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GASOLINE PRICES:
MAKING SENSE OF REGIONAL VARIATIONS

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GASOLINE PRICES: MAKING SENSE OF REGIONAL VARIATIONS

INTRODUCTION

Fluctuations in the retail price of gasoline are frequent and sometimes substantial. It is not uncommon to see price variations of 15% or more within a few days in any given market.(1) Understandably, this issue receives considerable attention. Gasoline prices are a constant topic of discussion amongst price-sensitive consumers, especially when those prices are on the rise. Many Web sites track retail gasoline prices in Canadian cities.(2) Radio call-in shows and public affairs programs also explore the issue whenever prices rise rapidly. Significant price fluctuations invariably prompt calls for government inquiries and/or regulation.(3)

Equally disquieting for many is the fact that retail prices are also far from uniform across the country: they are consistently higher in some regions than in others. Why do such discrepancies exist? This paper aims to provide some answers. It offers, first, a general overview of the topic, followed by evidence that price variations across the country are a function of regional differences in wholesale gasoline prices, the nature and extent of competition in local retail markets, the size and location of retail markets and, finally and most importantly, taxes.

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(1) A 1999 report by the Competition Bureau of Industry Canada found that in some large urban markets, prices tend to move cyclically over the course of the week, alternating between profitable levels and levels approaching cost. See Industry Canada, *July 1999 Gasoline Price Increases: A Competition Bureau Examination Report*.

(2) E.g., www.ottawagasprices.com and www.gastips.com.

(3) The Competition Bureau is responsible for investigating possible violations of the *Competition Act*. "It is illegal for gasoline retailers: to agree among themselves to set common prices that may lessen or prevent competition in a serious way; to try to influence another retailer's prices by agreement, threat or promise; or to persuade wholesalers to cut off gasoline supplies to discount retailers, because of the discounters' low prices. It is illegal for gasoline wholesalers: to try to influence a retailer's prices by agreement [except in the case of franchise retailers who sell gas on consignment], threat or promise; or to refuse to supply a gasoline retailer just because that retailer charges low prices." See the Competition Bureau, *Pamphlet Series – Prices at the Gas Pump*, http://cb-bc.gc.ca/epic/internet/incb-bc.nsf/vwGeneratedInterE/ct01070e.html.

REGIONAL PRICE VARIATIONS: AN OVERVIEW

There is, realistically, no single national retail market for gasoline. Retail markets are local by nature. A motorist in Regina will not drive to Saskatoon to purchase gasoline because it is cheaper there.

Market conditions at both the wholesale and retail levels differ from one area to the next. Because of this, the ex-tax (i.e., exclusive of taxes) price of gasoline varies across provinces and within provinces. Furthermore, pump taxes vary considerably from one province to the next. Table 1 offers an overview of pump (retail) prices in major Canadian urban centres, as well as some U.S. cities near the border for comparison. Prices are broken down into their four main components: price of crude, refining margin, marketing margin, and pump taxes.(4)

(4) The refining margin is the difference between the wholesale price of gasoline and the price of crude oil. Refiners cover their costs and make a profit based on this margin. The marketing margin is the difference between the wholesale price paid by the retailer to acquire product and the retail selling price, excluding taxes. Retailers cover their costs and make a profit based on this margin.

TABLE 1

Regular Gasoline Pump Prices and Component Pricing in Selected Cities Four-week Average to 26 August 2003 (in CDN cents per litre)

