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# OBSERVATION

## TD Economics



May 31, 2012

# A SHIFT TO TRUCKS LEAVES CANADIAN FUEL ECONOMY FLAT OVER THE PAST DECADE

### Highlights

- The recent spikes in gasoline prices have triggered some chatter about drivers shifting towards smaller, more fuel efficient vehicles. While Canadians tend to purchase smaller cars during periods of rapidly rising fuel costs, there has been an overall shift towards trucks over the last ten years.
- Consumer uptake of hybrid and electric vehicles has been quite slow. These alternative-powered vehicles still have a number of hurdles to overcome before they will comprise a significant share of the Canadian market.
- Despite ongoing efforts to improve the fuel efficiency of all vehicles, the rising demand for light trucks has left the overall fuel economy in Canada unchanged over the past decade.

With gas prices still hovering at elevated levels, there has been a great deal of talk surrounding a shift toward more fuel efficient vehicles. While consumers do tend to purchase smaller cars during times of rapid gas price spikes, light trucks (which include crossover and sport utility vehicles, vans and pick-up trucks) have become a more popular choice among Canadian drivers over the years. What's more, the overall fuel economy in Canada has remained quite constant over the past decade, despite ongoing efficiency gains created by automakers.

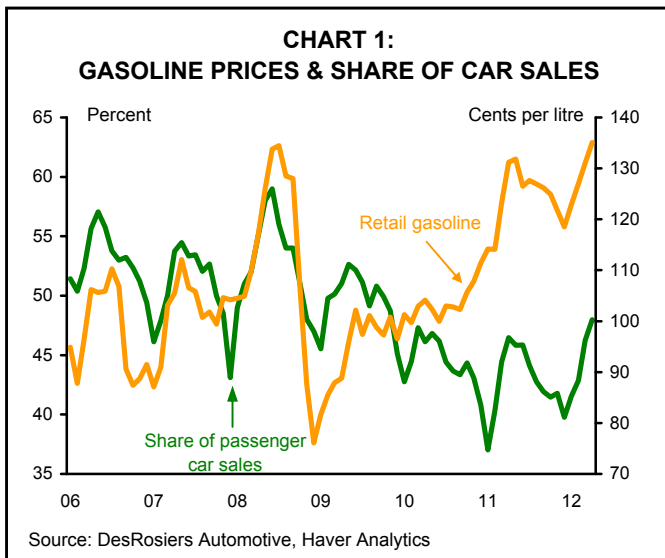
### Gas price spikes boost small car sales

In the past four years, gasoline prices have spiked to record (or near record) levels of about 135 cents per litre three times. Each time, the surge in prices elicited a similar response among new car buyers: increased demand for passenger cars (versus light trucks). However, while the share of passenger cars sold rose alongside the initial jump in fuel costs, the relationship was not sustained. In both 2008 and 2011, the share of passenger car sales began to fall before gas prices peaked. Moreover, even when gasoline prices held at relatively high levels – particularly in 2011 – consumer demand for light trucks picked up. This suggests that the change in gasoline prices (rather than the actual level) has more of an influence on consumer preferences. So far this year, the share of car sales has risen through April along with the price of gasoline.

Interestingly, only in 2008 – the first time gas prices surpassed 130 cents per litre – did sales of passenger cars outperform light trucks, accounting for more than half of total sales. Light truck sales have actually been outpacing passenger car sales since the end of 2009 – even this year, with gasoline prices hovering around the peak levels seen in 2008. (Chart 1)

### Canadian drivers favouring trucks

It appears as though consumers have adapted to higher gasoline prices, as the overall upward trek



**TABLE 1: TOP TEN SELLING VEHICLES IN CANADA**

	2001	2011
1	Dodge Caravan	Ford F-Series
2	Honda Civic	Ram Pickup
3	Ford F-Series	Honda Civic
4	Chevrolet Cavalier	Dodge Caravan
5	Mazda Protege	Toyota Corolla/Matrix
6	Chevrolet Silverado	GMC Sierra
7	Ford Focus	Hyundai Elantra
8	Pontiac Sunfire	Ford Escape
9	Ford Windstar	Chevrolet Silverado
10	Toyota Corolla	Mazda3

