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Analysis in Brief

# Inflation in Atlantic Canada fuelled more by oil-linked products

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. not available for any reference period
.. not available for a specific reference period
... not applicable
0 true zero or a value rounded to zero
$0^s$ value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
$^p$ preliminary
$^r$ revised
x suppressed to meet the confidentiality requirements of the *Statistics Act*
$^E$ use with caution
F too unreliable to be published
* significantly different from reference category ($p < 0.05$)

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## Introduction

Gasoline and fuel oil, products whose price movements closely reflect underlying changes in the price of crude oil, are together among the most heavily weighted items in the basket of goods and services used to calculate the Consumer Price Index (CPI).[1] Because of this, changes in the price of crude oil, through their impact on gasoline and fuel oil prices, have a significant influence on the overall rate of inflation.[2]

Nowhere is this truer than in the Atlantic region, where households spend a notably larger proportion of their total expenditure on gasoline and fuel oil, compared with the rest of Canada.[3]

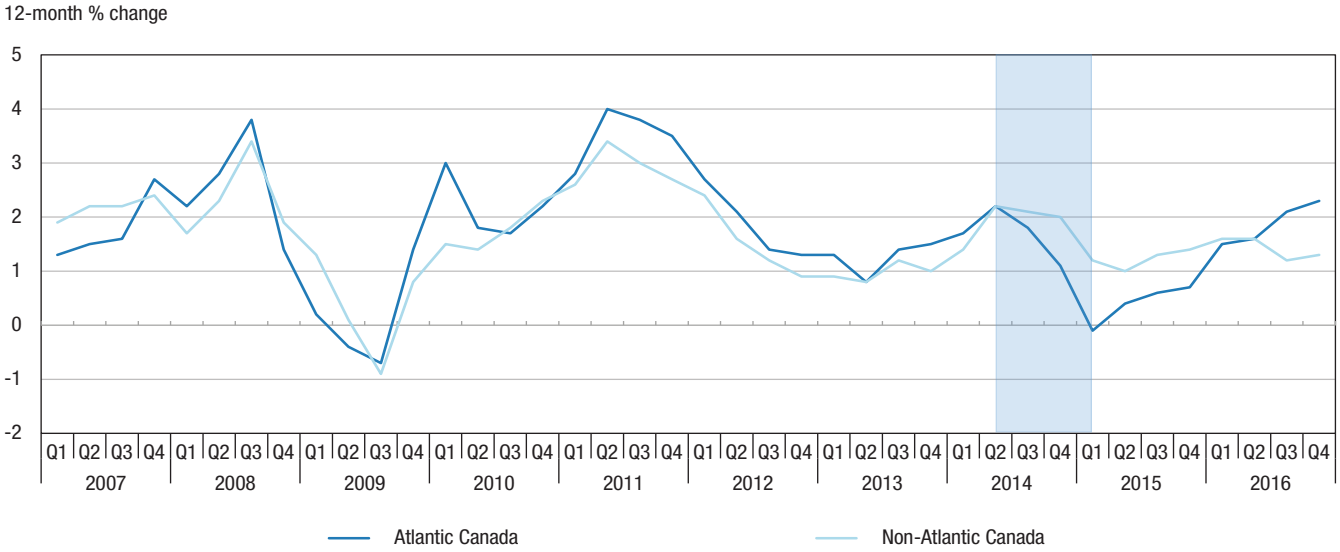
This stronger link in Atlantic Canada between changes in gasoline and fuel oil prices and movements in all-items inflation is particularly evident during periods of greater volatility in crude oil prices, such as in 2014 and 2015, when the price of crude declined significantly. This article sheds light on how these oil-linked products have influenced recent changes in the rate of inflation in Atlantic Canada.

## The recent impact of crude oil prices on inflation

Between June 2014 and January 2015, crude oil prices[4] fell from over US$100 per barrel to under US$50. This marked decline in crude oil prices was reflected in the gasoline, and fuel oil and other fuels[5] price indexes, which, at the Canada-level, declined by 34% and 18% respectively over the same eight-month period. At the same time, quarterly average inflation,[6] at the Canada-level, slowed from 2.2% in the second quarter of 2014 to 0.9% a year later. In contrast, inflation excluding gasoline[7] slowed only slightly, edging down from 2.0% to 1.9% over the same period.