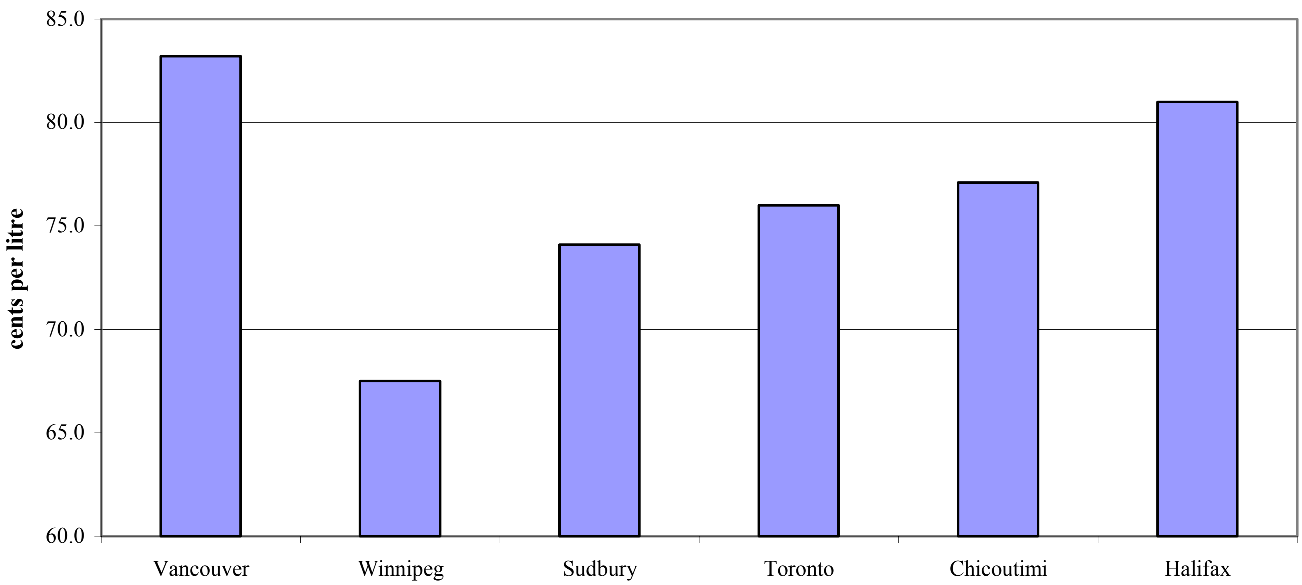
Location	Crude Content	Refining Margin	Marketing Margin	Pump Taxes	Pump Price
Vancouver	28.8	15.9	2.4	36.0	83.2
Victoria	28.8	16.9	7.5	32.6	85.9
Prince George	28.8	13.9	8.8	29.8	81.4
Kamloops	28.8	15.4	-1.8	29.2	71.7
Seattle, WA	28.8	18.0	6.8	15.2	68.8
Edmonton	27.6	15.1	5.6	23.7	72.0
Lethbridge	27.6	15.9	6.3	23.8	73.6
Regina	27.6	15.7	7.2	30.3	80.8
Winnipeg	27.6	16.1	-2.1	25.9	67.5
Minneapolis, MN	27.6	13.4	7.1	14.1	62.2
Toronto	28.8	13.2	4.3	29.7	76.0
Ottawa	28.8	11.8	6.0	29.7	76.3
Sudbury	28.8	13.2	2.6	29.5	74.1
London	28.8	13.4	3.8	29.7	75.7
Buffalo, NY	28.8	9.1	4.9	17.7	60.5
Montréal	27.7	12.4	3.1	37.2	80.4
Québec	27.7	12.4	6.4	36.0	82.5
Sherbrooke	27.7	12.4	5.3	35.8	81.2
Chicoutimi	27.7	12.4	6.4	30.6	77.1
Plattsburgh, NY	27.7	11.3	5.9	17.8	62.7
Halifax	27.1	12.2	5.6	36.1	81.0
Saint John	27.1	12.4	7.3	35.2	82.0
St. John's	27.1	13.4	4.1	37.2	81.8
Charlottetown	27.1	12.2	2.9	28.6	70.8
Bangor, ME	27.1	10.1	9.2	12.8	59.2

Source: Canadian Petroleum Products Institute, *Fuel Facts*, Vol. 4, Issue 16, 26 August 2003.

Figure 1 depicts average retail gasoline prices in six Canadian urban centres for the four weeks ending 26 August 2003. It shows that in August 2003, motorists in Vancouver were paying, on average, approximately 15 cents more per litre than those in Winnipeg. Such differences across regions are not uncommon. The balance of this paper explores the reasons, beginning with the role of wholesale gasoline prices.

FIGURE 1

Regular Gasoline Pump Prices Across Canada
Four-Week Average to 26 August 2003



Source: Canadian Petroleum Products Institute, *Fuel Facts*, Vol. 4, Issue 16, 26 August 2003.

WHOLESALE PRICES

The wholesale price of gasoline, the price that is charged to gasoline marketers by refiners, is an important component of the price paid by consumers at the pump. The wholesale price in essence reflects the cost of crude oil and the refiners' margin (see the first and second columns of Table 1). Variations in wholesale prices across markets are common, but they are tempered by inter-market competition.