**% of Total Sales: 33%**

Light trucks in red font

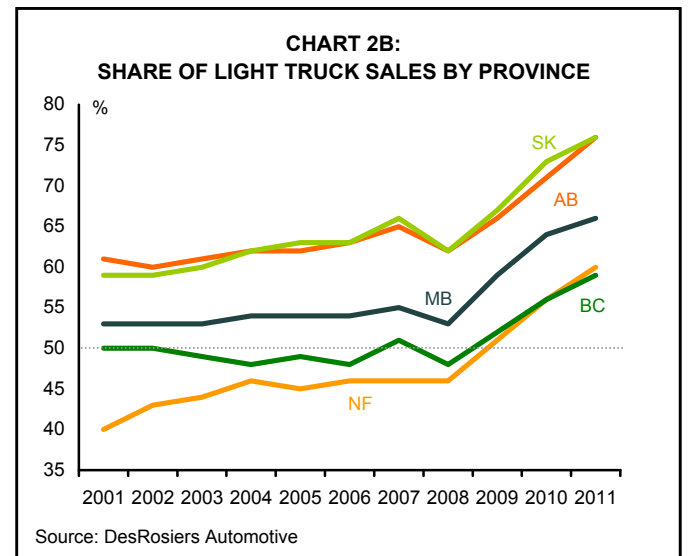
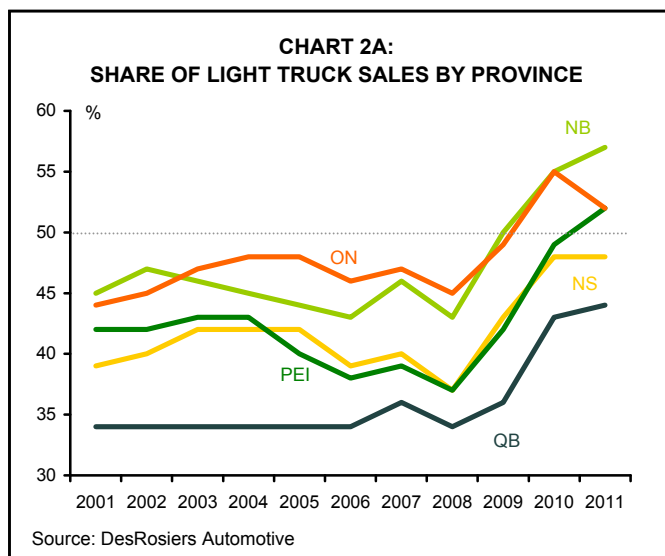
Source: Ward's Auto

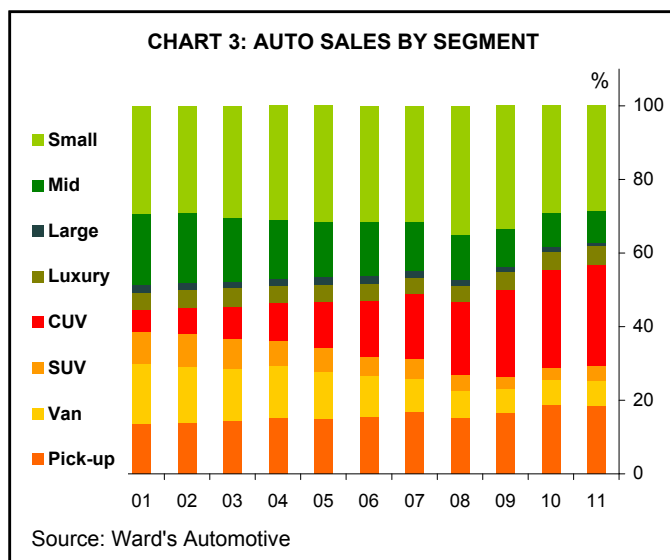
in fuel costs witnessed over the last decade has yet to deter them from purchasing trucks. Looking at the trends seen over the past ten years, it is clear that consumer preferences are shifting towards larger, less fuel efficient vehicles. Table 1 presents the top ten selling vehicles in Canada in 2001 and 2011, which account for a third of total sales in each year. While five of the ten vehicles appear on both lists, there is a striking difference. A decade ago, only four light trucks made the list, accounting for about 15% of total sales. In 2011, six trucks were on the list, increasing the segment's share to 22%. Meanwhile, gasoline prices were 80% higher (nearly 50% higher when adjusted for inflation) in 2011 compared to 2001. Hence, it appears as though the higher level of gasoline prices has not driven consumers away from larger vehicles as many would suspect. That said, like in

