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Review of Regulated Fuel Margins, Costs and Full Service Charges in New Brunswick

submitted to:

New Brunswick Energy and Utilities Board

submitted by:

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Summary

In light of various increased costs that have reduced the effective gross margin since regulation was introduced, the adjustments to margins and delivery costs set out in the following table would appear to be justified. It should be noted that making these adjustments does not necessarily mean prices will rise by the amount of the adjustment. This is the case for two reasons: because the fuel market is competitive and some marketers may choose to sell below the maximum price in an effort to gain an advantage (e.g., motor fuels); and because the price of alternative products may limit the ability of marketers to realize the higher margins they are allowed (e.g., heating oil).

	Wholesale		Retail	
	motor fuel	heating fuel	motor fuel	heating fuel
<i>(all values in cents per litre)</i>				
Maximum margins				
Fuel transportation: NYH to NB	0	0	n.a.	n.a.
Volume of sales	0	0	0	0
Storage costs	*	*	*	0.30
Inventory turnover rates	0	0	0	0
Applicable levies and insurance	0.025	0	*	*
Other factors				
Credit card fees	0	0	0.58	*
Minimum wage	0	0	0.50	1.00
Municipal taxes	*	*	*	*
Other input costs	0	0	0.20	0.27
Total	0.025	0	1.28	1.57
Delivery costs				
Fuel costs	1.00	1.00	0.00	0.20
Insurance costs	**	**	n.a.	*
Capital costs	**	**	n.a.	*
Volume of sales	n.a.	n.a.	n.a.	*
Cost effectiveness	n.a.	n.a.	n.a.	*
Other factors				
Credit card fees	n.a.	n.a.	n.a.	n.a.
Minimum wage	**	**	n.a.	n.a.
Municipal taxes	**	**	n.a.	n.a.
Other input costs	**	**	n.a.	n.a.
Total	1.00	1.00	0.00	0.20
Full service charge	n.a.	n.a.	remove cap	n.a.

Notes

*Included in "other input costs"

**Included in "Fuel costs"

n.a. = not applicable

Fuel regulation in New Brunswick

1. How regulation works

Pricing model aims to mimic the market

Fuel regulation was introduced in New Brunswick on July 1, 2006. The main objective was to create a pricing model to stabilize prices, with the proviso that “consumers should benefit from the lowest price possible without jeopardizing the continuity of supply of petroleum products.” There is an implicit recognition in the *Petroleum Products Pricing Act* (the *Act*) that there is a trade-off between price and supply; that squeezing prices and margins would impair viability, resulting in reduced capacity to supply.

The New Brunswick regulatory model introduces a measure of stability into an otherwise volatile market for petroleum products. Consumers tend to see stability as a benefit. Regulation may also provide retailers with the opportunity to operate with higher margins than they may have realized prior to regulation, though this depends on where the margin is set by the regulator. Improving the margin for retailers was not an objective of regulation in New Brunswick. For example, no minimum margin is set as is the case in the other Maritime Provinces.

Wholesalers function as “shock absorbers” in the market. They must sell at the prescribed maximum wholesale price for a given one-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 week 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 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 potential cost for another.

Through consultation with retailers and wholesalers, the New Brunswick regulator designed a pricing model that attempts to achieve some 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 costs 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 is added a maximum wholesale margin (plus taxes) to arrive at a maximum wholesale price, to which are added maximum retail margins (plus taxes) to arrive at the maximum retail price, to which is added actual transportation cost to arrive at the maximum total price.

Four key price points

The build-up to retail selling prices under New Brunswick regulation (Table 1.1) involves the following elements (using gasoline as an example):

- **Benchmark price:** the regulator sets the benchmark price every Thursday. It is based on the average New York Harbour (NYH) spot price over the previous Wednesday to Tuesday. 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 fuel prices in New Brunswick.
- **Maximum wholesale price:** is determined by adding a fixed wholesale margin of 6.0 cents per litre (cpl) for motor fuel and 5 cpl for heating oil to the benchmark price. These margins were selected as appropriate compensation for wholesalers based on historical data and industry consultations. The actual selling price to retailers includes applicable taxes. There is no guaranteed minimum margin, thereby allowing competition at the wholesale level.
- **Maximum retail price:** is determined by adding a retail margin of up to 5 cpl to the maximum wholesale price for regular self-serve, and 7.5 cpl for the maximum full-service charge. For heating oil the maximum retail margin is 13 cpl. These margins were selected as appropriate compensation for retailers based on historical data, industry consultations, and practice in other regulated areas in the Maritimes. The decision not to include a minimum margin was made to promote competition among retailers.
- **Maximum total price:** is determined by adding actual fuel delivery costs to the maximum retail price. The maximum allowed is 2 cpl in the case of motor fuel and 5 cpl in the case of heating oil.

Table 1.1: 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 7-day period and adjusting the previous benchmark to the new average. In the example, the benchmark drops from 82.12 to 79.54 cpl, following the drop in the NYH spot price. The maximum wholesale price is derived by adding the wholesale margin (6.0 cpl) to the benchmark. Adding the retail margin (5.0 cpl) brings the maximum retail price (excluding taxes) to 90.5 cpl. Adding the actual cost of fuel delivery to the station adds (in this example) 1.5 cpl, bringing the maximum total price (pre-tax) to 92.0 cpl.

From the benchmark to the pump under regulation			
Day	NYH spot cpl (US\$)	Exchange rate	NYH spot cpl (CAN\$)
Previous benchmark			82.12
Wednesday	77.20	1.0088	77.88
Thursday	78.30	1.0114	79.19
Friday	78.40	1.0164	79.69
Saturday	78.40	1.0164	79.69
Sunday	78.40	1.0164	79.69
Monday	78.70	1.0222	80.45
Tuesday	78.15	1.0261	80.19
Adjusted benchmark			79.54
Add maximum wholesale margin:			6.0
Maximum wholesale price			85.5
Add maximum retail margin:			5.0
Maximum retail price			90.5
Add actual transportation:			1.5
Maximum total price (pre-tax)			92.0

2. Adjusting to market conditions

Prices are adjusted every week to reflect changes in fuel commodity markets. The adjustment to the benchmark price is based on the average of the daily high and low NYH spot price from Wednesday to Tuesday preceding the Thursday setting. The Friday average is used as a proxy for the Saturday and Sunday settings when the New York Mercantile Exchange does not operate.

The Regulations under the *Act* also allow the Board to adjust the benchmark price at any time in the event of a major day-over-day change (up or down) in the NYH spot price. The trigger point for a change ranges from 5 cpl for heating oil to 8 cpl for motor fuels. The benchmark price is adjusted by the actual amount of the increase or decrease.

Wholesalers and retailers are advised of the regular bi-weekly adjustment on Wednesdays, giving them time to make the necessary changes to signage and computer systems before the prices go into effect on Thursday. Wholesalers and retailers are not permitted to notify the public of the bi-weekly adjustment prior to the Thursday on which it takes effect. This is intended to limit a possible run on the pumps on the Wednesday before an upward adjustment, or to cause consumers to delay purchases until the Thursday following a downward adjustment. This nonetheless occurs, at times causing supply challenges for the industry, because the price-setting mechanism is transparent and the media are able to predict changes fairly accurately.

3. Maximum margins or not: wholesalers and retailers have a choice

The *Petroleum Products Pricing Act* gives wholesalers and retailers the option of operating within the system of maximum wholesale and retail margins, or to apportion the total allowed margin as they see fit. This is an important feature because it allows some flexibility in the event the regulated margins would leave enterprises worse off than their existing arrangements.

In practice, most of the arrangements between wholesalers and retailers in existence prior to regulation continue in effect today.

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New Brunswick motor and heating fuel market

1. Industry structure

Overview

As backdrop to the general question concerning justified margins and costs, 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. It also helps to explain the constraints they are operating under and how this affects actual margins and costs.

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. Conversely, it may not be easy to exit an industry because assets are not transferable to other uses or because the costs associated with shutting down a business may be prohibitive (e.g., the costs of decommissioning a retail gasoline site or heating oil bulk plant).

Of course, an industry does not exist in isolation from wider economic forces outside its market area. While the New Brunswick fuel 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 motor fuel and heating oil markets exist in a local context and are 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. Heating oil dealers also face the challenge of selling into a market where consumers have the option of choosing alternative fuels.

Refining

The Irving Oil refinery in Saint John supplies most of the New Brunswick petroleum product requirements, with supplies also provided by the Imperial Oil refinery in Dartmouth, Nova Scotia (mainly to southeast NB), and by the Ultramar refinery in St. Romauld, Québec (mainly to northeast NB from the Ultramar terminal in Miramichi). Transportation costs, logistical issues and product availability would determine from which refinery wholesalers and retailers are supplied.

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, Irving provides Imperial and Ultramar with product in New Brunswick in exchange for equivalent quantities in Nova Scotia and Québec, 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 47 companies, including the five integrated refiner-marketers (Irving, Shell, Esso, Petro-Canada and Ultramar) plus one large regional wholesaler (Wilson). They obtain petroleum products directly from the refineries, while the smaller wholesalers (often referred to as resellers) located around the province either buy from the refinery or from one of the larger wholesalers who supply their dealers from regional bulk plants.

Most of 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. A few supply only motor fuels. The 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.

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.

