indicate supply to a number of their retailers is in jeopardy because regulation has undermined the economics of serving these outlets.

Reviewing regulation periodically would be prudent, though establishing a firm timetable at this time may be premature for two reasons. First, if government acts on the recommendation to reduce the adjustment period to one week, this could alleviate much of the negative impact of regulation experienced by wholesalers and resellers. Sufficient time would have to elapse between the implementation of this change and the implications flowing from it. Second, government intends to hand over regulatory responsibility to the Utility and Review Board. The Board may conduct periodic reviews to ensure regulation is working to meet its objectives and would make recommendations to government on its findings.

BACKGROUND

1. Rationale for regulation

The Government of Nova Scotia introduced price regulation of gasoline and diesel fuel on July 1, 2006. This action marked a departure from 15 years of unregulated petroleum prices in the province. Petroleum prices had been regulated during the late 1970s and 1980s, with regulation ending in 1991.

The decision to regulate was taken against the backdrop of three key market factors:

- ❑ **Increasing price volatility:** consumer complaints about several price changes per week, and even 2-3 changes in a day. Consumers objected to the seeming arbitrariness of the changes and the challenges these posed for their buying decisions. Controlling the frequency of price changes forms the main objective of the regulatory framework.
- ❑ **Declining dealer margins and rural infrastructure:** the number of outlets declined by about 50% between 1990 and 2005, with many of these disappearing from rural communities. Competitive pressure on margins and rising costs explain why many of these dealers were unable to continue in the business. Improving the viability of gasoline infrastructure through controlled prices and better margins represents a second objective of regulation.
- ❑ **Wide price variation within the province:** while some price variation across the province is understandable, often the differences would exceed what could be explained by transportation costs alone. Government had difficulty explaining why market forces would allow prices to vary by 3-4 cents per litre, when all the gasoline came from the same source, was sold by the same suppliers, and through similar outlets under the same brand names. Reducing price variation across the province became the third regulatory aim.

2. Study objectives

Assessing how well regulation is meeting its overall objectives forms the main goal of this study.

More specifically, the study determines whether and to what extent regulation has resulted in:

- ❑ price stability for consumers, both with respect to the frequency and size of price changes, and also regional price variation
- ❑ maintaining industry infrastructure, with respect to the wholesale and retail sectors of the industry, particularly in rural areas
- ❑ avoiding significantly higher gasoline prices to consumers, where higher prices could result from the actions needed to maintain price stability and the higher margins needed to maintain industry infrastructure.

3. Approach

Meeting the study objectives requires quantitative evaluation of several performance indicators. These indicators fall into four main categories:

- **retail prices:** comparisons of various prices and price changes covering a representative period prior to and following the introduction of regulation. The specific indicators used include number and size of price changes for specified centres in the province, the change in price variation for specified centres across the province, and the change in prices for Nova Scotia centres compared with prices in cities across Canada. The data required for these comparisons is obtained from federal and provincial government agencies, private databases, and petroleum industry sources.
- **wholesale and retail margins:** changes in margins without and with regulation provide an indication of whether regulation has improved the viability of retailers, and if so, whether this has come at the expense of wholesalers (through lower margins) or consumers (through higher prices). This analysis relies on marketing margin data (the difference between the wholesale buying and retail selling prices of gasoline), and on wholesale and retail margin data. Data on the marketing margin are available from published sources, while data needed to determine how the marketing margin is split between wholesalers and retailers are obtained from wholesalers. Special attention is paid to how regulation is affecting the circumstances facing smaller wholesalers (resellers) and the 25 or so low-volume and mainly rural stations they serve, since this group remains the most vulnerable to downward pressure on margins.
- **number of retailers and wholesalers:** whether regulation is effective in slowing the rate of attrition from the industry is determined by comparing the rate of change prior to regulation with that in the eight months since regulation has been in effect. The data on station numbers and location (rural or urban) is obtained from wholesalers and the provincial government.
- **experience and attitudes of wholesalers, retailers and consumers:** stakeholders are reacting to regulation by adjusting business practices and consumption patterns, and responding positively or negatively, depending on how they are affected. These reactions and responses are compiled using three approaches:
 - **wholesalers:** questionnaire and follow-up meetings with major wholesalers (5) and resellers (5) in Nova Scotia
 - **retailers:** questionnaire survey of all independent retailers (265), and follow-up meetings with a representative sample of 35 dealers across the province
 - **consumers:** focus group meetings with 60 consumers (randomly selected) in each of the six regulatory zones across the province to discuss perceptions of regulation and how it is affecting them

4. Caveats

Three points are worth noting about the timing and scope of the study:

- **The analysis is based on a limited time period.** Data and experience for the first seven months of regulation forms the basis of the analysis. This is less than a complete price cycle and too short a period for all adjustments to work themselves out.

The typical annual price cycle would see gasoline and diesel prices begin to rise during the late winter/early spring (as demand increases in response to increased driving), and then begin to decline during late summer and fall (in response to decreased transportation demand).

- During periods of declining prices, wholesalers selling into a regulated market would be expected to generate higher margins since they would be buying below the regulated price between adjustments. Conversely, during periods of rising prices, wholesalers would be expected to generate lower margins since they typically would be buying above the regulated price between adjustments.
- Retailers would on balance be worse off during a period of steadily declining prices. If they happen to take a delivery just before a drop in the regulated wholesale price, they would realize a lower (or negative) margin on those sales. Conversely, in a period of rising prices, if they take a delivery just before a price increase, they would gain margin.
- Depending on the direction of the price trend, consumers may view regulation favourably or unfavourably, believing it is regulation that is causing price to drop or failing to control rising prices.

This study mainly covers the declining part of the price cycle (July-January), with prices only beginning to move upward as this report is being written. The actual experience of stakeholders is thus based on incomplete experience. An attempt is made to project what is likely to happen during the balance of the cycle, but this is based on conjecture rather than actual experience.

- **Margins don't tell the whole story.** Much of the debate on industry economics focuses on the gross margins earned by wholesalers and retailers. This is understandable, since the gross margin represents a key determinant of the viability of an enterprise, and is generally the only “visible” or readily measurable aspect of the relationship between buyers and sellers. But it is not the only factor. Less obvious are other elements of the relationship that can have a direct bearing on gross revenues (e.g., cross-lease payments, rebates and other incentives linked to gasoline sales volumes), and on net revenues (e.g., how various station expenses are shared between wholesaler and retailer).

Ultimately, though, for any company it is net revenues not the margin on gasoline that counts. Regulation has caused gasoline margins to change for many of the stations that opted into regulation, and this seems clear from information provided by retail dealers. But whether it has fundamentally changed the revenue position of the stations is a different matter since this depends on how other aspects of the relationship may have changed.

- ❑ **Caution is required in interpreting price comparisons with other markets.** Comparative price data with other centres in Canada is useful in gauging the relative impacts of regulation, but can be misleading if not understood in the context of the differing market conditions that prevail across Canada. For example, the industry in major centres in southern Ontario has been engaged in an intensive price war during the period covered by this analysis (with the marketing margin – the sum of the wholesale and retail margins – dropping to below *five cents* per litre). This selling below cost, coupled with a declining refining margin, has caused retail prices to drop sharply. In the west, retail prices have risen due to a sharp increase in the refining margin, coupled with a steady or slightly rising marketing margin (starting in July 2006).

5. Report outline

The report is divided into six chapters. Following this introduction:

- ❑ Chapter II outlines the approach taken to gasoline regulation in Nova Scotia, explaining the objectives and technical aspects of how regulation works.
- ❑ Chapter III examines the gasoline market in Nova Scotia, examining market structure and competitive behaviour and how these would be expected to be affected by regulation.
- ❑ Chapter IV addresses the main purpose of the review – whether and to what extent regulation is meeting its objectives. Each of the indicators is reviewed in turn using primary and secondary data gathered during the course of the study.
- ❑ Chapter V sets out perspectives on regulation obtained from consumers, retailers and wholesalers, and also reviews the recommendations of the Utility and Review Board following its hearing into gasoline regulation.
- ❑ Chapter VI summarizes the main findings, setting out the concluding observations and recommendations.

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GASOLINE REGULATION IN NOVA SCOTIA

1. How regulation works

Pricing model aims to mimic the market

Regulation as prescribed in Nova Scotia introduces a measure of stability into an otherwise volatile market for petroleum products. This benefits consumers. Regulation also provides retailers with the opportunity to operate with higher margins than they may have realized prior to regulation. Wholesalers function as “shock absorbers” in the market. They must sell at the prescribed fixed wholesale price for a given two-week period, but are subject to the swings in the market as reflected in the unregulated price at which they acquire the product from the refinery. This can work to their advantage or disadvantage depending on whether acquisition costs drop below or rise above the regulated benchmark price in the period between price adjustments.

The challenge facing the regulator is to design a pricing model that balances the interests of consumers, retailers and wholesalers. Consumers want stability, without paying for it through (significantly) higher prices. Retailers want higher margins to improve viability, and also stability and predictability to facilitate decision-making. Wholesalers want a transparent, formula-based model that leaves them financially no worse off than if they were operating in an unregulated market. The problem is that these objectives are to some extent contradictory – too much stability for one group results in too much unpredictability and cost for another.

Through extensive consultation with retailers and wholesalers, the provincial regulator has designed a pricing model that attempts the simultaneous achievement of these objectives. In general terms, the system attempts to mimic the market by allowing an overall marketing margin comparable to that in effect prior to regulation, and stipulating margins and prices that leave wholesalers and retailers in roughly the same *average* position they were in prior to regulation. The operative word here is *average*. Individual wholesalers and retailers could become either better or worse off depending on their starting position compared with the margins allowed under regulation.

In its simplest form the system works by establishing a benchmark price, to which are added a prescribed wholesale margin and transportation costs (plus taxes) to arrive at a fixed wholesale price to which are added prescribed minimum and maximum retail margins (plus taxes) to arrive at the lowest and highest pump prices a retailer may charge for different fuel grades and classes of service.

Three key price points

The build-up to retail selling prices under Nova Scotia regulation (Table 2.1) involves the following elements:

- **Benchmark price:** the regulator sets the benchmark price, or base price for gasoline and diesel fuel, every two weeks. It is based on the average New York Harbour spot price for these fuels. The NYH spot price was selected as the benchmark because this market is one of the most competitive petroleum commodity markets in the world, and because it is the commodity price with the greatest direct influence on gasoline and diesel prices in Nova Scotia.
- **Fixed wholesale price:** this is arrived at by adding a fixed wholesale margin of 6.0 cents per litre (cpl) to the benchmark price and adding a so-called zone differential to reflect the transportation cost to each of six zones in the province (specified transportation differentials range from 0.3 cpl to 2.0 cpl). The 6.0 cpl margin was selected as appropriate compensation for wholesalers based on historical data and discussions with wholesalers. The fixed wholesale price (excluding taxes) thus varies from 6.3 to 8.0 cents per litre, depending on zone (based on distance from the refinery). The actual selling price to retailers would include federal excise and provincial road taxes.
- **Minimum-maximum retail price:** this is arrived at by adding a retail mark-up ranging from 4.0 to 5.5 cpl to the fixed wholesale price for regular self-serve, and adding 2.0 cpl for the maximum price for full-serve. The 4.0-5.5 cpl and 2.0 cpl mark-ups were selected as appropriate compensation for retailers based on historical data, interventions by industry, and practice in other regulated areas in the Maritimes. The range allows for competition below the maximum price, including between self- and full-serve outlets to the minimum of 4.0 cpl above the wholesale selling price. Also, an additional 3.0 cpl is allowed for mid-grade fuel and an additional 6.0 cpl for premium-grade.

Table 2.1: An example of the build-up to the pump price for regular self-serve gasoline (excluding taxes). The Regulator tracks the NYH daily spot price, taking the average for the previous 10-day period and adjusting the previous benchmark to the new average. In the example, the benchmark rises from 50.2 to 51.9 cpl, following the rise in the NYH spot price. The maximum wholesale price in Zone 4 is derived by adding the wholesale margin (6 cpl) and the transportation differential (1.2 cpl) to the benchmark. Adding the retail mark-up brings the pump price (excluding taxes) to a minimum of 63.1 and a maximum of 64.6 cpl.

Day	From the benchmark to the pump under regulation		NYH spot CAN\$
	NYH spot US\$	Exchange rate	
Previous benchmark			50.2
Thursday	43.0	1.14	49.0
Friday	42.7	1.14	48.7
Sat/Sun			
Monday	42.2	1.14	48.1
Tuesday	42.2	1.15	48.5
Wednesday	43.3	1.15	49.8
Thursday	44.5	1.16	51.6
Friday	47.1	1.15	54.2
Sat/Sun			
Monday	48.2	1.14	54.9
Tuesday	49.3	1.14	56.2
Wednesday	51.5	1.12	57.7
Adjusted benchmark			51.9
Add wholesale margin:			6.0
Add transportation (eg, Zone 4)			1.2
Add retail margin			4.0-5.5
Pump price excluding taxes			63.1-64.6

Adjusting to market conditions

Prices are adjusted every two weeks to reflect changes in the commodity market for gasoline and diesel fuels. The adjustment to the benchmark price is based on the average change in the NYH spot price calculated over the previous 10 business days (adjusted for the daily exchange rate). Changes are made every second Friday. In the event prices rise or fall by an average of at least 4.0 cpl over a five-day period following a regular adjustment, the benchmark price will be adjusted on the interim Friday. The Regulations under the *Petroleum Products Pricing Act* also allow the Minister to prescribe a new benchmark price at any time (e.g., following a catastrophic event).

Wholesalers and retailers are advised of the regular bi-weekly adjustment on Thursdays, giving them time to make the necessary changes to signage and computer systems before the prices go into effect on Friday. Wholesalers and retailers are not permitted to notify the public of the bi-weekly adjustment prior to the Friday on which it takes effect. This is intended to limit a possible run on the pumps on the Thursday before an upward adjustment, or to cause consumers to delay purchases until the Friday following a downward adjustment.

Margin stability for wholesalers – forward averaging

A new benchmark price is prescribed every two weeks on the basis of the average change in the NYH daily spot price for the preceding two weeks. Wholesalers may be placed in an advantageous or disadvantageous position depending on how accurately the retrospective benchmark price adjustment reflects actual prices paid until the next adjustment.

- ❑ In an extended rising market, wholesalers would be buying at steadily higher prices over successive two-week periods and selling at a price fixed by regulation on the basis of conditions that prevailed over the previous two-week period. In these circumstances, their margin would fall below the specified margin (6.0 cpl) on each transaction leaving them in a low or potentially negative margin position.
- ❑ In an extended declining market, wholesalers would be buying at steadily lower prices over a two-week period and selling at a price fixed by regulation on the basis of conditions that prevailed over the previous two-week period. In these circumstances, their margin would rise above the specified margin (6.0 cpl) on each transaction leaving them in a relatively high margin position.

The regulations allow a mechanism called “forward averaging” to be used to limit the impact of what potentially could be extended periods of revenue gain or loss for wholesalers. Forward averaging gives the Regulator a tool to modify the benchmark price by adding to or subtracting from the bi-weekly adjustment so that the wholesaler tends towards a revenue-neutral position over the long term vis-à-vis the specified 6.0 cpl margin.

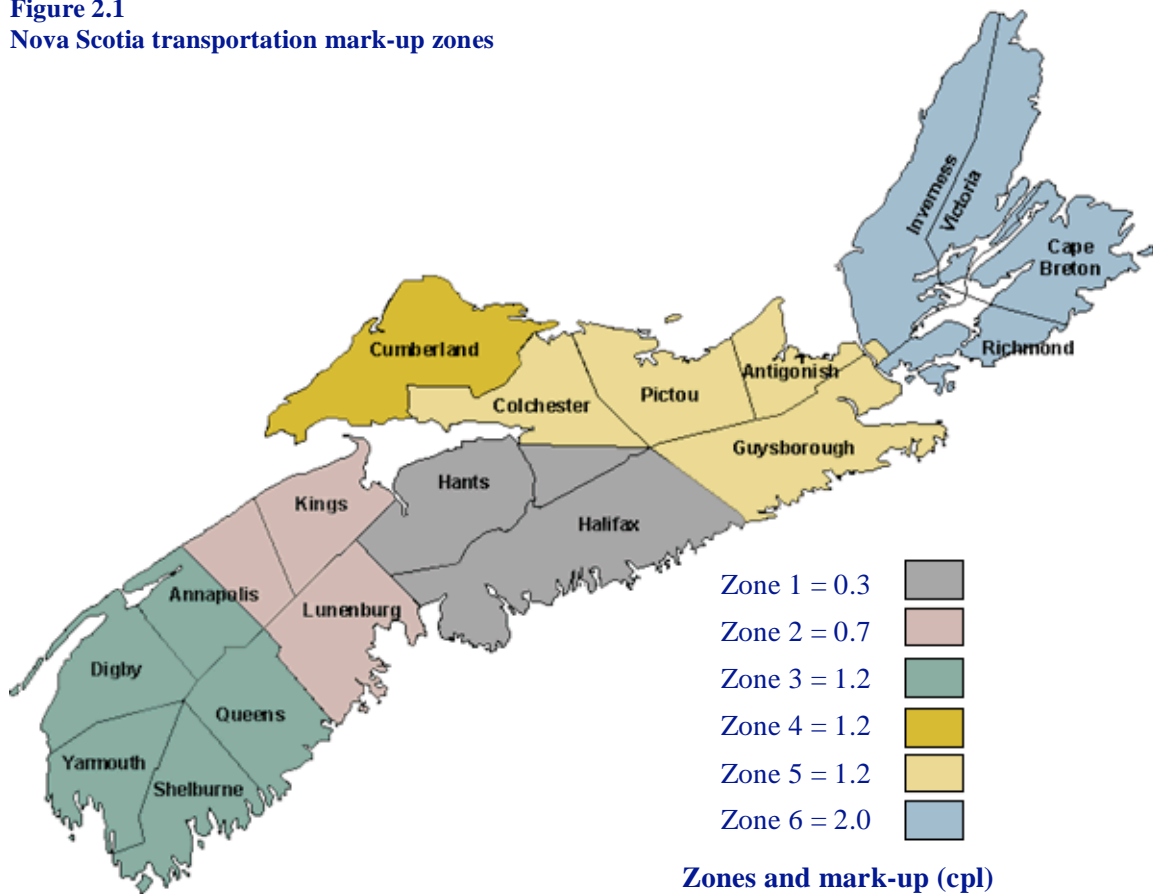
Forward averaging is used at the discretion of the Regulator, with the decision depending mainly on how closely actual wholesale margins track the target margin of 6.0 cpl. In deciding whether to invoke forward averaging, the Regulator would also consider such factors as price movements in unregulated markets elsewhere in Canada, price movements in adjacent provinces, and the general trend in price movements at the particular point in the annual price cycle.