Gasoline-producing refineries are located across Canada, from Dartmouth, N.S., to Burnaby, B.C. They are operated either by national or multinational integrated oil companies such as Petro-Canada, Imperial Oil and Shell, or by regional players such as Irving and Sunoco. They transform crude oil, an internationally traded commodity, into refined petroleum products, of which gasoline is the most important. Refiners post prices, known as the rack price, and sell their gasoline to dealers and wholesalers at bulk terminals, or rack points, located in 20 Canadian cities.(5) The dealers and wholesalers, in turn, deliver the gasoline to retail outlets by truck. Because gasoline, like crude oil, is an internationally traded commodity, wholesale gasoline prices in Canada tend to remain close to those in the United States. To understand why this is the case: imagine, for the sake of argument, that the wholesale price of gasoline in Vancouver was substantially above that in Seattle. In that case, buyers, having ready access to U.S. wholesale markets, would bypass the Vancouver wholesale market and instead turn to Seattle to supply Canadian gasoline retail stations. This would put downward pressure on prices at the Vancouver rack point, effectively aligning prices in both markets.(6) Rack prices in the Atlantic provinces and Quebec track the New York Harbour rack price. In Ontario, rack prices in Buffalo and Detroit are monitored closely. Such international competition in effect limits the ability of Canadian refiners to set prices.

Wholesale prices in Canada and the United States are fundamentally driven by the international price of crude oil, seasonal demand and inventory conditions (refining margins are typically higher when the supply conditions are tight). Prices rose significantly in August 2003 in the wake of the blackout that affected Ontario and many northeastern states. Demand was very strong, as it usually is in the summer months, but supply was severely limited because seven major refineries, including five in Ontario, were shut down for up to a week following the blackout, thus limiting the supply of gasoline.

Wholesale prices may differ from region to region as a result of local wholesale market conditions, and also because it is costly to transport fuel across the country. Differences in wholesale prices tend to be small, however – usually just a few cents per litre. The variations remain small because if prices were to diverge by more than a few cents, it would then become economic to transport fuel from other, cheaper rack points in Canada or in the northern United States.

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(5) Actual wholesale prices may differ; for example, large customers often obtain discounts from the posted rack price.

(6) A small price differential may nevertheless exist due to a difference in the regulation of product formulas (i.e., additives such as benzene) in the United States and Canada.

Ultimately, differences in wholesale prices contribute little to variations in the pump price of gasoline. For example, Table 1 shows that the average retail (pump) price in Vancouver during August 2003 was 83.2 cents per litre (cpl) – 15.7 cpl above the price in Winnipeg (67.5 cpl). Yet, adding the first two columns of Table 1 together indicates that the average wholesale price in August was 44.7 cpl in Vancouver, versus 43.7 cpl in Winnipeg – a difference of only 1 cpl. The characteristics of local retail markets and differences in taxes across provinces are much more significant determinants of differences in pump prices across regions.

MARKET FACTORS

A. Market Competition

Healthy competition at the retail level tends to keep prices low, especially in the case of a commodity such as gasoline, which is generally perceived as being of consistently high quality. Retailers typically compete principally on the basis of price. Prices are normally posted very visibly for consumers and competing retailers to see. It is not unusual for consumers to seek out the lowest price even when the difference is a mere fraction of a cent.(7) Other things being equal, marketing (retail) margins, and by extension the price of gasoline, therefore tend to be lower in those markets that are characterized by keen and extensive competition. The more numerous and diverse the competitors in any given market, the less likely it is that any one of them can maintain prices above competitive levels, as this would entail a loss of market share for that particular retailer.(8)

In certain markets, retail prices can sometimes be driven down abnormally to levels that do not reflect wholesale costs, transportation costs and normal marketing margins.

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(7) Research shows that Canadian consumers will cross two lanes of traffic to save 0.2 cents per litre, or 10 cents in total on the purchase of 50 litres of fuel. See the Esso/Imperial Oil Web site at: http://www.esso.ca/Canada_English/News/Issues/N_I_GasDecision.asp.

(8) Competition also explains why prices are typically very similar across different dealers within the same community or area. Despite the common perception to the contrary, price homogeneity in a particular community or area does not, in the vast majority of cases, imply price-fixing on the part of retailers. In a recent report, the Conference Board of Canada concluded that the uniformity in gasoline prices "reflects a high degree of competition at the street level and protection of market share rather than a conspiracy among companies." See the Conference Board of Canada, *The Final Fifteen Feet of Hose: The Canadian Gasoline Industry in the Year 2000*, January 2001.