Depending on their volume and number and size of outlets they supply, the smaller wholesalers contract the service of product carriers and deliver directly to outlets, or operate their own trucks, delivering from bulk plants to their 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

Motor fuel

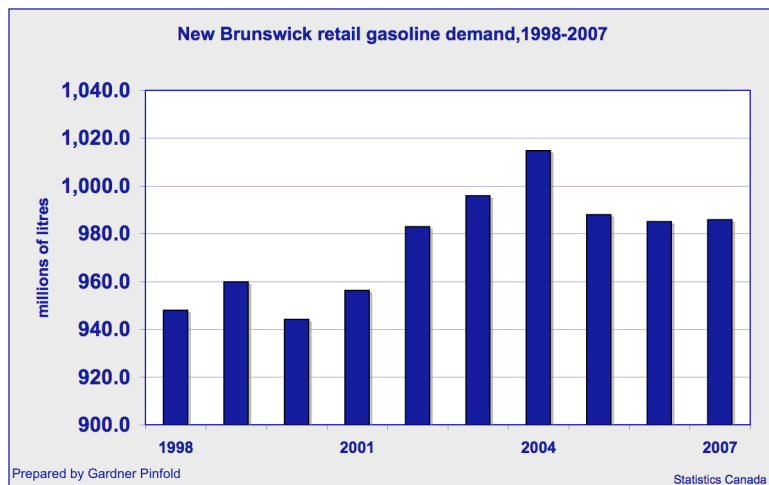
At the time regulation was introduced, there were some 570 service stations licenced to serve New Brunswick motorists. How many of these actually operated at the time and continue to operate is not clear from readily available data. One estimate puts the number as low as 470,* though it is likely higher than this. Undoubtedly, the figure has changed in the past two years, with some outlets going out of business and others entering the industry. Consultations with wholesalers suggest there is likely to have been a decline in the numbers, particularly in rural areas.

The number of stations in New Brunswick has 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. Statistics show total retail sales of gasoline have declined from a peak of just over 1.0 billion litres (Fig. 2.1).

The industry responded to the demand for convenience, offering a wide array of ancillary services and cross-merchandizing programs at an increasing number of self-service only stations. 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.

Stations vary widely by size, with the smallest ones selling under 200,000 litres of gasoline annually, and the largest selling several million litres. The average is somewhere in the 2.0 million litre range. Diesel accounts for a small proportion of retail sales, with the bulk of this fuel sold by wholesalers through commercial accounts and, hence, not subject to regulation. Overall retail sales of motor fuels have declined in recent years.

Fig. 2.1: Retail sales of gasoline increased sharply in New Brunswick in the early 2000s, with sales befitting from low prices, rising incomes and increased vehicle ownership. Sales rose from 955 million to 1,015 million litres between 2000 and 2004. Sales have been declining since, dropping to 985 million liters in 2007.



* MJ Ervin, *National Retail Petroleum Site Census*, 2007

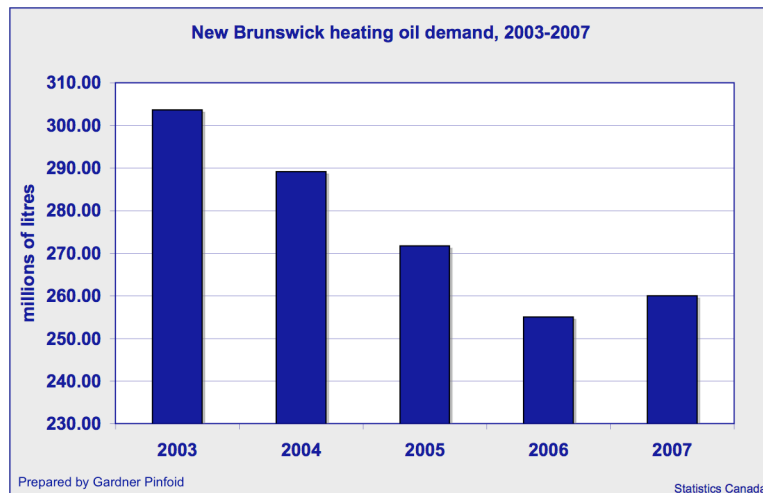
Heating oil

The retail heating oil market is supplied mainly by 35 independent companies, with some of the integrated refiners also operating in the larger centres. The independents supply regional or community markets, with customer bases ranging from a few hundred to a few thousand homes. Most companies market under their own brands. Total sales declined from over 300 million litres in 2003 to about 250 million in 2007 (Fig. 2.2). This is evidence of inter-fuel competition.

Heating oil companies typically operate one or more single or double axle trucks. They take supply from their own bulk plant or from one of the larger wholesalers. This is a high cost business, particularly for companies operating in the more rural areas of the province where homes are few and far between. Operating the trucks represents the main expense; variable costs alone can approach 10 cpl.

About 20% of New Brunswick's homes use oil for heating. Traditionally, oil competed against electricity and wood, but in the past decade has also had to contend with natural gas. Sales dropped during the early 2000s, but appear to have recovered slightly in 2007 (possibly due to a colder winter). Heating oil companies expect continued pressure on sales as fuel prices increase.

Fig. 2.2: Heating oil demand dropped during the early 2000s due in part to increasing competition from other fuels including natural gas and electricity. This competition is expected to intensify making it increasingly difficult for heating oil companies to realize higher margins.



2. Pre-regulation competition and pricing

Context

Competition in the motor and heating fuel markets 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 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 independent wholesalers who buy in relation to the price set by the refiner. The Saint John rack price, not the NYH spot price, determines their margin.

Refining

The refiners supplying the New Brunswick market have the option of selling into this market or sending product 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 (price net of any transportation and related costs).

To illustrate the market dynamics, consider two situations.

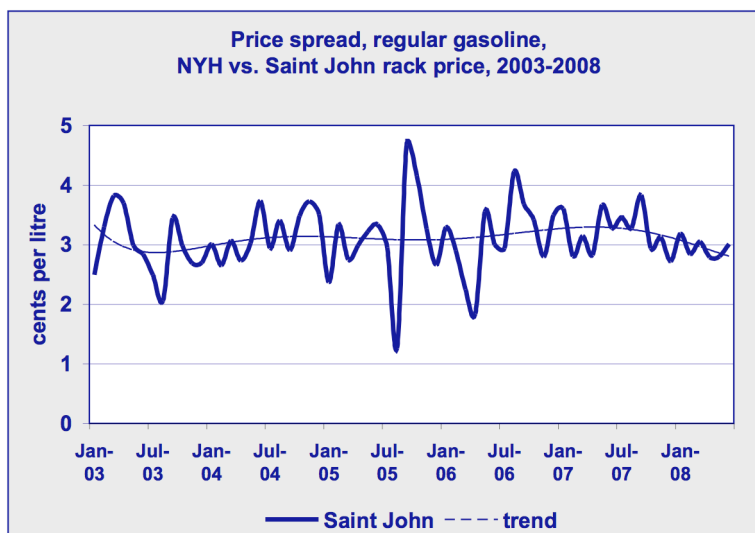
- **Rising export prices:** if prices in regional and export markets are rising relative to prices in New Brunswick, Irving Oil has an incentive to sell outside the province as long as the net price is higher. Increased supply into the external market causes prices to decline. Conversely, decreased supply 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 New Brunswick rise relative to prices elsewhere (say, due to increased demand), Irving Oil 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 81 cpl and it costs 1 cpl to transport the fuel, the refiner receives a net price of 80 cpl. If the export market pays 80 cpl and it costs 2 cpl to transport the fuel, the refiner receives a net price of 78 cpl. It pays to adjust supply to the respective markets until the net price equalizes at, say, 79 cpl.

Making the market dynamics more competitive is the availability of alternative sources of supply in the market area. The price Irving Oil receives for fuels is not determined by Irving 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 supply into the province, or by offering product obtained from Irving Oil under established product exchange agreements. It is possible that the price offered by Irving could exceed that of a competing supplier (e.g., Imperial, Ultramar), even though both are taking supply from the same refinery. How competition plays out in any particular circumstances depends on the demand and relative prices each supplier faces.
- **In the long run,** the Saint John 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 Saint John rack price tracks the NYH spot price closely, differing by an average of about 3.1 cpl in the seven years prior to regulation (Fig. 2.3). Because it is tied closely to one of the most competitive gasoline markets (NYH), the Saint John rack price tends to be one of the lowest rack prices in Canada resulting in one of the lowest refining margins.* This contributes to New Brunswick's relatively low retail prices (ex-tax).

* The refining margin for regular gasoline (the difference between the price of crude oil and the rack price) for Saint John averaged 11.5 cpl between 2004 and 2007, compared with a national average of 13.0 cpl. See *Fuel Focus*, Natural Resources Canada, August, 2008 at: http://fuelfocus.nrcan.gc.ca/index_e.cfm

Fig. 2.3: Between 2003 and 2006, the spread between the NYH spot price and the Saint John rack price averaged 3.1 cpl. The gap may widen during periods when supplies are tight (2007) and narrow during periods of abundant supply (2008). But these periods tend to last for no more than a few months. The price spread is similar for diesel and heating oil.



The issue of a competitively determined rack price is a key one for the non-integrated wholesalers and the several 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 3.1 cpl between the NYH spot price and the Saint John 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 Saint John rack. This would place them at a competitive disadvantage.

Marketing

Overview

Competition in the marketing sector occurs at two levels: among the major companies (brands) to maximize return on capital and market effectiveness*, 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.

* 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.

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.