The overall rate of inflation was significantly affected in every province, but to varying degrees. In the second quarter of 2014, the quarterly average rate of inflation was 2.2% in both Atlantic Canada and outside of the Atlantic region. After oil prices began to decline, the rate of inflation slowed in both regions. However, it declined faster in the Atlantic Provinces. By the first quarter of 2015, average inflation reached a low of -0.1% (in other words, deflation) in the Atlantic Provinces, while a low of only 1.0% was reached in the non-Atlantic provinces in the second quarter of 2015.

**Chart 1**
**Quarterly Average Inflation by Region, 2007 to 2016**




**Note:** The shaded portion of the chart highlights the greater decline of quarterly average inflation in Atlantic Canada, as compared to non-Atlantic Canada, during the recent period of declining crude oil prices, between the second quarter of 2014 and the first quarter of 2015.
**Source:** Statistics Canada, Consumer Price Index, CANSIM Table 326-0020.

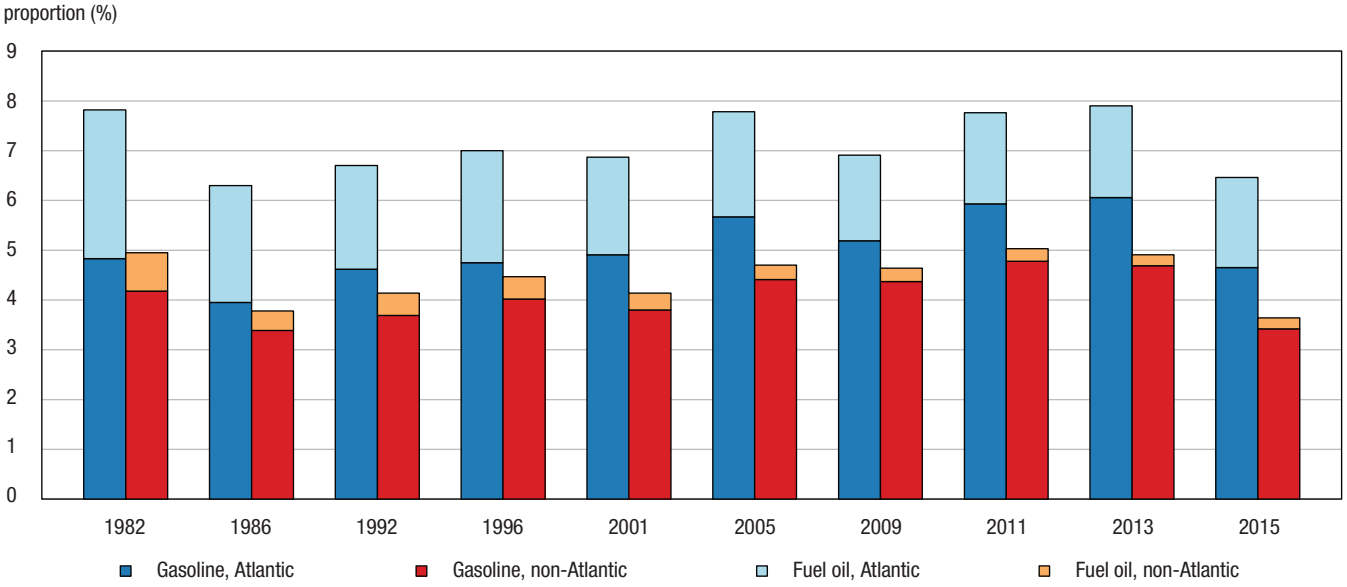
## Spending on gasoline and fuel oil higher in Atlantic Canada

A larger basket weight for gasoline and fuel oil in the Atlantic region, relative to the rest of Canada, along with the falling price of crude oil contributed to the sharper deceleration in the inflation rate in Atlantic Canada.

In the CPI, a basket share for a particular good or service is calculated by dividing aggregate household expenditures on that good or service by total household expenditures on all goods and services. Therefore, the basket share is a direct measure of the relative importance of that particular good or service in the overall consumption basket.