2001, every car on the top ten list in 2011 is classified as 'small', leaving the fuel-sipping segment at the top of the leaderboard with 29% market share.

The shift towards light trucks has been widespread across the country. (Charts 2A & 2B) Even provinces known to favour smaller cars – such as Quebec, Nova Scotia and Prince Edward Island – have all been recording higher truck tallies in recent years. Still, the growing appetite for trucks has been the most pronounced in Alberta, Saskatchewan, and Newfoundland & Labrador, with the share of light truck sales reaching 76% in the two western provinces, from about 60% in 2001. In Newfoundland & Labrador, the share of light truck sales shot up by 20 percentage points over the last decade, accounting for 60% in 2011.

It's probably not a coincidence that the largest uptick in





demand for light trucks has been in resource based provinces at a time when commodity prices were doing quite well. But there are a number of other factors underpinning increased demand for trucks, some of which include growing family size, location (trucks are more popular in areas that typically get more snow) and the notion that larger vehicles are safer.

The increased desire for light trucks over the past decade has come largely at the expense of mid-sized cars. Yet not all truck segments have been flourishing, as the breakdown has changed dramatically compared to ten years ago. (Chart 3) Canadians are known to love the minivan – which is proven by the fact that minivans have been on the top ten list for over a decade. But the once thriving segment has been stifled by the growing popularity of crossover utility vehicles. Indeed, the market share of minivans has fallen dramatically – down from 16.4% in 2001 to 6.8% last year – while crossovers, which now account for 28% of total sales in Canada, have recorded steady growth since being introduced in the mid-90s. Sport utility vehicles have similarly given up share to the crossover segment over the years. Overall, crossover utility vehicles are more fuel efficient than both the minivan and sport utility segments, but less fuel efficient than small and mid-sized cars. Interestingly, pick-up trucks – which are generally the least fuel efficient vehicles on the road – have managed to gain market share over the past ten years as well.

### Consumers not yet sold on hybrid and electric vehicles

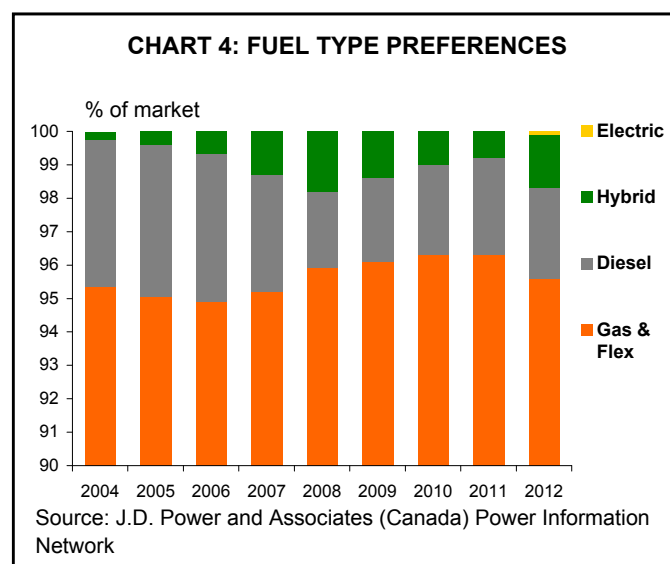
Unlike the crossover segment, hybrid and electric vehicles have not gained much popularity since hitting the mass market in 1999. Consumer uptake has been slower

than automakers had anticipated, accounting for less than 2% of new vehicle sales. (Chart 4) Going forward, there are a number of hurdles that will take time to overcome before these advanced technologies will have a significant presence on Canadian roads.