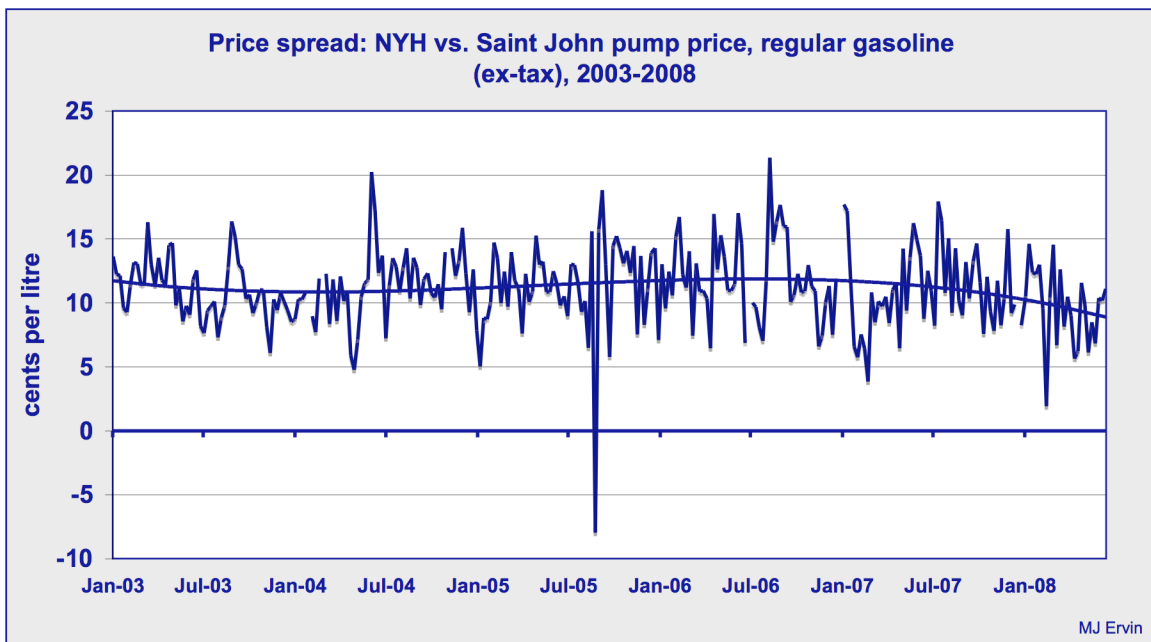
The effective marketing margin is the difference between the wholesaler's acquisition cost of fuel and the pump price or retail price (excluding tax). Under regulation, this margin is up to 13 cpl for regular gasoline (from NYH to retail including transportation) and 23 cpl for heating oil (including transportation).

Motor fuel

The marketing margin has to cover the full cost of doing business (wholesale and retail) including distribution, storage, advertising, promotions, outlet operations and maintenance, wages and salaries, profit, etc. 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.*

Before examining how wholesalers and retailers compete to maximize their respective shares of the marketing margin, it is worth reviewing recent trends in the margin. The average spread between the NYH spot price and the Saint John pump price (excluding tax) was fairly stable in the 11-12 cpl range between January 2003 and July 2006. This average spread presumably formed the basis for the regulated margin of 11 cpl plus transportation currently in place in New Brunswick. The long-term trend (using weekly data) is shown in Figure 2.4.

Fig. 2.4



* 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 at this price. The true marketing margin would be higher for most of the gasoline sold, lying above NYH and below the rack price.

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 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.

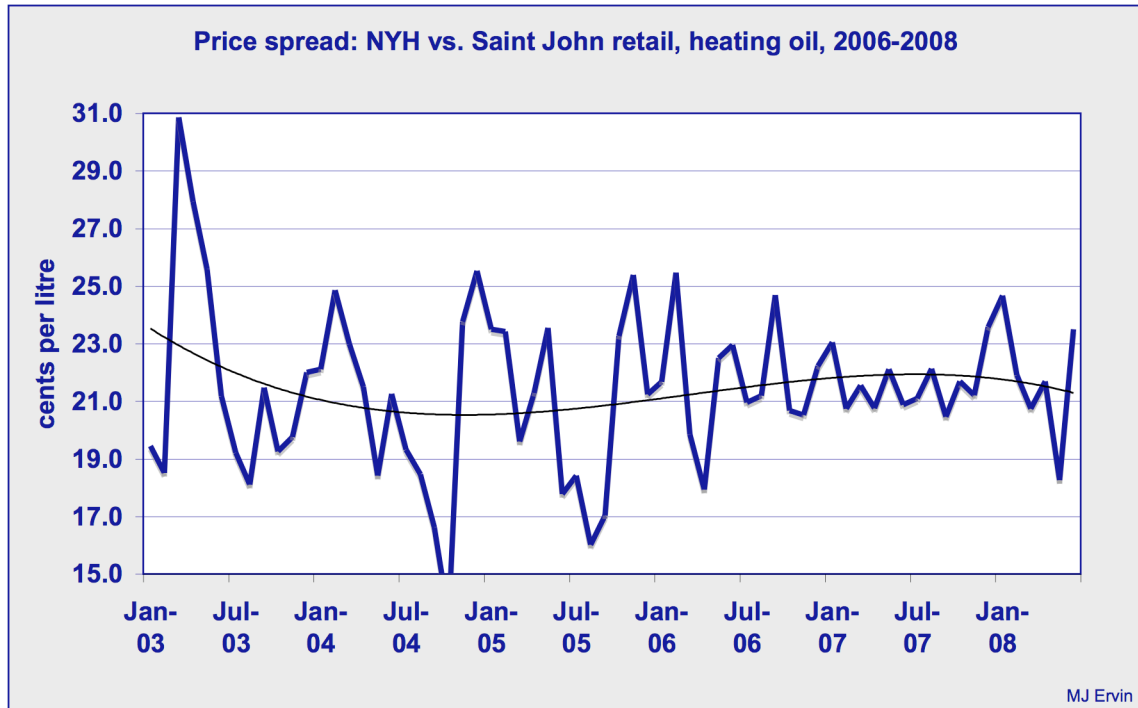
The point is that looking only at the margin, or comparing margins and changes in margins without knowing more about the full extent of the financial arrangements, is unlikely to provide a reliable basis for assessing the respective financial positions of wholesalers and retailers.

Heating oil

The marketing margin has to cover the full cost of doing business (wholesale and retail) including transportation and distribution, storage, advertising, utilities, maintenance, insurance, taxes, wages and salaries, and profit. With much of the heating oil consumed in the province sold by the smaller independent dealers, the acquisition cost of fuel would likely be at or above Saint John rack price. The rack runs about 3 cpl higher than NYH.

To gain some insight into the heating oil market, it is worth reviewing recent trends in the margin. In the two years before regulation, the spread between the NYH spot price and the Saint John retail price (excluding tax) varied by 4 - 5 cpl above and below an average of just under 21 cpl. (Transportation costs would increase this spread by a cent per litre more in much of the rest of the province.) This variation reflects seasonal demand and supply, with the spread widening in the winter months (to 23 -25 cpl) and narrowing in summer (to 16 - 19 cpl). It would appear that the average spread through the winter months when heating oil is sold formed the basis for the regulated margin of 23 cpl currently in place in New Brunswick. The long-term trend (using weekly data) is shown in Figure 2.5.

Fig. 2.5



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III

Structure and competition in a regulated market

1. How regulation can affect margins

Wholesalers and retailers have to adjust to a new pricing environment. Regulation is intended to increase retail price stability. It accomplishes that by bottling up small changes at the wholesale level and passing them along in generally larger price shifts at one-week intervals. Depending on the direction and magnitude of the underlying movement in commodity fuel 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 fuel 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 or reduced margins and less revenue. It results in a new set of challenges for both wholesalers and retailers. Figure 3.1 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 3.1 are:

- a) the actual acquisition cost of gasoline (shown as a blue band, reflecting the range of prices paid by the smallest resellers, W1, at the top of the band; and the integrated refiner-marketers, W2, at the bottom of the band);
- b) the benchmark price (shown as a red line, adjusted every week 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 cpl above the benchmark); and
- d) the maximum total price (shown as a green band), reflecting the maximum retail margin (plus transportation), moving in lock step at 5+ cpl above the wholesale selling price.

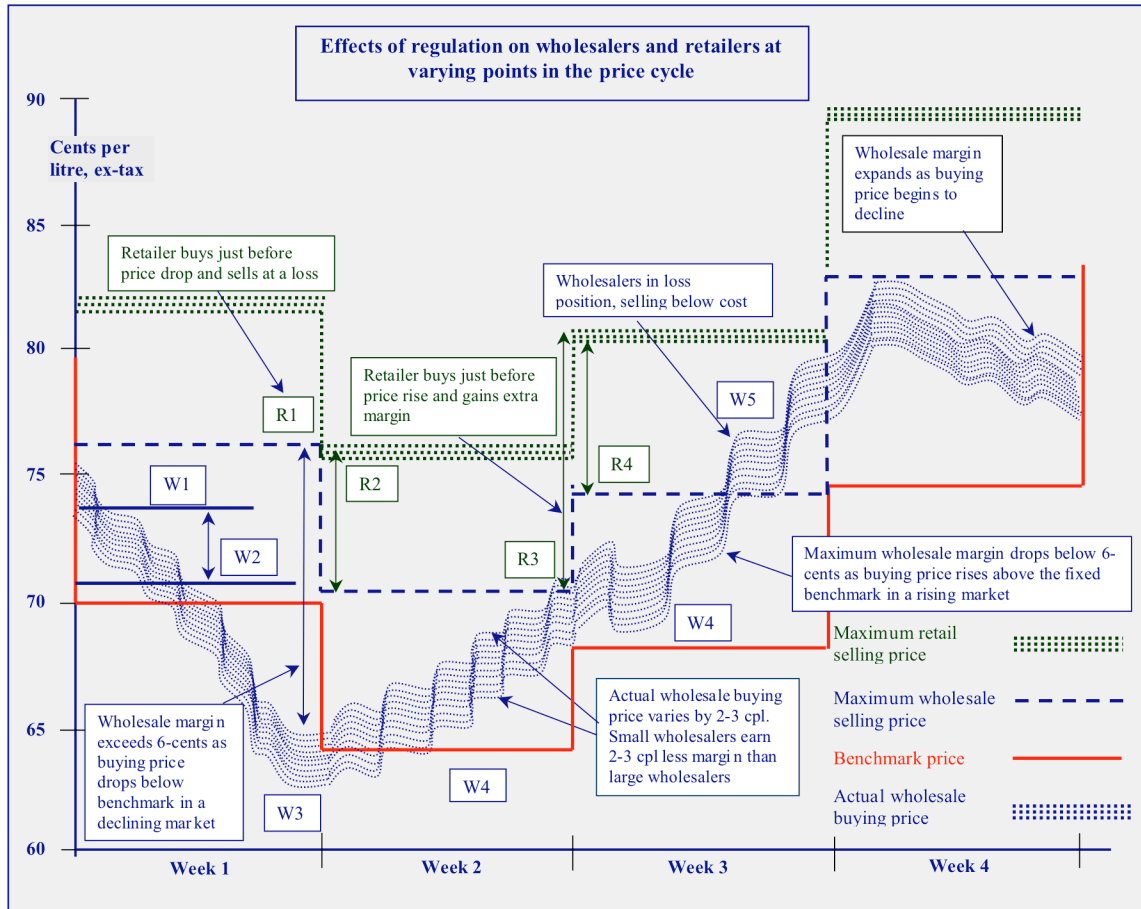
2. How regulation can affect structure

The New Brunswick 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, and nor is it necessarily intended to strengthen supply infrastructure. By not stipulating a minimum margin at the wholesale or retail level, and by limiting the flexibility wholesalers and retailers have to adjust to changing conditions, regulation has the potential to create an unattractive economic environment for existing and prospective dealers. This is particularly the case for dealers operating in rural markets where transportation costs tend to be higher.