Zones to cover transportation differentials

Transportation costs from the refinery to retail outlets represent one of the main sources of difference in retail prices across the province (differences in competitive conditions also contribute to price differences). Allowing wholesalers to incorporate transportation cost differences into the maximum wholesale selling price facilitates the prescription of a single wholesale margin.

Under regulation, the province is divided into six zones (Figure 2-1), with an average transportation allowance assigned to each zone. The allowance ranges from 0.3 cpl in Zone 1 nearest to the refinery, to 2.0 cpl in Zone 6 (capturing most of Cape Breton).

Figure 2.1
Nova Scotia transportation mark-up zones



Regulated margins or not: retailers have a choice

The Nova Scotia regulatory regime gives retailers the option of operating within the system of controlled margins, or opting out of regulation and continuing with their existing contracts with wholesalers. This is an important feature because it allows some flexibility in the event the regulated margins would leave retailers worse off than their existing arrangements.

Retailers have three options under the Regulations:

- ❑ **Opt out of regulation:** This would apply to the wholesale price and retail mark-up only. Even though they “opt out”, retailers are *still subject to the minimum and maximum retail prices established under regulation*. Under this option, the existing relationship with the wholesaler, including the compensation arrangement, remains in effect. Originally, a retailer’s decision to opt out of regulation had to be made in writing to the Regulator by August 31st, 2006, but this was extended to October 31st.
- ❑ **Not opt out of regulation:** Under this option, the regulated wholesale price and retail mark-up prevail over a contract between a wholesaler and retailer. Regulation was intended to replace all terms and conditions pertaining to compensation, but leave other terms and conditions of contracts intact.
- ❑ **Enter into a new contract with the supplier:** Under this option, the parties could agree on a new set of compensation arrangements after regulation came into effect and then opt out of regulation. This would preclude the application of the regulated wholesale price and regulated mark-ups.

2. Implementing regulation

Gasoline and diesel fuel became subject to regulation on July 1, 2006 when the price control provisions of the *Act* entered into force, giving effect to the Petroleum Products Pricing Regulations made by order in council on June 22, 2006.

Regulatory activity since July 1 has centred primarily on two matters: retailers and wholesaler-retailers have made decisions on whether to opt out or not opt out of regulation; and, the Regulator has implemented the pricing model featuring bi-weekly adjustments and controlled wholesale prices and retail mark-ups. Also, in September 2006, the Nova Scotia Utility and Review Board held hearings to address a range of issues in anticipation of taking over the role of Regulator from Service Nova Scotia and Municipal Relations (SNSMR).

Opting in and opting out

At the time dealers had to declare whether they intended to opt out or not opt out (or, opt in) of regulation, there were 442 retail outlets in Nova Scotia. They fall into two broad categories: independent and company controlled. Using the classifications provided by the Regulator, there were 269 independent and 173 controlled outlets in September 2006.*

* The Regulator classifies outlets as independent or corporate based on the ownership of and control over the assets. The petroleum industry would make control over the pump price the main criterion. If this criterion had been applied by the Regulator, the number of fully independent dealers would drop to fewer than 180, since the pricing decision for about 85 outlets is made by the suppliers as a result of consignment selling arrangements. In other words, these outlets do not take ownership of the gas they sell, but receive a commission fee (their margin) for selling it.

- **Independent:** the outlets divided about evenly, with 136 (51%) opting in and 129 (49%) choosing to opt out of regulation (Table 2.2). A survey conducted as part of this review revealed that about 70% of those opting in did so because they felt they would be earning higher margins under regulation. Most of those opting out did so because they decided they would not be better off, and could end up worse off, if they moved to the fixed wholesale price and regulated mark-up. Most of the dealers supplied by companies selling on a consignment basis opted out because they would have had to shift to a riskier buy-sell arrangement, and in some cases also because the supplier indicated that a fundamental change to the supply contract would trigger payment by the dealer for investment in station assets made by the supplier (i.e., pumps, signs, tanks).
- **Corporate:** All 177 company controlled sites opted out of regulation. With retail operations an integral part of the larger wholesale enterprise, there is no division of the regulated margin to be adjusted.

Table 2.2: About half the independent outlets opted into regulation.

Suppliers		Retailers opting in and out of regulation by supplier category			
		Number of outlets			
		Independent		Corporate	
Type	#	In	Out	In	Out
Reseller (1)	11	27		1	28
Independent marketer (2)	4			21	21
Branded wholesaler (3)	7	109	129	155	393
Total	22	136	129	177	442

1. Suppliers who buy from branded wholesalers and resell to rural stations

2. Cross-merchandisers (eg, Atlantic Superstore, Canadian Tire) operating under house brand

3. Major companies selling under their own brand (eg, Petro-Canada, Ultramar, Wilson)

Source: Service Nova Scotia and Municipal Relations

Implementing the pricing model

The Regulator implemented the pricing model on July 1 and made the first price adjustment on July 13th. By February 23, 2007, a total of 18 adjustments had been made to the benchmark, three of these unscheduled due to sharp changes in the market (Table 2.3). A total of 17 adjustments had been made for diesel, one unscheduled (Table 2.4). It is the adjusted benchmark price in the last column that forms the base on top of which are added the wholesale margin, transportation differential, retail mark-up and taxes to arrive at the pump price.

The key points to note in Table 2.3:

- **Trend:** a generally downward trend in the benchmark price characterized the first five months of regulation (July 1st to December 1st), with the benchmark dropping (with some fluctuations) from 63.6 to 48.9 cpl. The benchmark fluctuated over the next three months, settling at 49.9 cpl at the February 23 setting.
- **Forward averaging:** this was applied on 14 occasions, eight times to adjust the benchmark downwards because wholesalers had operated for an extended period at a position above the prescribed 6.0 cpl margin (due to steadily dropping prices), and six times to make an upward adjustment to compensate for margins below 6.0 cpl.
- **Interrupter:** three of the 18 adjustments were unscheduled, with the Regulator intervening when the NYH spot price dropped sharply due to major market upsets.

Table 2.3: Adjustments to the benchmark price of gasoline, July 2006 - February 2007

Date	Day	Price setting period	Benchmark NYH Avg (¢/L)	Forward Avg Amt (¢/L)	Adjusted Benchmark Price (¢/L)	Schedule/ Interrupter
1/7/06	Saturday	1	63.6	0.0	63.6	Scheduled
13/7/06	Thursday	2	64.6	0.0	64.6	Scheduled
27/7/06	Thursday	3	67.1	2.8	69.9	Scheduled
10/8/06	Thursday	4	69.3	-1.0	68.3	Scheduled
14/8/06	Monday	4	61.3	-1.0	60.3	Catastrophic
24/8/06	Thursday	5	58.1	0.0	58.1	Scheduled
31/8/06	Thursday	5	53.5	0.0	53.5	Interrupter
7/9/06	Thursday	6	51.5	-3.6	47.9	Scheduled
21/9/06	Thursday	7	47.4	-3.3	44.1	Scheduled
5/10/06	Thursday	8	45.1	-1.5	43.6	Scheduled
19/10/06	Thursday	9	45.2	-0.7	44.5	Scheduled
2/11/06	Thursday	10	45.1	-2.7	42.4	Scheduled
16/11/06	Thursday	11	45.9	0.1	46.0	Scheduled
1/12/06	Friday	12	48.9	1.3	50.2	Scheduled
15/12/06	Friday	13	49.8	0.4	50.2	Scheduled
29/12/06	Friday	14	51.6	0.0	51.6	Scheduled
12/1/07	Friday	15	46.6	0.0	46.6	Scheduled
19/1/07	Friday	15	42.2	0.0	42.2	Interrupter
26/1/07	Friday	16	42.6	-0.4	42.2	Scheduled
9/2/07	Friday	17	46.2	1.0	47.2	Scheduled
23/2/07	Friday	18	49.9	3.8	53.7	Scheduled

Source: SNSMR

Table 2.4: Adjustments to the benchmark price of diesel July 2006 - February 2007

Date	Day	Price setting period	Benchmark NYH Avg (¢/L)	Forward Avg Amt (¢/L)	Adjusted Benchmark Price (¢/L)	Schedule/ Interrupter
1/7/06	Saturday	1	61.2	0.0	61.2	Scheduled
13/7/06	Thursday	2	63.0	0.0	63.0	Scheduled
27/7/06	Thursday	3	65.6	2.8	68.4	Scheduled
10/8/06	Thursday	4	67.6	0.0	67.6	Scheduled
24/8/06	Thursday	5	65.0	0.0	65.0	Scheduled
7/9/06	Thursday	6	61.9	-3.6	58.3	Scheduled
13/9/06	Thursday	6	55.2	-3.6	51.6	Interrupter
21/9/06	Thursday	7	50.7	-0.7	50.0	Scheduled
5/10/06	Thursday	8	51.1	-1.1	50.0	Scheduled
19/10/06	Thursday	9	53.7	0.0	53.7	Scheduled
2/11/06	Thursday	10	52.7	-1.2	51.5	Scheduled
16/11/06	Thursday	11	52.6	0.0	52.6	Scheduled
1/12/06	Friday	12	54.8	1.1	55.9	Scheduled
15/12/06	Friday	13	56.3	0.0	56.3	Scheduled
29/12/06	Friday	14	54.2	0.0	54.2	Scheduled
12/1/07	Friday	15	50.7	0.0	50.7	Scheduled
26/1/07	Friday	16	48.2	0.0	48.2	Scheduled
9/2/07	Friday	17	51.9	1.3	53.2	Scheduled
23/2/07	Friday	18	52.8	1.4	54.2	Scheduled

Source: SNSMR

The key points to note in Table 2.4:

- **Trend:** a generally downward trend in the benchmark price characterized the first five months of regulation (July 1st to December 1st), with the benchmark dropping (with some fluctuations) from 61.2 to 54.8 cpl. The mild weather in December and January kept diesel prices down, with a modest recovery occurring in February. The benchmark settled at 52.8 cpl at the February 23 setting.
- **Forward averaging:** this was applied on nine occasions, five times to adjust the benchmark downwards because wholesalers had operated for an extended period at a position above the prescribed 6.0 cpl margin (due to steadily dropping prices), and four times to make an upward adjustment to compensate for margins below 6.0 cpl.
- **Interrupter:** one of the 18 adjustments was unscheduled, with the Regulator intervening when the NYH spot price dropped sharply in September due to a major market upset.

Utility and Review Board Hearings

Pursuant to government's stated intention to have the Board take over responsibility for regulation, the Board conducted public hearings in mid-September 2006 respecting three issues: zones, fixed wholesale prices and retail prices. The Board was not in a position to issue an order respecting these issues, but it did make several recommendations. These are reviewed in Chapter V.

III

NOVA SCOTIA GASOLINE MARKET

1. Industry structure

Overview

As backdrop to the general question concerning the impact and effectiveness of gasoline regulation, it may be useful to present an overview of industry structure and the competitive environment prior to the introduction of regulation.* Understanding the competitive environment is important because it helps to explain the adjustments that wholesalers, retailers and consumers are making as a result of regulation.

Industry structure captures that set of characteristics governing the nature of competition among buyers and sellers at each level of trade. These characteristics ultimately determine price competition – what consumers respond to in their buying decisions.

The relevant characteristics defining industry structure are:

- **industry concentration:** the number and relative size of buyers and sellers provides an indication of market power or price-setting ability. An industry composed of a few large firms ordinarily has more market power than one featuring many relatively small firms.
- **buyer-seller relationships:** formal and informal links between buyers and sellers that limit independence affect price levels and the speed with which prices change in response to changes in market conditions. The stronger these ties are, the less competitive the industry.
- **entry and exit conditions:** these are fundamental indicators of a competitive industry. Presence of barriers (e.g., financial, technological, regulatory, knowledge, access to supply, etc.) means prospective firms are unable to enter the industry when it appears profitable to do so.

Of course, an industry does not exist in isolation from wider economic forces outside its market area. While the Nova Scotia gasoline market is geographically bounded, it is heavily influenced by international factors such as crude oil prices and supply and demand for petroleum products elsewhere. The local refiner and marketers can do little about these conditions. They are price takers in the global oil market.

The gasoline market exists in a local context and is subject to local dynamics influencing the short-term and long-term demand side of the market. Short-term factors include day-to-day buying decisions, while long-term factors to consider include changing brand loyalty, shifting population and demography, changing buying patterns in response to emerging trends in marketing and merchandising, and even the influence of new road and highway routes.

* For a more detailed discussion of market structure and competition in the gasoline industry, see Gardner Pinfold et al, *Economics of the Nova Scotia Gasoline Market*, 2005.

Refining

Annual consumption of gasoline in Nova Scotia has remained stable for the past few years at about 1.2 billion litres of gasoline, and about 400 million litres of diesel fuel. Under ordinary circumstances, the Imperial Oil refinery in Eastern Passage supplies 100% of the Nova Scotia requirements. Even though five other brands are offered in the province, essentially all the fuel is supplied by Imperial.

A single refiner supplying a range of branded wholesalers is the norm in Canada and is made possible through product exchange agreements amongst refiners. For example, Imperial provides Irving and Ultramar with product in Nova Scotia in exchange for equivalent quantities in New Brunswick and Quebec, respectively. Any differences in quantities required between markets are settled using an agreed reference price. The New York Harbour spot price is ordinarily used as the basis for these periodic settlements.

Reduced production and marketing costs represent the major benefit of these exchange agreements. Companies no longer have to incur substantial transportation and storage charges to move product from their own refineries and hold it in various markets. By matching refining capacity to demand over more extensive market areas, refineries are able to operate at higher utilization rates (over 90%) and carry lower inventories.

Marketing

Wholesale

The wholesale sector consists of 21 companies supplying the province's 442 retail outlets. The seven wholesalers obtain petroleum products directly from the refinery, while the 14 smaller ones (often referred to as resellers) buy from larger wholesalers and supply their dealers from regional bulk plants.

The province's resellers operate primarily as heating oil suppliers, while also supplying gasoline to a limited number of retail outlets located primarily in rural and remote areas. The 25-30 dealers they supply tend to be low volume outlets (pumping 100-500,000 litres per year) with relatively high supply costs, and accordingly not of interest to the larger wholesalers.

Each of the oil companies (marketers or wholesalers) takes its gasoline and diesel supply from the Imperial terminal in Eastern Passage. The terminal incorporates blending facilities allowing each company to include additives distinguishing its brand from the others. From there, the fuel is trucked to stations throughout the province, or shipped or trucked to smaller terminals and bulk plants for regional distribution by resellers.

The larger wholesalers contract the services of specialized product carriers to deliver the fuel directly to their outlets, and to the regional bulk plants. From the companies' perspective, using a third party to carry the fuel is not only more efficient, but it reduces the capital tied up in marketing.

The smaller wholesalers tend to operate their own trucks, delivering from bulk plants to their rural outlets. This is a high-cost business, since the delivered cost includes both transportation to the bulk plants, as well as transportation from the bulk plants to the outlets.

Retail

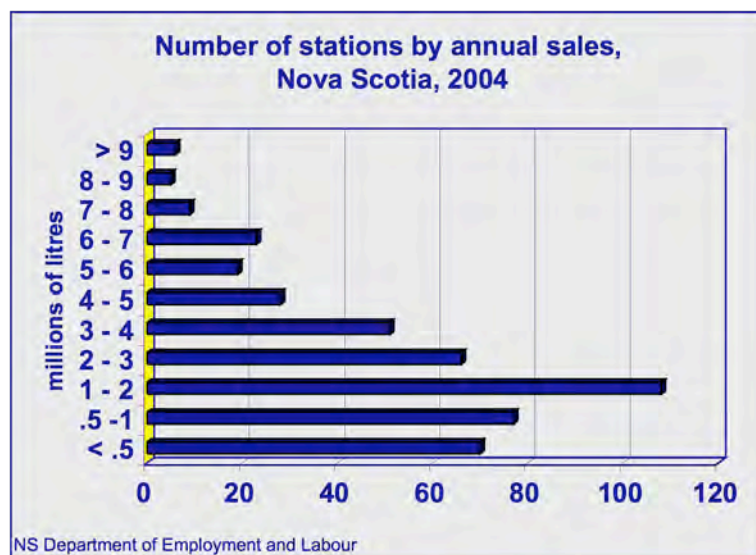
At the time regulation was introduced, there were 442 retail outlets serving Nova Scotia motorists (Table 2.2). Station numbers have been declining for the past 20 years, with the total dropping by more than half. This trend, comparable to that occurring throughout North America, was driven initially by two main factors, declining demand and financial discipline. Declining demand resulted in greater competitive pressures and steadily falling margins, while financial discipline amongst the major oil companies resulted in aggressive rationalization of outlets. This in turn resulted in higher average volumes and the ability to sustain lower margins.

With de-regulation in Nova Scotia in 1991, the industry was able to respond to the demand for convenience, introducing self-serve stations offering a wide array of ancillary services. These relatively profitable offerings allowed the major companies to compete more aggressively on fuel, resulting in continued pressure on margins. These competitive pressures were felt throughout the industry, threatening the viability of smaller independent stations. Many simply lacked the resources to make the adjustments, or were located in areas where such adjustments were not feasible.

The retail sector is comprised of 155 outlets controlled by one or other of the six major wholesalers, and 287 independently-owned stations. The independents fall into three categories: those who own the site and control the pump price (about 181); those who own the site and sell fuel on a consignment basis, with the supplier controlling the pump price (about 85); and, independent marketers (cross-merchandizing retailers including Atlantic Superstore, Sobeys, Canadian Tire and Co-op Atlantic) who own and control several sites and sell under their own brand (21).

