

Labour productivity in the business sector: Historical revision, 1981 to the second quarter 2012

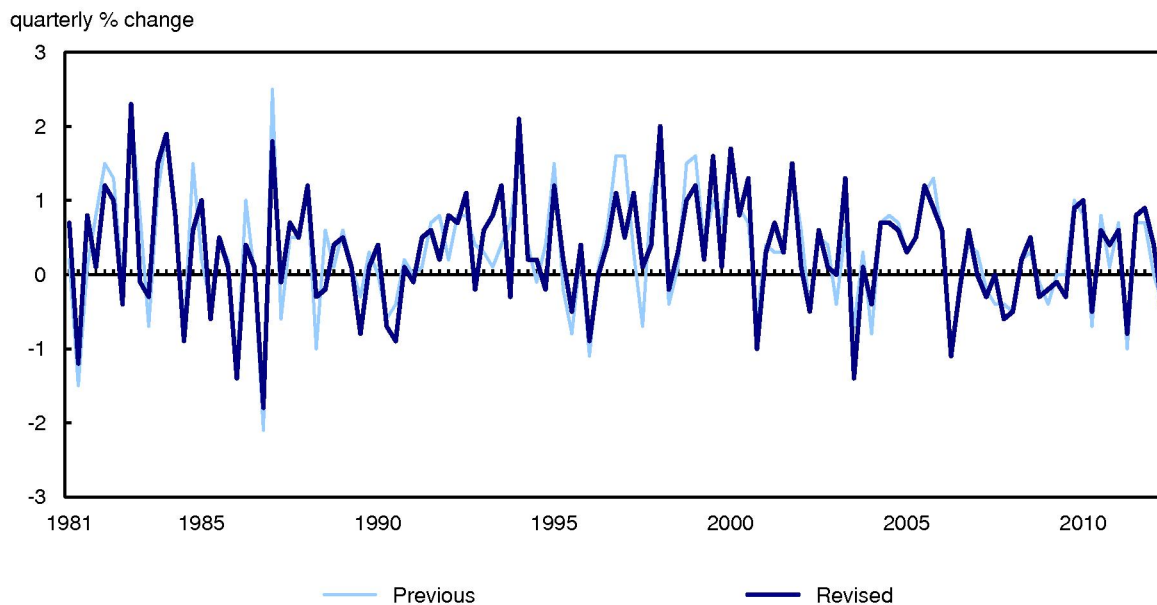
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The implementation of revised international System of National Accounts economic accounting standards resulted in a slight downward revision to Canada's average annual growth in business sector labour productivity over the period 1981 to the second quarter of 2012.

The combined result of the revisions to gross domestic product (GDP) and hours worked was an average 0.1 percentage point decrease in the annual growth rate of labour productivity in the business sector over the three decades between 1981 and 2011.

The Canadian labour productivity accounts historical revision led to changes in all the variables used to measure productivity. The analytical framework used for labour productivity includes four basic variables: GDP, employment, hours worked and compensation. The derived variables are GDP per hour worked (labour productivity), hours worked per job, hourly compensation and unit labour cost.

Chart 1 Implications of revisions from the economic accounts on growth in business sector labour productivity, by quarter



Revisions to the growth of the business sector real gross domestic product

The revisions to the estimates of business sector real GDP had little impact on the long-term growth in output used to measure labour productivity and unit labour cost. For the entire 30-year period, the average annual growth of real GDP in the business sector was revised downward by 0.1 percentage points, with most of the revision occurring in the 1981 to 1990 period, where real GDP was revised down by 0.3 percentage points.



Revisions to labour compensation

The aggregate data on labour compensation used in the Canadian productivity accounts originate from the national GDP from the income and expenditure accounts. The labour compensation estimates play a key role in the allocation of hours worked by sector. While the revisions to the GDP from the income and expenditure accounts did not introduce any conceptual changes in employee compensation, the estimates were affected by a number of statistical revisions, which resulted in a large shift in the distribution of employee compensation from the business sector to the government sector.

In 2007, the cumulative effect of these revisions led to an increase in non-business sector compensation of nearly \$6 billion and a reduction in business sector compensation of about \$8 billion. In terms of growth rate, these changes had almost no impact over the 30-year revision period.

Revisions to hours worked

As was the case with labour compensation, the total level of hours worked remained almost unchanged for the overall economy. However, the historical revision did result in an upward revision to hours worked in the non-commercial sector and the opposite in the business sector. In 2007, the new base year for the Canadian labour productivity accounts, hours worked were revised down by 253 million in the business sector and revised up by 294 million in the non-commercial sector. However, these changes to the level of hours worked did not have any impact on the long-term growth rates in hours worked for the overall economy or the business sector.

