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Revisions to Canada and United States Annual Estimates of Labour Productivity in the Business Sector

2005 to 2008

by Mustapha Kaci and Jean-Pierre Maynard

Income and Expenditure Accounts Division
R.H. Coats Bldg., 21th floor, 100 Tunney's Pasture Driveway
Ottawa, Ontario K1A 0T6
Telephone: 1-800-263-1136

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Mustapha Kaci and Jean-Pierre Maynard

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Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

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Symbols

The following standard symbols are used in Statistics Canada publications:

.	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

Abstract

This paper examines the impact of the revisions to labour productivity estimates and related variables covering the revision cycle of the National Accounts from 2005 to 2008 for Canada and the historical revision cycle of the National Accounts for the United States, which is done every five years.

1 Introduction

In this paper, we compare recent revisions to the labour productivity estimates in Canada and the United States. These revisions to preliminary estimates extend back four years (2005 to 2008).

Revisions to Canadian labour productivity estimates were made in June 2009 to incorporate the latest available gross domestic product[1] (GDP) estimates and the annual benchmarks on hours worked, which are published by the National Economic and Financial Accounts. Recent productivity data are produced on the basis of preliminary GDP and hours worked estimates, which are eventually revised when additional and more precise information sources become available for the National Accounts.

As it does every five years, the United States made historical revisions to its labour productivity estimates in August 2009.[2] This results from revisions of both GDP estimates and hours worked. U.S. GDP was revised historically, while the estimates of hours worked were revised back to 1978. Revisions to hours worked remain minor, leaving the impact on the productivity figures virtually negligible.

2 Revision process

The estimates of labour productivity (output per hour worked), which are produced by the Canadian Productivity Accounts, are subject to two types of revisions. Please note that revisions for this year are of the 'first' type in Canada, while they are of the 'second' type in the United States.

Revisions of the first type are a series of annual revisions to the GDP, which go back over a four-year period (Statistics Canada 2009). With this revision cycle, a preliminary estimate of GDP first released in year *t* is revised annually over the four subsequent years (*t*+1 to *t*+4), as more detailed and accurate data become available to the System of National Accounts (SNA).

When first released, estimates of GDP at the industrial sector level come from projecting past estimates using a small number of readily measured series (for example, the GDP in the Taxi and Limousine Services industry is projected from the Survey of Employment, Payrolls and Hours [SEPH] estimate of employment growth). The industry estimates are gradually supplemented by far more detailed and accurate data that are obtained from surveys such as the Annual Survey of Manufactures and the Unified Enterprise Survey, and from administrative tax records that become available after a lag of one or two years. Preliminary estimates of GDP that are calculated from final demand are also projected the first time from sources that are eventually replaced by more comprehensive information.

In addition, the labour productivity estimates for year *t* are revised in year *t*+1 as new information becomes available (improving the first estimates of employment and hours worked that are made using the Labour Force Survey [LFS] and SEPH). These revisions improve the estimates of hours worked because more precise measures of holidays and other non-random

1. These estimates are derived from the expenditure side of the National Accounts valued at market prices.
2. The United States usually makes revisions to its labour productivity estimates in the month of August for the last three years.

events are used (Maynard 2005). Revisions also occur if the employment estimates for the non-commercial sector (obtained from the Public Sector Statistics Division and produced with SEPH) are revised. This is because the business sector estimate is obtained residually after removing the non-commercial sector estimate from the total economy.

Revisions of the second type occur less frequently (about once or twice every 10 years). Historical revisions of the SNA are occasionally carried out to eliminate breaks in some series, to modify classification standards (for example, the movement from the Standard Industrial Classification to the North American Industry Classification System) or to introduce conceptual and methodological changes. These revisions of the second type occur when the SNA updates the method used for measuring certain industries, sometimes because of changes in the international standards to which it adheres (SNA93). For example, in 2001, Statistics Canada included software expenditures as investment for the first time.[3] In addition, the adoption of Fisher-chain indices (instead of fixed-base Laspeyres indices), has introduced revisions to GDP and, therefore, a historical revision to the labour productivity estimates.