This was the case in Winnipeg in August 2003. As shown in Table 1, the marketing margin there was -2.1 cpl, meaning that on average, retailers in Winnipeg were selling gasoline at a loss. This situation can occur when aggressive retailers strive to expand their market share at the expense of their competitors. Except under very exceptional circumstances, such games of "chicken" usually do not last very long. Retail margins in Vancouver averaged only 2.4 cpl in August 2003, which is considerably lower than margins in other major urban centres, indicating a high degree of competition in that retail market. Nevertheless, retail margins were, on average, 4.5 cpl higher in Vancouver than in Winnipeg, which explains nearly a third of the difference in pump prices between those two cities.

As discussed in the following section, retail prices will generally be higher in those markets where there are few gasoline retailers and therefore less competition. Prices also will tend to be higher in those markets where a major retailer has a dominant market share. Situations where a major retailer has market power can prompt concerns about anti-competitive actions. The abuse of market power, such as predatory pricing by a large player to drive out competition, is contrary to the civil and criminal provisions of the *Competition Act* and can be investigated by the Competition Bureau.

B. Market Size and Location

While prices tend to be more stable in smaller markets, in part because there are fewer retailers, they are also generally higher, as these retailers typically maintain a greater margin per litre of gasoline sold. As described previously, a retailer's (marketing) margin is the difference between the price at which the retailer purchases fuel from refiners/distributors (the wholesale price) and the price that he or she charges consumers at the pump. Retailers in smaller markets, such as rural communities, do not sell large quantities of fuel. Because their volume, or throughput, is usually lower than that of a retailer in a larger market, margins must be kept higher so that the retailers can cover fixed costs such as wages, rent, utilities, maintenance and property taxes. Similarly, the price at the pump will be higher in remote areas because of the costs involved in transporting fuel, typically by truck, from the wholesale distribution terminals that are found close to major urban centres. For example, the cost to transport fuel to Whitehorse, Yukon, is approximately 10 cents per litre, or nearly 10 times that in a southern city.(9)

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(9) *Ibid.*

More and more, retailers are supplementing their gasoline revenues by offering a variety of ancillary services, such as a convenience store or a car wash. This allows them to compete better in the face of lower retail margins.

TAXES

Taxes account for a very important portion of the pump price. Because taxes vary considerably across provinces, it follows that differences in tax rates explain a significant portion of the difference in retail gasoline prices across the country. For example, in August 2003, the difference in pump taxes between Vancouver and Winnipeg was a little over 10 cpl. That difference explains approximately two-thirds of the difference in pump prices between those two cities.

Taxes are imposed at the pump by both the federal and provincial governments. There are both fixed and variable taxes that apply to gasoline. The federal excise tax, which is currently fixed at 10 cpl, applies across the country. Provincial consumption taxes, which are also fixed, range from a low of 9 cpl in Alberta to a high of 16.5 cpl in Newfoundland and Labrador.(10) In British Columbia, the provincial tax is 14.5 cpl throughout the province except in Vancouver and Victoria, where additional transportation taxes increase the provincial levy to 20.5 cpl and 17 cpl, respectively. In Quebec, motorists in Montréal and surrounding municipalities pay a fixed transit tax of 1.5 cpl in addition to the provincial tax on gasoline.(11)

Various sales taxes are also levied on gasoline. These sales taxes are applied as a percentage of the total price of gasoline. In other words, they are assessed on all components of the pump price, including the federal excise tax and provincial tax(es). The amount collected per litre of gasoline therefore varies whenever prices change. In all provinces except Nova Scotia, Newfoundland and Labrador, and New Brunswick, the federal goods and services tax (GST) of 7% is added to the price of gasoline. In Quebec, both the GST and the provincial sales tax (PST) of 7.5% are added to the price of gasoline. Instead of the GST, a harmonized sales tax (HST) of 15% is added to the price of gasoline in Nova Scotia, Newfoundland and Labrador, and New Brunswick.