Stations vary widely by size, with 10 or so of the smallest selling under 100,000 litres annually, and 10 or so of the largest selling 8 million litres or more. The distribution of stations by annual sales volume (based on 2004 data) is shown in Figure 3.1.

Fig. 3.1: One-third of Nova Scotia stations sell under one million litres annually. These are rural and remote outlets especially dependent on high margins and non-fuel revenues for their viability.



2. Pre-regulation competition and pricing

Context

Competition in the gasoline market is carried out at two levels – refining and marketing. Though regulation directly affects prices only at the marketing stage (i.e., between wholesalers and retailers and consumers), understanding how prices are set between refiner and wholesaler is important because it is the actual acquisition cost of product that determines the floor for the wholesale margin, not the NYH spot price. This is a critical issue for all resellers and the two independent wholesalers who buy in relation to the price set by the refiner. The Halifax rack price, not the NYH spot price, determines their margin.

Refining

Nova Scotia's one refinery has the option of selling into the local market or exporting product from the province to other markets. Subject to any supply contracts, the decision where to send product depends on which market offers the refiner the best return, usually expressed as the highest net price per litre. By net price is meant the actual price received by the refiner, net of any transportation and related costs.

To illustrate the market dynamics, consider two situations.

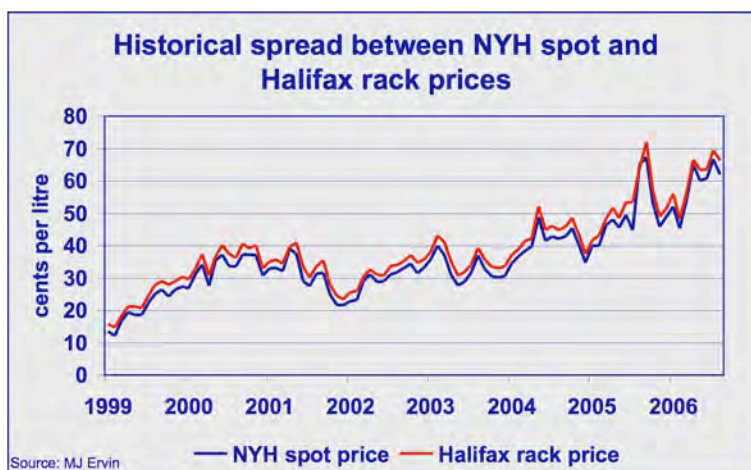
- **Rising export prices:** if prices in regional and export markets are rising relative to prices in Nova Scotia, Imperial has an incentive to sell outside the province as long as the net price is higher. Increased supply into the external market causes prices to decline. Conversely, decreased supply into the local market causes upward pressure on local prices. Eventually, net prices equalize as demand and supply are balanced across the whole market area.
- **Rising local prices:** if prices in Nova Scotia rise relative to prices elsewhere (say, due to increased demand), Imperial would have the incentive to increase supply to the local market and reduce it to export markets to take advantage of the price difference. For example, if price in the local market rises to 61 cpl and it costs 1 cpl to transport the fuel, the refiner receives a net price of 60 cpl. If the export market pays 60 cpl and it costs 2 cpl to transport the fuel, the refiner receives a net price of 58 cpl. It pays to adjust supply to the respective markets until the net price equalizes at, say, 59 cpl.

Making the market dynamics more competitive is the availability of alternative sources of supply in the market area. The price Imperial receives for gasoline is not determined by Imperial alone based on its reading of relative prices in the market area – competitors also play a role.

- **In the short run**, other refining companies would be expected to keep the price in check by competing to meet demand (when relative prices rise) through some combination of lower prices and more favourable supply arrangements. They could do this by actually bringing in supply into the province, or by offering product obtained from Imperial under established product exchange agreements. It is possible that the price offered by Imperial could exceed that of a competing supplier (e.g., Irving, Ultramar), even though both are taking supply from the same refinery. How competition plays out in any particular circumstances would depend on the demand and relative prices each supplier faces.

- **In the long run**, the Halifax rack price would be expected not to deviate from the least cost alternative source of supply by more than a small premium over the cost of transportation. In practice, this is the case, with the refinery price dependent on wider market conditions (e.g., the availability of imports) as reflected in the New York Harbour spot price. The Halifax rack price tracks the NYH spot price closely, differing by an average of 2.6 cpl in the seven years prior to regulation (Fig. 3.2). Because it is tied closely to one of the most competitive gasoline markets (NYH), the Halifax rack price tends to be one of the lowest rack prices in Canada resulting in one of the lowest refining margins.* This contributes to Nova Scotia's relatively low retail prices (ex-tax).

Fig. 3.2: Between 1999 and 2006, the spread between the NYH spot price and the Halifax rack price averaged 2.6 cpl. If the gap widens on a sustained basis beyond this level, it opens up the possibility of competition from imported product. The gap may widen during periods when supplies are tight and narrow during periods of abundant supply. But these periods tend to last for no more than a few months.



The issue of a competitively determined rack price is a key one for the non-integrated wholesalers and the 14 resellers who buy product in relation to the rack price, not the NYH spot price. The price they are able to negotiate with the refiner-marketers is determined largely by the volume they take. While this would put them at or near the rack price, it still leaves them above NYH and the price at which their suppliers trade. In other words, they operate at a competitive disadvantage because the best price they are able to obtain would, over the long term, exceed that of the refiner-marketers with whom they compete.

Notwithstanding a long-term average spread of 2.6 cpl between the NYH spot price and the Halifax rack price, the non-integrated wholesalers and resellers have demonstrated their ability to compete. The size of the gap becomes particularly significant under regulation because the wholesale margin is based on NYH, and any widening of the gap effectively reduces the margin for those buying off the Halifax rack. This would place them at a competitive disadvantage.

* The average refining margin for regular gasoline (the difference between the price of crude oil and the rack price) for Halifax has risen from 10 to just over 11 cpl over the past two years, compared with the national average that has increased from about 11 to 14 cpl. See *Fuel Focus*, Natural Resources Canada, March 2, 2007 at: http://fuelfocus.nrcan.gc.ca/index_e.cfm

Marketing

Competition in the marketing sector occurs at two levels: among the major companies (brands) to maximize return on capital and market effectiveness¹, and between wholesalers and independent dealers to maximize the respective shares of the marketing margin.

The companies pursue their objectives (return on capital and market effectiveness) by trying to secure the best sites for their outlets (and holding on to the highest volume outlets), by improving the range of services offered, and by maximizing the throughput at these sites through various forms of marketing. Marketing initiatives include product differentiation (trying to convince consumers that a brand is better than another because of performance enhancing additives), promotional and loyalty programs (including coupons, air miles, cash rebates), and price.

Competition between wholesalers and independent retailers is built on a foundation of mutual dependence. Wholesalers need to have reliable outlets for the products they want to sell. Retailers need to count on a reliable source of supply. The arrangement works as long as the balance struck in the division of the overall marketing margin generates an acceptable return for both parties. When it falls short for the wholesaler, the company may discontinue supplying the dealer (subject to contractual obligations). When the return is no longer acceptable for the retailer, the owner would look for another supplier, and failing that, exit the industry.

The marketing margin is the difference between the wholesaler's acquisition cost of fuel and the pump price (excluding tax). It has to cover the full cost of doing business (wholesale and retail) including distribution, storage, advertising, promotions, outlet operations and maintenance, wages and salaries and profit. With most of the gasoline consumed in the province sold by one of the major oil companies, the acquisition cost of fuel would lie slightly above the NYH spot price.²

Before examining how wholesalers and retailers compete to maximize their respective shares of the regulated margin, it is worth reviewing recent trends in the margin. Over the past several years, the average spread between the NYH spot price and the Halifax pump price (excluding tax) has been gradually widening.³ Between January 1999 and June 2004, the spread expanded by about 2.0 cpl, rising from an average of just over 8.0 cpl to about 10.0 cpl. This means the regulated margin – the basis of revenue for wholesalers and retailers – had been gradually increasing. The long-term trend (using weekly data) is shown in Figure 3.3.

In the two years immediately prior to the introduction of regulation (July 2004 – June 2006), the spread between the NYH spot price and the Halifax pump price averaged 10.3 cpl. Though it continued to fluctuate widely (generally, between 8 and 12 cpl), the expansionary trend from late 2003 had slowed by mid-2006. From July 2006 onwards the expansion and contraction in the spread (margin) shown in Fig. 3.3 would be influenced by regulated adjustments.

¹ Market effectiveness is the ratio of the percentage of total volume sold by its controlled sites to the percentage of industry sites it controls. Adopting this as a marketing strategy implies a focus on high volume stations.

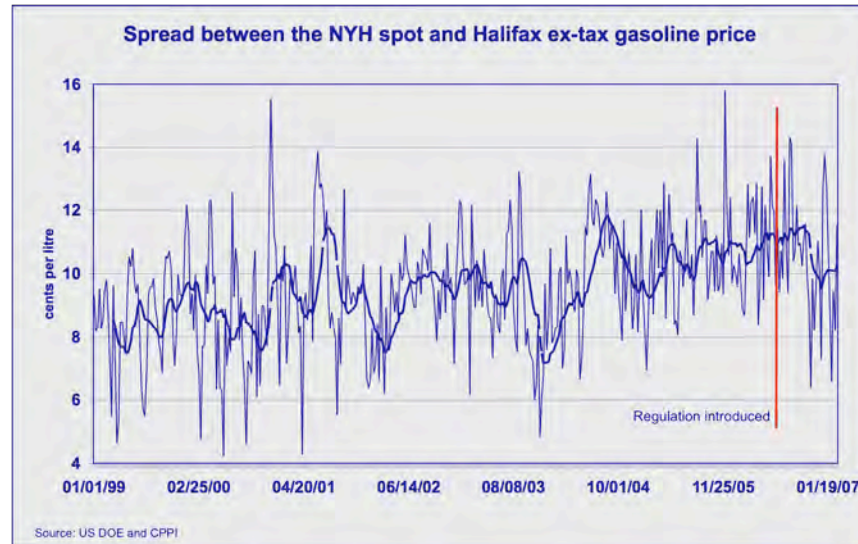
² The marketing margin is usually defined as the difference between the rack price and pump price, but only a limited volume of gasoline is actually traded on these terms. The true marketing margin would be higher for most of the gasoline sold, lying above NYH and below the rack price. Unless otherwise indicated, the term “regulated margin” is used in this report to refer to the spread between NYH and the pump price since this is consistent with the approach used to set margins under regulation.

³ The Halifax pump price serves as a suitable basis to illustrate how the marketing margin has changed, since this market accounts for 45-50% of the fuel sold in the province.

Two possible explanations are available for the rising regulated margin: a less competitive environment and/or rising costs. There is little to suggest the environment is any less competitive than it was in the 1990s; indeed, the emergence of a new wholesaler (Wilson) and the continued exit of retailers from the industry would indicate that competitive pressures are no less intense than they were a decade ago. The higher regulated margin is more likely attributable to the industry-wide pressure for higher unit revenues to cover rising operating costs including insurance, credit card fees, transportation and labour.

The Government of Nova Scotia used this period, mid-2004 to mid-2006, as the basis for setting the regulated margin (more on this in the next section).

Fig. 3.3: A 12-week moving average shows the trend in the spread between NYH and the Halifax pump price widened in the two years leading to regulation. The average continued to increase in the first six months of regulation. The first extended narrowing of the spread occurred in February 2007.



Though considerable focus is placed on the margin or mark-up on gasoline in the discussion of the viability of independent dealers, the financial relationship between wholesalers and retailers is generally more complex. What counts for retailers at the end of the year is net revenue, not simply the margin at the time fuel is purchased from a wholesaler. That margin can go up or down, depending on what happens to prices before the next load is purchased. And though the margin on gasoline sales makes a major contribution to net revenue, other factors also enter the calculation:

- The dealer may sell on a consignment basis rather than taking ownership of the fuel, and if so, the margin would be lower to reflect the lower risk, inventory carrying costs and investment. Though the dealer margin may be, say, 1.0 cpl lower in a consignment arrangement, there may be little or no difference in net revenues when risk, carrying costs and debt service charges are considered.
- Depending on who takes responsibility for investment in assets and pump maintenance – the dealer or wholesaler – the dealer’s costs would be higher or lower. For a variety of reasons, the parties may negotiate an arrangement that sees some of these costs absorbed by the wholesaler. If so, the margin may be lower than it otherwise would since the dealer’s costs are reduced.

- The dealer may receive a cross-lease or rebate payment that may not show up in the dealer margin, but these would nonetheless contribute to net revenues. Such payments are common practice in the industry, particularly in the case of larger volume dealers that wholesalers want to commit to long-term contracts. Some cross-leases also reflect supplier investments in assets.

The point is that looking only at the margin, or comparing margins and changes in margins without knowing more about the full extent of the financial arrangements, is unlikely to provide a reliable basis for assessing the respective financial positions of wholesalers and retailers. As we see in the next section, this limitation carries important implications for assessing the impact of regulation.

3. How regulation may affect structure and competition

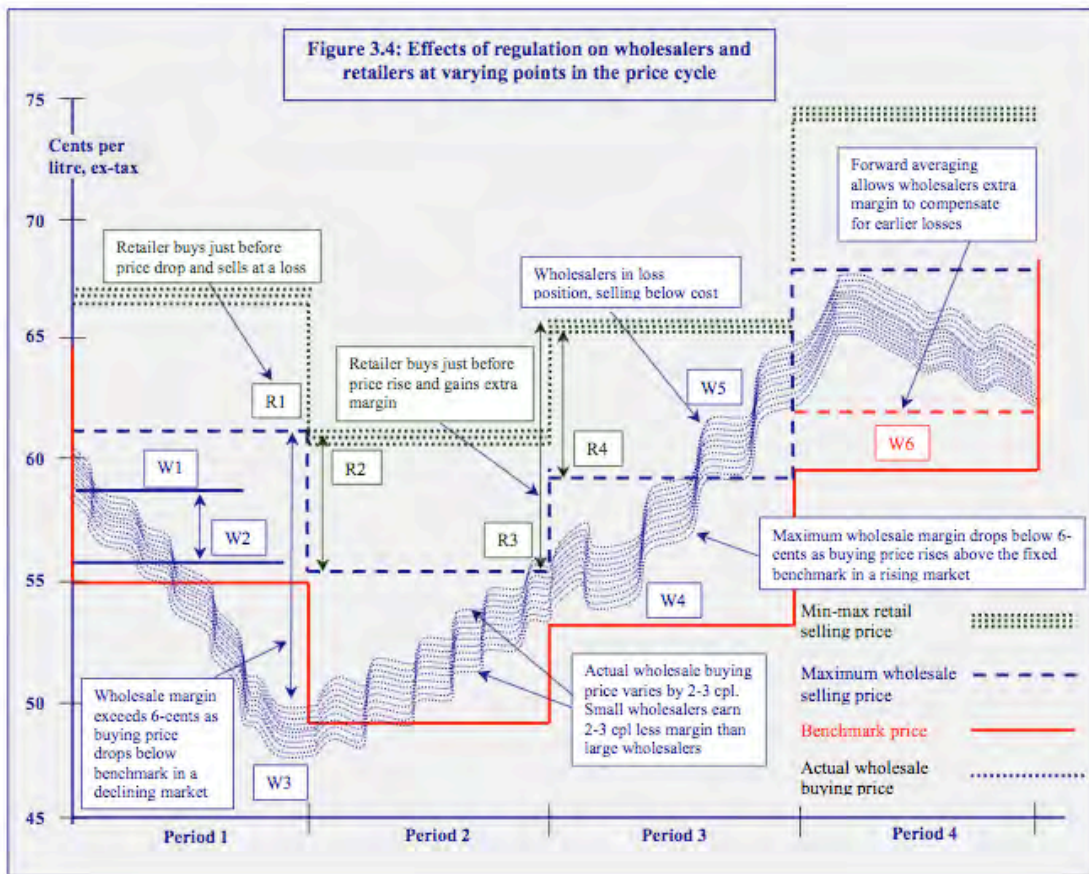
Operations

Wholesalers and retailers have to adjust to a new pricing environment. It is intended to increase retail price stability, though it accomplishes that by bottling up small changes at the wholesale level and passing them along in generally larger price shifts at two-week intervals. Depending on the direction and magnitude of the underlying movement in commodity gasoline markets between adjustments, wholesale margins would expand or contract, even declining to negative levels. For retailers the challenge is also to absorb swings in margin occurring because of the timing of gasoline purchases. Buying just before a downward adjustment means selling at a reduced or negative margin; buying just before an upward adjustment may produce a windfall.

In short, regulation may lead to improved margins and enhanced net revenue, but it also results in a new set of challenges for both wholesalers and retailers. Figure 3.4 tries to capture how the regulatory framework – the pricing model in particular – works and the kinds of issues it presents for the industry. The four main elements in Fig 3.4 are: a) the actual acquisition cost of gasoline (shown as a blue band, reflecting the range of prices paid by the largest volume wholesalers, W2, and the smallest resellers, W1); b) the benchmark price (shown as a red line, adjusted every two weeks depending on the average change in NYH); c) the maximum wholesale selling price (shown as a blue dashed line, moving in lock step at 6.0 cpl plus transportation above the benchmark); and d) the retail price (shown as a green band, reflecting the min-max range, moving in lock step at 4.0-5.5 cpl above the wholesale selling price.

- **Wholesalers gain in Period 1:** the margin exceeds 6.0 cpl because in a declining market wholesalers (W3) are able to buy below the benchmark price and sell at the maximum wholesale price.
- **Retailers lose in Period 2:** a retailer (R1) filling the tanks just before the price adjustment at the start of Period 2 would not realize the retail margin and could incur a loss on sales until the tank is refilled (R2). Most retailers do not have the luxury of timing their purchases given the logistics of the gasoline distribution system. Those who do often lack the skills to track the NYH price and predict changes accurately. Also, the prospect of an unpredictable forward averaging adjustment makes this a risky decision.
- **Retailers gain in Period 3:** a retailer (R3) filling just before a price rise realizes extra margin on sales as long as the tank lasts. The retailer filling just after the rise (R4) earns the regulated margin.

