



TD Economics

Special Report

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CRUDE OIL AND GASOLINE PRICES: JOINED AT THE HIP?

A Primer on the Canadian gasoline market and an outlook for 2009

The volatility in energy markets over the past year has become a focal point, not only for investors, but for consumers as well, who have become much more conscious of their driving habits. A common perception is that retail gasoline prices (regular self-serve) move in tandem with crude oil prices. However, lately there has been some puzzlement, as pump prices in Canada have dropped by only 43% since peaking in July at an average of \$1.35/litre, while crude oil prices have plunged by 70% from an average of US\$134 per barrel (West Texas Intermediate (WTI) spot price). While this is certainly a significant difference, it is important to look at the preceding uptrend as well, which goes a long way towards resolving this discrepancy. Gasoline prices rose by 30% during the first half of 2008, compared to a 48% jump in oil prices, suggesting that for every 1% increase in oil prices, gasoline prices rose by

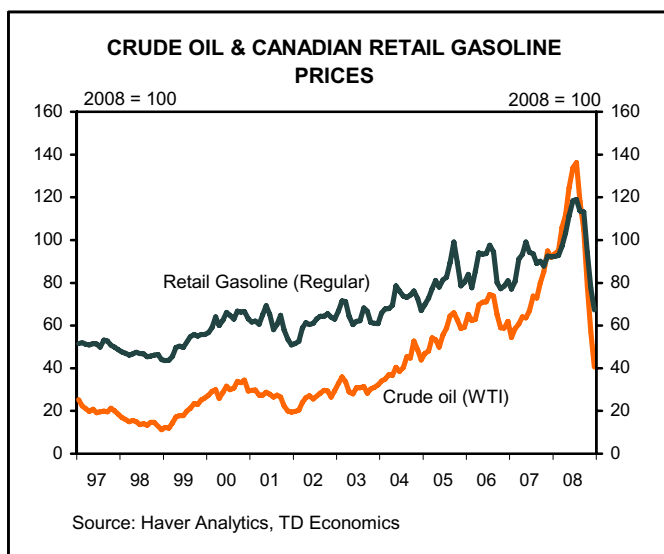
HIGHLIGHTS

- While crude oil plays a significant role, most volatility in gasoline prices stems from the wholesale market
- Exchange rate also a big factor in Canadian pump prices
- Little upside risk to gasoline prices in 2009

0.6%. This ratio was preserved on the downside in the second half of 2008, so that for every 1% drop in oil prices, gasoline prices fell by 0.6%.

Looking back further, this relationship has, for the most part, held strong. Indeed, using average Canadian pump prices, there existed a high degree of positive correlation between crude oil and gasoline prices during the 1997 to 2006 period. All else equal, a US\$10 per barrel increase (decrease) in the price of crude oil, has generally translated into a 6 cent/litre increase (decrease) in Canadian gasoline prices. Nonetheless, while the price of crude oil certainly plays a key role, there are a number of other factors that influence prices at the pump, which at times can even drive gasoline prices in the opposite direction. Case in point was in 2007 when a considerable disconnect between crude oil and gas prices prevailed, due to a build in gasoline inventories during the second half of the year. However, these periods of divergence between oil and gasoline prices never last indefinitely.

The final retail price of gasoline is made up of multiple components. In Canada, crude oil accounts for 48% of

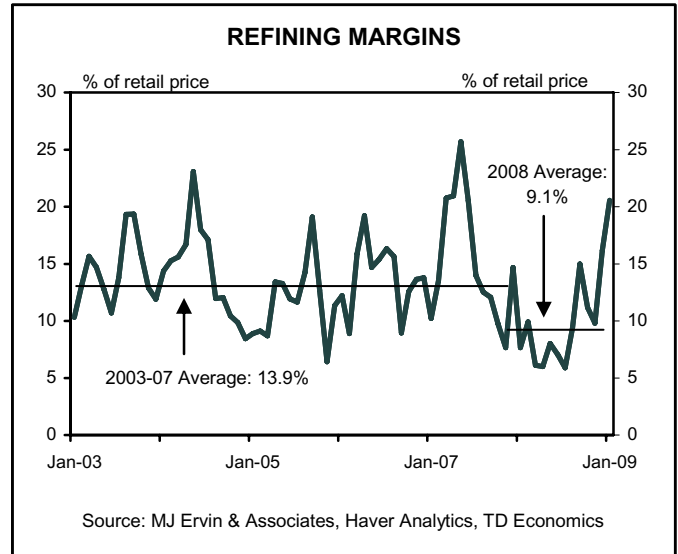


pump prices, meaning that for every dollar per litre of gasoline, crude oil accounts for 48 cents. Taxes are next in line with 32%: a fixed 10 cent/litre federal excise tax, 5% GST, and provincial taxes of about 17%. Refining, distribution and marketing costs and profits make up the last 20%. Movements in crude oil prices and refining margins underpin wholesale gasoline prices, while marketing and distribution margins and taxes are reflected in the local retail market.

