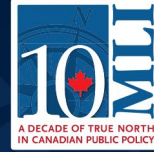


Commentary



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What caused the surprise GDP drop and why Canada actually has US-style inflation

Philip Cross

Overview

The economy shrank 0.3 percent in the second quarter. The decline was unexpected because preliminary data for April and May pointed to a sizeable increase and the Macdonald-Laurier Institute's leading economic indicator (LEI) gave no inkling of a drop, posting solid gains throughout the first half of the year. The surprising drop in GDP reflected the impact of government shutdowns as well as downward revisions to oil and gas output, a sector that often has proved difficult for Statistics Canada to accurately track.

Canada's GDP drop can also be contrasted with the US, which has enjoyed faster growth for the past several years – a trend that has only continued into the pandemic. This quarterly economic report looks in more detail at how Canada's growth consistently has lagged the US since 2015, why the gap inflation between the two countries is not as large as presumed, and the reasons for the statistical problems in measuring quarterly GDP.

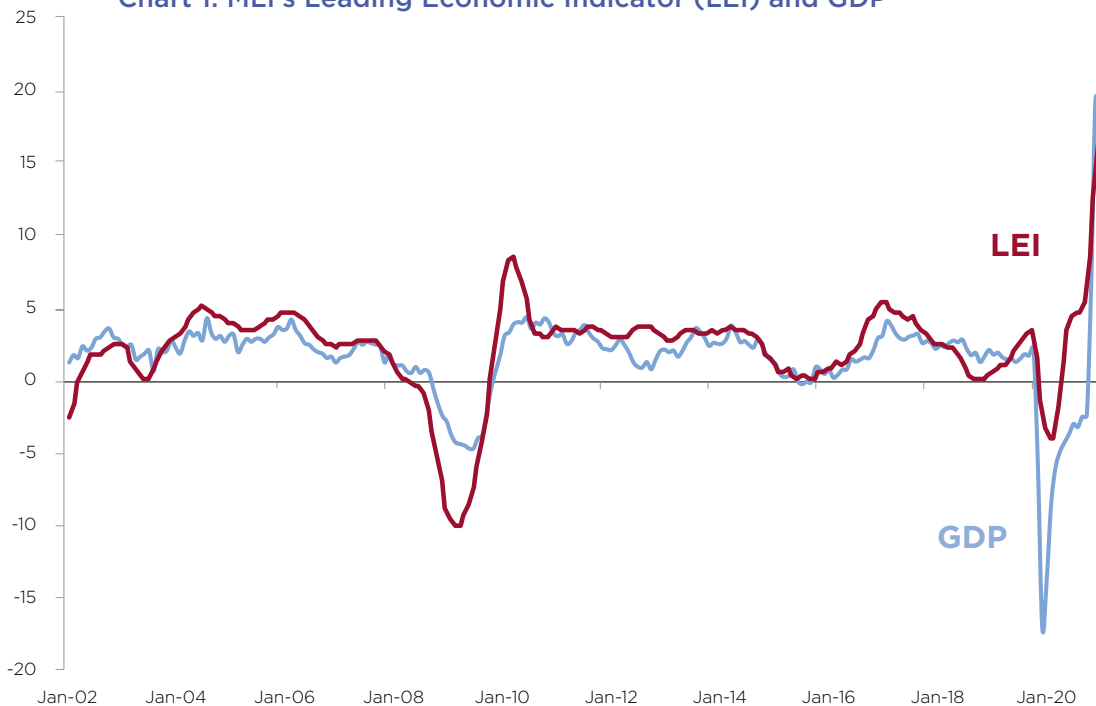
Introduction

The Canadian economy contracted in the second quarter, with real GDP falling 0.3 percent. The slump in demand was widespread. Housing, which powered much of the recovery over the past year, posted a significant decline. Exports also receded, although a good part of that weakness appears related to problems in the supply chain for motor vehicles. Consumer spending was little changed, as government lockdowns in several provinces curtailed spending on services. The slack in consumer spending did not reflect a lack of income, as the personal savings rate remained at an historically high level of 14 percent. Business investment posted a modest increase, led by a recovery in the oil and gas industry as prices rose above their level before the pandemic began. Inventories posted a large gain, without which GDP would have contracted a full 1.0 percent.