Fig. 3.1



- ❑ **Wholesalers gain in Week 1:** the margin exceeds 6 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 Week 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.
- ❑ **Retailers gain in Week 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 Weeks 3 and 4:** 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 Week 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).

- ❑ **Relationship between wholesalers and retailers:** regulation is not intended to limit or extend the independence of independent dealers in any fundamental way. But regulation does give independent retailers the opportunity to enhance the financial aspects of the relationship by offering what for some may be a higher (regulated) margin. In practice, this has not occurred to any great extent for gasoline dealers. Discussions with wholesalers and retailers conducted as part of this review indicate that most continue to operate under the same arrangements they had prior to regulation.
- ❑ **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 is likely to be at best neutral and at worst negative. On the negative side, one-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). Also, tying the benchmark price to NYH creates potential difficulties for wholesalers whose buying price is tied to the Saint John rack. Their margins are lower to begin with and could decline if the gap between the rack and NYH expands, as it does from time to time.

The net effect of these factors is likely to make gasoline and heating oil marketing a less attractive business (particularly for wholesalers and resellers tied to the Saint John rack) thereby creating an incentive for exit and a disincentive to entry.

- For retailers, the margins available with the regulated maximum retail price should leave them no worse off than they were before regulation was introduced. This is because the regulated margin is based on the recent historical average. The problem with this is that the average does not apply to all retailers. For some, the price ceiling would leave them with a lower margin than they had prior to regulation.

3. *How regulation can affect competition*

This section explores the effects regulation could have on established patterns of competition in the New Brunswick fuels 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 wholesale margins are 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 or retailers in the market who buy in relation to the rack price. When the NYH-rack spread widens, the competitive position of these companies would deteriorate. With a fixed wholesale or retail price, they would face a declining margin as the rack price moved farther away from NYH. This would place 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 slight 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 markets) 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-service survive?** Most stations offer self-serve only because competitive pressures make it uneconomic to offer full-serve. Most consumers do not wish to pay the extra 1.0-2.0 cpl for full-serve, particularly at today's high prices. Fewer and fewer gasoline sales fall into the full-serve category, and most of these are smaller stations in rural locations where demographics (an aging population) 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. Also, most self-serve stations would provide full-service if requested. On the other hand, in the pre-regulation market some full-serve stations in less competitive rural locations were able to charge more than the usual 2 cpl premium over self-serve. Customers paid it for the convenience and service, and stations survived with the higher margin. Under regulation, the full-serve price is capped at 2.5 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

Margins, delivery costs and full service charges

1. Overview

The fuel supply industry in New Brunswick is facing a combination of declining gross margins and rising costs. These factors are squeezing net margins. The challenge of maintaining viability in these circumstances is felt most acutely by independent wholesalers and retailers. On balance, because of the way motor fuels are distributed and marketed, gasoline wholesalers and retailers appear to face the greatest challenges.

This chapter traces the changes in the marketing margins for motor and heating fuels in the months leading up to and following the introduction of regulation. The analysis shows how the actual margins compare with the regulated margins, examining the structural and regulatory factors accounting for the variation and assessing the implications for wholesalers and retailers.

The main focus of this chapter is to examine existing maximum margins, maximum delivery costs and the maximum full-service charge to determine whether these are justified. The term “justified” carries no clear quantitative definition in the *Act* such as rate of return on investment or other measure of profitability.

Such guidance as the Act offers may be found in Sec. 1.1 which states that “The Board shall, when making a decision under this Act respecting prices, margins, delivery costs or full-service charges, consider the fact that consumers should benefit from the lowest price possible without jeopardizing the continuity of supply of petroleum products.”

In short, the Board must balance the interests that consumers have in not paying any more than they have to for petroleum products with their interest in not enduring supply disruptions. Part of this balance may include ensuring that the cost of access to supply does not rise appreciably, either due to station closures in the case of gasoline or more costly distribution due to fewer heating oil suppliers. This broad interpretation of price is not found in the *Act*.

The Act does set out the factors the Board must weigh in achieving the price-supply balance. This chapter examines each of these factors in turn, quantifying how they have changed since the margins, costs or charges were originally set on July 1, 2006, and whether an adjustment would be justified as a result of these changes. In simple terms, the analysis is one of determining how the costs of doing business have changed and whether these changes justify an adjustment in the margins, delivery costs and full-service charges.

2. Actual margins vs. regulated margins

Motor fuel

Regulation allows an overall maximum margin of 11.0 cpl over the benchmark price. Chapter III shows that it is possible for wholesalers and retailers to realize margins over or under the regulated level depending on the timing of their purchases and sales in relation to the timing and direction of adjustments to the benchmark price. In periods of a declining benchmark price, retailers lose and wholesalers gain; in periods of a rising benchmark price, wholesalers lose and

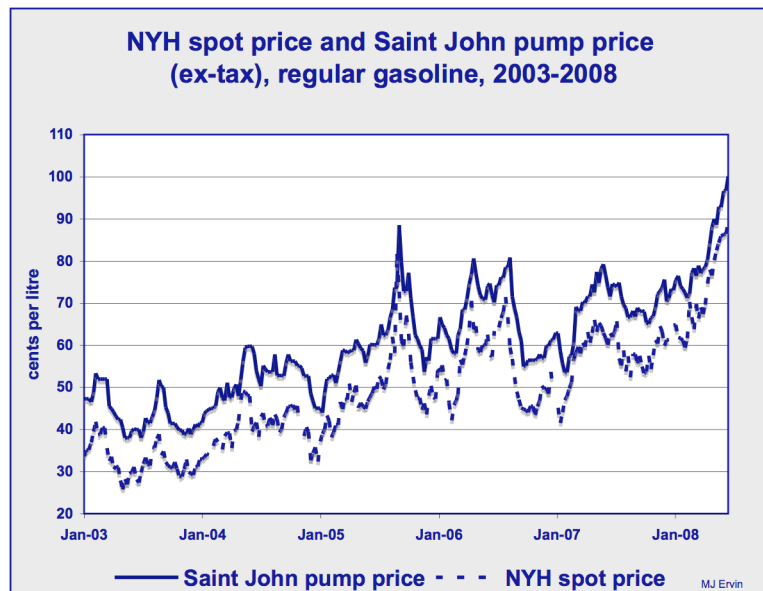
retailers gain. These periods of gain and loss (relative to market conditions) occur because regulation prevents the frequent adjustments the market makes to stabilize margins.

There seems to be an implicit assumption underlying regulated petroleum markets that these periods of gain and loss will offset each other leaving suppliers no worse or better off. This may be a reasonable assumption during periods of relative price stability that are subject only to seasonal fluctuations. But there may be extended periods when this balance is not achieved through market ups and downs. For this reason, some regulatory regimes give the regulator discretion to modify the adjustment to nullify gains and compensate for losses. This is the case in Nova Scotia and Prince Edward Island, for example.

The regulator in New Brunswick has no such discretion. Weekly adjustments are made according to a strict application of the formula, with no accommodation to ensure wholesalers and retailers are no worse or better off than they would have been had market conditions prevailed.

Petroleum prices in New Brunswick (and elsewhere in North America) have been increasing steadily – with seasonal fluctuations – since mid-2003 (Fig. 4.1). In the past 18 months alone, gasoline prices have almost doubled, rising from just 55 cpl to just over 100 cpl (excluding taxes).

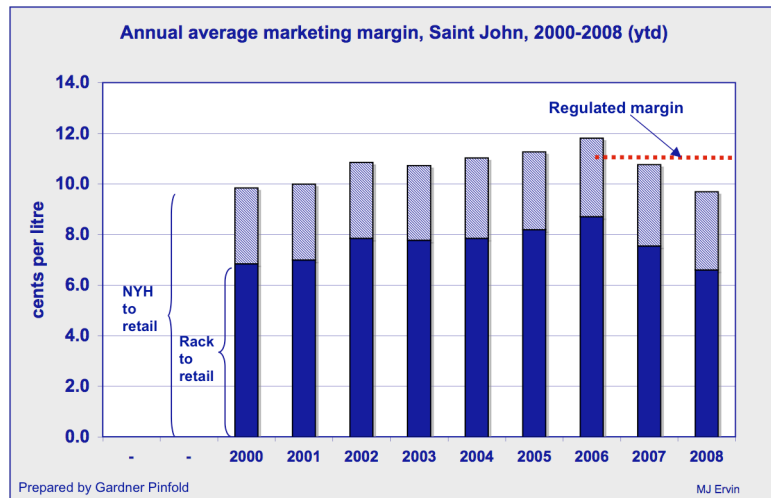
Fig. 4.1: Pump prices in New Brunswick are closely linked to the NYH spot price for gasoline. Since early 2003 prices have been rising, with wide seasonal fluctuations. The pump price is up almost 100% since early 2007.