The combined basket weight of gasoline and fuel oil in the Atlantic Provinces has been consistently larger than those for the rest of the country since at least 1982. In 2013, fuel oil accounted for 1.8% of the overall CPI basket in the Atlantic Provinces— over eight times more than for the non-Atlantic provinces (0.22%). Gasoline also had a consistently larger basket weight in Atlantic Canada (6.1%) compared with the non-Atlantic provinces (4.7%).

**Chart 2**
**Basket Share for Gasoline and Fuel oil Higher in Atlantic Canada since 1982**




**Note:** Weight at basket reference period prices.
**Source:** Statistics Canada, Consumer Price Index, CANSIM table 326-0031, and Internal weight files for 1982 to 2001.

There are three main factors that could lead to a higher basket share in one province or region relative to another: (1) the price of the good or service is higher; (2) the quantity consumed is higher; and (3) the total expenditure on all goods and services is lower, due to lower spending on other goods and services.

## Overall consumer spending is lower in Atlantic Canada

According to the 2013 Survey of Household Spending (SHS),[8] households in Atlantic Canada spent, on average, 13% less on goods and services than their non-Atlantic counterparts. At the same time, households in Atlantic Canada spent 40% more on gasoline and fuel oil. Both of these factors contributed to larger basket shares for these oil-based products in the Atlantic region.

## Higher volumes of fuel oil consumed in Atlantic Canada

In recent years, prices for fuel oil have been lower, on average, in the Atlantic Provinces than they have in the rest of Canada.[9] Accordingly, higher quantities of fuel oil consumed, not higher prices, play a key role in explaining the larger expenditure share for fuel oil in Atlantic Canada. Fuel oil is used as the main residential heating source in Prince Edward Island and Nova Scotia. And, while electricity is the main home heating source in Newfoundland and Labrador and New Brunswick, fuel oil is used to a greater extent in these provinces than in Quebec, Ontario, the Prairie Provinces and British Columbia.[10]

## Household gasoline expenditures higher in Atlantic Canada

Unlike fuel oil, gasoline accounts for a large proportion of consumer expenditure in every province. Still, gasoline purchases account for a larger share of household spending in Atlantic Canada than elsewhere in the country.

In each of the CPI basket reference years since 2007, expenditure on gasoline per vehicle has been, on average, 7.4% higher in the Atlantic Provinces than in the non-Atlantic Provinces. This difference can be explained by volume consumed and prices.

From 2007 to 2015, average retail gasoline prices[11] in Atlantic Canada were, on average, 1.2% higher than prices in non-Atlantic Canada. A dual crude oil supply market[12] contributed to this difference. Since prices were only slightly higher over the period, a larger portion of the overall difference can be attributed to a larger quantity of gasoline consumed on a per vehicle basis in the Atlantic region. One likely contributing factor is that a larger proportion of residents of Atlantic Canada live in rural areas—approximately 46%, compared with only 17% in non-Atlantic Canada.[13]

## Conclusion

Changes in the rate of inflation in Atlantic Canada are more closely tied to movements in gasoline and fuel oil prices than in other provinces, as spending on these items, as a proportion of total spending, is higher in the Atlantic Provinces.

Gasoline's higher expenditure share reflects slightly higher prices, higher quantity consumed, and lower overall spending by households on other goods and services. However, in contrast to other provinces in Canada, fuel oil expenditure shares are much higher in the Atlantic Provinces, where it is a more commonly used energy source for home heating. Therefore, higher consumption of fuel oil plays a larger role, overall, in explaining why crude oil prices influence the inflation rate in Atlantic Canada to a greater extent than in non-Atlantic Canada.

With the most recent basket update, based on the 2015 SHS and effective with the January 2017 CPI, the basket weights of gasoline and fuel oil were lower across Canada, compared with 2013. This decline in the share of gasoline and fuel oil in the CPI basket was primarily due to the fall in world crude oil prices between 2014 and 2015. The combined basket weights for gasoline and fuel oil, however, are still significantly higher in the Atlantic Provinces. Therefore, crude oil prices will continue to exert a greater influence on the inflation rate in Atlantic Canada than in the rest of the country.