Historical revisions also occur on the employment and hours worked data when the LFS is re-benchmarked against data from the most recent Census of Population.

3 Impact of revisions on labour productivity

In this section, we compare recent revisions to the labour productivity estimates for the business sector in Canada and the United States.

Revisions to Canadian labour productivity estimates (covering the last four years) were made in June 2009 to incorporate the latest available GDP estimates published by the National Economic and Financial Accounts.[4] The revisions to estimates of labour productivity, GDP and volume of hours worked, which extend back to 2001, are presented in Tables 1 to 3. These tables show the evolution of the estimates over the last seven revision rounds since 2002. The revision cycles of the most recent estimates are not yet completed for the 2006-to-2008 estimates for Canada or for the 2007 and 2008 estimates for the United States. The estimates produced during the first four-year revision cycle appear with the footnote marker '1' Other revisions reflect revisions of the second type outlined above.

Table 4 shows the long-term impact of revisions on the labour productivity performance of both Canada and the United States for different sub-periods included in the 1981-to-2008 period. The period from 2000 to 2008 is shorter than a full business cycle, covering only the years since the end of the previous peak in productivity growth, which was observed in 2000. The period from 2005 to 2008 corresponds to a period when only preliminary estimates of GDP are available. The period from 1981 to 2000 however, contains mainly estimates that are past the preliminary revision cycle. It essentially covers two business cycles and therefore provides a better comparison of differences in long-term trends between Canada and the United States.[5] Productivity estimates of short-term changes are generally more volatile than estimates of changes over the long term.

3. The United States had made this change in 1999.
4. Recent productivity data are produced on the basis of preliminary GDP estimates, which are eventually revised when additional and more precise information becomes available to the National Accounts.
5. Quarterly measures of productivity in the Canadian business sector are available from 1981 onward.

3.1 Impact of Canadian revisions

In general, the revisions of the Canadian productivity figures for the period from 2005 to 2008, published in *The Daily* on June 16, 2009, resulted in almost no change from previous estimates. For the business sector generally, the revisions had the effect of increasing the annual rate of growth in Canada's labour productivity for 2005, and reducing it for 2006 and 2007 (the revisions had no effect on the year 2008). The magnitude of the revisions ranged from a 0.2% gain in 2005, to a 0.3% decline in 2007.

For the period from 2005 to 2008, average annual productivity growth was revised downward by 0.1%. It should be noted that calculations of the productivity growth rate and its related variables are now based on index numbers rounded to three decimal places. On CANSIM, these calculations would have been based on index numbers rounded to one decimal place.

3.2 Impact of U.S. historical revisions

If we concentrate on the data for the last four years (2005 to 2008), the published revisions in *News* of the U.S. Bureau of Labor Statistics on August 11, 2009, showed mixed results in U.S. productivity growth. The annual rates of growth in labour productivity for U.S. businesses were slightly revised for 2005, 2006 and 2007, while it was revised down considerably in 2008.

Thus, the annual rate of productivity in the United States reached 1.7% in 2005 (instead of 1.8%), 1.0% in 2006 (instead of 0.9%), 1.8% in 2007 (instead of 1.6%) and 1.9% in 2008 (instead of 2.7%).

For the period from 2005 to 2008, the revised estimates show that productivity increased by only 1.6% on average, 0.1 percentage point less than the previously published estimates had indicated. Annual productivity growth in the United States has slowed gradually since 2002 (when it peaked at 4.5%), before rebounding slightly in 2007 and 2008.

Since 2002, the United States has systematically revised downward its preliminary estimates of labour productivity. On average, revisions have reduced productivity growth by -0.7 percentage point on an annual basis.

3.3 Analysis of the gap in labour productivity between Canada and the United States

With revisions, the average annual productivity growth for U.S. businesses for the period from 2004 to 2007 was 1.5% (compared to 1.4% before revisions), a growth rate comparable to that of Canadian businesses (+1.3%). Both the old and the new estimates of growth in labour productivity and hours worked are presented in Table 4.