The leading economic indicator points to sustained growth

The Macdonald-Laurier Institute's leading economic indicator rose by 1.0 percent in August, its smallest increase in five months (Figure 1). The slow-down originated in declines for the housing index and export demand for

Chart 1: MLI's Leading Economic Indicator (LEI) and GDP

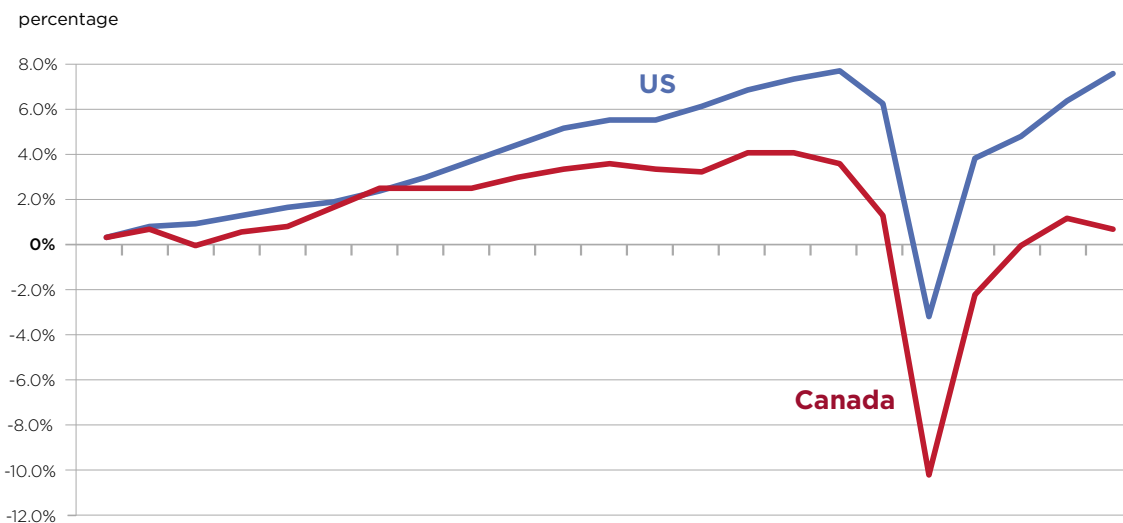


manufactured goods. The LEI points to a resumption of growth in the second half of the year as important sectors of the economy reopen and recover, but overall growth will be dampened by slower demand from housing and the global economy.

Growth in Canada has lagged behind the US since 2015

Since the federal election in October 2015, the growth of real GDP per capita in Canada has consistently lagged behind the United States (Figure 2). The cumulative gain from the fourth quarter of 2015 to the second quarter of 2021 was 7.3 percent in the US compared with 0.4 percent in Canada. Faster growth in the US persisted throughout this period; a gap of 0.4 percentage points opened up by the end of 2016, expanded to 4.2 points late in 2019 just before the pandemic began, and then widened further to 7.3 points by mid-2021.

Chart 2: Real GDP per Capita, Cumulative Change since 2015



Source: Statistics Canada and Federal Reserve Bank of St. Louis

The faster growth of real GDP per capita in the US compared to Canada over the past six years reflects more rapid gains in GDP in the US and higher population growth in Canada. Since the fourth quarter of 2015, real GDP in the US rose 10.9 percent versus a 6.8 percent gain in Canada. Meanwhile, Canada's population expanded by 6.4 percent compared with a 3.0 percent increase

in the US. Most of Canada's larger population increase occurred before the pandemic, which slowed population growth in both countries after they cut back on cross-border immigration flows to keep the virus from spreading. Canada's faster population growth should have helped lift our GDP growth, as the swelling number of people automatically increases demand for housing, food, clothing and all the other basics of life. However, the boost to GDP from Canada's growing population was outweighed by other factors that slowed down our economy.