First and foremost is the price. Consumers must pay a hefty premium for a hybrid or electric engine – and the associated fuel savings may not make up the difference. On average, analysts estimate that it takes about seven years for these costly vehicles to pay off<sup>1</sup>. Hence, these alternative-powered vehicles would not be a practical purchase for those who only plan to keep the vehicle for 4-5 years – especially those who lease the vehicle. This is true even after taking into account government rebates and incentives. So, until the price tags are lower, consumers will be reluctant to purchase these vehicles.

Second, given that it has only been around for a short time, consumers may not be fully confident in the technology, and thus more resistant to purchase such vehicles. As well, the lack of infrastructure, lengthy recharging times (relative to filling up with gasoline) and limits on how far electrical cars can travel before running out of juice may deter consumers, as they prefer the convenience and flexibility of the gasoline engine – particularly those who drive long distances or plan to take road trips.

Lastly, consumer satisfaction with these advanced technologies has not proven to be overwhelming positive. A recent U.S. study showed that only 35% of hybrid owners bought another hybrid when returning to the market last year, despite an increase in the number of models offered<sup>2</sup>. While this doesn't take into account consumers that required

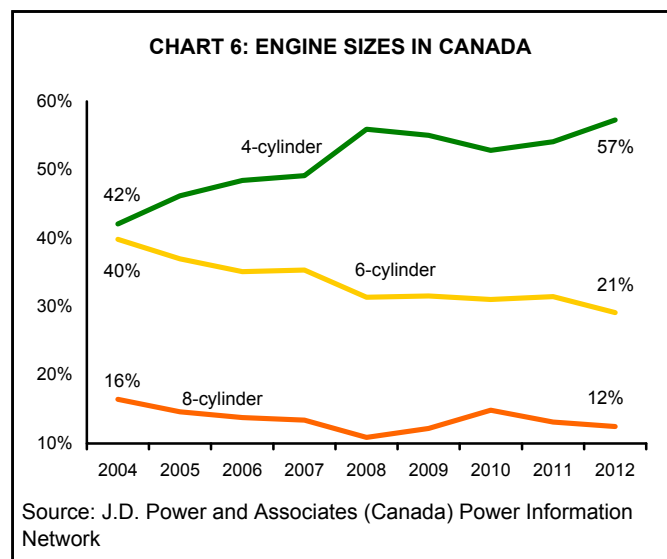
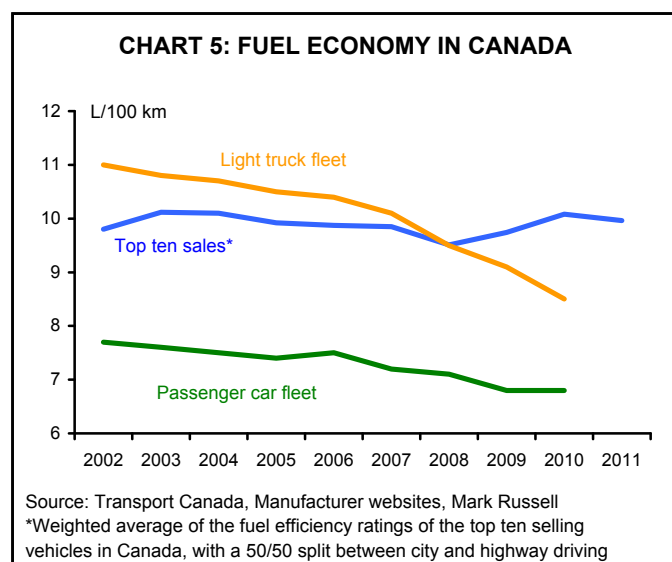


a vehicle that didn't come with a hybrid option, the lack of repeat buyers does not bode well for future sales.

