Briefing Note

Canada's Recent Economic Performance

Ottawa, Canada
March 11, 2009
www.parl.gc.ca/pbo-dpb

The *Federal Accountability Act* mandates the Parliamentary Budget Officer (PBO) to provide independent analysis to the Senate and House of Commons on the state of the nation's finances, government estimates and trends in the national economy. In meeting the commitments of this mandate, this note provides a brief review of Canada's recent economic performance.

Canada's fourth-quarter decline in real Gross Domestic Product (GDP) (-3.4%) was not as severe as the decline observed in the U.S. (-6.2%) and other countries; however, Canada's fourth-quarter performance is weaker than these estimates would suggest.

- As a small open economy and commodity net exporter, Canada's economic performance is more dependent on foreign demand and commodity prices, which have both weakened significantly in the second half of 2008.
- Based on a more relevant performance indicator that accounts for changes in domestic purchasing power – real Gross Domestic Income (GDI) – Canada's fourth-quarter performance is weaker than real GDP estimates would suggest.
- Looking ahead, it will be important to monitor closely the Canadian economy's performance in terms of both real and nominal GDP as well as real GDI.
- In the coming weeks, PBO will provide a near-term outlook for the Canadian economy along with an updated survey of private sector forecasters.

Prepared by: Jeff Danforth and Chris Matier*

* The authors would like to thank Mostafa Askari, Kevin Page and Brad Recker for their helpful comments. Any errors or omissions are the responsibility of the authors.

On March 2, Statistics Canada released its National Income and Expenditure Accounts for the fourth quarter of 2008. Statistics Canada estimates that Canadian real Gross Domestic Product (GDP) declined by 3.4% in the fourth quarter while the U.S. Bureau of Economic Analysis estimates a 6.2% decline in U.S real GDP.[1] Statistics Canada and others have highlighted Canada's relative real GDP performance, noting that in addition to the U.S. decline, "the European Union registered a decline of 5.9% in the quarter, while Japan's economy was down 12.7%" (http://www.statcan.gc.ca/pub/13-010-x/2008004/ie-rd-eng.htm).

However, quarter-over-quarter growth rate comparisons provide only a limited snapshot of an economy's performance. Comparing Canada and U.S. fourth-quarter real GDP in 2008 with its year-ago level provides a better reflection of recent trend growth, which suggests a similar performance in the two economies. More importantly, based on a more relevant performance indicator – real Gross Domestic Income (GDI) – Canada's fourth-quarter performance is weaker than real GDP estimates would suggest. This short note provides a brief review of Canada's recent economic performance, highlighting comparisons with the U.S. economy.

Key Points

- In the fourth quarter of 2008 Canada's real GDP declined by 3.4% on a quarter-over-quarter basis – its steepest decline since 1991Q1. U.S. real GDP declined by 6.2% in the quarter – its steepest decline since 1982Q1.
    - However, compared to year-ago levels (i.e., the fourth quarter of 2007), fourth-quarter real GDP in both Canada and the U.S. is down by a similar amount: 0.7% lower in Canada and 0.8% lower in the U.S.
- It is also useful to compare growth in nominal GDP which reflects current dollar income flows generated from production and serves as the broadest measure of the Government's tax base.
    - Canadian nominal GDP declined (quarter-over-quarter) by 13.4% in the fourth quarter – the largest decline in the 48-year history of the series – significantly larger than the 5.8% U.S. decline.
    - Compared to year-ago levels, fourth-quarter nominal GDP is 1.0% higher in Canada and 1.2% higher in the U.S.
    - Canadian nominal GDP has fluctuated significantly over 2008, primarily reflecting fluctuations in the price of Canada's exports relative to its imports – the terms of trade, which have been driven by movements in commodity prices.
- Changes in prices of Canada's exports relative to its imports (i.e., the terms of trade) affect the purchasing power of households and businesses in Canada. Therefore in assessing Canada's economic performance it is important to account for these impacts. The

[1] Unless otherwise noted all growth rates in this note are expressed at annual rates.

measure of real Gross Domestic Income (GDI)[2] accounts for such changes in purchasing power and is a more relevant indicator of Canada's economic performance than real GDP (http://www.fin.gc.ca/n08/data/08-060_1-eng.asp).