- ❑ **Wholesalers lose margin in Period 3:** the wholesale margin is squeezed (W4) when the acquisition cost rises above the benchmark price in a rising market.
- ❑ **Wholesalers sell below cost in a rising market in Period 3:** if the market continues to rise sharply enough, wholesalers (W5) could find themselves in a loss position (buying and selling when the cost of gas exceeds the maximum wholesale price).
- ❑ **Forward averaging in Period 4 compensates for earlier losses:** the benchmark price is adjusted upwards to allow wholesalers extra margin to compensate for a period when the margin fell below 6.0 cpl. The regulator makes periodic adjustments using forward averaging to try to maintain the wholesale margin at an average of 6.0 cpl.



Structure

The Nova Scotia regulatory system does not directly affect industry structure in the sense that specific measures are aimed directly at the number and relative size of buyers and sellers, the nature of the relationship between wholesalers and retailers, or entry and exit conditions. Nonetheless, through its effect on prices and margins, regulation could influence these determinants of industry structure in an indirect way over the long term.

Among the theoretical implications for industry structure:

- **Number and relative size of wholesalers and retailers:** regulation does not dictate or specify levels of service, but is intended to strengthen supply infrastructure in the gasoline market, particularly in rural and remote areas. It is not intended to increase the number and relative size of wholesalers and retailers, but to stabilize the numbers by providing a more attractive economic environment for existing and prospective dealers.

Regulation seeks to do this indirectly by improving retail economics through higher margins and uniform pricing. Higher margins mean higher revenues for stations that opt in, while uniform pricing within zones is aimed at inducing consumers to buy gas in their community rather than in urban centres where actual and effective prices are often lower (because of coupons, etc.).

Achieving some measure of stability in gasoline infrastructure (wholesalers and retailers) could be possible under two assumptions: a) the financial proposition must be more attractive than that prevailing under market conditions, i.e., the regulated margin must be high enough to make retailers better off without making wholesalers worse off; and, b) consumers must be willing to pay more to sustain their community gas stations, many of which offer full-serve only and lack the resources to switch to self-serve.

- Assumption a) effectively means that the retail margin must expand, and for it to do this, consumers would pay more. How much more is difficult to say, since station economics vary widely. An increase in the minimum retail mark-up of 2.0 cpl (increasing it from 4.0 to 6.0 cpl) would give each of the 70 or so stations pumping between 100,000 and 500,000 litres per year an additional \$2,000 to \$10,000 in revenue. The total cost to consumers would be \$20 million annually for gasoline alone (since the extra 2.0 cpl would have to be applied to the minimum price everywhere).
- The likelihood that assumption b) would prove valid is doubtful. Consumers in the province have demonstrated considerable reluctance to pay a cent or two more to support local stations in small communities, particularly as prices have risen to the \$1.00/litre range. This is one of the main reasons why rural stations are failing. With the increasing prevalence of cross-merchandising, many rural dealers face not only the challenge of competing against self-serve stations with their 2.0 cpl price advantage, but of competing with supermarkets offering coupons that effectively create a price gap of 5.5 cpl.

- **Relationship between wholesalers and retailers:** regulation is not intended to force integrated marketers to divest their retail operations (as some U.S. jurisdictions have done in an effort to promote competition), and nor is it intended to limit or extend the independence of independent dealers in any fundamental way.

But regulation *is* intended to give independent retailers the opportunity to enhance the financial aspects of the relationship by opting for higher regulated margins. While this does not alter the nature of the arrangement itself (independent wholesalers and retailers bound by contract), it does have the potential to upset key ingredients of contracts to the point where it redefines the relationship.

Independent stations may be arrayed along a spectrum from high volume (profitable) to low volume (marginal). The financial arrangement for the higher volume stations generally involves a mix of margin/consignment fee, rebate/cross-lease and investment on the part of the wholesaler. The lower volume stations – ones that tend to represent higher costs for suppliers – would ordinarily receive a margin or consignment fee only. The financial arrangement for the group in the middle tends to be limited to margin, possibly rebate and some investment.

- An independent dealer deciding to opt *out of* regulation would presumably do so because the contribution to net revenue of the existing arrangement (the combination of margin/fee/rebate/cross-lease and cost reduction) exceeds that of the margin offered under regulation. In this case, there is no change in the contractual arrangements and the status quo is preserved.
- An independent dealer deciding to opt *into* regulation would presumably do so because the margin under regulation exceeds the contribution to net revenue of the existing arrangement. In this case, there could be a change in the contractual arrangements and a redefinition of the relationship.

It is this latter case that is of interest because the result is one that departs from what had evolved under market conditions. A key assumption is that the retailer acts rationally and in full knowledge of the financial implications of the decision. Setting aside any questions of what may be fair or reasonable in the circumstances, by opting in the retailer expects to be better off as a result of the higher margin. Conversely, *assuming that the marketing margin has not increased*, by making the retailer better off, the wholesaler has been made worse off. In other words, with a constant overall marketing margin, the higher margin for the retailer means a lower margin for the wholesaler.

The question for the wholesaler comes down to a simple economic test: does the lower wholesale margin earned by supplying a dealer who opts in at least cover the costs of supplying that dealer. In the short run, there may be weeks when it does and weeks when it does not, depending on the relationship of wholesale buying and selling prices. In the long run, it depends on the net effect of these positive and negative weeks.

In the abstract, the result is indeterminate. Conditions in the regulated market will have to play themselves out before the net effect can be known with certainty. But given the direction of change, it is possible to speculate. What is most likely to occur in the long run is a decline in the number of low volume/high cost stations. While the higher margin the retailers realize may be enough to keep *them* in business, the higher cost of supplying them makes it less attractive for the wholesaler or reseller.

In short, regulation changes the relationship between wholesalers and retailers through its impact on supply economics. Ultimately, this is likely to affect industry structure by putting downward pressure on the number of retailers.

- **Entry and exit conditions:** regulation imposes no direct barriers to entry and nor to exit in the sense that any measures create regulatory hurdles constraining the freedom to move in and out of the industry. Rather, the influence of regulation on entry and exit occurs indirectly through the implications of the pricing model. The influence would be felt at both the wholesale and retail levels.
 - For wholesalers, the net effect of regulation as it is currently configured is likely to be at best neutral and at worst negative. On the negative side, the pricing model puts a cap on revenue potential by limiting the margin on sales to independent dealers who have opted into regulation. The two-week period between adjustments limits pricing flexibility and introduces the prospect of selling at a loss in a rising market (this may be balanced by periods of selling at greater than normal margins in a declining market). Tying the benchmark price to NYH creates potential difficulties for wholesalers whose buying price is tied to the Halifax rack. Their margins are lower to begin with and could decline if the gap between the rack and NYH expands.

The cap on margin plus the lack of flexibility between adjustments, coupled with forward averaging, add to uncertainty and risk. They also have the potential to add to cost as companies attempt to reduce risk through hedging activities. The net effect of these factors is likely to make gasoline marketing a less attractive business (particularly for wholesalers and resellers tied to the Halifax rack) thereby creating an incentive for exit and a disincentive to entry. Suppliers are unlikely to want to sign up new dealers in these circumstances, particularly if they want to opt in.

- For retailers, regulation is intended to provide a higher average margin than they earned historically. The floor is set at a level at or above the average in the industry prior to regulation, but generally below that needed to sustain low-volume rural stations (and below where many may have operated prior to regulation). The ceiling for self-serve is set at a level above the average prior to regulation, and well above the level experienced by many stations. On the other hand, the price ceiling for full-serve is set below the level realized by at least some (and possibly many) rural stations, effectively capping margins at below pre-regulation levels.

The higher margins would act as a disincentive to exit, and could act as an incentive for entry, though this would depend heavily on location, volume and type of service. Where the regulated margin makes the difference between break-even and profit, then there is an incentive to stay in. Suggesting regulation could act as an incentive for entry does not mean that new stations are likely to spring up, but that the industry could attract entrants to take over existing stations as previous owners retire, which by all accounts has become increasingly difficult in recent years. For low volume retailers (the 70 or so under 500,000 litres), particularly those offering full service only, the regulated margin may result in enough additional revenue to make it worthwhile for some to stay in, but for others, the ceiling on full-serve reduces the margin and acts as a financial incentive to exit.

Competition

This section explores the effects regulation could have on established patterns of competition in the Nova Scotia gasoline market, and the possible implications of these effects.

Regulation is generally a blunt instrument when used to address disparate economic objectives. It often forces conformity in a market otherwise characterized by highly differentiated modes and patterns of competitive behaviour. How effective regulation is likely to be in meeting its objectives will depend to a large extent on the consistency of the objectives, how closely the regulatory measures are aligned with the objectives, and whether and to what extent the regulations are likely to produce results that are inconsistent with the objectives. Effectiveness will also depend to some extent on the influence of external factors beyond the control of the regulatory framework.

- **Refining:** The regulatory system makes no attempt to control the refinery-selling price or any other aspect of competition at the refining stage. Regulation takes the NYH spot price as its starting point for determining the benchmark price from which the wholesale margin is measured. In so doing it bypasses the rack price and any role the relationship between NYH and the rack price may play in influencing competition.

This influence occurs through the spread between NYH and the rack price, and it influences the position of any wholesalers in the market who buy in relation to the rack price. When the NYH-rack spread widens as it did during the first several months of regulation, the competitive position of wholesalers had the potential to deteriorate. Any who were selling subject to the fixed wholesale price, would have faced a declining margin as the rack price moved farther away from NYH. This would have placed them at a competitive disadvantage vis-à-vis wholesalers buying in relation to NYH.

- **Marketing:** The effect of regulation on competition is felt at the marketing stage – both as it influences the relationship among wholesalers, and between wholesalers and the retailers they supply.
 - **Price matters less:** Prior to regulation, the major oil companies could, and did, compete on the basis of price. One company in particular built its marketing campaign around low prices and played a key role in sustaining a competitive environment in the province. Regulation has restricted the ability to compete on price, resulting in a shift in market share amongst the major brands.
 - **Convenience and coupons matters more:** Consumers and companies confirm that motorists no longer feel the need to shop around for gasoline. With uniform prices (within zones) consumers shop where it is most convenient. This may be in the local community, but more likely it means combining the gasoline purchase with a shopping trip and gaining discount coupons at the same time. A regulated market increases the competitive threat that discounters pose to local stations because price is effectively taken out of the equation.
 - **Will full-serve survive?** Most stations offer self-serve only because competitive pressures make it uneconomic to offer full-serve. Only about 20% of gasoline sales fall into the full-serve category, much of this at smaller stations in rural locations where demographics continue to play a major role in determining service offerings.

Under regulation, stations may price full-serve at self-serve prices in order to compete. This provides the kind of flexibility some dealers need in order to compete. But at self-serve prices, the business case for full-serve is weak at best. On the other hand, in the pre-regulation market some full-serve stations in less competitive locations were able to charge more than the usual 2.0 cpl premium over self-serve. Customers were happy to pay it for the convenience and service, and stations survived with the higher margin. Under regulation, the full-serve price is capped at 2.0 cpl over the self-serve maximum. Capping the margin in this way undermines the economics of these stations and hastens their exit from the industry.

IV

IS REGULATION MEETING THE OBJECTIVES?

1. Overview

This section examines whether regulation is meeting its objectives. The assessment relies on several indicators, with indicators quantified using data obtained from published and unpublished sources as well as directly from industry participants. The indicators, data and data sources are summarized in Table 4.1.

Table 4.1: Nova Scotia gasoline regulation, evaluation framework

Objective	Indicator	Data	Data Source
Price stability	▪ Number & size of price changes prior to & with regulation	▪ Daily prices in Nova Scotia centres ▪ Consumer & dealer perceptions	▪ Gasoline marketing companies ▪ Dealer survey ▪ Consumer focus groups
Maintaining infrastructure	▪ Number and location of stations & suppliers ▪ Viability of wholesalers & retailers	▪ Station & supplier closures and openings ▪ Margins and net revenues	▪ NS Government ▪ Supplier interviews ▪ Dealer survey & interviews
Price uniformity & limited relative price change	▪ Relative prices prior to & with regulation ▪ Price uniformity across province	▪ Avg. weekly prices across NS ▪ Avg. weekly prices across Canada	▪ Natural Resources Canada ▪ Price reporting services

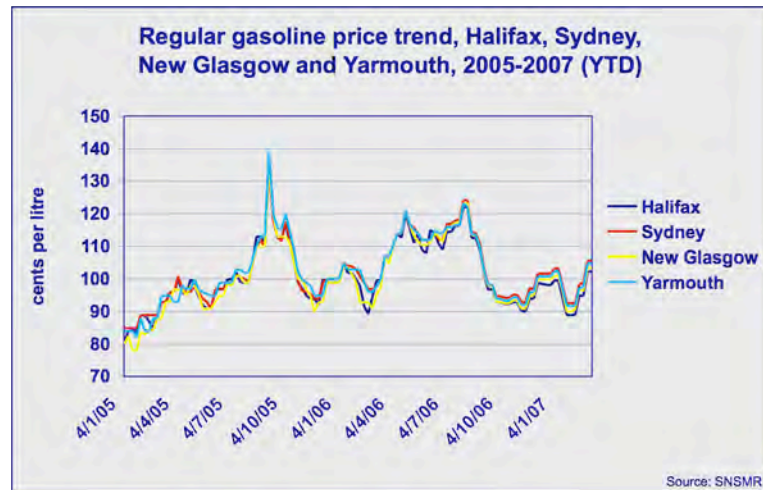
2. Price stability

Gasoline and diesel prices have become increasingly volatile since the early 2000s. Figure 4.1 shows price movements in Nova Scotia since the beginning of 2005. Three main factors account for the volatility:

- ❑ **periodic supply constraints:** these arise from limited spare capacity in the refining sector. Refining capacity in North America has not kept up with rising demand over the past 25 years, with most refineries running at 90-95% of capacity. These high utilization rates carry pricing implications. Prices fluctuate seasonally in response to changing demand (up in spring/summer and down in fall/winter). But more significantly, high utilization leaves little room to adjust to events causing refinery shutdowns (e.g., hurricanes, accidents), resulting in price spikes.
- ❑ **global events:** markets in Nova Scotia and elsewhere in Canada are tied into the global trade in crude oil. This means crude prices in Canada are influenced by global events, including those with a direct bearing on supply such as OPEC production decisions and strife in the Middle East. The implications of these events are amplified by rising demand (particularly in the Far East) because there is limited room to adjust production capacity. Even though crude and gasoline trade in distinct commodity markets, they are linked in the long run.

- **commodity trading:** gasoline and diesel trade in international commodity markets. Not only does this mean more or less instantaneous reaction to global events affecting supply and demand, but prices are subject as well to all the speculative behaviour normally associated with commodities. With its own refinery and need to be competitive in commodity markets, prices in Nova Scotia and the rest of Canada are subject to these same international pressures. For a region or nation to try to insulate itself would undoubtedly affect investment in the sector and influence commodity supplies.

Figure 4.1: Gasoline prices vary in the short term and seasonally. They rose with some fluctuations early in 2005, hitting a peak in September. They dropped sharply during the late fall and winter, hitting the seasonal low in early 2006. They climbed again, hitting their next seasonal peak in mid-summer. Their next seasonal decline more or less coincided with the start of regulation. They began their seasonal climb again in early 2007.



Consumers object to price volatility – both the unpredictability and frequency of price changes. They do not understand why these changes are necessary and tend to be deeply suspicious of the large oil companies whom many believe are manipulating prices.

The retail dealers often bear the brunt of the frustration and anger. For example, consumers know that gasoline goes into the station's tanks at a certain cost one day, and do not understand why that same gas costs 10 cents per litre more two days later. With irate customers at the pump, explanations linked to last-in/first-out accounting principles and the need to generate the cash flow to replace supply tend not to be persuasive.

Regulation is aimed at stabilizing the very short-term price increases – those occurring on a day-to-day basis – not the wide swings shown in Fig. 4.1. Government chose to regulate margins at the wholesale and retail levels in an effort to achieve price stability – to limit the number of changes and make their timing more predictable. Attempting to achieve stability by regulating the refinery-selling price might have been considered an option, but presumably the potential negative investment and supply implications caused this to be ruled out. Instead, wholesalers are put in the position of absorbing the swings in the market.

The assessment of how regulation has affected the timing and frequency of price changes relies on daily price data obtained directly from the major oil companies specifically for this study. Price data for four centres in Nova Scotia (Halifax, Sydney, Yarmouth and New Glasgow), covering the period 2004 to 2006, form the basis of the analysis. Tables 4.2 to 4.5 array the results, comparing the number and size of price changes in each of five six-month periods leading up to regulation with the corresponding changes in the first six months of regulation.

Finding #1: Regulation results in increased predictability in the timing, and reduced frequency in the number, of gasoline and diesel price changes.

The results in Tables 4.2 to 4.5 reveal several key points:

- **Number of changes declines with regulation:** the number of days with prices changes drops from typical values in the 20-35 range (10-20% of total days) per six-month period pre-regulation, to 15-20 (8-11% of total days) with regulation.
- **Size of changes increases with regulation:** the relative frequency of price changes by size depends on the direction of change.
 - There is a minor difference in the size-frequency of price *increases* comparing pre-regulation with regulation. Pre-regulation changes in the 3.0-4.9 cpl range tend to be more frequent, while under regulation changes are fewer and spread more evenly across the range up to 7.0 cpl (the lower number of increases has less to do with regulation than the generally declining trend in prices in the second half of 2006).
 - The size of price *decreases* tends to be greater under regulation (changes in the 7.0-9.0 range would be unusual in an unregulated market except in catastrophic circumstances such as those accompanying Hurricane Katrina in late 2005). This would be expected in a generally declining market where changes occur only every two weeks under regulation. In the unregulated market price decreases are typically concentrated in the under 2.0 cpl range.
- **More competitive markets have more changes:** the Halifax market tends to be more competitive than elsewhere in Nova Scotia, even under regulation. The greater frequency in Halifax of price decreases in the 0.0-0.9 cpl range during regulation reflects the drop from the upper to the lower end of the retail margin following the bi-weekly adjustment.