### Efficiency gains offset by bigger vehicles

Automakers will continue to introduce new models with hybrid and electric engines, which should help to improve demand. While this will help to create a more fuel efficient fleet, consumers still prefer the traditional gasoline engine. Fortunately for drivers, automakers have made a great deal of progress in improving the efficiency of the internal combustion engine. Data from Transport Canada show that the average fuel economy of vehicles made for the Canadian market has been continuously improving over the years for both passenger cars and light trucks. In 2010 (the latest available data), the passenger car fleet averaged 6.8 litres/100 km, down from 7.8 litres/100 km in 2000. The progress was even more pronounced in the light truck segment, with fuel economy improving from 11.0 litres/100 km in 2000 to 8.5 litres/100 km in 2010.

In general, the fuel efficiency of a current year model is superior to that of a prior year model, suggesting that consumers don't have to sacrifice size for better fuel economy when returning to the market. Canadian drivers appear to be aware of this fact, and instead of benefiting from the savings on fuel costs, are choosing to purchase larger vehicles. Indeed, as shown in Chart 5, the overall fuel economy in Canada has remained fairly flat over the past decade<sup>3</sup> – despite ongoing improvements by automakers, and a sizable shift towards 4-cylinder engines, at the expense of 6-cylinder, and to a lesser extent, 8-cylinder engines. (Chart 6)



This is in contrast to the trends seen across the border. In a recent report entitled “*Gas Prices Up, But Trucks Still on Top*”, we revealed that the overall fuel economy in the U.S. has improved in recent years, despite the fact that trucks are still the top selling vehicles. The difference between the two countries stems from the fact that Canadians have been shifting towards larger vehicles, while consumer preferences Stateside have remained fairly constant over time. Indeed, while the mid-sized segment in Canada has given up more than half its market share to the light truck segment over the past ten years, it has held fairly steady in the U.S., accounting for about 20% of total sales. As such, American drivers are benefiting from the efficiency gains that are associated with newer versions of similar models.

Going forward, automakers will continue to introduce more fuel efficient vehicles to improve competitiveness and to meet government standards. The Canadian federal government has decided to match the new regulations in the U.S., requiring an average fuel economy for new vehicle sales of 6.6 litres/100 km by 2016 and 4.3 litres/100 km by 2025. This means a larger selection of hybrid and electric vehicles, but also further improvements to the internal combustion engine since that is what consumers prefer. Still, barring a significant increase in gasoline prices, automakers may have a hard time selling the smaller, more fuel efficient models, as consumers are clearly favouring larger vehicles.

### Trend towards light truck sales to persist

Recent consumer behaviour suggests that spikes in gasoline prices have a temporary impact on new car sales

in Canada, initially increasing demand for smaller vehicles. However, the effect of higher gasoline prices appears to wane quickly, as there has been a shift towards light trucks over the past decade, despite much higher fuel costs. Gasoline prices are likely to remain fairly stable over the next 18 months given that we expect crude oil prices to remain in the US\$90-110 per barrel range that has been the norm over the past year. As such, gas prices should have a fairly neutral impact on auto sales.

The significant improvement in fuel economy across all vehicle segments will continue to allow consumers to purchase larger, less fuel efficient vehicles without a big hit to the wallet. Given that Alberta and Saskatchewan are

expected to be the top economic performers this year and next, we suspect that the underlying trend toward trucks will remain intact.

In fact, we expect light trucks to maintain the 54-57% share of total sales seen over the past two years. With overall new vehicle sales projected to rise back above 1.6 million units this year, sales of light trucks should come in around the 900,000 mark, while passenger car sales are expected to tally just over 700,000. While the small car segment remains in the lead, the crossover segment is only a smidgen behind, and is likely to slide into the number one spot if the trends seen in recent years do indeed persist.

*Dina Cover, Economist*  
416-982-2555

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- 3 Using a weighted average of the mileage of the top ten selling vehicles, with a 50/50 split between city and highway driving.

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