- Canadian real GDI increased sharply while U.S. real GDI stagnated in the first half of 2008 however with the reversal in the commodity prices Canada's real GDI declined in the second half of the year, plunging by 15.3% in the fourth quarter – ten times larger than the (1.5%) decline observed in the U.S.
    - The sharp decline in Canadian real GDI in the fourth quarter was primarily driven by the decline in corporate profits, reflecting the sharp downturn in commodity prices.
- Compared to year-ago levels, fourth-quarter real GDI in Canada is 2.1% lower, significantly larger than the 0.7% decline in the U.S.

1. Real GDP Growth in 2008

Figure 1 below presents Canada and U.S. real GDP quarter-over-quarter growth rates through 2008. Over the first half of the year, U.S. real GDP growth outpaced Canada's growth, partly reflecting the impact of a temporary tax rebate in the U.S. Export growth also supported the U.S. economy over this period while Canadian exports declined significantly, subtracting 1.4 percentage points on average from real GDP growth. The weakness in Canadian exports stemmed from weak U.S. domestic demand and the impact of the appreciation of the Canadian dollar while the depreciation of the U.S. dollar lifted U.S. exports and reduced imports.

However, over the second half of 2008, Canadian real GDP growth exceeded U.S. growth as consumer spending in the U.S. collapsed, U.S exports stalled and then declined in the third and fourth quarters respectively. In the fourth quarter of 2008, Canada's real GDP declined by 3.4% (its steepest decline since 1991Q1) and U.S. real GDP declined by 6.2% (its steepest decline since 1982Q1).

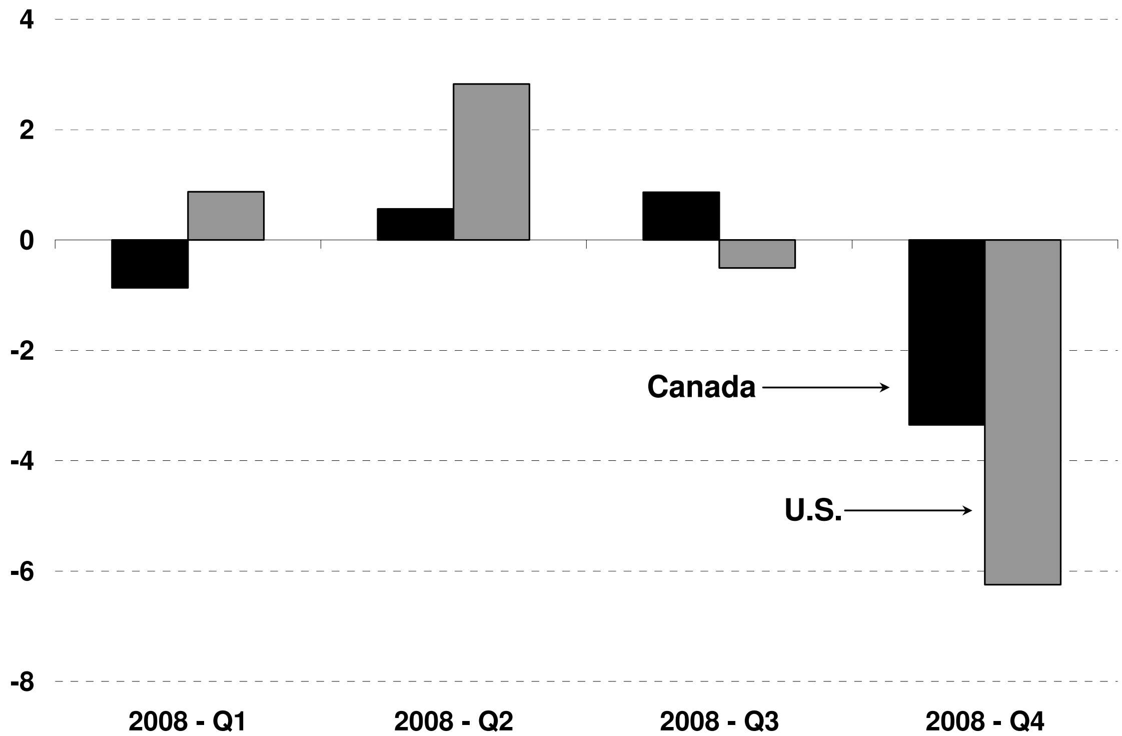
On a fourth-quarter-over-fourth-quarter (Q4/Q4) basis, which provides a better reflection of recent trend growth[3] Canadian real GDP declined by 0.7% and U.S. real GDP edged only slightly lower, declining by 0.8% in the final quarter of 2008. Thus, while the fourth quarter decline in the U.S was larger than Canada's, the relatively stronger U.S. performance in the first half of the year narrowed the gap between Canada and U.S. real GDP on a Q4/Q4 basis.[4]