Judging from the observations made during the focus group meetings across the province, it may come as a surprise to many people just how *infrequently* prices actually changed in the two years leading up to regulation. It seems most people recall frequent and substantial changes, all occurring unpredictably. In fact, in all but one of the five six-month periods, changes occurred on average only once every five-seven days. Only in the first half of 2006 did the number of changes rise to an average of just over one every four days, and over half these changes were decreases.

Tables 4.2 to 4.5 show only the number days on which prices changed, and not days on which price changed more than once prior to regulation. This did occur from time to time and undoubtedly contributes to the recollection of frequent changes. There were four occasions in 2004 when the price changed twice in one day, five in 2005 (mostly arising from the swings caused by Hurricane Katrina), and three in 2006.

Table 4.2: Number of price changes by size of change, Halifax, regular gasoline

	2004		2005		2006	
	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec
10+				1		
9.0-9.9						
8.0-8.9				2		
7.0-7.9	1				1	
6.0-6.9			1	1	1	2
5.0-5.9	1	1	1	1	2	1
4.0-4.9	6	1	4	1	4	1
3.0-3.9	3	4	3	2	3	1
2.0-2.9	1		2		1	1
1.0-1.9			2			1
0.0-0.9	1					
no change	149	155	151	157	132	163
(0.0-0.9)	1	3			7	6
(1.0-1.9)	8	15	12	8	26	2
(2.0-2.9)	8	3	3	4	3	
(3.0-3.9)	1	1	2	2		2
(4.0-4.9)	1	1		1		2
(5.0-5.9)				2	1	
(6.0-6.9)				1		
(7.0-7.9)						1
(8.0-8.9)						
(9.0-9.9)						1
(10+)				1		
Total days	181	184	181	184	181	184
Days with change	32	29	30	27	49	21
%	18%	16%	17%	15%	27%	11%

Source: oil companies

Table 4.3: Number of price changes by size of change, Sydney regular gasoline

	2004		2005		2006	
	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec
10+				1		
9.0-9.9				2		
8.0-8.9						
7.0-7.9	1					
6.0-6.9			1			1
5.0-5.9	2	1	1	2	1	1
4.0-4.9	2	1	4		3	1
3.0-3.9	5	1	2	3	5	
2.0-2.9	1	1	1	1		
1.0-1.9						4
0.0-0.9						
no change	154	163	159	160	154	169
(0.0-0.9)	1					2
(1.0-1.9)	7	14	9	6	16	1
(2.0-2.9)	4	3	3	5	2	
(3.0-3.9)	3			1		2
(4.0-4.9)	1		1			1
(5.0-5.9)						
(6.0-6.9)						
(7.0-7.9)				1		1
(8.0-8.9)						
(9.0-9.9)				1		1
(10+)				1		
Total days	181	184	181	184	181	184
Days with change	27	21	22	24	27	15
%	15%	11%	12%	13%	15%	8%

Source: oil companies

Table 4.4: Number of price changes by size of change, New Glasgow, regular gasoline

	2004		2005		2006	
	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec
10+				1		
9.0-9.9				1		
8.0-8.9			1			
7.0-7.9	1		1		1	
6.0-6.9			2	3	1	1
5.0-5.9	1		7	2	3	1
4.0-4.9		1	2	1	5	1
3.0-3.9	3	2	1		1	
2.0-2.9	3	1	1	1	2	
1.0-1.9	1		1			2
0.0-0.9						2
no change	163	170	144	163	140	169
(0.0-0.9)					6	2
(1.0-1.9)	2	3	5	1	10	
(2.0-2.9)	6	4	8	5	9	1
(3.0-3.9)	1	1	2	2	1	2
(4.0-4.9)		2	2	1	2	1
(5.0-5.9)			2	1		
(6.0-6.9)			1			
(7.0-7.9)			1	1		
(8.0-8.9)						1
(9.0-9.9)						1
(10+)				1		
Total days	181	184	181	184	181	184
Days with change	18	14	37	21	41	15
%	10%	8%	20%	11%	23%	8%

Source: oil companies

Table 4.5: Number of price changes by size of change, Yarmouth, regular gasoline

	2004		2005		2006	
	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec
10+			1	3	1	
9.0-9.9				1		
8.0-8.9			1	1		
7.0-7.9			1	1		1
6.0-6.9	1		1		2	
5.0-5.9	2	1	2	1		
4.0-4.9	1	1	5	1	5	1
3.0-3.9	4	1	1	3	3	1
2.0-2.9	2	2			1	1
1.0-1.9			2		1	2
0.0-0.9						2
no change	161	164	148	159	146	167
(0.0-0.9)						2
(1.0-1.9)	2	7	10	4	12	2
(2.0-2.9)	5	6	2		7	
(3.0-3.9)	1	1	2	2	1	1
(4.0-4.9)	1		2	1	1	2
(5.0-5.9)	1		2	2		
(6.0-6.9)		1		2		
(7.0-7.9)						1
(8.0-8.9)					1	
(9.0-9.9)						1
(10+)			1	3		
Total days	181	184	181	184	181	184
Days with change	20	20	33	25	35	17
%	11%	11%	18%	14%	19%	9%

Source: oil companies

3. Regional price differences

On any given day in an unregulated market, gasoline prices may be higher or lower in Halifax than New Glasgow, or higher or lower in Yarmouth than Sydney. Most people expect prices to vary consistently up or down from one location to the next by the difference in costs associated with delivering the gas from the refinery to the station. That differences in competitive conditions across the province could contribute to prices differences is neither readily understood nor accepted by many people.

Yet, differences in competitive conditions do exist and do result in price differences. For example, all it takes in a community is one company or dealer who wishes to use price competition to increase market share. Others follow suit in an effort to prevent a loss of volume. If this community were sufficiently isolated from other markets, a price difference would arise and could be sustained for days or even months. Similarly, if one of the province's cross-merchandisers opens in a community, the coupon offer would effectively drop the prevailing market price (and margin), leading to a competitive response from other outlets. This could contribute to a regional price difference, depending on how cross-merchandisers are distributed in the province.

Regulation has the effect of flattening any regional differences other than those attributable to transportation. This is evident from Figures 4.2 to 4.6, showing how prices in six centres across the province vary in the 18 months prior to regulation and in the six months with regulation. Halifax is used as the benchmark against which other centres are compared, with the blue line in each Figure showing how the price deviates from the Halifax price.

Finding #2: There is greater price uniformity across Nova Scotia due to regulation. What differences do occur in the regulated market are attributable solely to transportation and the extent to which competition drives prices below the maximum allowed under regulation.

The results in Figures 4.2 to 4.6 reveal several key points:

- ❑ **Prices differences are consistent across the province.** Prior to regulation, the Halifax price varies above and below prices in the other communities. The Halifax price was not consistently below that of other communities despite its proximity to the refinery. This reflects competitive conditions in the respective markets, including the lag in the timing of price changes among communities. With regulation, the Halifax price is consistently below other areas.
- ❑ **New Glasgow had consistently lower prices than Halifax prior to regulation.** In the 18 months prior to regulation, the New Glasgow price tended to be 2.0-4.0 cpl lower than the Halifax price due to more intense competition and despite higher transportation costs. Under regulation this has changed, with the Halifax price fairly consistently 2.0 cpl below New Glasgow. The difference narrowed to a tenth of a cent/litre in early October 2006 as competition in New Glasgow drove prices to the minimum end of the allowable range, while Halifax prices tended to the upper end (Fig. 4.2).
- ❑ **Truro/Kentville pre-regulation prices varied within a 1.0-2.0 cpl range from Halifax.** Low transportation costs coupled with direct competition due to commuting kept Truro and Kentville prices fairly close to Halifax (mostly above, but sometimes below) prior to regulation. Under regulation, prices have settled at comparable pre-regulation differences (Fig. 4.3 and 4.4).

- ❑ **The Sydney-Halifax price gap exceeds the pre-regulation level.** Sydney prices tended to be about 2.0 cpl higher than Halifax prior to regulation. This gap has since expanded to 4.0 cpl, half of which is accounted for by the transportation differential and the balance by the difference in competitive conditions between the centres. The Sydney market operates at the maximum allowable margin, while Halifax prices tend to the minimum (Fig. 4.5).
- ❑ **The Yarmouth-Halifax price gap approximates the pre-regulation level.** Yarmouth prices tended to be about 2.0 cpl higher in Yarmouth than Halifax prior to regulation. This gap has been maintained, even though the difference exceeds the transportation differential. The more competitive Halifax market accounts for this (Fig. 4.6).

Fig. 4.2

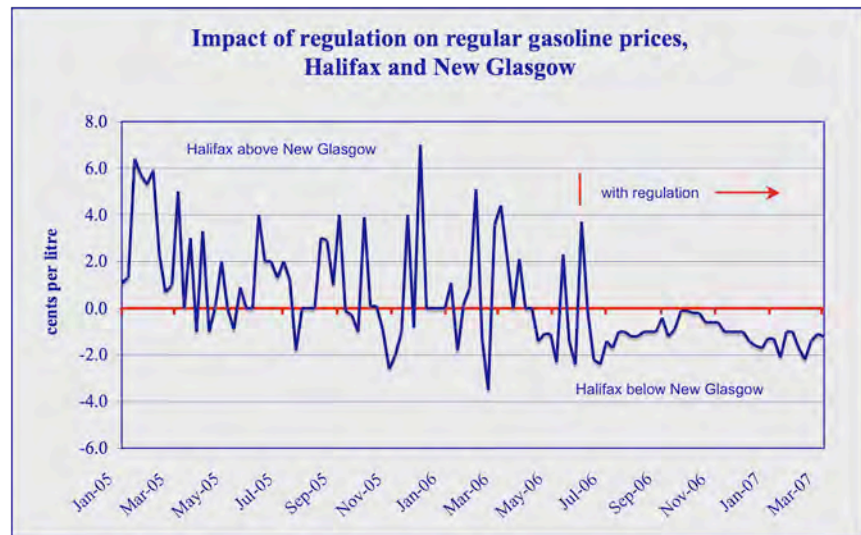
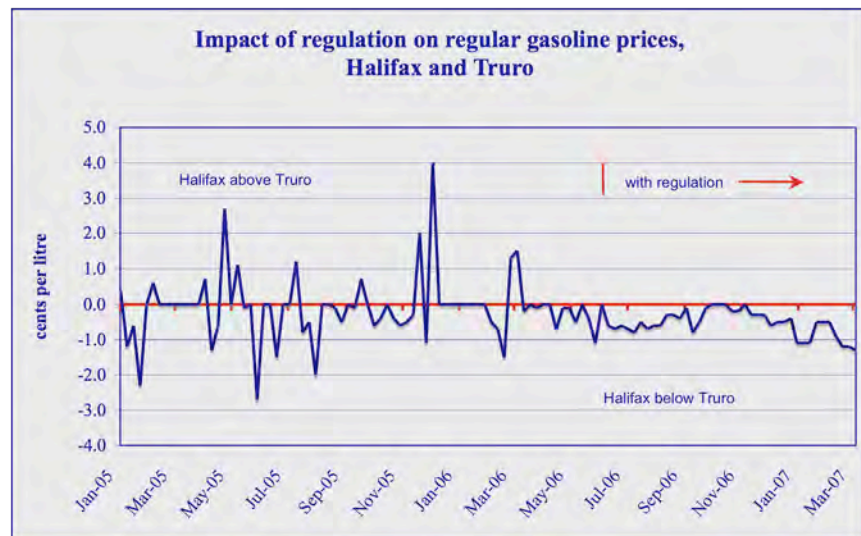


Fig. 4.3



Source: SNSMR/MJ Ervin

Fig. 4.4

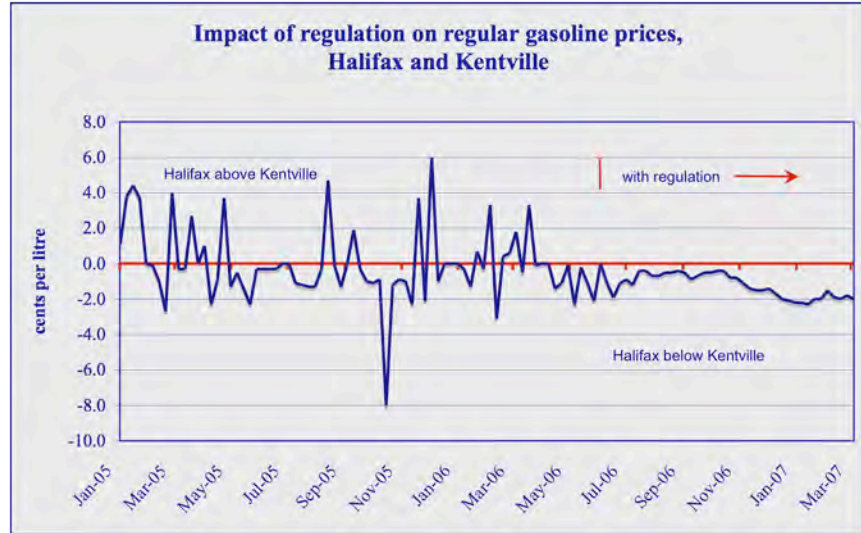


Fig. 4.5

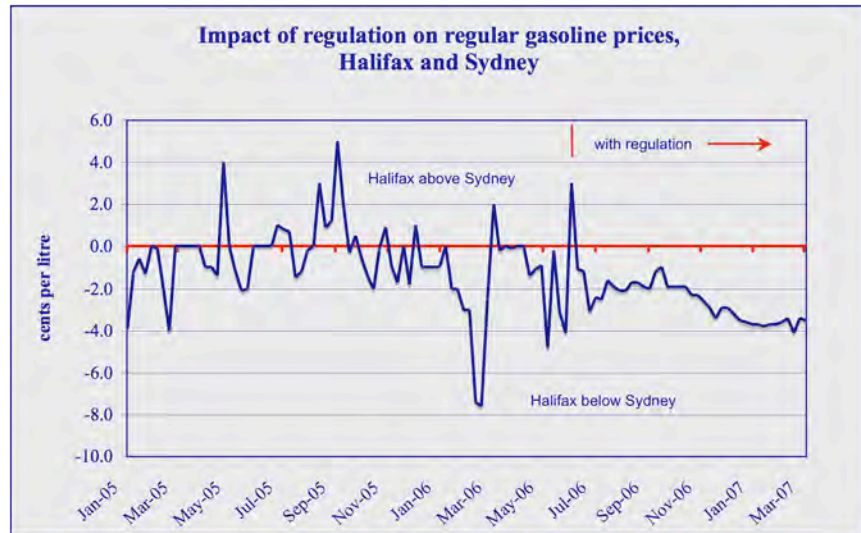
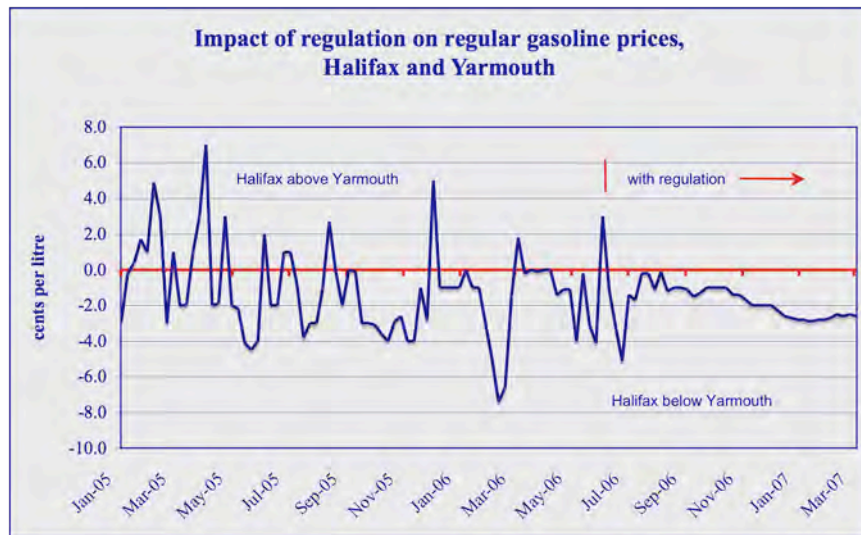


Fig. 4.6



Source: SNSMR/MJ Ervin

4. Maintaining industry infrastructure

Industry margins

Retail gasoline margins have come under increasing pressure in recent years. The integrated oil companies and newer service formats (i.e., cross-merchandisers) represent the leading edge of this competitive trend, adding complementary revenue sources to their gasoline offering thereby reducing the role and significance of gasoline as a net revenue generator.

These market pressures are felt disproportionately among independent dealers, more particularly by the smaller independent stations lacking the complementary revenue sources to maintain viability. This situation is not unique to Nova Scotia, but affects independents in the industry across Canada.

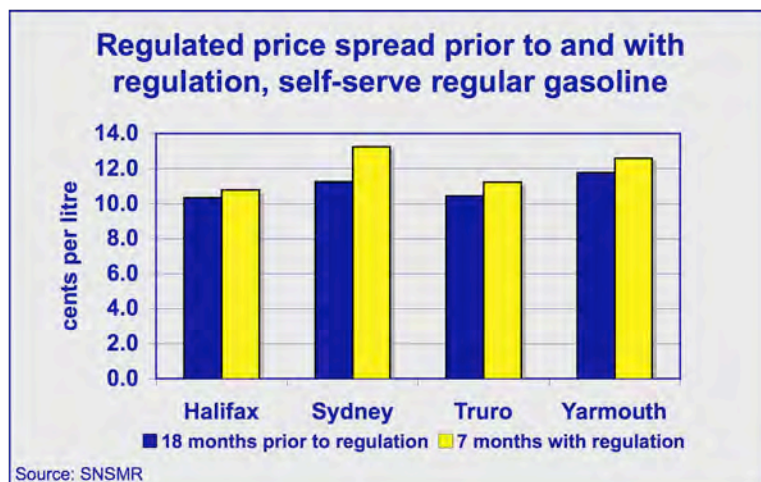
In introducing regulated margins, the Government of Nova Scotia seeks to address the threat to retail infrastructure. It does so with a pricing model that aims to provide higher margins to retailers who opt into regulation. Though aimed primarily at the retail sector, a fixed wholesale selling price applies to suppliers when selling to dealers who have opted in.