Revisions to labour productivity

In general, growth in labour productivity was revised downward, with most of the downward revision occurring during the 1981 to 1990 period. From 1981 to 1990, average annual growth in labour productivity was revised down by 0.3 percentage points (from 1.3% to 1.0%). However, revisions to the average annual growth in productivity over the following two decades (1990 to 2000 and 2000 to 2011) had no overall impact. The annual average growth in labour productivity from 1990 to 2000 was unchanged at 2.1%. Likewise, the annual average growth in labour productivity from 2000 to 2011 was unchanged at 0.8%. The largest upward revision to labour productivity growth was in 1993 (+0.7%) while the largest downward revision was in 1997 (-0.8%).

The quarterly pattern in labour productivity of businesses in 2012 has changed slightly with respect to previously published estimates. The percent change of productivity in Canadian businesses was revised up from 0.0% to an increase of 0.4% in the first quarter, and revised down from a decline of 0.4% to a 0.5% decrease in the second quarter.

Comparing Canada and United States growth in labour productivity

The revised data show a 0.1 percentage point widening in the gap between the growth in US labour productivity and Canadian labour productivity. On an average annual basis, labour productivity growth is now 0.8 percentage points higher in US businesses than in Canadian businesses for the 1981 to 2011 period.

The productivity growth gap widened over the last three decades, but mainly in the 1981 to 1990 period. The difference in productivity growth between the two countries was revised from 0.4 to 0.7 percentage points for the 1981 to 1990 period. It remained essentially the same during the last two decades. The productivity gap for the 1990 to 2000 period was 0.1 percentage points, while the gap for the 2000 to 2011 period was 1.5 percentage points.

Note to readers

This release contains a brief analysis of the revisions to the quarterly data of labour productivity and associated variables in the business sector resulting from the historical revision of the national gross domestic product by income and by expenditure accounts released on October 1, 2012. A more thorough analysis, including additional charts and tables, is available in the Latest Developments in the Canadian Economic Accounts (13-605-X, free).

These revisions to previous data of labour productivity (which was last released on September 7, 2012) span the last 30-year period.

The historical revisions were not applied to the data of productivity by industry in the business sector released today. The revisions at the industry level will be applied in February 2013 when historically revised data of GDP by industry are released.

In addition, the indexes of labour productivity and the related variables have been converted from reference year 2002 to reference year 2007. That change affects the data for the period from the first quarter of 1981 to the present. Adoption of the new 2007 reference year does not alter productivity growth rates since it represents a scaling of indices based on 2002.

All the growth rates reported in this release are rounded to one decimal place. They are calculated with index numbers rounded to three decimal places, which are available on CANSIM.

**Table 1
Comparison of average annual growth of labour productivity and related variables in the business sector before and after revision**

	Real gross domestic product	Number of jobs	Average hours worked	Hours worked	Total compensation	Hourly compensation	Unit labour cost	Labour productivity
	%							
Revised annual average measures								
1981 to 2011	2.5	1.4	-0.2	1.2	5.0	3.7	2.4	1.3
1981 to 1990	2.6	1.6	-0.1	1.6	7.1	5.4	4.4	1.0
1990 to 2000	3.4	1.4	-0.1	1.3	4.3	3.0	0.9	2.1
2000 to 2011	1.6	1.3	-0.4	0.8	4.0	3.1	2.3	0.8
Previous annual average measures								
1981 to 2011	2.6	1.4	-0.2	1.2	5.1	3.8	2.4	1.4
1981 to 1990	2.9	1.6	-0.1	1.6	7.1	5.4	4.1	1.3
1990 to 2000	3.4	1.4	-0.1	1.3	4.4	3.1	1.0	2.1
2000 to 2011	1.6	1.3	-0.4	0.9	4.1	3.2	2.4	0.8
	percentage points							
Difference¹								
1981 to 2011	-0.1	0.0	0.0	0.0	-0.1	-0.1	0.0	-0.1
1981 to 1990	-0.3	0.0	0.0	0.0	-0.0	0.0	0.3	-0.3
1990 to 2000	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0
2000 to 2011	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	0.0

1. The difference shows the revised data minus the previous data.

Available without charge in CANSIM: tables 383-0008 and 383-0012.

Definitions, data sources and methods: survey number 5042.

A more comprehensive analysis on the historical revision to labour productivity, including additional charts and tables, can be found in the *Latest Developments in the Canadian Economic Accounts* (13-605-X, free), which is now available from the *Key resource* module of our website under *Publications*.

For more information, or to enquire about the concepts, methods or data quality of this release, contact Statistics Canada's National Contact Centre (toll-free 1-800-263-1136; 613-951-8116; infostats@statcan.gc.ca) or Media Relations (613-951-4636; mediahotline@statcan.gc.ca).