[2] Real GDI is calculated as nominal GDP deflated by prices paid by households and businesses in Canada (i.e., the final domestic demand price index).

[3] Growth rates based on the Q4/Q4 measure, which compares the level of GDP in the fourth quarter to the level of a year ago, 'smooth' out fluctuations in the quarter-over-quarter growth rates over the course of the year and are equivalent (to an approximation) to the average of the quarter-over-quarter growth rates over that period.

[4] For 2008 as a whole, real GDP in Canada increased by 0.5% and U.S real GDP advanced by 1.1% (year-over-year basis), both down significantly from their 2007 pace of 2.7% and 2.0% respectively. The annual results for 2008 are slightly weaker than anticipated at the time of Budget 2009: average private sector forecasts of Canadian and U.S. real GDP growth in 2008 (respectively) were 0.7% and 1.2%.

Figure 1: Real GDP Growth (%, quarter/quarter at annual rates)



Sources: Statistics Canada and Bureau of Economic Analysis.

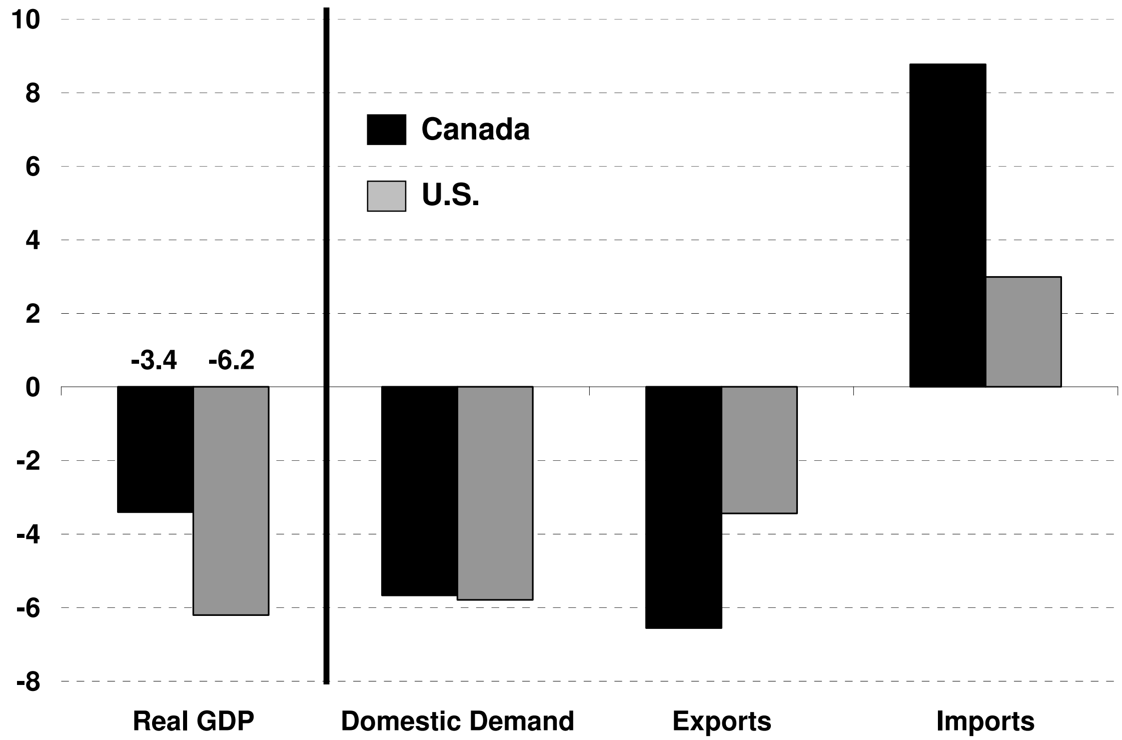
It is also informative to examine the composition of real GDP growth in the fourth quarter in Canada and the U.S. Results indicate that Canadian domestic demand and exports combined subtracted more from real GDP growth than in the U.S. However, fourth-quarter real GDP growth in Canada was not as weak as in the U.S. as reduced spending on imports provided a larger offset. Figure 2 below presents a comparison of the decomposition of (quarter-over-quarter) real GDP growth for Canada and the U.S. in the fourth quarter of 2008. Contributions to real GDP growth are used to make the comparison rather than quarter-over-quarter growth rates because this measure takes into the account the relative size of spending by the different sectors in each economy.