The regulated retail margin is set at the minimum level considered necessary for station viability. The wholesale margin is set at 6.0 cpl above NYH, a level consistent with historical values. In addition, wholesalers are permitted to charge a transportation allowance to arrive at the maximum fixed price to retailers. Taken together, these equate to what is defined in this report as the regulated price spread. In establishing this pricing framework, government recognized consumers might have to pay more in order to achieve the regulatory goals. In other words, it may be necessary to expand the regulated margin (by setting the minimum retail margin at a level above the historical norm) in order to make retailers better off without making wholesalers worse off.

Finding #3: The regulated price spread across Nova Scotia has risen by an average of 0.8 cpl since regulation. This means industry margins have increased since regulation was introduced

In the 18 months prior to regulation, the regulated price spread (between NYH and the ex-tax pump price in Nova Scotia) varied by market, depending on transportation cost differences and competitive conditions. For example, prior to regulation, the spread was 10.3 cpl in Halifax and 11.2 cpl in Sydney; in the first seven months of regulation, the average spread increased, rising to 10.8 cpl in Halifax and 13.2 cpl in Sydney (Fig. 4.7).

Fig. 4.7: The increase in the regulated price spread allows the average retail margin to rise without reducing the average wholesale margin. The spread has increased the least in Halifax where competition has kept the retail margin at the minimum level, and where the transportation allowance is the lowest; it has increased the most in Sydney, now the least competitive market with the highest transportation allowance.



Computing how prices have changed with regulation is one thing. Concluding that the change is due either in whole or in part to regulation is another. The difficulty in drawing any firm conclusions lies in the absence of a reliable basis for comparison. The ideal basis for comparison would be an unregulated market with similar characteristics to that of Nova Scotia. The other Atlantic Provinces are ruled out because each has been regulated for at least the seven months under consideration. Comparisons with other regions of Canada are similarly flawed because the characteristics of those markets are sufficiently dissimilar that relative change can be explained satisfactorily by what is going on in those markets, rather than what is going on in Nova Scotia (more on this below).

Evidence that the pump price is higher than it would have been in the absence of regulation is largely circumstantial. By design, the Regulator has set the fixed wholesale price at a level consistent with its historical level and set the maximum retail margin *above* its historical average of 4.0-4.5 cpl. As long as most of the market operates at the maximum end of the allowable range (as it has been for several months), it follows that the average price (or regulated price spread) *should* be higher particularly in the generally declining market characterizing the second half of 2006. Whether this continues during the first half of 2007 remains to be seen, since the market has entered its rising phase and the Regulator may be applying forward averaging in order to ensure the wholesale margin reaches its target level.

Based on a weighted average, the overall increase in the regulated price spread is about 0.8 cpl (Table 4.6). It varies from 0.5 cpl in Halifax to 2.0 cpl in Sydney, with Truro and Yarmouth each in the 0.8 cpl range. Weighting these increases by the volume of sales in each market allows the weighted difference to be derived. The sum of these differences is about 0.8 cpl. If this difference can be attributed to regulation, and if this difference holds over the year, then regulation would be generating in the range of \$10-11 million more in wholesale and retail margin for the industry (based on retail sales of 1.3 billion litres of gasoline and diesel).

Table 4.6

Estimate of the change in the regulated price spread prior to and with regulation*

	Spread between NYH and pump price (ex-tax)			
	Halifax	Sydney	Truro	Yarmouth
Avg. Jan 05-Jun 06	10.3	11.2	10.4	11.8
Avg. Jul 06-Jan 07	10.8	13.2	11.2	12.6
Difference	0.5	2.0	0.8	0.8
Weight factor	0.47	0.15	0.20	0.18
Weighted difference	0.21	0.30	0.16	0.14
Total difference	0.82			

* regulated price spread refers to the spread between NYH and pump prices in NS

Source: SNSMR

Finding #4: The larger wholesalers indicate that, due to the wider regulated price spread, gross margins are either higher or at least no lower as a result of regulation.

The following observations are based on information provided by wholesalers in response to detailed questions concerning the change in wholesale and retail margins following the introduction of regulation. Price and margin data were provided in confidence to the consultant so results are presented in aggregate and general terms.

- ❑ **Corporate sites gain the full benefit of the increased regulated margin.** The integrated refiner-marketers indicate their overall margin has increased or remained stable following the introduction of regulation (they are either better off or no worse off from a revenue standpoint). They either sell a relatively high proportion of their volumes through their corporate controlled sites or a relatively small number of their independents have opted in. This means a high proportion of the total revenue derived from the increase in the regulated margin accrues directly to the companies. The extent of the increase would depend on the proportion of total volume sold through corporate sites, site location and competitiveness of the particular market (this is evident from Fig. 4.7), and how much of the actual transportation cost is covered by the allowance.
- ❑ **Extent of opting out determines how the regulated margin is shared.** The non-integrated or independent wholesalers indicate their overall margin has increased or remained stable following the introduction of regulation (they are either better off or no worse off from a revenue standpoint). They sell a relatively low proportion, or none, of their volumes through corporate sites, relying mainly or exclusively on independents. In these circumstances, much of the gain from the higher regulated margin could accrue to the retail sector, but only if most of the independent retailers have opted in. This is not the case. For the wholesalers in question, about 25% of the total number of independent dealers have opted in with the other 75% operating under the pre-regulation arrangement. That a relatively low proportion of dealers have opted in lends support to these wholesalers' information that their gross margin is as high as, or higher than, it was in the pre-regulation environment.
- ❑ **Risk and cost increase under regulation.** Wholesalers made it clear they prefer to operate in an unregulated market because they are better able to deal with risk and because they are able to respond rapidly to market shifts thereby limiting their exposure to loss positions. Under regulation, the two weeks between price adjustments, coupled with uncertainty surrounding the use of forward averaging, introduce risk and the potential for extended periods of operating at low or negative net margins. The larger integrated wholesalers are better able to weather these periods than the independents, not only because the latter have more limited financial strength, but also because the independents supply a more rural and higher cost dealer network.

Finding #5: Resellers are worse off under regulation because it fails to address the pricing and cost circumstances of their business. With its fixed two-week adjustment periods, regulation eliminates the flexibility needed to meet the challenging conditions facing the outlets they supply.

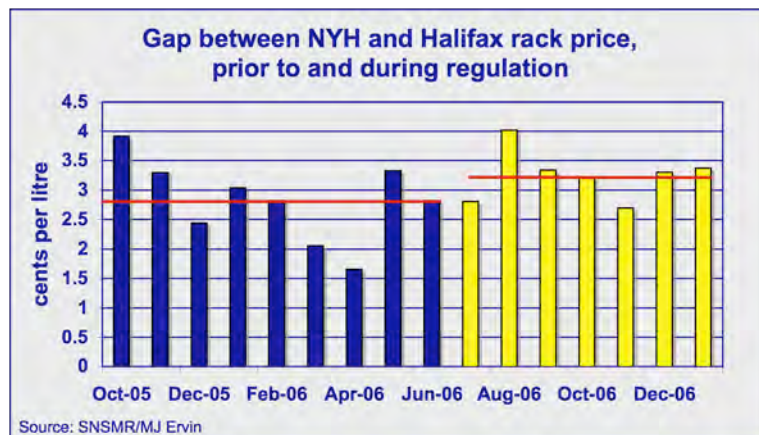
Extensive discussions with resellers make it clear that it is this group and the dealers they supply who faced the greatest challenge to viability in the unregulated market. The 14 resellers supply 25-30 of the province's smallest outlets, all in fairly remote communities. In these conditions, the viability of the gasoline wholesale business with its high delivery costs is tenuous at the best of times. Regulation has made it *more* difficult.

- ❑ **Resellers tend to break-even or generate a modest profit on gasoline sales in an unregulated market.** Most resellers have been supplying their stations for many years. They are the suppliers of last resort because the major wholesalers have no interest given the weak economics. Gasoline forms a minor part of the reseller business, with most of the revenue generated by domestic fuel oil sales. The resellers can justify continuing out of a sense of loyalty and responsibility to the stations and communities, *as long as they at*

least break even. Prior to regulation, resellers tended to use a “street-down” basis to set the selling price. They would sell to stations at 3.0 cpl below the self-serve price in the area, leaving stations with a *minimum* 5.0 cpl margin. This provided the reseller with margins in the 7.0-8.0 cpl range, enough to at least cover transportation and storage costs.

- ❑ **Regulation reduces flexibility, cuts reseller margins and threatens supply viability.** With regulation, resellers have lost the flexibility they need to operate opportunistically. They are locked into two-week adjustment periods, leaving them to absorb the ups and downs of actual buying prices. The resellers report this has reduced their gross margins to the 4.0-6.0 cpl range. This is at or below their actual costs of transportation, leaving them with negative net margins when all costs are considered.
- ❑ **The benchmark price does not reflect reseller experience.** Resellers buy at or near the Halifax rack price, not in relation to the NYH spot price as do most of the larger wholesalers. As long as the relationship between the benchmark price and the Halifax rack remains stable, then swings in the benchmark price alone do not affect the resellers (i.e., they are affected by length of the adjustment period, but not the change itself). But if the gap between the benchmark and the Halifax rack expands – as it did during the first six months of regulation – then the regulated margin in the reseller market declines by the amount of the expansion (Fig. 4.8 shows that the gap widened by just under 0.6 cpl). The squeeze causes either or both resellers and their dealers to lose margin (depending on arrangements between them). This happens because resellers are paying more, but selling into a market whose maximum retail price is determined by the (lower) regulated benchmark. Note that regulation is not responsible for any change in the relative prices, but it does carry implications for wholesalers (including resellers) who buy in relation to the rack price.

Fig. 4.8: Resellers have lost about 0.6 cpl in margin because the gap between the NYH spot price and the Halifax rack price widened in the first seven months of regulation. All resellers buy at or near the rack price, not in relation to the NYH spot price.



- ❑ **The transportation allowance does not reflect the reseller costs.** The transportation allowances that define the zones are based on the least cost mode of delivery – the large tankers that carry gasoline and diesel directly from the refinery or terminals to the stations. These zone differentials range from 0.3 cpl in the Halifax market to as much as 2.0 cpl in Cape Breton. The smaller stations supplied by the resellers take delivery from tandem trucks whose delivered costs range from 3.0 to 5.0 cpl. These costs have not changed from pre-regulation levels, but with a lower reseller margin, they leave little or nothing as a contribution to overheads.

Finding #6: Independent retail dealers are divided on whether they are better off with regulation. In a survey conducted for this review, 43% indicate they are better off; 21% indicate they are worse off; 21% indicate no change; and 15% indicate it is too early to tell.

In a survey conducted as part of this review, independent dealers were asked several questions about regulation and how it has affected their business. All 265 independent retailers were surveyed, with the questionnaire completed and returned by 142 (54%). The completed questionnaires are representative of the independent retail group as a whole with respect to the proportion opting in and out (about 50:50) and number of stations by brand.

The survey results with respect to margins indicate:

- ❑ **The prospect of a higher margin is the main reason most dealers opted in.** Just over 70% indicated their decision to opt in was based on the higher margin offered under regulation. Two-thirds of these dealers reported an average gross margin (including rebates and other incentives) ranging between 4.0 and 5.9 cpl prior to regulation. This puts them squarely within the range offered under regulation, but presumably most would have been operating at less than the maximum mark-up of 5.5 cpl. The possibility of a higher margin for full-serve (7.5 cpl) also seems an important factor since most of the opt ins are either full-serve only or split-serve stations.
- ❑ **For other dealers, factors other than margin played a more significant role in the decision to opt in.** Dealers cited several factors including price stability, better customer relations, independence from suppliers, greater customer satisfaction, ability to offer better wages to staff, placing business on a level playing field with corporate retailers, and removing price control from the suppliers.
- ❑ **Satisfactory arrangements with supplier or risk of higher costs/no net gain explain why dealers opted out.** The reasons for opting out tend to depend on the particular supplier. Most of the dealers for one supplier report they opted out because they considered their existing arrangements to be superior to the regulated margins. Many of the dealers for another supplier indicated that opting in would have triggered a requirement to shift from consignment to a buy-sell arrangement, resulting in a higher regulated margin but also higher costs and greater risks.
- ❑ **Six months into regulation, the overall experience is mixed.** Of the 116 dealers who answered the specific question about their circumstances with regulation, 43% indicate they are better off under regulation (whether they opted in or out), with 21% indicating they are worse off, 21% seeing no change and 15% indicating it is too early to tell (Table 4.7).

Table 4.7
Dealer assessment at the end of six months of regulation

	Opted in		Opted out		Unknown	Total	
	#	%	#	%	#	#	%
Better off	43	63%	7	15%	0	50	43%
Worse off	9	13%	14	30%	1	24	21%
No change	4	6%	19	41%	1	24	21%
Too early to tell	12	18%	6	13%	0	18	15%
	68	100%	46	100%	2	116	100%

Source: Dealer survey, January 2007

- ❑ **Most of those opting in are generally better off.** The majority of those who opted in (63%) indicate they are better off under regulation, with 13% stating they are worse off and 24% indicating no change or too early to tell. The higher margin is the main factor cited as making them better off. Dealers cite selling at a loss following a sharp drop in the benchmark price as the main factor making them worse off.
- ❑ **Most of those opting out are either better off or see no change.** Over half the respondents indicate there has been no change in their circumstances or that it is too early to tell. This is to be expected since opting out suggests they were satisfied with their original arrangements. The 15% indicating they are better off cite increased volumes due to uniform prices and stable prices resulting in happier customers as the main factors, while the 30% indicating they are worse off under regulation cite such factors as lower margins due to the ceiling (mainly on full-serve), changes in buying patterns resulting in lower volume, the sharp changes in prices resulting in cash flow difficulties, and loss of control over prices (have to operate within the regulated margin).

Finding #7: As an indicator of the merits of the regulatory program from a dealer's perspective, the proportion of independent dealers deciding to opt out of regulation (just under 50%) should be interpreted with caution.

Against the backdrop of the case put forward for the need for higher margins to maintain dealer viability, that only half the dealers opted for regulated margins may appear to some as surprising. While this may be construed as a telling indicator in itself about the merits of the regulatory framework as seen from the dealers' perspective, the matter is not so clear-cut.

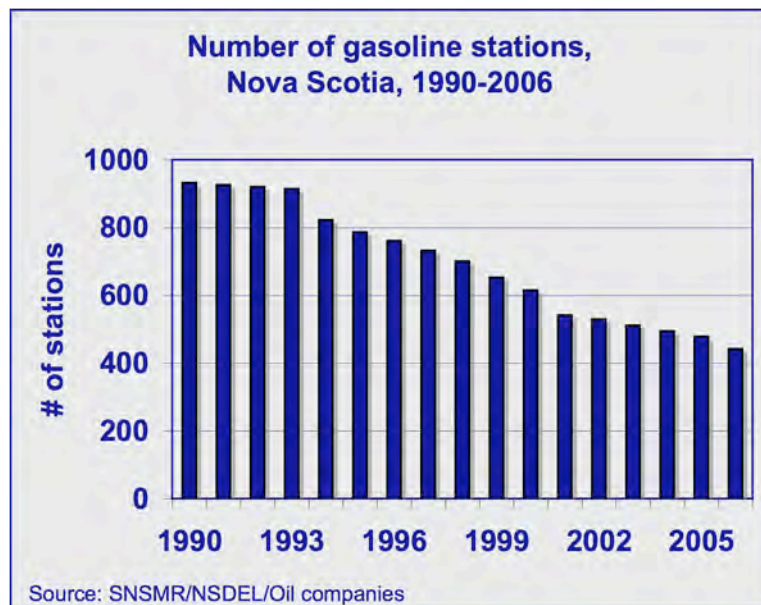
- ❑ Many of those who opted in did so by default in the sense that by failing to notify the Regulator of their intention by the deadline, they were automatically considered as having opted in. Discussions with dealers and wholesalers make it clear that there was considerable confusion amongst dealers regarding regulation. There was uncertainty about the details of the regulatory framework itself, and uncertainty about what opting in might mean for their relationship with their suppliers. Suppliers tended to leave the decision to the dealers, and many dealers complained they received limited guidance on the implications of opting in from their suppliers until the deadline was at hand.
- ❑ Over 70% of the dealers who opted into regulation indicate that the prospect of a higher margin was the most important factor influencing their decision. While dealer margin or the retail mark-up was the only aspect of the financial relationship between wholesalers and retailers that regulation addressed, the actual relationship tends to be more complex. It could involve rebates or cross-lease payments as well as investments by wholesalers in facilities and equipment that the retailer negotiated (e.g., tanks, pumps and signs). All of these factors, not just the wholesale selling price of gasoline, affect how the regulated margin is split between wholesaler and retailer. If all these factors came into play (as they did in many cases), it would be no easy task to disentangle numbers to determine whether the trade-off for a higher margin would be worth it. The survey indicates that some of those who opted in on the basis of the higher margin are worse off or no better off because of the impact of changes to these other factors.

- About 30% of dealers operate on a consignment basis. They do not actually take ownership of the gas, but simply receive a fee for selling it. Because their costs and risks are lower, the fee is typically lower than the margins earned by dealers operating on a buy-sell basis (a consignment fee would typically fall in the 3.5-4.0 range). Most of the dealers operating on this basis have tended not to opt into regulation because of the fundamental changes this would mean to their business. The same conclusion holds for lessee dealers. Because they lease premises owned by the supplier, they have less at risk and earn a commensurately lower margin. The higher margin under regulation is attractive, but to attain it the dealer would likely face a higher rent that would offset the gain.

Industry infrastructure

There has been no change in the total number of outlets during the first eight months of regulation. Two-three stations have opened and closed, and some have changed suppliers. Overall, the sector experienced no net change between July 1, 2006 and March 31, 2007. Fig. 4.9 sets out the annual number of stations since 1990.

Fig. 4.9: The number of gasoline stations in Nova Scotia declined sharply during the 1990s, dropping from 915 in 1993 to 540 in 2001. The rate of decline dropped by more than half after 2002 as station economics improved, with 100 stations closing by mid-2006. Since regulation was introduced, a few stations have opened and closed and several have changed suppliers, but there has been no net change in the total number.