Real GDP in the United States grew faster than Canada both before and after the pandemic began. Before the pandemic hit, real GDP in the US expanded 9.9 percent between the fourth quarter of 2015 and the fourth quarter of 2019, compared with 9.0 percent in Canada. After the pandemic's onset, the US economy still rose by 0.8 percent versus a 2.0 percent drop in Canada. Most of this gap occurred during the depths of the recession in the first half of 2020, when mandatory closings of non-essential economic activity led to drops of 10.1 percent in the US and 13.1 percent in Canada.

Much of the faster growth in the US originated in stronger business investment. Before the pandemic struck in 2020, US business investment surged 15.5 percent in just three years, a faster pace than gains of 23.4 percent and 22.5 percent during the eight years of the Bush and Obama administrations. Some of this acceleration of investment reflects the relentless pro-business stance of Donald Trump, notably his adoption of key policies such as reforming the corporate income tax and reducing regulations. By comparison, business investment in Canada has fallen 30 percent since the fourth quarter of 2014.

Inflation in Canada and the US

There is some confusion about the relative trend of inflation in Canada and the US. The widely-publicized Consumer Price Index (CPI) for the US rose by 5.4 percent in the year ending in July 2021, compared with a 3.7 percent increase in Canada. However, the CPI is measured differently in Canada and the US. In particular, used car prices are included in the US index but not in Canada. This has been particularly important in the recovery from the pandemic, due to a shortage of new vehicles caused by strong demand and problems with the supply of computer chips. As a result, demand soared for used vehicles, pushing their price up by 41.7 percent. In addition, housing prices are measured differently in the two countries.

While it is misleading to strictly compare the CPI for Canada and the US, one way to work around these differences is to compare the price index for household spending in GDP for Canada and the US, where there are no conceptual differences.¹ Here the trend of inflation is much the same in the two countries. Between the second quarter of 2020 and 2021 (only quarterly data

are available for comparison), the implicit price index for household spending rose 3.9 percent in the US and 3.0 percent in Canada. By comparison, the CPI for the US rose 4.8 percent over the same period, compared with 3.3 percent in Canada.

In other words, 40 percent of the apparent gap over the past year between inflation between Canada and the US as measured by the CPI reflects different methodologies, especially for used cars and housing. Removing these differences by comparing the implicit price indices from the National Accounts shows that inflation is running higher in the US, as would be expected given its less severe recession and more rapid recover, but the gap is less than 1 percent.

A surprising drop in Canada's GDP

The drop in quarterly GDP was far below the consensus forecast of 0.6 percent growth, one of the largest divergences ever. Analysts based their expectation for positive growth on the performance of monthly GDP in April and May. However, Statistics Canada sharply lowered its estimates for these two months with the release of second quarter data. Much of the downward revision originated in mining production, especially oil and gas. The April estimate of mining output was lowered \$3.8 billion and May by \$8.2 billion.

Some analysts expressed surprise that Statistics Canada lowered its GDP estimates in the middle of an election campaign without an explanation (Lundy 2021). This is not the first time Statistics Canada has published small declines in GDP during an election, when even a slight decrease is magnified by frenzied media coverage. In 2015, the agency published an estimated drop of 0.2 percent in first quarter GDP and a 0.1 percent decline in the second, when the prudent course would have been to publish no change (these data have since been revised). However, the downward pull from survey estimates appears to be much greater in 2021, making the publication of a drop in GDP unavoidable even if it raised awkward questions.

The National Accounts apparently had trouble limiting the drop in GDP to 0.3 percent. In particular, retail inventories added \$10.3 billion and farm inventories a record \$6.7 billion to GDP growth; without these increases, GDP would have fallen by 1.0 percent. Statcan's quarterly surveys of retail and farm inventories are among the weakest parts of the statistical system, making them convenient places to park a higher estimate than the surveys justify in order to boost the GDP estimate.

Much of the downward revision to industry GDP originated from confronting the industry estimates with the more comprehensive and integrated quarterly data on income and expenditures. Many major data series are only estimated with quarterly surveys, such as corporate profits, business investment, and

retail inventories. Evidently these surveys showed GDP to be considerably weaker than the industry-based estimates.