Domestic demand subtracted almost 6.0 percentage points from both U.S. and Canadian real GDP growth in the fourth quarter. For Canada, this represents a reversal of the trend seen through 2007 to 2008Q3 where the contribution of domestic demand generally out-performed real GDP growth.

Exports in both countries also declined sharply although given the greater importance of exports to the Canadian economy the decline subtracted substantially more from real GDP growth in Canada (6.6 percentage points versus 3.4 percentage points).

However, despite Canada's larger combined (negative) contribution to real GDP growth by domestic demand and exports, the high import content of domestic demand and exports in Canada provided a greater offset through reduced imports. In addition, consumers and businesses in Canada likely shifted their spending away from foreign goods and services toward domestic goods and services as a result of the weaker dollar, reducing their spending on imports to a greater extent which further contributed (positively) to real GDP growth.

Figure 2: Contributions to Real GDP Growth in 2008Q4 (percentage points, quarter/quarter at annual rates)

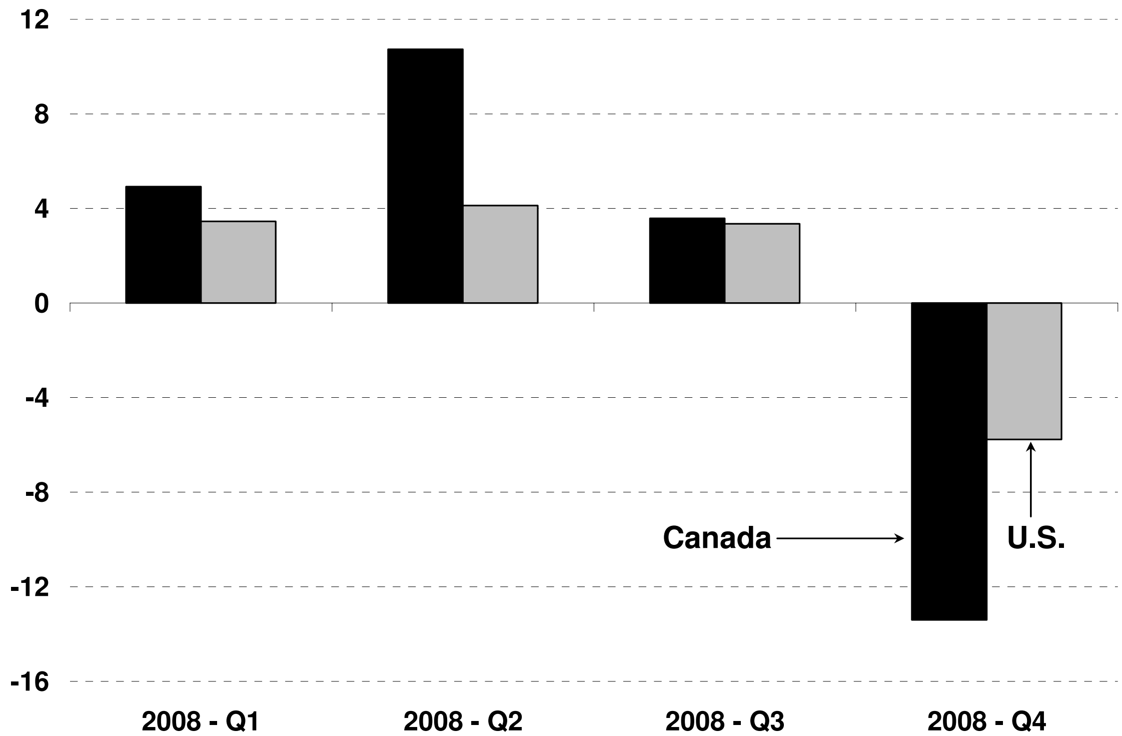


Sources: Statistics Canada, Bureau of Economic Analysis and Office of the Parliamentary Budget Officer (PBO).