For 2008, however, when the economic downturn began, there is a wide gap in productivity growth between the two countries, despite substantial downward revisions in the United States. The annual gap in productivity growth for 2008 narrowed from 3.8 percentage points in favour of the United States before revision, to 3.0 percentage points after revision. The gap in 2008 is due mainly to the very different trends in hours worked in the two countries.

There was also a substantial difference in average annual productivity growth between Canada and the United States from 2000 to 2004, with productivity in the United States growing five times faster than in Canada.

Between 2000 and 2004, the average annual growth in U.S. productivity was 3.6%. In contrast, it increased by 0.7% a year in Canada.

Over the 2000-to-2008 period, the average annual growth rate was 0.7% in Canada and 2.6% in the United States: Canadian productivity grew at less than one-third of the pace in the United States, during which time real GDP growth was comparable on both sides of the border, although hours worked increased at a faster pace in Canada. More precisely, GDP growth in Canada was, on average, 2.1% per year from 2000 to 2008, while the hours worked increased by 1.4%. In comparison, the U.S. GDP grew, on average, by 2.3%, while, during the same period, hours worked decreased by 0.3 %.

It should be noted that the period from 2000 to 2008 does not cover a full business cycle. In the early 1990s, although Canada lagged behind the United States in productivity growth (particularly during the recessionary period), by the end of the decade Canada had caught up with U.S. productivity growth.

The annual productivity differences reported over the period from 2000 to 2008 are based on preliminary data that are still subject to revision. Since 2002, the United States has systematically revised downward its preliminary estimates of productivity. We take this additional margin of error into account when analysing data of recent years.

Since 1998, the Canada–United States gap has generally narrowed, following revisions to the preliminary data. The main revision made to the Canadian productivity estimate in 1999 is almost entirely due to revisions in GDP. Almost half the revision in 2000 comes from this source.[6] During this period, two changes were made to the Canadian System of National Accounts, which increased the rate of growth of output and therefore of labour productivity. First, software expenditures were capitalized (the United States had introduced this in 1999). Second, new surveys were gradually introduced, which were associated with the Project to Improve Provincial Economic Statistics whose economic survey coverage had been extended.[7] During this period, the productivity program also revised its estimate of hours worked, downward.[8]

Over a longer period (1981 to 2000), there is a small gap in productivity growth between Canada and the United States (0.4 percentage point per year). This may be because of slightly different methods used to calculate the growth in labour inputs (Maynard 2007). During this period, productivity grew at an average annual rate of 1.6% in Canada, compared with 2.0% in the United States.

6. The remainder came from a revision to the labour statistics.
7. The GDP revisions in 1999 and 2000 came from new benchmarks of manufacturing activity derived from the Project to Improve Provincial Economic Statistics, upward revisions in exports and the incorporation of software as an investment, rather than as an intermediate expenditure. In addition, the productivity program fully integrated its output measure with that produced by the Income and Expenditure Accounts Division.
8. The revisions in hours worked in 2000 came from new information on the methodology used by the LFS for the year 2000 but not for other years. The information resulted in an upward adjustment for holidays in that year.

4 Conclusion

All things considered, the 2005-to-2008 revisions of GDP in Canada (and the historical revisions of GDP in the United States) do not significantly modify the comparisons in productivity growth made in recent years between these two countries. The productivity gap in favour of the United States remains the same. The revisions also had almost no effect on Canada–United States differences over the last two decades—from 1981 to 2000. During this period, the gap in productivity growth in favour of the United States changed from 0.3 percentage point before revision to 0.4 percentage point after revision. For a more extensive discussion of the significance of the difference and the causes behind it, see Statistics Canada (2007) and Baldwin, and Gu (2009).