With rising prices during all but a few months since regulation was introduced, wholesalers have been buying fairly consistently above the benchmark price. This means the actual margin lies below regulated margin for extended periods. Fig. 4.2 shows that the average marketing margin was in the 8 cpl range in the 2-3 years leading up to regulation. This is the margin the smaller independent wholesalers who buy at or near the rack price share with their dealers. The regulated margin of 11 cpl approximates the margin the refiner-marketers earn from sales through their retail outlets.

For the refiner-marketers, the effective margin in 2007 would have been slightly below the regulated margin. The effective margin fell further to an average of less than 10 cpl in 2008. By contrast, the smaller independent wholesalers shared a marketing margin with their dealers that dropped to the 7.5 cpl range in 2007, and declined further to the 6.6 cpl range in 2008 (year to date).

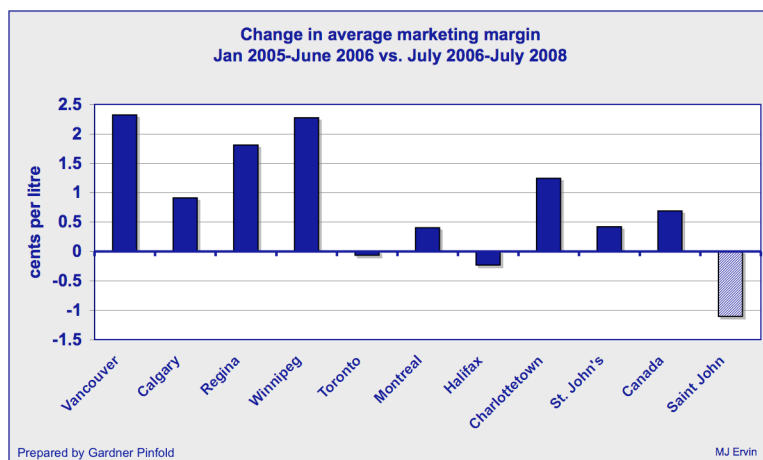
Fig. 4.2: The actual marketing margin dropped below the regulated margin in 2007 and 2008. This is due mainly to the adjustment lag in a rising market. Wholesalers faced a generally rising acquisition cost between adjustments to the benchmark, while selling into a market with a maximum retail price. Competitive factors also play a role.



The structural rigidities in the price adjustment mechanism are also evident when comparing changes in the marketing margin in New Brunswick with those in other cities in Canada. The margins (rack to retail spread) shown in Fig. 4.3 are for cities in provinces with and without gasoline regulation. The change in the margins compares the average for the 18 months before July 1, 2006, with the 25 months since July 1, 2006.

- ❑ The marketing margin has increased in centres in western Canada, rising by almost 2.5 cpl in Vancouver and Winnipeg. Even Calgary has experienced an increase, a rise of almost 1 cpl. Competitive factors account for these increases, including the market adjusting to higher costs of operation.
- ❑ Toronto shows a slight decrease, despite rising costs. This is one of Canada's most competitive markets. A price war in late 2006-early 2007 caused margins to move into negative territory at times as marketers engaged in below cost selling.
- ❑ Margins in Montreal, Charlottetown and St. John's have expanded. The Montreal expansion is due to the cost push in an otherwise highly competitive market. The Charlottetown increase is due to regulatory discretion, and also to an increase in the allowable margin effective in 2008.
- ❑ The average margin in Canada has increased by just over 0.6 cpl.

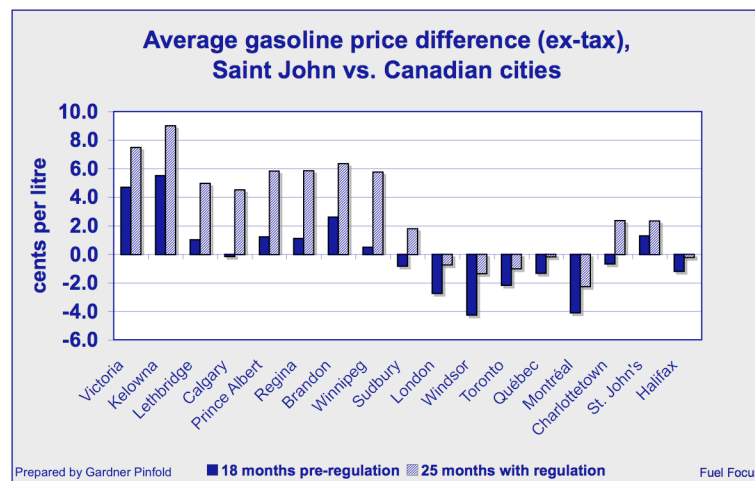
Fig. 4.3: The margin in Saint John has declined, while margins have increased in most of the rest of Canada. The decline in Saint John, exceeding 1.0 cpl, is due mainly to the adjustment lag in a rising market. Part of it may also be due to a change in the competitive environment under regulation.



The changes in marketing margin are reflective of relative price shifts (excluding tax) in Saint John and major centres in Canada. The height of the bars in Fig. 4.4 measures the price difference between Saint John and the city indicated, with the solid bar representing the average price difference in the 18 months preceding July 2006, and the striped bar showing the average price difference between July 2006 and July 2008. Fig. 4.4 shows that:

- Prices in western Canada are as much as 6 - 8 cpl higher than Saint John, up from a 1 - 4 cpl difference before July 2006. The gap has widened in response to market pressures.
- Prices in central Canada are generally lower than in New Brunswick, though the gap has narrowed by about 2 cpl since July 2006. The narrower gap reflects relatively stronger price growth in response to market pressures.
- The change in price differences in Atlantic Canada reflects the regulatory structures in each market, discussed above.

Fig. 4.4: Pump prices for gasoline (ex-tax) have not advanced as much in New Brunswick as in the rest of Canada since regulation was introduced. This may be good for consumers in the short run, but an inability to cover costs through price increases could undermine the viability of enterprises.

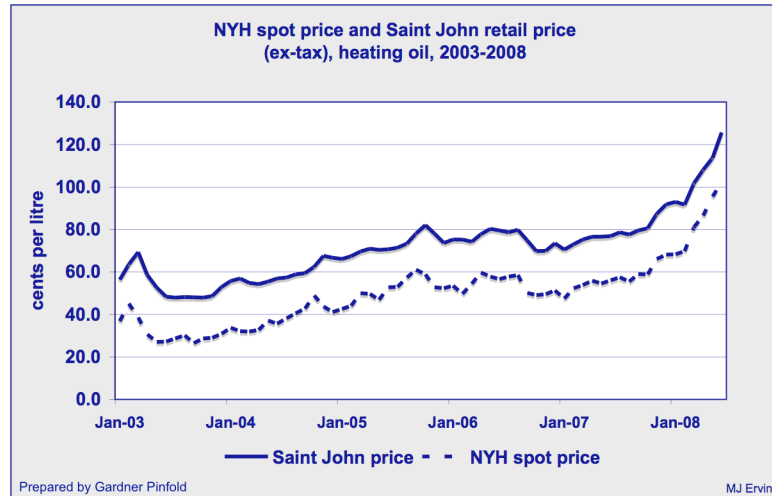


To conclude, the marketing margin in New Brunswick has declined since regulation was introduced. This has occurred over a period when the average marketing margin in Canada has increased. The need to cover rising costs through price increases helps to explain the pressure to increase the margin, even as competition intensifies. The New Brunswick motor fuels marketing industry faces the same cost pressures, but has had to cover these out of a declining margin.

Heating fuel

In the past 18 months, heating oil prices in New Brunswick have increased by almost 80%, rising from about 70 cpl to just over 125 cpl (excluding taxes). This follows much the same trend as gasoline prices, driven by the sharp increase in the NYH spot price that is responding to rising global demand for petroleum products. The gap between the NYH spot and Saint John retail price tends to fall in the 21-23 cpl range, though it can vary more widely depending on regional demand and supply conditions. This formed the basis for the overall marketing margin of 23 cpl (wholesalers and retailers are allowed a maximum margin of 18 cpl over the benchmark price, with an allowance of up to 5 cpl for delivery to be shared between wholesaler and retailer).

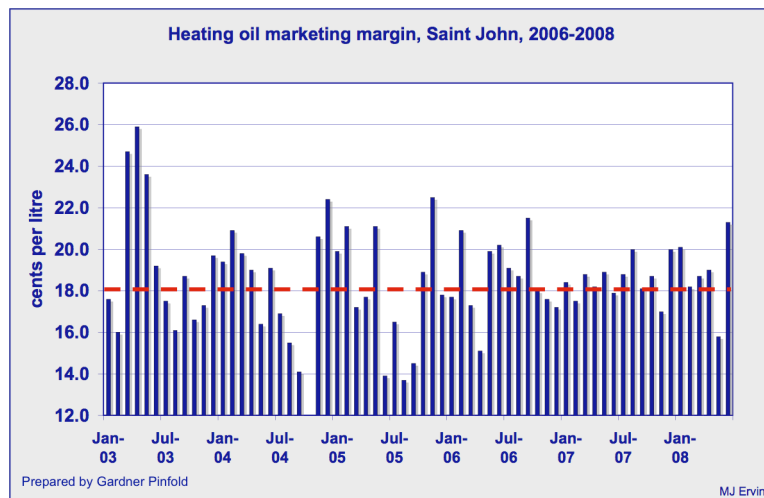
Fig. 4.5: Retail heating oil prices in New Brunswick are closely linked to the NYH spot price. Prices have been rising steadily since mid-2003 prices, with a sharp increase over the past 18 months. The price is up by almost 80% since early 2007.



Though Fig. 4.5 shows the NYH spot and Saint John retail prices moving roughly in tandem, the retail price tends to deviate from the NYH price by a few cents on a seasonal basis, widening during the heating season and narrowing during the summer months. This pattern reflects regional supply and demand conditions.