2. Nominal GDP and the Terms of Trade

The estimates of GDP presented above are measures of the volume of production i.e. they are adjusted for inflation. However, it is also useful to compare growth in nominal GDP which reflects current dollar income flows generated from production and thus serves as the broadest measure of the Government's tax base. Figure 3 presents nominal GDP quarter-over-quarter growth rates through 2008 for Canada and the U.S. For the first three quarters of 2008, Canadian nominal GDP growth outpaced U.S. growth however in the fourth quarter Canadian nominal GDP declined by 13.4%, the largest decline in the 48-year history of the series while U.S. nominal GDP declined by 5.8%, the largest drop since 1958Q1.

Figure 3: Nominal GDP Growth (%, quarter/quarter at annual rates)



Sources: Statistics Canada and Bureau of Economic Analysis.

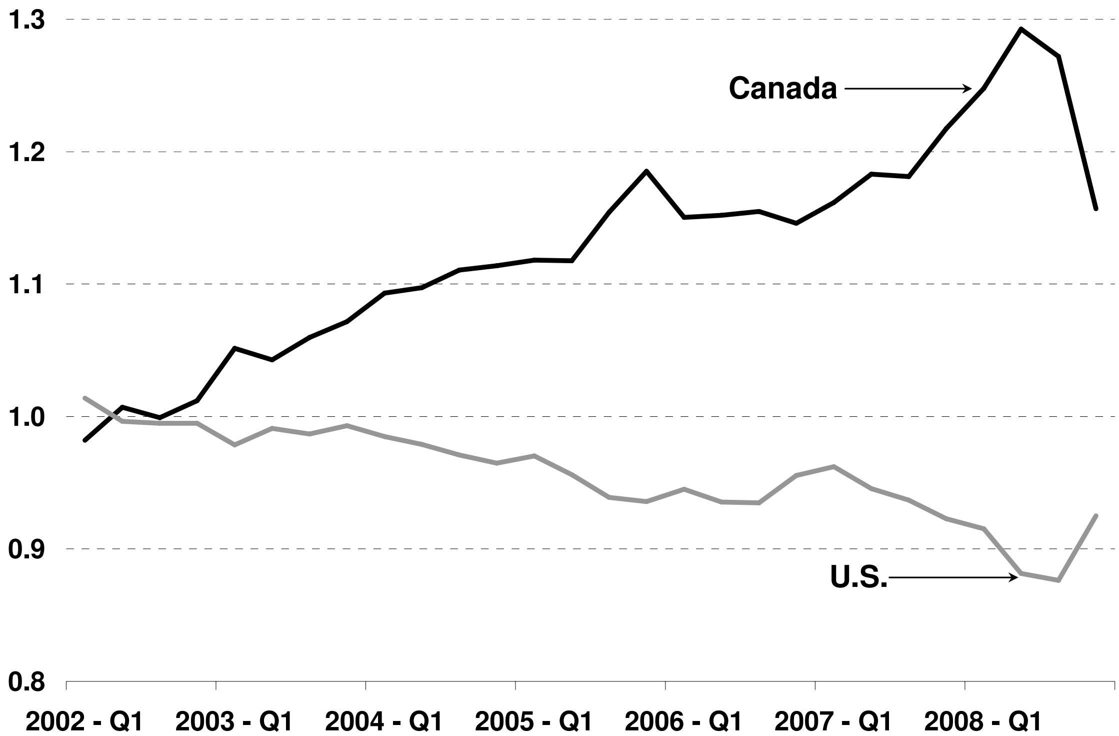
Despite the historic decline in Canadian nominal GDP in the fourth quarter, on a Q4/Q4 basis, nominal GDP in both Canada and the U.S. was up by roughly the same magnitude compared to its year-ago level (up 1.0% in Canada and 1.2% in the U.S.) as strong nominal growth in the first half of the year helped to offset Canada's sharp fourth-quarter decline.[5]