5 Statistical tables

Table 1
Labour productivity, business sector, annual change, Canada and United States

	2001	2002	2003	2004	2005	2006	2007	2008
				percent				
Canada								
First estimates published for 2001 (4th quarter), The Daily release of March 14, 2002	1.2 [1]	...	...	...	...	...	...	...
After the revisions round in 2001 (1st quarter), The Daily release of June 14, 2002	0.8 [1]	...	...	...	...	...	...	...
First estimates published for 2002 (4th quarter), The Daily release of March 14, 2003	0.8 [1]	2.2 [1]	...	...	...	...	...	...
After the revisions round in 2002 (1st quarter), The Daily release of June 12, 2003	1.2 [1]	1.8 [1]	...	...	...	...	...	...
First estimates published for 2003 (4th quarter), The Daily release of March 12, 2004	1.0 [1]	1.9 [1]	0.1 [1]	...	...	...	...	...
After the revisions round in 2003 (1st quarter), The Daily release of June 11, 2004	1.4 [1]	2.3 [1]	0.4 [1]	...	...	...	...	...
First estimates published for 2004 (4th quarter), The Daily release of March 10, 2005	1.7 [1]	2.5 [1]	0.2 [1]	0.0 [1]	...	...	...	...
After the revisions round in 2004 (1st quarter), The Daily release of June 9, 2005	1.5 [1]	2.1 [1]	0.2 [1]	0.0 [1]	...	...	...	...
First estimates published for 2005 (4th quarter), The Daily release of April 26, 2006	1.1	1.4 [1]	0.4 [1]	0.0 [1]	2.2 [1]	...	...	...
After the revisions round in 2005 (1st quarter), The Daily release of June 8, 2006	1.1	1.4 [1]	0.0	0.3 [1]	2.3 [1]	...	...	...
First estimates published for 2006 (4th quarter), The Daily release of March 12, 2007	1.1	1.4	0.0 [1]	0.3 [1]	2.1 [1]	1.2 [1]	...	...
After the revisions round in 2006 (1st quarter), The Daily release of June 12, 2007	1.1	1.3	0.2 [1]	0.0 [1]	2.5 [1]	1.0 [1]	...	...
First estimates published for 2007 (4th quarter), The Daily release of March 14, 2008	1.1	1.3	0.2	0.0 [1]	2.5 [1]	1.1 [1]	0.5 [1]	...
After the revisions round in 2007 (3rd quarter), The Daily release of December 10, 2008	1.1	1.3	0.2	0.2 [1]	2.2 [1]	1.4 [1]	0.7 [1]	...
First estimates published for 2008 (4th quarter), The Daily release of March 17, 2009	1.1	1.4	0.2	0.2	2.2 [1]	1.4 [1]	0.7 [1]	-1.1 [1]
After the revisions round in 2008 (1st quarter), The Daily release of June 16, 2009	1.1	1.4	0.2	0.2	2.4 [1]	1.2 [1]	0.4 [1]	-1.1 [1]
Difference, original and actual estimates[2]	-0.1	-0.8	0.1	0.2	0.2	0.0	-0.1	0.0

See footnotes and sources at the end of the table.

Table 1 – concluded
Labour productivity, business sector, annual change, Canada and United States