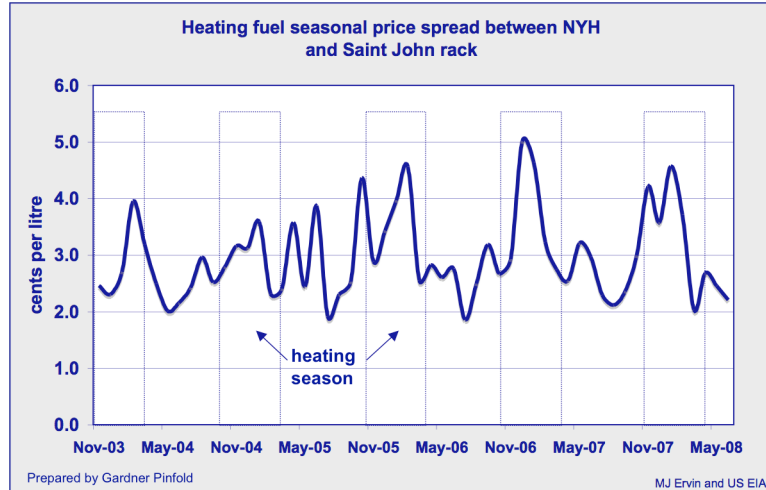
The average marketing margin for Saint John since regulation began is 18.30 cpl (Fig. 4.6). This is up from 17.75 cpl in the two years prior to regulation. The difference may be accounted for by transportation, which is about 0.3 cpl in the Saint John area.

Fig. 4.6: The heating oil marketing margin (rack to retail price) averaged 17.75 cpl in the two years prior to regulation, and has averaged 18.30 cpl in the two years since regulation began.



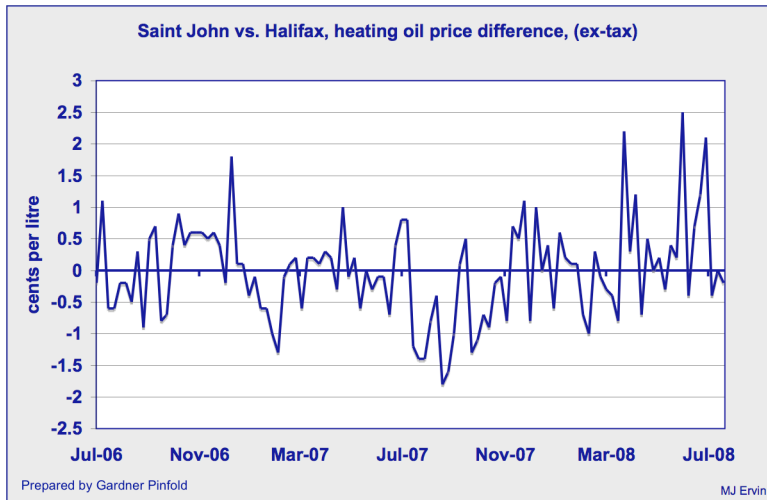
The seasonal spread between the NYH spot and the Saint John rack prices (monthly averages) is seen more clearly in Fig. 4.7. The spread, typically in the 3 cpl range, expands to the 4 to 5 cpl range during the heating season. Since most heating oil retailers buy at or near the Saint John rack price, rather than the NYH spot price, their margin narrows as the spread between these prices widens during periods of peak demand.

Fig. 4.7: The spread between NYH spot and the Saint John rack price for heating oil is subject to seasonal swings, widening in winter and narrowing in summer. Most retailers buy at or near the rack price, so as the spread widens during period of peak demand, the retail margin narrows by a cent or two.



Regulation does not seem to have affected the retail price of heating oil relative to unregulated prices in other centres in Atlantic Canada. Taking Halifax as a basis for comparison, Fig. 4.8 shows the Saint John price fluctuates above and below the Halifax price within 1 cpl most of the time. Over the two-year period shown, the average Saint John price is about five one-hundredths of one cent lower, a negligible difference.

Fig. 4.8: The price for heating oil in New Brunswick is comparable to that in unregulated markets in Atlantic Canada. Though the price fluctuates relative to other centres such as Halifax, the average difference over the long term is negligible.



One of the implications of this comparison is that 18 cpl may represent a competitive ceiling for heating oil retailers. In other words, the combination of alternative energy sources and discount distributors serves to keep prices in check even without a regulated ceiling. The only difference may be the frequency of prices changes.

3. Adjusting the maximum margins

Factors to consider

The *Act* specifies several factors the Board shall consider in determining whether an adjustment to maximum margins would be justified:

- The cost of transporting fuel from New York Harbour to the province
- Volume of sales
- Storage costs
- Inventory turnover rates
- Applicable levies and insurance
- Any other factors the Board considers relevant

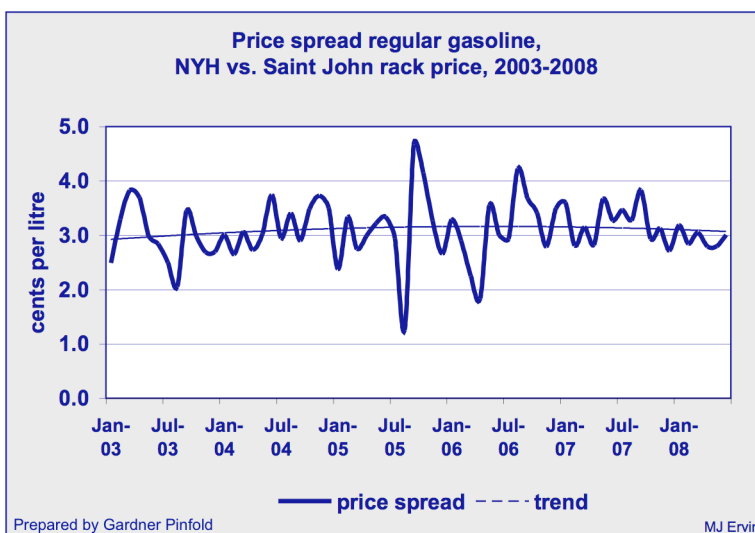
Fuel transportation cost: NYH to New Brunswick

This is relevant because it influences the upper limit on what refiners can charge wholesalers for fuel. The proximity of this highly competitive market, and the threat of importing fuels, helps keep ex-tax petroleum product prices in New Brunswick among the lowest in Canada. The historical relationship between the NYH price and prices in New Brunswick represented a key element in setting the regulated maximum marketing margin in 2006.

The transportation cost is one component of that price spread, though it is largely a notional value, since petroleum products are not actually transported from NYH to New Brunswick (the flow is the other way). The spread between NYH spot and the Saint John rack prices is often taken as a proxy for the transportation cost, though this price spread incorporates a wider set of competitive conditions in the regional petroleum market.

If the transportation cost has risen or fallen since July 2006, then it effectively means that *in the absence of regulation*, the marketing margin could have expanded or contracted in response to the shift in competitive circumstances (including the effect of the exchange rate on shipping costs). A rising cost would mean wholesalers would try to cover this cost with a higher price, with the higher price reflected in a higher gross margin. Conversely, a declining cost in competitive circumstances would cause the wholesale selling price to drop and would be reflected in a lower gross margin.

Fig. 4.9: The NYH spot-Saint John rack price spread has remained stable over the long term. In the two years prior to July 2006, the average spread was 3.1 cpl. In the two years since July 2006, the average spread has been 3.2 cpl, though the trend line suggests the spread is narrowing (it averaged 3.1 cpl in 2008). The NYH to Saint John rack spreads for diesel and heating oil also fall into the 3.1 cpl range.



Conclusion: the data does not provide a case to adjust motor and heating fuel margins based on NYH to NB transportation costs, using the observed spread between the NYH spot and the Saint John rack prices as a proxy factor.

Volume of sales

This is relevant because, with regulated margins, volume determines the ability to cover overhead costs. Higher volumes increase the ability, while lower volumes decrease it. Of course, a change in volume alone does not lead to a change in margins. A gain or loss may be partially or fully offset by adjustments in industry supply capacity (either the number of suppliers or changes in storage and throughput capacity).

Figs. 2.1 and 2.2 show that overall retail sales volumes for gasoline and heating oil have declined (retail sales data for diesel is not available from published sources) over the past few years, though they have remained fairly stable since regulation was introduced (heating oil increased in 2007, though this may be due simply to annual temperature variation rather than any expansion of the market). Anecdotal evidence suggests there has been some decrease in the number of retailers (both motor and heating fuel) and also in the number of resellers over the past two years, though accurate data on the number, their capacity, and the volume they account for are not available.

Without these data, it is impossible to determine whether sales volume has had any impact on margins. The available evidence suggests there may have been an improvement in motor fuel and heating oil margins because of attrition from the industry, but in light of the relatively small number of sellers who may have exited the industry and their generally low volumes, the net impact is likely to have been small.

Conclusion: while some dealers have gained and others lost volume, the overall volume of sales has remained relatively stable; in the absence of change there is no basis for an adjustment of either the motor fuel or heating fuel margins.

Storage costs

Storage costs could change as a result of industry-wide changes in storage capacity (either investment in or de-commissioning of) and/or a change in carrying charges for fuel purchased and stored by wholesalers and retailers.

Information provided by wholesalers and retailers in surveys and through interviews conducted as part of this report indicates there has been very limited investment in storage capacity since regulation was introduced (some retailers replacing tanks). Spread over total industry volumes, this investment would create a negligible charge against the maximum total margin.

Industry stakeholders report an increase in the cost of carrying inventory and in how these costs are shared between wholesalers and retailers. Storage costs have increased because the cost of product has increased substantially. Gasoline costs have increased by over 50% and diesel costs by 80% since regulation was introduced. Heating oil costs are up by 80% in the past 18 months.