**Table 1**
**Basket shares for Gasoline and Fuel oil combined (%) in the Consumer Price Index**

| | 1982 | 1986 | 1992 | 1996 | 2001 | 2005 | 2009 | 2011 | 2013 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Region** | percent | | | | | | | | | |
| Canada | 5.08 | 3.89 | 4.31 | 4.64 | 4.32 | 4.90 | 4.79 | 5.20 | 5.09 | 3.81 |
| Newfoundland and Labrador | 7.73 | 6.19 | 6.09 | 6.88 | 6.61 | 7.12 | 6.88 | 8.14 | 8.12 | 6.10 |
| Prince Edward Island | 8.68 | 7.18 | 9.00 | 8.70 | 8.33 | 9.99 | 8.92 | 10.00 | 10.79 | 7.78 |
| Nova Scotia | 7.32 | 6.15 | 6.84 | 7.04 | 7.13 | 8.09 | 7.09 | 7.76 | 7.83 | 6.86 |
| New Brunswick | 8.69 | 6.55 | 6.59 | 6.69 | 6.43 | 7.40 | 6.37 | 7.09 | 7.27 | 5.95 |
| Quebec | 5.82 | 3.96 | 4.45 | 4.71 | 4.68 | 5.40 | 5.05 | 5.52 | 5.59 | 4.22 |
| Ontario | 5.11 | 3.73 | 4.03 | 4.57 | 4.02 | 4.48 | 4.71 | 5.23 | 5.05 | 3.57 |
| Manitoba | 4.10 | 3.85 | 4.03 | 4.56 | 4.35 | 5.14 | 4.72 | 5.38 | 5.42 | 3.69 |
| Saskatchewan | 3.76 | 3.52 | 5.47 | 5.20 | 4.96 | 5.09 | 5.27 | 5.44 | 5.17 | 3.95 |
| Alberta | 3.63 | 3.66 | 3.72 | 4.28 | 3.86 | 4.25 | 4.32 | 4.48 | 4.25 | 3.42 |
| British Columbia | 4.25 | 3.72 | 3.93 | 3.78 | 3.62 | 4.49 | 3.98 | 4.04 | 3.87 | 3.09 |

**Note:** Weight at basket reference period prices.
**Sources:** Statistics Canada, Consumer Price Index, CANSIM Table 326-0031, and internal weight files for 1982 to 2001.

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## Endnotes

1. The basket weights of the Consumer Price Index are derived primarily from Statistics Canada's Survey of Household Spending (SHS) and are updated on a biennial basis.

2. In this analysis, inflation refers to the 12-month change in the All-items Consumer Price Index (CPI).

3. The territories are excluded from the scope of this analysis.

4. As measured by the West Texas Intermediate and Brent crude oil benchmarks.

5. Within the CPI classification, fuel oil and other fuels include fuel oil, propane, wood and other fuels used for heating and cooking. However, fuel oil makes up the majority of this index, especially in the Atlantic region. In this study, statistics for "fuel oil" reflect those for "fuel oil and other fuels."

6. The quarterly average rate of inflation is calculated as the arithmetic average of the 12-month change in the All-items CPI in each quarter.

7. At the national level, fuel oil, on its own, has a relatively small weight in the CPI, therefore the All-items CPI excluding gasoline is a good enough measure to exclude the effects of crude oil prices.

8. While 2015 SHS data is available, we examine the results of the 2013 SHS data in this section as the weights used in the calculation of the CPI for 2015 were based on the 2013 SHS.

9. Statistics Canada. Table 326-0009 – Average retail prices for gasoline and fuel oil, by urban centre, annual.

10. Statistics Canada. Households and the Environment: Energy Use, Catalogue no. 11-526-S.

11. Average retail gasoline prices for the Atlantic region and non-Atlantic region were calculated as a weighted average using data from CANSIM Table 326-0009, which provides retail prices for gasoline by urban centre. Prices for gasoline in urban centres may not accurately reflect prices in rural areas, due to variations in the level of competition.

12. Over the period of analysis, the crude oil market in Canada was characterized by a dual supply structure, with each supply source having different prices. For more details, see Study of crude oil and gasoline prices (October 2012), Consumer Prices Division.

13. Statistics Canada. 2016 Census of Population.

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