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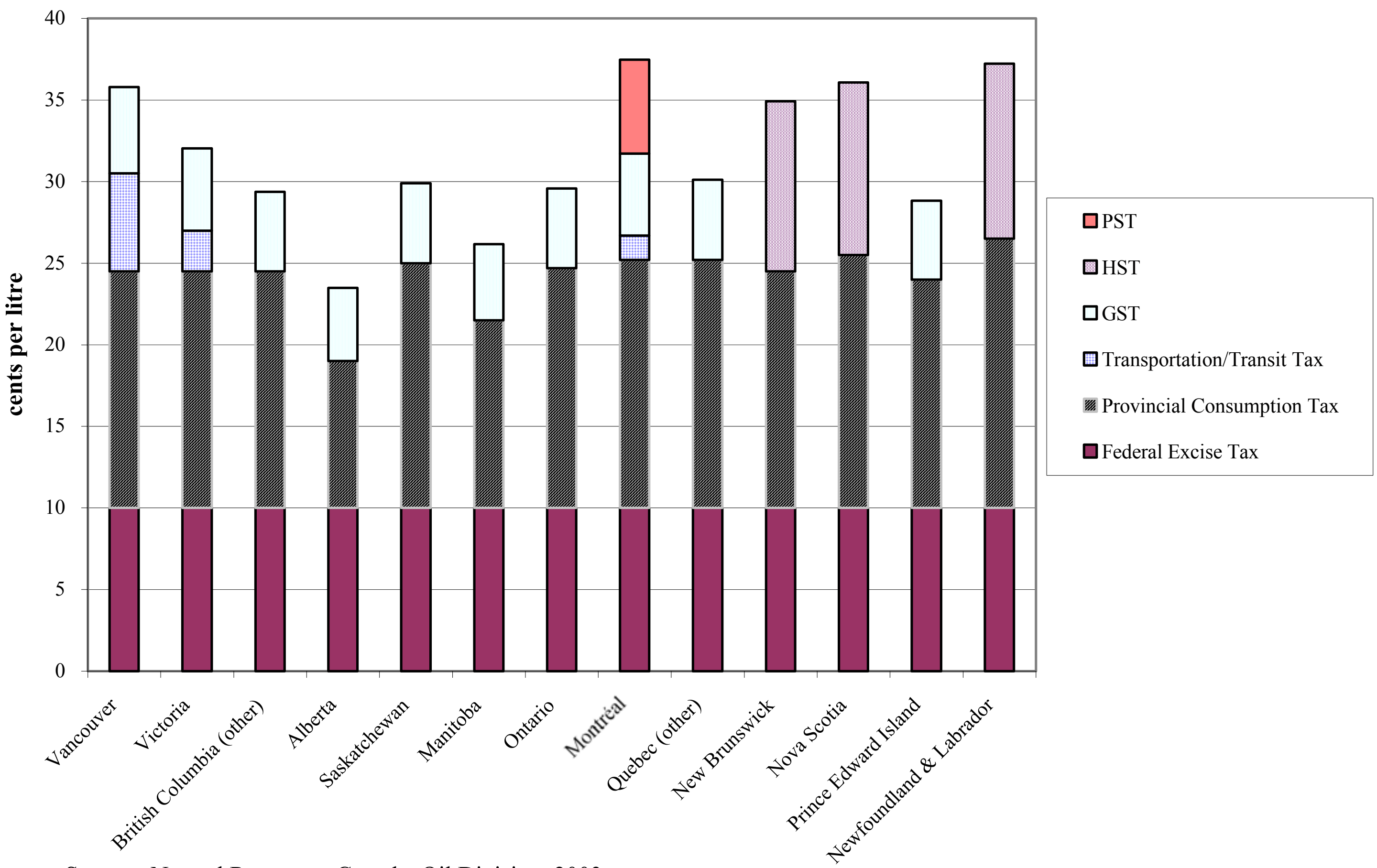
(10) Natural Resources Canada, Oil Division.

(11) In Quebec, gasoline taxes are reduced by varying amounts in certain remote areas and within 20 kilometres of provincial and U.S. borders.

The diagram below illustrates the variation in taxes across provinces. It clearly shows how this variation leads to significant differences in pump prices, even if the ex-tax price of gasoline were the same across the country.

FIGURE 2

Taxes on a Litre of Gasoline at the Retail Level
(assuming an ex-tax price of 45 cents per litre)



Source: Natural Resources Canada, Oil Division, 2003.

CONCLUSION

Several factors contribute to the variations in the retail market price of gasoline between one province and another, and between one area and the next within any given province. In the absence of anti-competitive situations, these variations are mainly a function of differences in taxes and in the characteristics and competitive nature of local retail markets. Differences in wholesale prices are too small to contribute significantly to the variations in pump prices.