Wholesale prices track U.S. prices

Given that the North American Free Trade Agreement (NAFTA) allows goods to flow with relative ease across the border, the U.S. and Canadian gasoline markets are highly integrated, and thus must charge similar prices. With the U.S. being the larger market, Canada is more of a “price taker”, with wholesale gasoline prices north of the border tracking U.S. prices, such as the New York Harbour spot price.

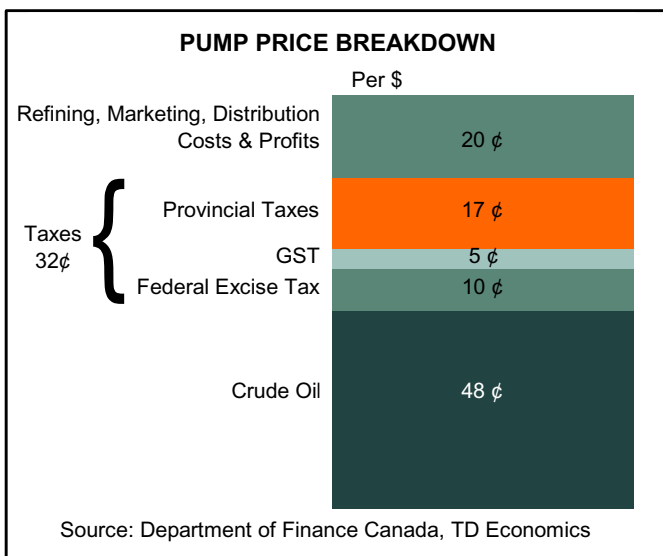
As such, Canadian prices are typically slightly higher, in order to account for the exchange rate and transportation costs. In fact, in 2008 when crude oil prices – which are priced in U.S. dollars – were rising, the simultaneous appreciation in the loonie shielded Canadian prices from the full increase. Similarly, as crude oil prices have fallen in recent months, the depreciation in the loonie to about 80 US cents has cushioned the impact on Canadian gasoline prices. Further evidence of the exchange rate effect can be found by looking at U.S. pump prices (regular, unleaded, NY), which rose 40% to nearly US\$3.50 per gallon and sank 70% last year, which was more in line with changes



in crude oil prices. This difference in price swings is quite common, since a rise in the price of crude oil generally provides a boost to the Canadian dollar.

The most volatility occurs at the refining stage (wholesale prices), as “crack spreads” – margins earned by refining a barrel of oil – experience large swings from month to month. Although crack spreads have, on average, been trending up since the start of the decade, they reversed course in 2008, as surging oil prices during the first half of the year, coupled with weakening demand, drove Canadian refining margins down to 9.3% from the 2003-07 average of 13.9%. However, as oil prices plunged over the last few months, these margins began to head back toward the 5-year average. This unusual trend muted any seasonal patterns that are normally quite pronounced.

In addition to crude oil prices, crack spreads are influenced by supply and demand conditions, and the resulting gasoline inventory levels. Given the close relationship between wholesale prices in Canada and the U.S., supply and demand fundamentals south of the border can influence prices in Canada. Typically, refining capacity utilization in North America is quite high, at between 90-95 %, which is essentially full capacity when regular maintenance shutdowns are taken into account. As such, any unplanned disruptions to refining capacity can have immediate and important adverse effects on prices. This was evident in the summer of 2005, during Hurricane Katrina, when several refineries were shutdown in the Gulf of Mexico, and supplies in the U.S. dwindled. At the time, the U.S. was forced to import more gasoline than usual, thereby reducing Canadian supply and providing additional upward pres-



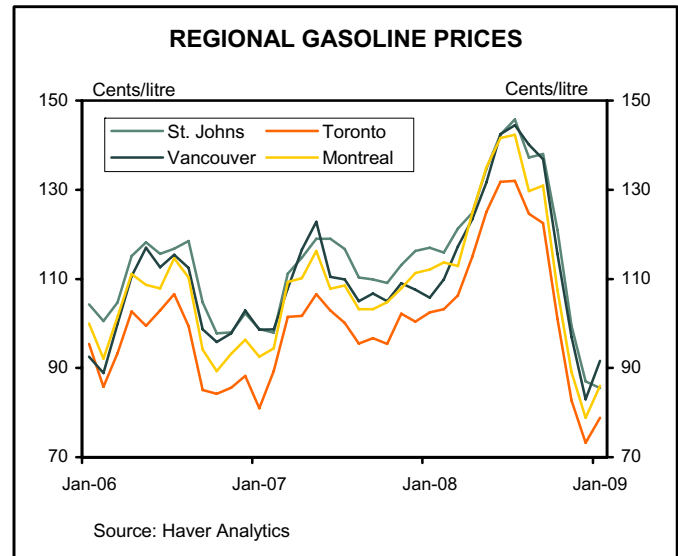
sure on prices. As a result, refining margins shot up to 19% from 11% in the months prior. While the U.S. is more susceptible to these unexpected outages due to hurricanes, the resulting price effects are felt similarly in Canada.