Finding #8: It is too early to determine what impact regulation has had on retail infrastructure. The impact could be measured with confidence only after the industry has experienced at least one complete price cycle (a minimum of one year) giving it sufficient time to adjust to all the implications of the regulatory regime.

Whether regulation contributed to the relative stability in station numbers since July 2006 is difficult to say given the limited experience. While there are positive and negative outcomes so far, the evidence is inconclusive.

- **Many stations say they are better off.** The higher margins, even in the short-term, may be making a sufficient contribution to viability to cause at least some whom might have exited to stay in business. Until at least a full year of experience is gained and the stations' net revenue picture becomes clear, it would be difficult to draw conclusions on the nature and extent of the impact attributable to regulation.

- ❑ **Many stations did not opt in until the October 31st deadline.** Though regulation began on July 1, its impact on margins would only have been felt after dealers had opted in, which in many cases was not until the end of October. For them the regulatory experience is limited to just four months.
- ❑ **Less than half the stations actually benefit from regulation.** Over half the stations continue to operate under non-regulated arrangements. This group includes those who opted out and some who opted in by default but continue to operate under some variation of their pre-regulation arrangements.

Industry infrastructure refers not only to retailers, but also to suppliers. An independent retailer may decide to close a station because it is no longer viable. But the decision may effectively be made by the wholesaler in cases where continuing to supply the station is no longer economic. The retailer may look for other supply sources (e.g., a reseller), but would have to close if none can be found.

While the situation where the supplier makes the effective decision occurs whether the sector is regulated or not, the circumstances facing the supplier are potentially more serious under regulation. This is because suppliers may be selling below cost for an extended period and unable or unwilling to sustain the losses. It may also occur because the economics of supplying under regulation do not work, for example, due to the squeeze on reseller margins described above.

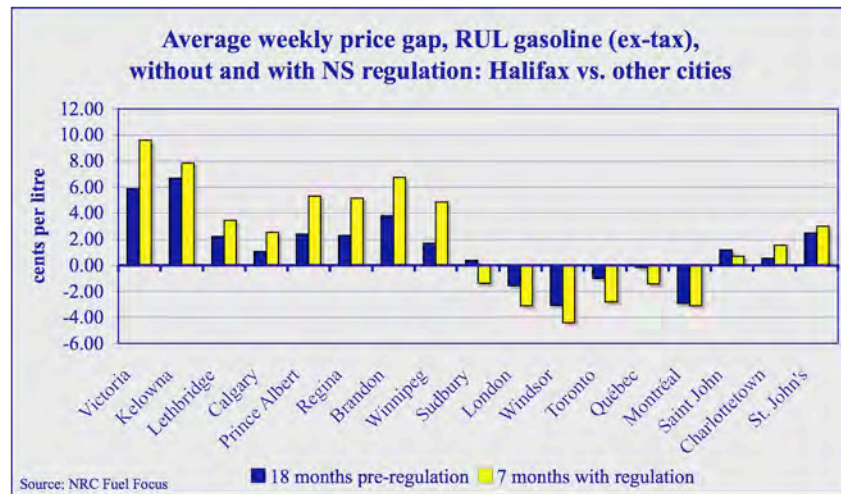
For the reasons set out under Finding #5, above, it is the reseller group that is at greatest risk under regulation. A decision by one or more of these companies to discontinue gasoline supply would affect several stations.

5. Retail price levels in a national context

Nova Scotia motorists benefit from the proximity to the highly competitive northeastern North American gasoline market. With taxes excluded, retail prices in the province are among the lowest in Canada. Regulation in Nova Scotia was not intended to reduce prices, but to stabilize them without adding significantly to the price level.

Taking the Halifax price as a benchmark, Fig. 4.10 compares relative prices for 17 cities in Canada. The blue columns in the chart show the difference between the average Halifax price and the city averages in the 18 months prior to regulation. For example, the average price in Calgary during this period was about 1.0 cpl *higher* than Halifax (excluding taxes), while the Windsor average was over 4.0 cpl *lower*. The yellow columns show the difference between the average Halifax price and the city averages for the seven months since regulation was introduced. Prices in western Canada have climbed relative to Halifax, while relative prices in central Canada have declined.

Fig. 4.10: Canada is composed of three distinct market areas. Pump prices (ex-tax) in central Canada tend to be lower and declined relative to Halifax during the second half of 2006 reflecting a difference in competitive pressure. Prices in western Canada tend to be higher and rose relative to Halifax in the second half of 2006 due mainly to rising refiner margins.



While the comparison in Fig. 4.10 is an interesting one, it actually reveals little about the effects of regulation in the Nova Scotia market. Rather, it indicates that Canada is composed of three broad market areas, each influenced largely by regional conditions of supply and demand.

- **Western Canada:** the British Columbia market is heavily influenced by conditions along the Pacific Coast states in the U.S. where refining capacity is tight and refiners enjoy relatively high margins (between early 2005 and early 2007, refining margins have increased from an average of about 12.0 cpl to about 18 cpl, while at times hitting 25 cpl). These supply-demand characteristics influence the other provinces as well, with even Calgary prices exceeding those in Halifax. Again, relatively high refiner margins account for much of the difference, with Calgary in the 15.0 cpl range in early 2007 compared with an average of about 10.0 cpl for Halifax since early 2005.⁴
- **Central Canada:** the southern Ontario and Montréal markets are the most competitive in Canada. Prices tend to be lower than in Halifax because of lower regulated margins (4.0-5.0 cpl for most of 2005 and early 2006) and comparable refiner margins. A price war in the region during the second half of 2006 forced prices even lower as marketers in some areas engaged in below cost selling. This caused prices to drop relative to Halifax where the retail selling price is regulated.
- **Atlantic Canada:** all markets in the region are currently regulated, with each of the Maritime Provinces adopting essentially the same wholesale and retail margin structure. In the 18 months leading up to regulation in Nova Scotia, prices were slightly higher in Saint John and Charlottetown than Halifax. The gap between Halifax and Saint John narrowed following the introduction of regulation, largely because of the way transportation is handled under New Brunswick regulation. Technical differences in the way benchmark prices are adjusted account for the rise in Charlottetown's relative price.

⁴ For a national comparison of refining and marketing margins, see Fuel Focus at: <http://fuelfocus.nrcan.gc.ca/redirects/index.html>.

The relative price difference between Halifax and St. John's is accounted for by the higher overall regulated margin allowed under Newfoundland and Labrador regulation, and has remained fairly stable at just over 2.0 cpl.

V

PERSPECTIVES ON REGULATION

1. Consumers

Obtaining input

Consumer responses were solicited on a range of topics related to petroleum pricing. Six focus groups with about ten consumers in each group were formed in Yarmouth, Kentville, Amherst, Guysborough, Halifax, and Sydney. The participants were selected randomly from telephone directories. Their responses are summarized according to the following key areas of discussion: stabilizing prices, competitive prices, maintaining retail stations, understanding price formation, and overall level of support for regulation.

Stabilizing prices

Prior to regulation, consumers expressed concern about three issues considered here under the heading of “stability”: the number of changes, the timing of changes, and price differences across the province. In general, consumers understood stability to be a goal of regulation, and that it has largely been achieved. This is something they value about the new system. They prefer stable prices because they facilitate budgeting and travel planning, reduce stress, and reduce effort spent locating or timing fuel purchases according to price.

Regarding the number and timing of price changes, consumers recall frequent price changes even within a single day, and significant changes just before weekends and major local or regional events. Consumers expected that regulation would reduce the number of price changes, and they were nearly in full agreement that this has occurred.

Some consumers distinguish between short and long-term stability, noting that only short-term (two-week) stability has been achieved through regulation. Many consumers had hoped that stability from regulation might have broader long-term effects, and they express concern about major price increases at the end of each two-week period. Nonetheless, most recognize that regulation would not be able to address underlying market trends. Overall, consumers value the two-week stability that is currently provided, and most appear reluctant to accept more frequent price changes even if it means achieving lower prices sooner or smaller price changes.

Regarding the third issue of price changes or differences across the province, consumers were asked whether they would be willing to pay an additional one or two cents for more uniform prices. The responses divided according to regional characteristics. Consumers in less populated areas with fewer retail stations are likely to support more uniform prices even at a small cost, while consumers in more populated areas with more retail choices tended not to be supportive, especially if this meant they were effectively subsidizing the other regions.

Competitive prices

Price emerged as the dominant issue for consumers before and after regulation. Consumers hoped that regulation would maintain lower prices but feel this has not occurred. Consumers hoped that regulation could “cap” what seemed to be continual price increases, and that it would prevent gouging at times of peak demand or in parts of the province where there were few choices for consumers.

Consumers generally feel that regulation has not lowered prices in Nova Scotia compared to prices before regulation, or compared with other provinces now. Most believe that prices are about the same or higher, while only a few feel prices may be lower or said they would not be sure without looking closely at actual data. They also feel that prices in Nova Scotia before and after have generally remained higher than elsewhere in the country regardless of the price systems (free market or regulatory) in other jurisdictions. The only exceptions mentioned by some were PEI and Newfoundland and Labrador where prices are believed to be higher. Many understand that it is primarily the tax component that makes Nova Scotia prices higher than elsewhere.

With regulated prices, consumers indicate they are more attracted to cost saving incentives such as coupons and reward points. The importance of these may be growing since they are an alternative form of price differentiation that is not regulated.

Maintaining retail stations

The loss of retail stations, particularly in areas with fewer stations, remains a key concern. Many understand this was one of the main goals of regulation, but do not see any positive effect related to this issue. Local access to fuel is clearly important across all regions of the province. Most consumers claim to value convenience highly, and wish to avoid the time or fuel costs that would be required to reach stations at further distances (even when other factors such as combined purchasing, brand or other incentives are considered).

As expected, there are differences among consumers who still had several local retail station choices and those with few or only one local station remaining. Those with several choices are generally not willing to pay extra to maintain their own local stations, or to maintain stations elsewhere in the province that may be under pressure. Those with few choices claimed to be more willing to support their local station, although they indicated they were reluctant to pay higher prices.

Understanding price formation

When consumers were asked to describe their understanding of how prices are established with or without regulation, they were collectively able to list some of the main elements. Consumers on their own lacked a clear understanding and they were generally unsure of the linkages between main elements or the differences in price formation with and without regulation.

Many consumers could suggest that key components of retail price included the price of crude or “a barrel of oil”, and taxes. The other elements mentioned include market forces or “supply and demand”, while such factors as transportation from sources to retail outlets, costs of production, and retail or wholesale profit margins were seldom mentioned. Adding some confusion, many consumers tended to discuss other issues such as corporate greed and industry collusion, military conflicts and hurricanes, local and world politics, media reporting, and government self-interest.

When asked if they timed their fuel purchasing to fill up before a potential increase or after a decrease, many do not and it seems this is mainly due to a lack of information and understanding. Less than half of the consumers appear to know in advance when prices are likely to be adjusted (even though this information is readily available in newspapers and on radio). Consumers indicate that more information about price changes would be helpful both for informed purchasing decisions and desired accountability under the regulatory system.

Overall level of support for regulation

Consumers generally hoped that regulation could meet several objectives including lower or more competitive prices, price stability, greater uniformity of prices across the province, and keeping more retail stations open. Expectations may have been unrealistic regarding the extent to which regulation could meet all objectives simultaneously, and lower prices in particular. There was sparse appreciation for the potential trade-offs between such key elements as price and stability. Despite some general disappointment, and an underlying belief that neither industry nor government necessarily responds to consumer interests, most consumers tend to support regulation.

2. Retailers

Obtaining input

Information concerning dealers' experience with and perceptions of regulation were obtained through a survey questionnaire and interviews. The survey was sent out to all 265 independent dealers, with 142 responding. In addition, a representative sample of 35 dealers was interviewed in person (dealers were selected on the basis of location, brand, volume and type of service).

The questionnaire and interview issued summarized below focus on the factors causing dealers to opt in or out, the positive and negative impacts of regulation, and on suggested changes to the system. The comments provided are a representative sample of views using direct quotes from dealers.

Reasons for opting in

- ❑ “Regulation is the only way to keep the greed of suppliers respectful, and to keep the price to all fair. When the wholesaler is also a retailer, someone has to keep them regulated and fair. If not regulated, they are in a position to destroy retailers that cannot buy from the refinery.”
- ❑ “We very much liked the regulation market up to 1991. Would not have been able to continue to operate under previous Conditions. Averaged 4.3 cpl last year.”
- ❑ “The oil company does not have full control of gas prices. Oil company had too much control and we have paid for it.”
- ❑ “Less volatile, customers liked price not changing. Pricing district even - no price games.”
- ❑ “Able to pay staff better and have better control of posting prices.”
- ❑ “It would hopefully put our business on a more level playing field with the big name gas stations.”

- ❑ “Price stability. Fewer price changes. Less abuse from the public to keep stations open in public areas.”
- ❑ “We all need a larger margin.”
- ❑ “The fact that we now get at least 4.0 cpl and our oil company has left our real estate contract in place.”
- ❑ “Stability; large box stores coming in and selling for less than we can buy it for.”
- ❑ “Stability of industry; justifiable pricing; financial planning.”
- ❑ “As a gas retailer, regulated margin stabilized my profit. If I need to borrow money from banks or renovate my station, it made it much easier for me.”
- ❑ “I thought gas regulation would stop the high/low price swings, but it did not.”

Reasons for opting out

- ❑ “Since July, I have had better margins from our wholesaler.”
- ❑ “We would have lost 1.5-cent rebate. If regulation was to stop, we would not get our rebate back until end of contract.”
- ❑ “We opted out of regulation because it would have affected our existing contract.”
- ❑ “Buy and sell at free market pricing.”
- ❑ “Unable to raise the funds to buy the inventory and gas dispensers. Minority government, threat of supplier retaliation, absorbing the shrink, uncertainty on whether regulation would hold / time frame.”
- ❑ “Too small volume - only choice because I only have a 30-day contact. (Supplier) said they would not be able / afford to deliver under regulated, so I would be shut off.”
- ❑ “I liked the pricing structure I had in place with supplier.”
- ❑ “Higher margin without regulation - a good arrangement”
- ❑ “Not impressed with what I have read and understood.”
- ❑ “Supplier not interested in absorbing market fluctuations. Cease delivery, no option for supplier change. Present system not designed for small independent suppliers and retailers. In a market that fluctuates as much as it does now.”
- ❑ “I was told if the regulators set the margin for dealers too high, I would not be supplied with gas.”
- ❑ “The main reason we opted out of regulation was that our oil company was going to change the way we paid for the fuel. We now pay on consignment, and they were going to change that to pay on delivery. Also under regulation, our margins have been no better than before.”
- ❑ “My margin will fluctuate but averaged over the year will be better.”
- ❑ “Satisfied with arrangements in effect before regulation – saw no advantage to change.”

- ❑ “I know the deal with current supplier. Government has no business regulating margins unless they decide to base it on GAAP! All other parts of the industry operate with margins as a percent of sales, not a set cpl margin.”

Most positive impact of regulation

- ❑ “We are slowly selling more gasoline because the price is equal to other stations. The customers are pleased because prices don’t change as often and they see lower prices.”
- ❑ “Fewer arguments with customers.”
- ❑ “Knowing my margin and working on that margin in stable market.”
- ❑ “Stable prices. Competition is all on level.”
- ❑ “Gives good margin, lets you keep eye on the market in order to buy gas effectively.”
- ❑ “We have a better margin so we know where we stand with oil company. More uniform pricing across Nova Scotia.”
- ❑ “A profit, if regulation hadn’t happened, I would have went bankrupt.”
- ❑ “If I could go to regulated prices and keep my cross-lease, I would be very happy.”
- ❑ “We are operating on a level playing field and the consumer seems to feel that they are not being gouged. Our gas and diesel sales have increased since regulation.”
- ❑ “I cannot see any benefit from regulation. Our margins are not much better.”

Most negative impact of regulation

- ❑ “Regulation is and will soon put me out of business. When you have a small volume, regulation is not the answer.”
- ❑ “Retail regulation is a joke.”
- ❑ “Sometimes the Rack price goes up and the government-regulated price does not – then our margins are squeezed, because we must follow the Rack.”
- ❑ “May be losing 1 cpl due to regulation now that price is the same.”
- ❑ “Interrupter clause – government changes prices at will – can’t turn over product before price changes.”
- ❑ “Full-serve stations can sell at self-serve, where they couldn’t before because of cost of gas and low margins.”
- ❑ “If the retail regulated price drops below my cost, then I have to sell at a loss or get fined.”
- ❑ “Losing money due to gas in ground when price changes. Since July 1st, it has been very negative.”
- ❑ “Zone pricing. High commuter traffic to a neighbouring zone that has a lower pump price”

- ❑ “No control over price any more, so have to take a lower margin – also coupons.”
- ❑ “Full serve stations have matched our self-serve price. I am all self-serve and there are two stations only full-serve.”
- ❑ “Lower margins now than before regulation even though the overall marketing margin (rack to retail) is higher since regulation.”

Suggested changes

- ❑ “With credit card fees at 1.8 and dispensing fees at .0020, the minimum self-serve margin should be 5.5 and not a variable 4.0-5.5.”
- ❑ “We do like regulation and are completely for it remaining in effect, however it can be improved: change the price weekly, make an absolute formula, raise the retail margins – NB gets 5 cents, lower the provincial tax in line with NB.”
- ❑ “Be consistent. Go to one week. Loses not too great then.”
- ❑ “Under no circumstances should the oil company be allowed to stop fuel delivery. The stress level I had that week was the worst in 25 years of business. I feel they broke our contract, but no one else thinks so. The oil companies are too big to fight.”
- ❑ “Weekly adjustment, publishing New York daily price on the government web site so we can monitor whether our suppliers are being open and fair. Factor in an adjustment to the margin if prices continue to rise.”
- ❑ “Happy the way things are and we can hopefully survive better now than before regulation.”
- ❑ “Lower prices. I am against regulation, because it never worked the last time it was in effect.”
- ❑ “Zone pricing should be eliminated even if it made a province-wide increase in pump price.”
- ❑ “Increase freight delivery subsidy for rural locations.”
- ❑ “Weekly pricing – oil prices change too quickly for the price to stay for a two week period. Our pricing is Rack price from Dartmouth. Why is the government looking for a complex formula out of New York Harbour? Our supply comes from Dartmouth. If the government wants to price from NY Harbour, they should be looking at adjusting the Rack price, not the street price. Oil companies are making huge profits and it is not from the retail end. Refining margin should be the real target.”
- ❑ “Level the playing field. No coupons.”
- ❑ “The price changes should be done weekly as the prices are going down or up with. A 2 or 3-cent change would be better than a 5 or 6-cent change.”
- ❑ “No change - eliminate.”
- ❑ “I would ensure suppliers could not cut off supply to dealers if they opted in. No changes to contracts existing until they expire.”
- ❑ “Dealers need higher margin to cover all the ongoing rising operating expenses, insurance, wages, repairs and taxes.”