However, the main reason the industry and the income and expenditure GDP estimates diverged in the second quarter is that they use different price indices. The last three years of monthly GDP are based on a Laspeyres fixed-weighted index, which uses the structure of prices existing three years earlier. In contrast, quarterly GDP uses a Fisher chain index based on the structure of prices that existed in the previous quarter.² As a result, monthly constant dollar GDP during 2021 was measured as if the prices of all production were frozen at their 2017 level, while the quarterly estimates of expenditure on GDP were based on the structure of prices prevailing in the previous quarter.



The downward revision for GDP in April and May partly originated in lower estimates for oil and gas exports.

Usually, this is not a major complication, except during periods when relative prices are changing rapidly. Yet this is exactly what happened with the boom in commodity prices starting in mid-2020; the monthly measure of GDP in 2021 valued oil production at the low price set in 2017, while quarterly GDP valued spending on commodities at the high price prevailing in the previous quarter.

The impact of using different base years for prices is easily measured by comparing the estimated growth of the expenditure estimate of GDP in both fixed-weighted and chained dollars. The fixed-weighted measure points to 0.1 percent growth in GDP in the second quarter, while the chain index produces a 0.3 percent decline. This shows that internal estimates of income and expenditure GDP inevitably would point to lower growth, something that revisions to the industry estimate of GDP would have to accommodate. For these and other reasons, monthly industry estimates of GDP at basic prices have to adapt to the trend of the more comprehensive and accurate quarterly expenditure estimates (Wilson 2006).

Finally, the downward revision for GDP in April and May partly originated in lower estimates for oil and gas exports. Exports often are the largest source of revision in GDP because of their methodology. In the 1980s, Statistics Canada committed to using the data on imports from Canada collected by the US Commerce Department (which likewise switched to Canadian data on imports from the US to estimate its exports to Canada). The key

assumption was that goods entering a country are monitored more closely than goods leaving a country. As part of the arrangement to integrate US and Canada trade data, Canada had to accept the more timely publishing schedule of the US, which releases its trade data about 35 days after the end of the reference month.

The system proved to be a good source of trade data, except for crude oil and natural gas (Cross 2017). Because these products are shipped by pipeline, there are no precise data for prices and volumes of oil and gas exports.³ The National Energy Board and its successor the Canadian Energy Regulator (CER) do collect data on oil and gas exports, but these take a couple of extra months to compile. Initially in the 1980s, the importance of energy exports was small and their weakness in the preliminary trade data was not a source of concern. However, energy exports grew in importance in the 1990s, to become Canada's leading export.



Monthly estimates of Canada' energy exports can frequently undergo revisions of \$1 billion or more.

What was once just an annoying irritant for energy export statistics had now become an Achilles Heel of vulnerability in the data for both exports and GDP. Without firm data from either the US Commerce Department or the CER, Statistics Canada has to use less reliable sources for the preliminary estimates for oil and gas exports such as estimates from surveys of pipeline companies and energy shipments from the provinces. The result is that monthly estimates of Canada' energy exports can frequently undergo revisions of \$1 billion or more, a significant impact on total monthly exports of just over \$50 billion.

However, the downward revision to oil and gas production in April and May appears to originate more in the problem of pricing their output than in measuring their exports. The revision to exports totalled \$332 million in April and May, which is significant but far less than the revisions to production.

About the author



Philip Cross is a Munk Senior Fellow at the Macdonald-Laurier Institute. Prior to joining MLI, Mr. Cross spent 36 years at Statistics Canada specializing in macroeconomics. He was appointed Chief Economic Analyst in 2008 and was responsible for ensuring quality and coherency of all major economic statistics. During his career, he also wrote the “Current Economic Conditions” section of the Canadian Economic Observer, which provides Statistics Canada’s view of the economy. He is a frequent commentator on the economy and interpreter of Statistics Canada reports for the media and general public. He is also a member of the CD Howe Business Cycle Dating Committee.

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Endnotes

- 1 This measure of inflation is preferred by the US Federal Reserve Board to the Consumer Price Index.
- 2 The three-year lag is due to the time required to process the detailed tax records and surveys needed to estimate current dollar GDP by industry.
- 3 Since Canada imports relatively little oil and gas by pipeline from the US, the vulnerability of estimates of Canada’s imports is much less significant.

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