In recent months, gasoline consumption in both countries has been declining steadily, despite the massive drop in pump prices. Refiners have reduced utilization rates accordingly, which has prevented a build-up in inventories. And while stocks are currently on the low side of the 5-year average, the extreme weakness in demand has offset any upward pressure on prices that would otherwise exist. Thus, inventories have had a relatively neutral impact on retail prices.

Different prices in different regions

Local retail gasoline prices also reflect marketing margins and taxes which cause prices to differ between regions. Distribution costs alone lead to variability among regions, depending on the distance of the retailer from the refinery. As well, while federal taxes are the same across the country, provincial and municipal taxes are not, and thus result in higher pump prices in certain areas. For example, last year, B.C. was the first jurisdiction in Canada (and North America) to implement a carbon tax, thereby raising prices of all fossil fuels including gasoline. Overall, Quebec, B.C., and Newfoundland & Labrador have the highest fuel taxes in Canada, so prices in these provinces are usually the highest in the country.

Aside from these regional disparities, local retailers typically operate in a very competitive market, whereby sev-



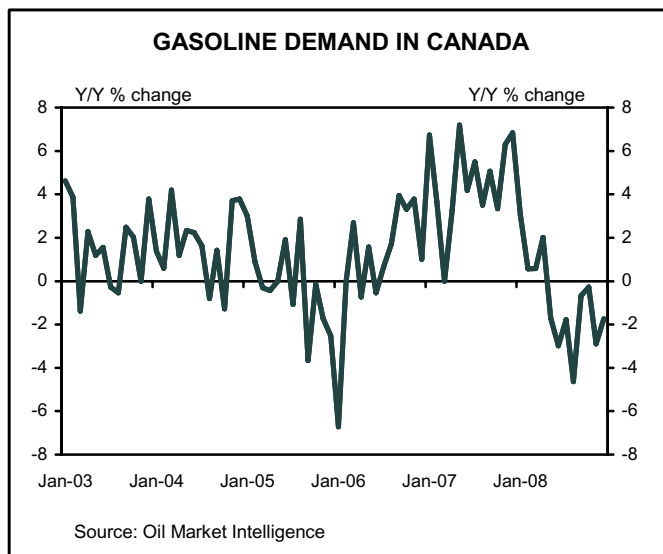
eral consumers are willing to go down the street to save a few cents per litre on a highly homogeneous product – notwithstanding retailer specific reward programs. The level of competition varies depending on how many retailers are operating within a certain radius, but price wars can break out leading to prices that are below costs. As such, all retailers in a given area tend to offer the same prices in order to earn a profit and maintain a steady flow of customers. As a result, more isolated retailers have a little bit more pricing power.

Drivers to enjoy lower pump prices in 2009

Considering all the factors that influence pump prices, what is in store for drivers this year? In short, there does not appear to be much near-term upside to gasoline prices.

Let's start with our outlook for crude oil. Since the start of the year, crude oil prices have been hovering in the US\$35-45 per barrel range, and we suspect that oil prices will hit a bottom of US\$30 per barrel on average in the second quarter, as the global economy is expected to worsen before it gets better. By the end of the year, we predict oil prices will rise, but only to about the US\$40 per barrel mark.

Further downstream, while refiners are expected to continue to operate at lower utilization rates, softness in consumer demand during the current weak economic environment is likely to preclude any significant reductions in inventory levels. Higher taxes are not a concern in the near term, given that the economy is in a recession (although further down the road when the government is able



to focus on 'green' initiatives again, taxes could rise).

One wild card in the price equation is the Canadian dollar. TD Economics projects that the currency will rise to 87 US cents by the end of 2009, with the bulk of that appreciation taking shape in the final quarter. Such a move will act to dampen any upward pressure on gasoline prices stemming from a firming in the crude oil market.

Putting it all together, with crude oil prices expected to hold at relatively low levels and other factors remaining quite neutral, Canadians are likely to enjoy a stable gaso-

line price environment in 2009 following a year of 40-60 cent/litre price swings. Look for gasoline prices in Canada to edge down from their current average level of 85 cents/litre towards 80 cents/litre this spring. As we head into the peak summer driving season, prices are expected to head up to the 90-95 cent/litre range before easing back to the 85 cent level later in the autumn. This would be consistent with the price of Canadian gasoline in 2004, the last time oil prices were in the US\$30-45 per barrel range.

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