Wholesalers have tightened the terms of payment so that accounts generally have to be settled within 7 days, rather than the 15 or more days that was the standard before the credit crunch in the U.S. caused all major banks there and in Canada to review their lending practices. Regardless of who bears the cost, the point is, the cost to the industry has increased.

A verifiable estimate of the impact on margins of higher carrying charges is not available from industry. It is possible to derive indicative estimates based on known price, quantity and interest rate values and assumptions about payment terms. The calculations in Table 4.1 indicate that the increase in carrying costs due to increased prices represent a relatively small *incremental* cost to the industry. For the motor fuel sector, the incremental cost is 0.03 cpl for gasoline and 0.06 cpl for diesel, assuming wholesalers impose 7-day payment terms. For heating oil, the incremental cost is a more significant 0.3 cpl. The higher carrying costs for heating oil are attributable to the 30-day terms typically allowed by retail dealers (though many report payments take 45-60 days).

Table 4.1: Cost to the industry of higher carrying charges

	Gasoline		Diesel		Heating oil	
	July 2006	July 2008	July 2006	July 2008	July 2006	July 2008
Price (cpl tax in)	1.05	1.25	1.05	1.45	0.85	1.3
Quantity (millions of litres)	1015	1060	575	595	240	240
Cost (\$ millions)	1,066	1,325	604	863	204	312
Payment terms (days)	7	7	7	7	30	30
Interest rate (%/day)	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Interest cost (\$)	1,635,123	2,032,877	926,301	1,323,671	1,341,370	2,051,507
Interest cost (cpl)	0.16	0.19	0.16	0.22	0.56	0.85
Increase in interest cost (cpl)		0.03		0.06		0.30

Conclusion: For heating oil, the increase in carrying charges should be incorporated into an increase in the retail margin of 0.30 cpl. For motor fuel dealers, the impact of the increase in carrying charges should be incorporated into a general adjustment based on a price index.

Inventory turnover rates

Inventory turnover affects the efficiency with which capital is used. For a given level of fuel demand, the fewer wholesalers and dealers, the greater would be the inventory turnover and the more efficiently capital is used. Similarly, an increase in fuel throughput for a given level of capacity would cause capital to be used more efficiently, contributing to an improvement in net margins. The converse holds in both cases.

While some wholesalers and retailers in certain markets may have experienced increased volumes, the turnover rate has remained stable for the industry as a whole. This is because overall fuel sales and industry capacity have changed little since regulation was introduced.

Conclusion: inventory turnover rates have remained stable on an industry-wide basis and in the absence of change there is no basis for an adjustment of either the motive fuel or heating fuel margins.

Applicable levies and insurance

Wholesalers of gasoline and motive fuel are required to pay a 0.025 cpl levy to the Board to cover costs of administering the Act. This represents a cost not incurred prior to the introduction of regulation and acts to diminish the gross margin at the wholesale level.

Wholesalers and retailers report relative stability in insurance costs over the past two years. Contact with insurance companies confirms the relative stability of insurance rates.

Conclusion: the wholesale margin should increase by the amount of the Board levy (0.025 cpl). In the absence of changes in insurance rates, there is no basis for an adjustment of either the motive fuel or heating fuel margins.

Other factors

Prior to regulation, the gross margin earned by wholesalers and retailers covered all costs of doing business, excluding commodity cost (the fuel) and taxes. Delivery costs had to be covered by the gross margin (by the wholesaler and/or retailer). Under regulation, the same conditions apply, except delivery (up to 2.0 cpl) is covered outside the regulated margin (more on the case for adjusting delivery costs below).

In the survey and interviews, wholesalers and retailers identified several cost factors they believe should be taken into consideration in a review of margins. The most significant of these factors are credit card fees and changes in the minimum wage, though some also mention changes in municipal taxes. Others of concern, though difficult to quantify, include utility costs and repair and maintenance. As all these costs rise against stable overall volumes and a fixed maximum margin, the net margin shrinks. This impairs the viability of enterprises in the short run, and makes it more difficult to secure capital for investment in the long run.

Credit card costs

Retail motor fuel: retailers pay a transaction fee when credit cards are used. The fee ranges from 1.75% for major cards such as Visa and MasterCard to 3.0% or more for some other cards. The fee is applied to the cost of purchase including taxes. Because it is applied on a percentage basis, the amount of the fee rises with rising fuel prices. For example, a 2.0% fee applied to a \$1.00/litre gasoline costs the dealer 2 cpl. A 2.0% fee applied to \$1.50/litre gasoline costs the dealer 3 cpl. If the dealer earns a 5 cpl margin, the use of this credit card reduces the margin to just 2 cpl to cover all other expenses. The higher the proportion of transactions paid for with cards and the higher the fuel price, the greater the negative impact on the net margin.

Using conservative assumptions, the combination of rising prices and rising credit card usage is estimated to be reducing the overall retail margin by 1.1 cpl, up from 0.51 cpl when regulation was introduced. This estimate is derived by applying the credit card fee (1.75%) to credit card sales revenue (45% of total sales), and dividing the resulting credit card cost to retailers by *total* litres sold. In effect, the net retail margin has decreased by 0.58 cpl since regulation was introduced. This result is summarized in Table 4.2.

Table 4.2: Cost to motor fuel retailers of credit card usage

	Margin	Regular gasoline price	Credit card usage (1)	Credit card fee (2)	Impact on margin
	cpl	cpl		cpl	cpl
2006	5	98.7	30%	1.65	0.49
May 2008	5	135.6	45%	1.75	1.07
Difference					0.58

1. Based on estimates provided by retail dealers
2. Fees provided by wholesalers and retailers

Conclusion: the maximum margin should increase by .58 cpl to compensate motor fuel retailers for the increased cost of credit card usage.

Retail heating fuel: The use of credit cards is limited in the retail heating oil business. Some dealers report that usage may be in the 10% range, and is increasing as costs rise. Many dealers express the view that increased usage is not a bad thing because it means they are sure of being paid and also reduces the length of time receivables are outstanding. Because of the limited use and offsetting benefit of use, no estimate of credit card cost is included in the analysis.

Minimum wage

Retail motor fuel: wages and salaries account for 50% of operating costs in the retail segment of the motor fuel supply industry. Though many workers earn minimum wage, the wages of all workers tend to rise with each adjustment in the minimum wage. The minimum wage in New Brunswick has risen by 19% since July 2006 (up from \$6.50 in June 2006 to \$7.75 in April 2008). Effectively, this has increased operating costs by as much as 9.5%. The impact on the retail marketing margin (5 cpl) is set out in Table 4.3.

Table 4.3: Cost to motor fuel retailers of increases in the minimum wage

	Margin	Wage share of margin (1)	Wage cost 2006 (2)	Wage increase 2006-2008 (3)	Wage impact on margin
	cpl		cpl	cpl	cpl
2008 vs. 2006	5	50%	2.5	3.0	0.5

Source:

1. Statistics Canada, Small Business Profiles, Gasoline Stations, New Brunswick, 2004
2. Wage share of the total margin.
3. Wage share increase based on 19% increase in minimum wage, 2006 to 2008.

Conclusion: the maximum margin for motor fuel retailers should increase by 0.5 cpl to compensate for increases in wages and salaries.

Retail heating fuel: Wages and salaries account for 40% of operating costs in the heating fuel supply industry. The impact of increases in the minimum wage on the retail margin (13 cpl) is set out in Table 4.4.

Table 4.4: Cost to heating oil retailers of increases in the minimum wage

	Margin	Wage share of margin (1)	Wage cost 2006 (2)	Wage increase 2006-2008 (3)	Wage impact on margin
	cpl		cpl	cpl	cpl
2008 vs. 2006	13	40%	5.2	6.19	0.99

Source:

1. Statistics Canada, Small Business Profiles, Petroleum Product Wholesalers/Distributors, 2004
2. Wage share of the total margin.
3. Wage share increase based on 19% increase in minimum wage, 2006 to 2008.

Conclusion: the maximum margin heating fuel retailers should increase by 1.0 cpl to compensate for increases in wages and salaries.

Municipal taxes

These have increased by about 9% since the introduction of regulation. This is a significant increase, though one that is applied to a relatively small proportion of operating costs (in the 4-5% range). The impact on the average retail margin is estimated at five one-hundredths (0.05) of a cent/litre. The derivation of this figure is provided in Table 4.5.

Table 4.5: Impact of rising municipal taxes on gross margin

Period	Average tax bill \$	Number of stations #	Total taxes \$000s	Litres sold millions	Tax impact cents/litre
2006	12,193	500	6,096	985	0.0062
2008	13,281	500	6,641	985	0.0067
Difference					0.0005

Conclusion: the impact of the increase in municipal taxes should be incorporated into a general adjustment of input costs based on a price index.

Other input costs

Retail motor fuel: these costs, including utilities, repair and maintenance, licence fees, municipal taxes, equipment leases, rentals and station supplies, have all increased over the past two years. Industry-wide data indicate these costs account for about 30% of total operating costs. The other major cost elements: wages, credit card fees and debt service costs, account for the other 70%.

Given the complexities of trying to estimate how costs for each of these has changed, a more practical approach would be to apply a price index that captures a range of input costs. The index is applied to the gross margin, or more specifically, to the 30% of the margin represented by these costs. The GDP deflator (published by Statistics Canada), one of the broadest measures of price change, is used in the calculation. The results, set out in Table 4.6, indicate that price increases for other input costs have eroded the gross margin by .20 cpl since regulation was introduced.

Table 4.6: impact of increases in other costs on motor fuel gross margin

	Margin cpl	Share of total operating costs (1)	Increase in operating costs (2)	Impact on gross margin cpl
2008 vs. 2006	11	30%	6%	0.20

Source:

1. Statistics Canada, Small Business Profiles, Gasoline Stations, New Brunswick, 2004
2. Statistics Canada, Implicit chain price indexes, gross domestic product, 2003-2008.