	2001	2002	2003	2004	2005	2006	2007	2008
				percent				
United States								
First estimates published for 2001 (4th quarter), Bureau of Labor Statistics release of May 31, 2002	2.0 [1]	...	...	...	...	...	...	...
After the revisions round in 2001 (2nd quarter), Bureau of Labor Statistics release of August 9, 2002	1.1 [1]	...	...	...	...	...	...	...
First estimates published for 2002 (4th quarter), Bureau of Labor Statistics release of June 4, 2003	1.1 [1]	4.8 [1]	...	...	...	...	...	...
After the revisions round in 2002 (2nd quarter), Bureau of Labor Statistics release of August 7, 2003	2.0 [1]	5.3 [1]	...	...	...	...	...	...
First estimates published for 2003 (4th quarter), Bureau of Labor Statistics release of March 4, 2004	2.2 [1]	4.9 [1]	4.5 [1]	...	...	...	...	...
After the revisions round in 2003 (2nd quarter), Bureau of Labor Statistics release of August 10, 2004	2.5 [1]	4.3 [1]	4.5 [1]	...	...	...	...	...
First estimates published for 2004 (4th quarter), Bureau of Labor Statistics release of March 3, 2005	2.5 [1]	4.3 [1]	4.5 [1]	4.0 [1]	...	...	...	...
After the revisions round in 2004 (2nd quarter), Bureau of Labor Statistics release of August 9, 2005	2.5 [1]	4.0 [1]	3.9 [1]	3.4 [1]	...	...	...	...
First estimates published for 2005 (4th quarter), Bureau of Labor Statistics release of March 7, 2006	2.5	4.0	4.1 [1]	3.5 [1]	2.7 [1]	...	...	...
After the revisions round in 2005 (2nd quarter), Bureau of Labor Statistics release of August 8, 2006	2.6	4.1	3.8 [1]	3.1 [1]	2.3 [1]	...	...	...
First estimates published for 2006 (4th quarter), Bureau of Labor Statistics release of March 6, 2007	2.6	4.1	3.8	3.1 [1]	2.1 [1]	1.7 [1]	...	...
After the revisions round in 2006 (2nd quarter), Bureau of Labor Statistics release of August 7, 2007	2.6	4.1	3.8	2.9 [1]	2.0 [1]	1.0 [1]	...	...
First estimates published for 2007 (4th quarter), Bureau of Labor Statistics release of March 5, 2008	2.6	4.1	3.8	2.9	2.0 [1]	1.0 [1]	1.9 [1]	...
After the revisions round in 2007 (2nd quarter), Bureau of Labor Statistics release of August 8, 2008	2.6	4.1	3.8	2.9	1.8 [1]	0.9 [1]	1.5 [1]	...
First estimates published for 2008 (4th quarter), Bureau of Labor Statistics release of March 5, 2009	2.6	4.1	3.8	2.9	1.8	0.9	1.6	2.7
After the revisions round in 2008 (2nd quarter), Bureau of Labor Statistics release of August 11, 2009	3.0	4.5	3.8	2.9	1.7	1.0	1.8	1.9
Difference, original and actual estimates[2]	1.0	-0.3	-0.7	-1.1	-1.0	-0.7	-0.1	-0.8

1. This estimate covers the four-year period of annual revisions that arise from the gross domestic product revision cycle. In Canada, the System of National Accounts revisions are usually made available with the release of the first quarter, while in the United States it is published with the preliminary estimates of the second quarter.
2. For some years, the revision process reflects more than the short–term revision round. For example, for 2000, methodological changes were implemented for both hours worked and gross domestic product, which had the effect of exaggerating the impact of short–term revisions.
Sources: Statistics Canada; Bureau of Labor Statistics.

Table 2
Real gross domestic product, business sector, annual change, Canada and United States