The substantial reversal in Canada's nominal GDP performance through 2008 primarily reflects movements in the price of domestic production (i.e., the GDP price deflator) which itself has been driven by fluctuations in the price of Canada's exports relative to its imports – the terms of trade. Figure 4 shows the evolution of Canada's terms of trade since the first quarter of 2002, which coincides with the beginning of the historic run-up in commodity prices from which Canada, as a net commodity exporter to the world, benefitted greatly. Over this period, and up to the peak in 2008Q2, Canada's terms of trade increased, on a cumulative basis, by approximately 32%, which reflected a cumulative increase of over 210% in commodity prices (based on the Bank of Canada's total commodity price index). As a net importer of commodities, the U.S. terms of trade over this period were essentially a mirror reflection of Canada's terms of trade, although their cumulative decline of 13% was much less pronounced.

---

[5] For 2008 as a whole, Canadian nominal GDP grew by 4.4% and U.S. nominal GDP increased by 3.3% (year-over-year basis). The annual result for Canada is somewhat weaker than the 4.8% growth private sector forecasters anticipated at the time of Budget 2009. However, Statistics Canada estimates that nominal GDP in 2008 amounted to $1,602 billion which is only slightly lower than the risk-adjusted Budget 2009 planning assumption of $1,604 billion.

Figure 4: Terms of Trade (export prices/import prices, 2002 = 1.0)



Sources: Statistics Canada and Bureau of Economic Analysis.

3. A More Relevant Indicator of Economic Performance

The importance of accounting for the impacts of changes in the terms of trade in assessing Canada's economic performance has been highlighted repeatedly by Statistics Canada, the Bank of Canada and the Department of Finance Canada.[6] One useful measure that has been used to account for terms of trade impacts is real Gross Domestic Income (GDI). While real GDP provides a measure of the volume of domestic production, real GDI also captures the increase in purchasing power from terms of trade gains. Real GDI is constructed by deflating nominal GDP by the final domestic demand price index (i.e., an index of domestic prices paid by households and businesses in Canada). The Department of Finance Canada notes that real GDI growth "provides the best measure of income growth in the overall economy – and is a more relevant indicator of change in well-being of Canadians than real GDP".[7] As such, in assessing Canada's economic performance real GDI is a key performance indicator particularly during periods when commodity prices fluctuate significantly.