Conclusion: the maximum margin should increase by .20 cpl to compensate wholesalers and retailers for general price inflation since regulation was introduced.

Retail heating oil: these costs, including utilities, repair and maintenance to trucks and bulk plant, licence fees, municipal taxes, equipment leases, advertising, rentals and supplies, have all increased over the past two years. Industry-wide data indicate these costs account for about 40% of total operating costs. The other major cost elements: wages, fuel costs and debt service costs, account for the other 60%.

A price index capturing a broad range of input costs is applied to the gross margin, or more specifically, to the 40% of the margin represented by these costs. The GDP deflator (published by Statistics Canada), one of the broadest measures of price change, is used in the calculation. The results, set out in Table 4.7, indicate that price increases for other input costs have eroded the gross margin by .27 cpl since regulation was introduced.

Table 4.7: impact of increases in other costs on heating fuel gross margin

	Margin cpl	Share of total operating costs (1)	Increase in operating costs (2)	Impact on gross margin cpl
2008 vs. 2006	13	35%	6%	0.273

Source:

1. Statistics Canada, Small Business Profiles, Petroleum Product Wholesalers/Distributors, 2004
2. Statistics Canada, Implicit chain price indexes, gross domestic product, 2003-2008.

Conclusion: the maximum margin should increase by .27 cpl to compensate retailers for general price inflation since regulation was introduced.

4. Adjusting maximum delivery costs

Factors to consider

The *Act* specifies several factors the Board shall consider in determining whether an adjustment to maximum delivery costs would be justified:

- Fuel costs
- Insurance costs
- Capital costs
- Volume of sales
- Cost-effectiveness (in the case of an application by a company)
- Any other factors the Board considers relevant

For motor fuel, delivery costs refer to the costs incurred by wholesalers and charged to retailers. For heating oil, the *Act* refers to costs incurred by retailers for the delivery of heating fuel; this could mean from retailers to customers, but also from the refinery or a wholesaler's bulk plant to a retailer's bulk plant.

Motor fuel

Gasoline and diesel fuel are transported using various modes including tractor-trailers (“B”-train or tri-axle) and tandem trucks, either directly from the Irving Oil refinery in Saint John or from the marine terminal in Miramichi. Some product may also be transported from the Imperial refinery in Dartmouth to locations in the southeastern part of the province. Each has its own cost characteristics.

The rate structure used by the carriers incorporates three factors: a base rate composed of the fixed charge to cover capital (truck) and fixed charges including overhead items such as insurance; a distance/time factor to cover variable costs including fuel and labour; a fuel surcharge to incorporate changes in fuel costs; and, any adjustments for load factor or split loads. As a rule of thumb, the current cost of using a tractor-trailer on long hauls works out to .7-.8 cpl/100 km, with a minimum charge of .3-.4 cpl for short hauls.

Independent trucking firms operating under competitive contracts with wholesalers deliver most of the gasoline, both to retail outlets and bulk plants. Irving Oil also operates a trucking company. The industry consists essentially of 3-4 carriers and is regarded as highly competitive by wholesalers. Some smaller independents also participate. The tractor-trailers used represent the least cost delivery method. Resellers deliver to their outlets using their own tandem trucks. Using tandems is necessary, even if costs are significantly higher, because they are equipped with pumping capacity needed to fill above ground storage tanks used by many of the low volume retailers they serve.

Wholesalers may charge retailers actual delivery costs, up to a maximum of 2.0 cpl. Any cost above 2.0 cpl comes out of wholesale margin, though in practice it could be shared by adjusting the retail margin on product.

When regulation was introduced, delivery to most – but not all – stations in the province fell within the 2.0 cpl allowance. This has changed with rising fuel costs and the increase in the fuel adjustment surcharge. In mid-2008, the surcharge added 40% to the base rate, up from about 20% when regulation began. The cost to many stations beyond about 300 km from the refinery now exceeds 2.0 cpl. This is also the case for many smaller and more remote stations supplied by tandem trucks.

Financial information on the cost factors set out in the *Act* is not available from public sources, and was not made available by any of the transportation companies as input for this analysis. The cost structure is a highly sensitive matter given industry competitiveness.

The absence of cost data for the relevant indicators is not fatal to the analysis. Wholesalers have provided the consultant with actual transportation cost data on condition that the source and specific station remain confidential. This information indicates that over all delivery costs have risen by about 15% over the past two years, due largely to increasing fuel prices. Delivery to most stations in communities on the Acadian Peninsula and further to the north, and in the northwest in the Edmunston area, currently range between 2.2 and 2.8 cpl. Annex 3 sets out indicative information on the change in delivery costs since mid-2006.

In the circumstances, it seems reasonable that the maximum delivery cost should be adjusted to cover these increased costs. Since only the actual cost may be charged to the retailer and passed along in the retail price, competition would keep the impact of rising delivery costs in check.

It is worth noting that there continues to be some confusion in the industry about how delivery costs find their way into the retail price. In interviews, many retailers noted that the full delivery charge is not passed along because prices are consistently below the maximum total price in some markets. In fact, that prices may be below the maximum has little to do with delivery costs. This is simply the competitive environment driven by one or other outlet being willing to accept a lower margin in order to try to increase volume.

Conclusion: overall delivery costs have risen by about 15% since mid-2006. For many stations, the delivery cost exceeds the maximum delivery cost of 2.0 cpl. In light of this, the maximum delivery cost for motor fuels should be increased to 3.0 cpl. This would cover the full cost of transportation to virtually all stations in the province.

Heating fuel

Delivery costs for heating fuel dealers involves both delivery to bulk plants and delivery from bulk plants to customers. The definition in the *Act* of delivery cost with respect to heating fuel is somewhat ambiguous. In the *Act*, Sec. 1, “delivery costs” means costs of delivering fuel from a site used by a wholesaler to the consumer. In the *Regulations*, the reference is to costs incurred by retailers for the delivery of heating fuel.

To make matters more confusing, the heating oil business is comprised of many firms who combine different services including wholesale and retail gasoline and heating fuel supply, as well as some who operate as retail heating fuel suppliers only. Some lift product from their own bulk plants, while others operate essentially as pure transportation companies without any storage of their own.

With this industry profile, the cost structure of the companies would be expected to vary widely. For some, costs would reflect some balance of storage and transportation activity, while others would reflect exclusively transportation costs. To add to the variation in cost structure, some companies operate exclusively in urban markets, others in purely rural settings, while others operate in both. The unit delivery costs would vary considerably depending on customer density.

Against this backdrop, it seems clear that the breakdown of the 18 cpl allocated to the retail sector into a 13 cpl retail margin and 5 cpl delivery cost is arbitrary. For some companies, virtually all costs are incurred to support delivery, including much of the 13 cpl regulated margin. Some companies operating in rural areas report that insofar as they are able to isolate truck costs from the rest of their operations, these costs run as high as 10 cpl. This is double the notional maximum delivery cost set out in regulation.

An adjustment of both components of delivery cost would appear to be justified by the increase in fuel costs since regulation was introduced.

- For the maximum delivery cost set out in Regulation, adding 1.0 cpl would cover the 15% increase in costs, plus provide an allowance for future price increases (0.75 cpl plus 0.25 cpl).
- For the fuel cost component of the retail margin (13 cpl), adding 0.20 cpl would cover the 15% increase in fuel costs. Details are set out in Table 4.8.

Table 4.8: impact of increased fuel costs on gross margin for heating oil retailers

	Margin cpl	Fuel cost share of total operating costs (1)	Increase in operating costs (2)	Impact on gross margin cpl
2008 vs. 2006	13	10%	15%	0.20

Source:

1. Statistics Canada, Small Business Profiles, Petroleum Product Wholesalers/Distributors, 2004; information provided by heating oil dealers
2. Based on fuel transportation industry fuel adjustment charge formula applied to difference in diesel prices, July 2006 vs. July 2008

Conclusion: An 1.0 cpl increase in the maximum delivery cost for heating of oil is justified by rising transportation costs. The retail margin should be increased by 0.2 cpl to reflect increases in the fuel cost component of overall operating costs.

5. Adjusting the maximum full service charge

Retailers may charge a maximum of 2.5 cpl over the self-service price for motor fuel sold at full service. The Minister set the maximum full-service charge of based on the historic 2+ cpl spread between self- and full-serve in the unregulated market.

The traditional 2+ cpl premium was not cost-based, but competitively determined. As defined, full-service contemplates service by a pump attendant, not the consumer. The premium reflects the additional cost of this service. While it reflects the additional cost, it does not come close to covering it. An attendant paid minimum wage would cost an outlet about \$45,000 annually (at minimum wage for 100 hours/week). To recoup this cost would require the outlet to pump 2.25 million litres annually at the full-service premium. No station in the province comes close to achieving this volume.

The 2+ cpl premium for full-service fuel emerged as an industry norm many years ago based on the perception that this was what the market would bear for the convenience (though some stations in remote areas charged 3-4 cpl over the self-serve price). The premium has proven not to be sustainable. Most consumers do not wish to pay the extra 2+ cpl for full-serve, particularly not at today's high prices. Many will not pay a 1.0 cpl premium, but will drive to the closest self-service station to obtain a lower price. Most stations have phased out full-service, or offer it at a self-service price if forced to by competition. Most, if not all, self-service stations provide full-service if requested, and do so at the self-service price.

The case for adjusting the full-service charge is weak if it is intended to cover the incremental cost of offering the service. The one adjustment that could make sense is to remove the cap. This would serve the interests of rural and remote low-volume stations that were able to charge more than a 2.0 cpl premium before regulation. Capping the margin would have undermined the economics of these stations. Removing the cap would improve their viability. Consumers in these areas would then have the option of paying the extra for the convenience, or driving to the next outlet. Competition would keep the margin in line.

Conclusion: in order to improve the viability of rural and remote low volume stations, the 2.5 cpl maximum full-service charge should be removed.