	2001	2002	2003	2004	2005	2006	2007	2008
				percent				
Canada								
First estimates published for 2001 (4th quarter), The Daily release of March 14, 2002	1.2 [1]	...	...	...	...	...	...	...
After the revisions round in 2001 (1st quarter), The Daily release of June 14, 2002	0.9 [1]	...	...	...	...	...	...	...
First estimates published for 2002 (4th quarter), The Daily release of March 14, 2003	0.9 [1]	3.8 [1]	...	...	...	...	...	...
After the revisions round in 2002 (1st quarter), The Daily release of June 12, 2003	1.3 [1]	3.4 [1]	...	...	...	...	...	...
First estimates published for 2003 (4th quarter), The Daily release of March 12, 2004	1.3 [1]	3.4 [1]	1.5 [1]	...	...	...	...	...
After the revisions round in 2003 (1st quarter), The Daily release of June 11, 2004	1.8 [1]	3.6 [1]	1.7 [1]	...	...	...	...	...
First estimates published for 2004 (4th quarter), The Daily release of March 10, 2005	1.8 [1]	3.6 [1]	1.7 [1]	2.9 [1]	...	...	...	...
After the revisions round in 2004 (1st quarter), The Daily release of June 9, 2005	1.6 [1]	3.2 [1]	1.6 [1]	3.1 [1]	...	...	...	...
First estimates published for 2005 (4th quarter), The Daily release of April 26, 2006	1.6	3.2 [1]	1.6 [1]	3.1 [1]	2.8 [1]	...	...	...
After the revisions round in 2005 (1st quarter), The Daily release of June 8, 2006	1.6	3.1 [1]	1.4	3.3 [1]	3.0 [1]	...	...	...
First estimates published for 2006 (4th quarter), The Daily release of March 12, 2007	1.6	3.1	1.4 [1]	3.3 [1]	3.0 [1]	2.7 [1]	...	...
After the revisions round in 2006 (1st quarter), The Daily release of June 12, 2007	1.6	3.0	1.5 [1]	3.2 [1]	3.2 [1]	2.6 [1]	...	...
First estimates published for 2007 (4th quarter), The Daily release of March 14, 2008	1.6	3.0	1.5	3.2 [1]	3.2 [1]	2.7 [1]	2.6 [1]	...
After the revisions round in 2007 (1st quarter), The Daily release of June 13, 2008	1.6	3.0	1.5	3.2 [1]	2.9 [1]	3.1 [1]	2.6 [1]	...
First estimates published for 2008 (4th quarter), The Daily release of March 17, 2009	1.6	3.0	1.5	3.2	2.9 [1]	3.1 [1]	2.6 [1]	-0.3 [1]
After the revisions round in 2008 (1st quarter), The Daily release of June 16, 2009	1.6	3.0	1.5	3.2	3.2 [1]	2.7 [1]	2.3 [1]	-0.4 [1]
Difference, original and actual estimates	0.4	-0.8	0.0	0.3	0.4	0.0	-0.3	-0.1

See the footnote and sources at the end of the table.

Table 2 – concluded
Real gross domestic product, business sector, annual change, Canada and United States

	2001	2002	2003	2004	2005	2006	2007	2008
				percent				
United States								
First estimates published for 2001 (4th quarter), Bureau of Labor Statistics release of May 31, 2002	0.9 [1]	...	...	...	...	...	...	...
After the revisions round in 2001 (2nd quarter), Bureau of Labor Statistics release of August 9, 2002	-0.1 [1]	...	...	...	...	...	...	...
First estimates published for 2002 (4th quarter), Bureau of Labor Statistics release of June 4, 2003	-0.1 [1]	2.7 [1]	...	...	...	...	...	...
After the revisions round in 2002 (2nd quarter), Bureau of Labor Statistics release of August 7, 2003	-0.1 [1]	2.7 [1]	...	...	...	...	...	...
First estimates published for 2003 (4th quarter), Bureau of Labor Statistics release of March 4, 2004	0.1 [1]	2.3 [1]	3.7 [1]	...	...	...	...	...
After the revisions round in 2003 (2nd quarter), Bureau of Labor Statistics release of August 10, 2004	0.3 [1]	1.8 [1]	3.8 [1]	...	...	...	...	...
First estimates published for 2004 (4th quarter), Bureau of Labor Statistics release of March 3, 2005	0.3 [1]	1.8 [1]	3.8 [1]	5.1 [1]	...	...	...	...
After the revisions round in 2004 (2nd quarter), Bureau of Labor Statistics release of August 9, 2005	0.3 [1]	1.5 [1]	3.4 [1]	4.7 [1]	...	...	...	...
First estimates published for 2005 (4th quarter), Bureau of Labor Statistics release of March 7, 2006	0.3	1.5	3.4 [1]	4.8 [1]	4.0 [1]	...	...	...
After the revisions round in 2005 (2nd quarter), Bureau of Labor Statistics release of August 8, 2006	0.3	1.5	3.1 [1]	4.4 [1]	3.7 [1]	...	...	...
First estimates published for 2006 (4th quarter), Bureau of Labor Statistics release of March 6, 2007	0.3	1.5	3.1	4.4 [1]	3.7 [1]	3.8 [1]	...	...
After the revisions round in 2006 (2nd quarter), Bureau of Labor Statistics release of August 7, 2007	0.3	1.5	3.1	4.2 [1]	3.6 [1]	3.1 [1]	...	...
First estimates published for 2007 (4th quarter), Bureau of Labor Statistics release of March 5, 2008	0.3	1.5	3.1	4.2	3.6 [1]	3.1 [1]	2.3 [1]	...
After the revisions round in 2007 (2nd quarter), Bureau of Labor Statistics release of August 8, 2008	0.3	1.5	3.1	4.2	3.5 [1]	3.0 [1]	2.0 [1]	...
First estimates published for 2008 (4th quarter), Bureau of Labor Statistics release of March 5, 2009	0.3	1.5	3.1	4.2	3.5	3.0	2.0	0.8
After the revisions round in 2008 (2nd quarter), Bureau of Labor Statistics release of August 11, 2009	0.8	2.0	3.1	4.2	3.4	3.1	2.2	0.0
Difference, original and actual estimates	-0.1	-0.7	-0.6	-0.9	-0.6	-0.7	-0.1	-0.8