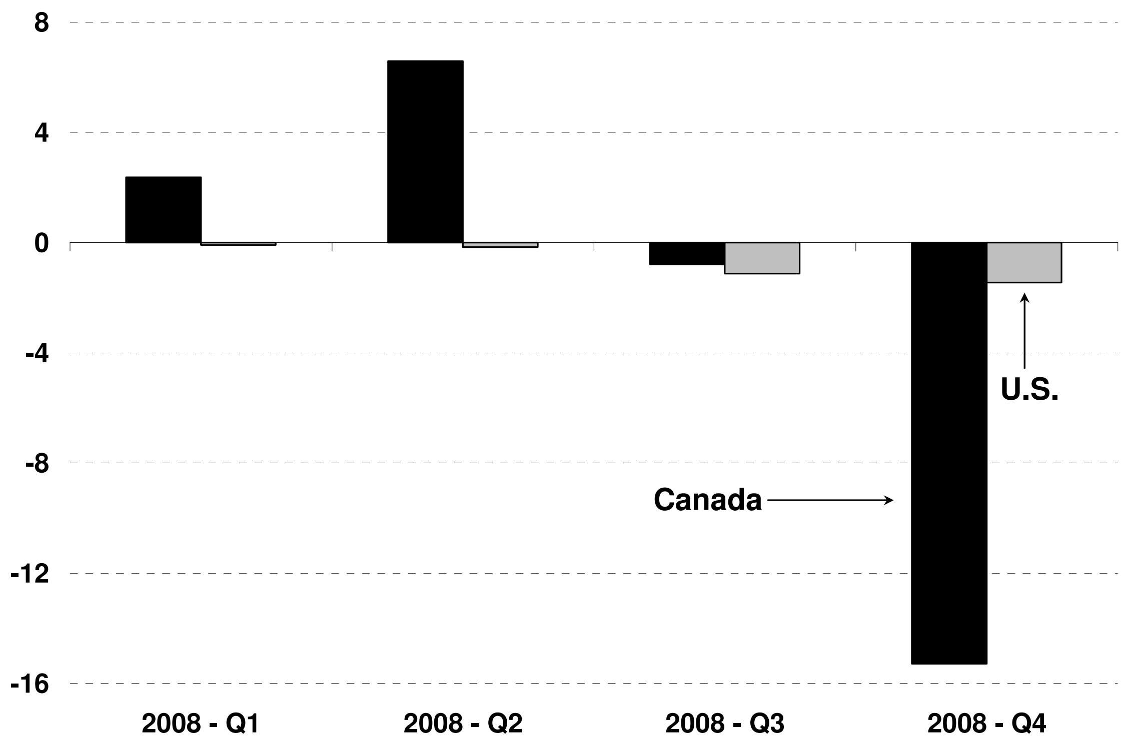
---

[6] For example, see http://www.statcan.gc.ca/pub/11-624-m/11-624-m2008018-eng.pdf, http://www.bankofcanada.ca/en/speeches/2006/sp06-14.html and http://www.fin.gc.ca/n08/data/08-060_1-eng.asp.

[7] http://www.fin.gc.ca/n08/images/accountsBackgrounderEN.pdf

Figure 5 presents quarter-over-quarter growth rates of real GDI for Canada and the U.S. through 2008. Canada's relative performance in terms of real GDI stands in sharp contrast to its relative real GDP performance (Figure 1). In the first half of 2008, Canadian real GDI increased sharply while U.S. real GDI stagnated. However, with the reversal in commodity prices and consequently the terms of trade, Canada's real GDI declined in the second half of the year, plunging by 15.3% in the fourth quarter – ten times larger than the (1.5%) decline observed in the U.S.

Figure 5: Real GDI Growth (%, quarter/quarter at annual rates)



Source: Office of the Parliamentary Budget Officer (PBO).

Despite Canada's stronger growth in the first half of the year, the unprecedented decline in Canadian real GDI in the fourth quarter resulted in a fourth-quarter level 2.1% lower than in the same quarter of the previous year. In contrast, U.S. real GDI in the fourth quarter was only slightly lower than its year-ago level (0.7%).[8]