- “The only change would be to disband regulation – do not want regulation.”
- “Stop changing in middle of two-week period.”

3. Wholesalers

The meetings with wholesalers covered five main issues central to assessing the effectiveness of regulation: cost of acquisition (the relevance of NYH vs. the Halifax rack price); regulated margins prior to and with regulation; the dealer network and impact of regulation; the competitive environment and how regulation is changing it; and, regulatory design and implementation.

Discussions on these issues were held with all but one of the integrated wholesalers and with both independents, and with several of the resellers. Much of the information from these discussions is captured in the description of industry structure and competition in Chapter III, and in the assessment of the impact of regulation in Chapter IV. Accordingly, a brief summary only is set out here.

- **The acquisition cost of gasoline and the regulated wholesale margin.** Though a 6.0 cpl wholesale margin is allowed under regulation, none of the companies actually achieves this (unless price drops after a benchmark setting) because all acquire product at a price above NYH. Their actual margin would vary depending on the acquisition cost of fuel. Cost varies depending mainly on the volume purchased and nature of the company.
 - **Integrated refiner-marketers:** the major oil companies, acquire fuel through product exchange agreements, with the NYH used as a reference price to settle differences. The effective price would ordinarily be a cent or so above NYH, implying a wholesale margin in the 4.5-5.0 cpl range. This is in line with the margin they earned on wholesale sales in the Nova Scotia market prior to regulation.
 - **Non-integrated (independent) wholesalers:** pay for fuel at a volume-based discount off the Halifax rack price. At a discount in the range of 1.0-2.0 cpl, their effective margin under regulation would be somewhere in the range of 3.0-4.5 cpl (bearing in mind that the rack trades above NYH, typically in the 2.5-3.0 cpl range). These wholesalers supply many of the smaller, higher cost rural outlets in the province. While the gross margin itself is not out of line with the pre-regulation level, the companies contend that the ability to earn equivalent *net* margins is compromised by the length of the adjustment period and the risk of selling at a loss, as well as the inadequate transportation allowance given their predominantly rural networks.
 - **Resellers:** buy from wholesalers, with price set at or near the Halifax rack. Their effective margin under regulation would fall in the 2.5-3.5 cpl range, depending on where the rack is trading relative to NYH. The wider the gap, the narrower their margin. Since their transportation costs ordinarily exceed this margin (the transportation allowance may meet the cost of delivery to bulk plants, but not from bulk plants to outlets), they are not viable if they operate subject to the regulated wholesale selling price.

- **Regulated margin and revenues.** Those companies using NYH as a benchmark indicate the regulated margin (the difference between NYH and the pump price) has increased with regulation. The wholesalers trading off the Halifax rack also point to an increase in the margin, though in their case the increase may be less evident because the Halifax rack itself rose against the NYH spot price in the first several months of regulation. Nonetheless, in all cases the companies claim to be either better off or no worse off with respect to gross margins. This is not to say they are in favour of regulation – they all indicate they would prefer to operate in an open market – but as long as regulation does not leave them worse off, most accept the system without complaint, recognizing it is government’s prerogative to advance its policies through regulation.

But regulation has the potential to leave some worse off. Resellers point out that the regulated margin represents a meaningless benchmark for them since they buy in relation to the Halifax rack. Not only does this ordinarily leave them at least 3.0 cpl below the regulated margin, its shifts relative to the benchmark could reward or punish them, depending on the direction of change. They are not viable if their dealers opt in and buy at the regulated wholesale selling price. If they are not viable, then their dealers probably stop selling gasoline because the resellers are the sellers of last resort for these rural and remote, high cost outlets.

- **Dealer network and opting in/out.** The wholesalers report that a few stations closed in the first seven months of regulation, and in all cases, regulation itself was not the issue. Regulation may be improving the revenues of some of the independents they supply (those who opted in), but it is also undermining the viability of supplying them since the costs of doing so are supported by a lower wholesale margin. Some of these stations may find they have to look to other suppliers.

None of the resellers has given up its gasoline supply operations and none of the stations they supply have closed. But regulation is benefiting neither the suppliers nor the dealers, and if anything, it has undermined the viability of both. Maintaining the network to date has been possible because the supply arrangements with dealers have not changed for the worse. In other words, despite regulation resellers and dealers have worked out mutually acceptable arrangements that allow business to continue. In some cases the arrangements are identical to those in place before regulation, and in some cases, the dealers have had to accept a higher buying price (i.e., lower margin) in order to maintain supply. Some resellers indicate the adjustments allow them to break even, but in other cases they are losing money.

The wholesalers and resellers contend that considerable confusion surrounded the matter of opting in and opting out when regulation was introduced. While giving dealers the option is considered the preferred approach (ie, compared with mandatory, as in other jurisdictions), suppliers indicate that many dealers lacked a clear idea of what it meant and how it was to be implemented. In some cases, suppliers left it up to the dealers to determine what they wanted to do, providing input only when contacted. In other cases, the suppliers took the initiative to provide guidance on what opting in would mean. For its part, government conducted extensive consultation with retailers and wholesalers concerning both the design of the system and its implementation. Nonetheless, many retailers opted in by default because they either lacked the basis to make a decision or possibly because they did not wish to provoke a confrontation with their supplier.

- **Changes in the competitive environment.** Regulation does not affect the overall volume of gasoline and diesel purchases; it influences where and when consumers buy fuel.
 - Price competition has effectively been taken out of the equation, so any companies who traded on price have lost volume. With prices known to be more or less equal within zones, convenience (location) drives the decision, causing some stations to gain volume at the expense of others.
 - Also, suppliers note that in the absence of any advantage that price competition might confer, there is a drift towards the major brands.
 - The big winners as a result of regulation seem to be the cross-merchandisers. Knowing that prices tend to be uniform, consumers buy there because coupons and discounts make the difference. To try to counter this, the practice of offering a discount on cash purchases is becoming more widespread, even in markets where prices are at the minimum allowed under regulation.

- **Regulatory design and implementation.** The companies expressed the general view that the Regulator had consulted extensively and that this was reflected in both the overall design and specified margins, both of which are regarded as reasonable. They identified two main areas of concern: the two-week adjustment period and the use of and approach to forward averaging.
 - Two weeks between adjustments can result in losses and costly steps to hedge against them, and in some cases, can also create the conditions for supply disruption. A shift to a one-week adjustment period would greatly reduce uncertainty and risk, and the need for defensive measures to deal with them.
 - Forward averaging creates uncertainty. The major complaints are that its use is discretionary and the method used to apply it is not transparent and predictable. It should either be modified to achieve transparency and predictability, or dropped. The need for it would largely disappear if the adjustment period were shortened to one week.

- **Transportation differentials.** During the hearings before the Utility and Review Board (and in discussions as part of the this review), two wholesalers provided data to support their position that the transportation differentials failed to adequately cover their costs. Resellers make the same point, though they also note that high transportation costs have always presented a competitive challenge for them and their retailers. For them the issue is not that the transportation allowance is inadequate, it is that other aspects of regulation have reduced margins making it harder to cover these costs.

The comparison of transportation allowances and actual transportation costs by zone provided in Table 5.1 shows that allowances are reasonable – they hit at or near the mid-point of each zone. This is fine as long as the transportation costs for the mix of stations for any wholesaler is also at the average. But this is not the case.

Table 5.1: Fuel transportation allowance and estimated actual transportation costs

Zone	Allowance	Tractor trailer (1)	Actual Truck (2)	Reseller (3)
1	0.3	0.30-0.60	1.00-2.30	-
2	0.7	0.50-1.20	1.10-2.80	3.00-4.00
3	1.2	1.35-1.80	2.00-2.80	no data
4	1.2	0.70-1.40	1.65-2.50	no data
5	1.2	0.70-1.50	1.30-3.15	4.00-5.00
6	2.0	1.50-1.80	2.00-3.20	4.00-5.00

Source: actuals from wholesalers and resellers

(1) Delivered from refinery. Range reflects low and high costs across each Zone.

(2) Delivered from refinery or Sydney marine terminal (for Zone 6).

(3) Delivered from bulk plants in the zone.

Allowances are not adequate for wholesalers serving many low volume stations (where unit transportation costs are at the high end of the range), most of which are in rural areas. They are clearly too low to cover the transportation and storage costs for resellers whose costs are generally a multiple of the high end of the range.

The wholesalers facing the relatively high transportation costs would like the matter addressed through higher allowances. But higher allowances would mean that all wholesalers would benefit, effectively increasing the costs to consumers across the province. Wholesalers already appear to have benefited from a higher regulated margin. The question is whether a further adjustment is desirable as part of the price for maintaining rural infrastructure.

4. Public Utility and Review Board

The Nova Scotia Utility and Review Board held hearings in September 2006 to consider three issues under the *Petroleum Products Pricing Act*: zones, fixed wholesale prices and retail prices. It also considered the adjustment period and forward averaging and offered suggestions for consideration by government.

The Board had expected to take over as regulator on November 1st, but the decision to transfer responsibility from SNSMR was delayed pending the completion of this review. The Board made recommendations on the issues, though noted in its decision that these recommendations do not carry the force of an order, but are made simply to give government and industry the benefit of its views.

An evaluation of the recommendations made by the Board in its October decision forms part of the terms of reference of this review.

- **Wholesale margin:** the Board recommends that the wholesale margin continue to be set at 6.0 cpl above the NYH spot price. The consultant regards this recommendation as reasonable in light of historic levels in the industry and regulatory practice elsewhere in the Maritimes.

- **Retail margins for self-service:** the Board recommends that the maximum and minimum margins continue to be set at 5.5 and 4.0 cpl, respectively. The consultant regards this recommendation as reasonable in light of historic levels in the industry and regulatory practice elsewhere in the Maritimes.
- **Additional margin for full-service:** the Board does not recommend that the additional margin of 2.0 cpl for full-service be increased. For the reasons provided in Chapter VI, the consultant disagrees with this recommendation. The cap on full-serve should be removed.
- **Zones:** the Board does not recommend any changes to defined zones, or in the price differential which is applied to the zones, but considers that exceptions may be needed such as for particular gasoline retailers or wholesalers in rural, remote or border areas. The consultant generally agrees with this recommendation. Other zone configurations, such as concentric circles around the main wholesale distribution points (refinery and Sydney marine terminal), may provide a more accurate basis for developing a transportation allowance, but could create administrative complexities in development and implementation.

Rural and remote stations supplied mainly by resellers from bulk plants using high cost tandem trucks represent a special case the transportation allowance was not designed to address. The Board did not consider options, but simply acknowledged the challenges these stations face. The consultant notes that high transportation cost is an issue these stations and their suppliers faced before regulation. The difficulty under regulation is that lengthy periods between adjustments that leave suppliers in extended loss positions, and controlled retail prices that leave stations in a lower margin position, combine to threaten the economics of both the supply and retail ends of the business. Special zones and a targeted transportation allowance would help, but where the money would come from to cover the allowance is not clear.

- **Adjustment period:** The Board recommends the practice of setting prices for gasoline every two weeks should be changed to setting prices once a week. In the Board's view, setting prices every two weeks leads to complex issues respecting when the interrupter should and should not be used. This issue largely disappears except for rare events (e.g., catastrophes). For the reasons provided in Chapter VI, the consultant agrees with this recommendation.
- **Forward averaging:** The Board states that a forward averaging correction should be made each time prices are set, and recommends a specific formula for this calculation so as to ensure maximum transparency for consumers and the industry. For the reasons provided in Chapter VI, the consultant agrees with this recommendation.

VI

RECOMMENDATIONS

1. Concluding observations

Design

Gasoline regulation aims to achieve price stability and uniformity, while also providing a stronger economic basis for retailers and wholesalers in the province, all without causing consumers to pay too much for the benefits. This is a challenge for a variety of reasons, not the least of which is that the objectives are to some extent in conflict. The trade-off for stability is higher cost and greater uncertainty, both of which undermine the stronger infrastructure objective. The trade-off for a stronger market sector is higher prices to cover the increased costs and risks.

Government has designed and implemented a regulatory framework that recognizes and accepts the conflicts, and facilitates a solution by allowing the possibility of a modest price rise to pay for it (no more than 10-20% of the marketing margin). In fact, some additional cash appears to have been injected through higher prices to help square the circle, but it is too early to tell whether it is enough.

Implementation

Giving dealers the choice of whether they wish to opt in or not provides an important concession to the possibility that the arrangements between some wholesalers and retailers may actually work to the benefit of both. About half the independent retailers opted in, many by default because they had not notified the Regulator of their intention. They had not notified the Regulator because they were confused about the rules of the game, they lacked sufficient information about the implications of their decision, or because they wished to avoid a potential conflict with their supplier.

The pricing model was implemented on July 1st, 2006 as planned. Consumers faced fewer price changes, though they tended to be higher. There was greater price uniformity across the province. By November 1st, all retailers operated subject to regulated margins if they had opted in, or subject to a private arrangement if they had opted out. Everyone operates subject to maximum retail prices.

Reaction

Consumers tend to approve of price regulation. They generally feel it is meeting its stability and predictability objectives.

Retailers are divided on the results to date. Overall, about 45% indicate they are better off, while the rest are split among worse off, see no change or feel it is too early to tell. Of those who opted in, 70% indicate they are better off.

Wholesalers' views vary from grudging acceptance to opposition. The positions held conform generally to the cost of accommodating regulation and the potential damage they see it doing to their operations. The independent wholesalers and resellers supplying the smaller rural stations face the greatest challenges.

Review

This review commenced in January 2007, six months after regulation was introduced. Six months allows information and experience from only half the price cycle to be incorporated into the analysis. Moreover, the review began after only two months had elapsed following the opt in/opt out deadline. Over one-third of the dealers who opted in did so by default at that point. Without questioning the ability of dealers to assess their experience one way or the other, 2-3 months would seem to provide a limited basis for assessing the effects on both dealers and their suppliers. In particular, any conclusions regarding the regulatory impacts on industry infrastructure (economic viability of wholesalers and retailers) are speculative.

If insufficient time has elapsed to conclude that regulation is a success, then it follows that insufficient time has elapsed to conclude that regulation is a failure. For this reason, no recommendation is made to abandon regulation. But allowing for the constraints arising from the limited experience, there are nonetheless areas where elements of the regulatory framework could be strengthened. The following recommendations address these areas.

2. Recommendations

Recommendation 1: Reduce the benchmark price adjustment period from two weeks to one week.

The main advantage of this is to limit the duration and extent of under-recovery or over-recovery of margins following an adjustment of the benchmark price. The significance of this change should not be underestimated. It would remove much of the cost and risk associated with regulation, thereby enhancing the operating environment for suppliers, particularly independent wholesalers and resellers.

Making this change has the ancillary benefit of removing much of the need for forward averaging, with all the uncertainty this entails. It also limits the likelihood that the interrupter would be required, unless triggered by a catastrophic event.

The main disadvantage of reducing the adjustment period is that it would undermine the stability objective, at least from the perspective of the frequency of price changes. Government has given stability a high priority. But a week of stability nonetheless provides ample time to plan and prepare for a price change, if the alternative is daily or even twice daily changes. Moreover, stability also refers not just to the frequency of price changes, but also their size. Moving to a weekly adjustment period means each change is likely to be smaller than one following a two-week adjustment.

Recommendation 2: Remove the price cap on full-serve gasoline.

Seeking to strengthen the viability of rural dealers on the one hand, then limiting the scope for achieving this by constraining their ability to set suitable prices, seems contradictory. Removing the 2.0 cpl premium over self-serve would provide full-serve dealers the opportunity to regain margin in areas where it had been possible to achieve such prices in the past. Removing the cap will not lead to extortionate prices in remote locations any more than it did prior to regulation. Competition will see to that. But it will provide rural dealers with at least the opportunity to earn the higher margins they need to stay in business.

Recommendation 3: Adopt a fixed and transparent formula for forward averaging and apply it at each adjustment

A major complaint from wholesalers is that the forward averaging formula is not fixed and transparent, and nor is its use free from subjective considerations. There is merit in this complaint.

The Regulator should adopt a fixed and transparent formula for forward averaging. To reduce uncertainty, forward averaging should be applied at each adjustment, rather than on a discretionary basis. With the shift to a weekly benchmark price setting period, the size of any forward averaging adjustments are likely to be small. With a fixed formula applied regularly, industry could plan more effectively.

Recommendation 4: Consider a framework for regulatory review

This report traces some of the theoretical implications of regulation, and examines actual impacts where data allow. For example, the analysis of price stability and uniformity allow fairly clear conclusions to be drawn.

The assessment with respect to other indicators is less clear largely because insufficient time has elapsed for the full implications of regulation to work their way through the system. The available data suggests the marketing margin has expanded, but provides a limited basis for determining how this is distributed between suppliers and retailers. Many retailers indicate a positive impact on margins, but the overall impact on net revenues and long-term viability is less clear. Some wholesalers and most resellers indicate supply to a number of their retailers is in jeopardy because regulation has undermined the economics of serving these outlets.

Reviewing regulation periodically would be prudent, though establishing a firm timetable at this time may be premature for two reasons. First, if government acts on the recommendation to reduce the adjustment period to one week, this could alleviate much of the negative impact of regulation experienced by wholesalers and resellers. Sufficient time would have to elapse between the implementation of this change and the implications flowing from it. Second, government intends to hand over regulatory responsibility to the Nova Scotia Utility and Review Board. If so, the Board may conduct periodic reviews to ensure regulation is working to meet its objectives and would make recommendations to government on its findings.