1. This estimate covers the four-year period of annual revisions that arise from the gross domestic product revision cycle. In Canada, the System of National Accounts revisions are usually made available with the release of the first quarter, while in the United States it is published with the preliminary estimates of the second quarter.
Source(s): Statistics Canada; Bureau of Labor Statistics.

Table 3
Hours worked, business sector, annual change, Canada and United States

	2001	2002	2003	2004	2005	2006	2007	2008
				percent				
Canada								
First estimates published for 2001 (4th quarter), The Daily release of March 14, 2002	0.0	...	...	...	...	...	...	...
After the revisions round in 2001 (1st quarter), The Daily release of June 14, 2002	0.1	...	...	...	...	...	...	...
First estimates published for 2002 (4th quarter), The Daily release of March 14, 2003	0.1	1.5	...	...	...	...	...	...
After the revisions round in 2002 (1st quarter), The Daily release of June 12, 2003	0.1	1.5	...	...	...	...	...	...
First estimates published for 2003 (4th quarter), The Daily release of March 12, 2004	0.4	1.4	1.5	...	...	...	...	...
After the revisions round in 2003 (1st quarter), The Daily release of June 11, 2004	0.4	1.4	1.3	...	...	...	...	...
First estimates published for 2004 (4th quarter), The Daily release of March 10, 2005	0.1	1.1	1.5	2.8	...	...	...	...
After the revisions round in 2004 (1st quarter), The Daily release of June 9, 2005	0.1	1.1	1.5	3.0	...	...	...	...
First estimates published for 2005 (4th quarter), The Daily release of April 26, 2006	0.5	1.6	1.3	3.1	0.6	...	...	...
After the revisions round in 2005 (1st quarter), The Daily release of June 8, 2006	0.5	1.6	1.3	3.1	0.6	...	...	...
First estimates published for 2006 (4th quarter), The Daily release of March 12, 2007	0.5	1.6	1.4	2.9	1.0	1.5	...	...
After the revisions round in 2006 (1st quarter), The Daily release of June 12, 2007	0.5	1.6	1.3	3.1	0.7	1.5	...	...
First estimates published for 2007 (4th quarter), The Daily release of March 14, 2008	0.5	1.6	1.3	3.2	0.7	1.5	2.2	...
After the revisions round in 2007 (3rd quarter), The Daily release of December 10, 2008	0.5	1.6	1.3	3.0	0.8	1.6	1.9	...
First estimates published for 2008 (4th quarter), The Daily release of March 17, 2009	0.5	1.5	1.3	3.0	0.8	1.6	1.9	0.8
After the revisions round in 2008 (1st quarter), The Daily release of June 16, 2009	0.5	1.5	1.3	3.0	0.7	1.6	1.9	0.8
Difference, original and actual estimates[1]	0.5	0.0	-0.2	0.2	0.1	0.1	-0.3	0.0

See the footnote and sources at the end of the table.