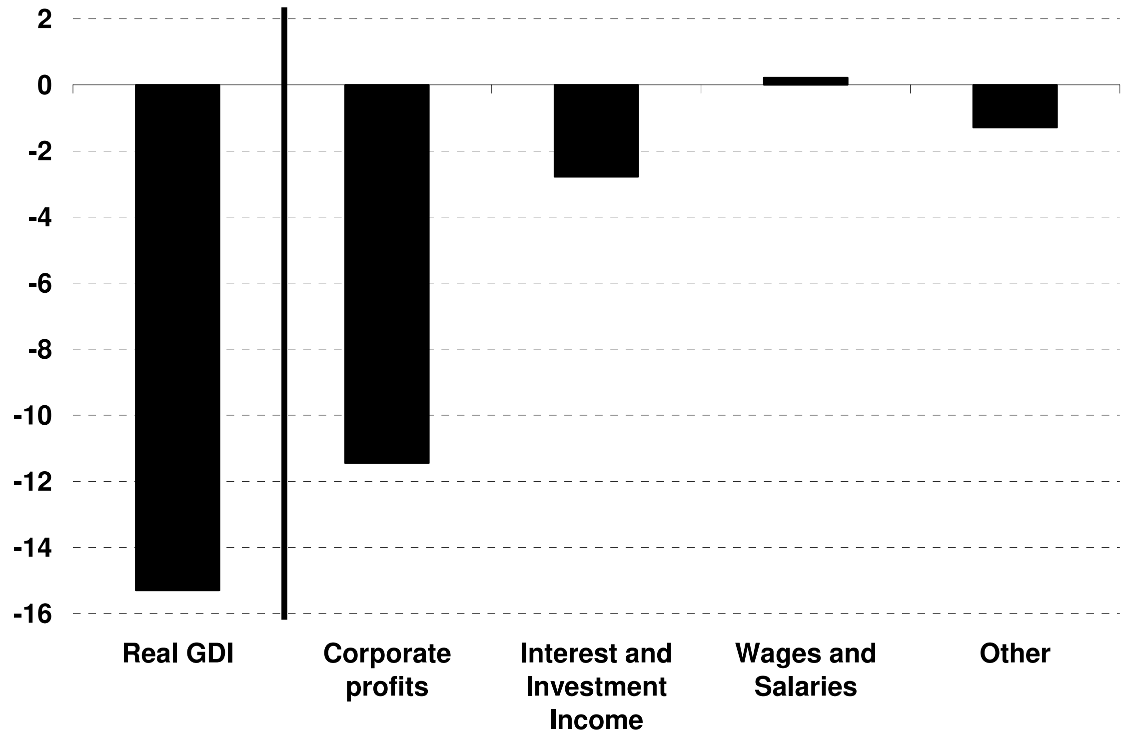
Looking at a decomposition of fourth-quarter real GDI growth (quarter-over-quarter) in Canada helps to illustrate the impact on households and businesses.[9] Contributions to real GDI growth are again used rather than quarter-over-quarter growth rates in order to take into account the relative size of each income component in the Canadian economy. In addition, as a simplifying assumption, we have deflated all current dollar income components by the final domestic demand price index i.e., the prices paid by households and businesses in Canada.

[8] For 2008 as a whole, real GDI grew by 2.1% in Canada (year-over-year basis), significantly stronger than the 0.1% increase registered in the U.S.

[9] Fourth-quarter Gross Domestic Income data for the U.S. is currently not available from the Bureau of Economic Analysis and is scheduled to be released on March 26.

Figure 6 shows that the 15.3% decline in real GDI in the fourth quarter was primarily driven by the decline in corporate profits which subtracted 11.4 percentage points from real GDI growth, reflecting the sharp downturn in commodity prices, particularly energy and metal prices. Declines in interest and miscellaneous investment income subtracted a further 2.8 percentage points.[10] Wages and salaries (including supplementary income), which constitute over 50% of domestic income, increased marginally in the fourth quarter, contributing (positively) only 0.2 percentage points to real GDI growth. Other income components combined subtracted approximately 1.3 percentage points from real GDI growth in the fourth quarter.

Figure 6: Contributions to Canadian Real GDI Growth in 2008Q4 (percentage points, quarter/quarter at annual rates)



Sources: Office of the Parliamentary Budget Officer (PBO).

[10] Statistics Canada defines interest and miscellaneous investment income as "investment income of persons, except dividends, plus government investment income, less net investment income of persons and governments received from non-residents, less the transfer portion of interest on the consumer debt, less the interest on the public debt" (http://www.statcan.gc.ca/imdb-bmdi/document/1901_D1_T9_V2-eng.pdf).