Table 3 – concluded
Hours worked, business sector, annual change, Canada and United States

	2001	2002	2003	2004	2005	2006	2007	2008
				percent				
United States								
First estimates published for 2001 (4th quarter), Bureau of Labor Statistics release of May 31, 2002	-1.1	...	...	...	...	...	...	...
After the revisions round in 2001 (2nd quarter), Bureau of Labor Statistics release of August 9, 2002	-1.3	...	...	...	...	...	...	...
First estimates published for 2002 (4th quarter), Bureau of Labor Statistics release of June 4, 2003	-1.3	-2.0	...	...	...	...	...	...
After the revisions round in 2002 (2nd quarter), Bureau of Labor Statistics release of August 7, 2003	-2.1	-2.5	...	...	...	...	...	...
First estimates published for 2003 (4th quarter), Bureau of Labor Statistics release of March 4, 2004	-2.1	-2.5	-0.8	...	...	...	...	...
After the revisions round in 2003 (2nd quarter), Bureau of Labor Statistics release of August 10, 2004	-2.2	-2.4	-0.6	...	...	...	...	...
First estimates published for 2004 (4th quarter), Bureau of Labor Statistics release of March 3, 2005	-2.2	-2.4	-0.6	1.2	...	...	...	...
After the revisions round in 2004 (2nd quarter), Bureau of Labor Statistics release of August 9, 2005	-2.2	-2.4	-0.5	1.3	...	...	...	...
First estimates published for 2005 (4th quarter), Bureau of Labor Statistics release of March 7, 2006	-2.1	-2.4	-0.7	1.3	1.3	...	...	...
After the revisions round in 2005 (2nd quarter), Bureau of Labor Statistics release of August 8, 2006	-2.2	-2.5	-0.7	1.3	1.4	...	...	...
First estimates published for 2006 (4th quarter), Bureau of Labor Statistics release of March 6, 2007	-2.2	-2.5	-0.7	1.3	1.6	2.1	...	...
After the revisions round in 2006 (2nd quarter), Bureau of Labor Statistics release of August 7, 2007	-2.2	-2.5	-0.7	1.3	1.6	2.1	...	...
First estimates published for 2007 (4th quarter), Bureau of Labor Statistics release of March 5, 2008	-2.2	-2.5	-0.7	1.3	1.6	2.1	0.4	...
After the revisions round in 2007 (2nd quarter), Bureau of Labor Statistics release of August 8, 2008	-2.2	-2.5	-0.7	1.3	1.6	2.1	0.5	...
First estimates published for 2008 (4th quarter), Bureau of Labor Statistics release of March 5, 2009	-2.2	-2.5	-0.7	1.2	1.7	2.1	0.5	-1.9
After the revisions round in 2008 (2nd quarter), Bureau of Labor Statistics release of August 11, 2009	-2.1	-2.4	-0.7	1.2	1.6	2.1	0.4	-1.9
Difference, original and actual estimates[1]	-1.0	-0.4	0.1	0.0	0.3	0.0	0.0	0.0

1. For some years, revision process reflects more than short term revision round. For example, for 2000, methodological changes were implemented for both hours worked and gross domestic product, which had the effect of exaggerating the impact of short term revisions.
Sources: Statistics Canada; Bureau of Labor Statistics.

Table 4
Average annual growth of labour productivity in the business sector before and after revision, Canada and United States

	Canada		United States	
	Before revision	After revision	Before revision	After revision
		percent		
1981 to 2008	1.3	1.3	2.1	2.1
1981 to 2000	1.6	1.6	1.9	2.0
2000 to 2008	0.8	0.7	2.5	2.6
2000 to 2004	0.7	0.7	3.3	3.6
2004 to 2007	1.4	1.3	1.4	1.5
2005 to 2008	0.3	0.2	1.7	1.6
2008	-1.1	-1.1	2.7	1.9

Sources: Statistics Canada. 2009. “Labour productivity, hourly compensation and unit labour cost, First quarter 2009.” The Daily. June 16 (Canadian data); Bureau of Labor Statistics. 2009. “Productivity and Costs, Second quarter 2009.” NEWS, August 11 (U.S. data).

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