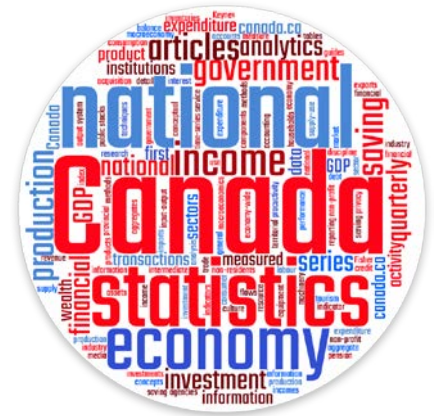


Latest Developments in the Canadian Economic Accounts

The 2016 to 2018 revisions of the Income and Expenditure Accounts



Release date: November 29, 2019



Statistics Canada
Statistique Canada

Canada

How to obtain more information

For information about this product or the wide range of services and data available from Statistics Canada, visit our website, www.statcan.gc.ca.

You can also contact us by

Email at STATCAN.infostats-infostats.STATCAN@canada.ca

Telephone, from Monday to Friday, 8:30 a.m. to 4:30 p.m., at the following numbers:

- | | |
|---|----------------|
| • Statistical Information Service | 1-800-263-1136 |
| • National telecommunications device for the hearing impaired | 1-800-363-7629 |
| • Fax line | 1-514-283-9350 |

Depository Services Program

- | | |
|------------------|----------------|
| • Inquiries line | 1-800-635-7943 |
| • Fax line | 1-800-565-7757 |

Standards of service to the public

Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner. To this end, Statistics Canada has developed standards of service that its employees observe. To obtain a copy of these service standards, please contact Statistics Canada toll-free at 1-800-263-1136. The service standards are also published on www.statcan.gc.ca under “Contact us” > “[Standards of service to the public](#)”.

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 co-operation and goodwill.

Published by authority of the Minister responsible for Statistics Canada

© Her Majesty the Queen in Right of Canada as represented by the Minister of Industry, 2019

All rights reserved. Use of this publication is governed by the Statistics Canada [Open Licence Agreement](#).

An [HTML version](#) is also available.

Cette publication est aussi disponible en français.

The 2016 to 2018 revisions of the Income and Expenditure Accounts

Introduction

This article describes revisions to the Gross Domestic Product (GDP) by Income and by Expenditure Accounts for the 2016 to 2018 period. These data are released at the same time as the 2018 Provincial and Territorial Economic Accounts estimates, which include revisions to the time series.

The first two quarters of 2019 are also revised. However, in accordance with standard revision practice, these estimates will continue to be revised during upcoming cycles. Therefore, they are excluded from the analysis in this article.

Revision process

GDP estimates by Income and by Expenditure Accounts (IEA) are subject to three types of revisions. The first incorporates the latest benchmark from the supply and use tables. The second incorporates data from the latest annual surveys and administrative sources. The third, which is performed less frequently, incorporates new concepts, methods, accounting standards and classification systems.

The 2016 to 2018 GDP revisions by IEAs include all three types of revisions. In general, the first two, which are statistical in nature, are carried out annually and affect only the last three years of the time series.

The statistical revisions to GDP reflect the incorporation of the most current data sources, including survey results, administrative data, public accounts and the annual supply and use tables. These tables integrate data from the highest-quality sources available to Statistics Canada in a rigorous, detailed accounting framework. They represent the most detailed, coherent accounting system for the structure of the Canadian economy and are considered the most accurate benchmarks on which to base estimates. In this release, new benchmark values from the supply and use tables for the 2016 reference year have been incorporated into the GDP by IEAs. New benchmark data (from annual surveys and administrative sources) is also included for the last two years (2017 and 2018).

The third type of revision, conducted this cycle, reflects the historical updates to travel services. By incorporating exports and imports of travel services, Statistics Canada has expanded the coverage of international trade. The statistical revisions in international travel services are related to two areas—education—related travel and non-education related travel—which cover revisions to other business travel and other personal travel.

The revisions are based on expanded travel survey coverage as well as the use of more accurate data on education-related international travel, and other improvements in methodology related to international travel services of the Balance of International Payments Account. The travel services revision led to an increase in the share of both exports and imports of services in GDP. The net impact on GDP, however, was negligible as increases in exports were largely offset by increases in imports.

This article briefly describes and explains the impact of the 2016 to 2018 revisions on annual and quarterly GDP, on both a nominal and a real basis. It also examines the revisions to the various components of GDP by income and by expenditure accounts.

Revisions to the growth rate of nominal GDP

With the incorporation of new benchmark data from the supply and use tables, the level of nominal GDP was revised down by \$2.7 billion in 2016; consequently, the nominal GDP growth rate underwent a 0.1 percentage point downward revision. The downward revision resulted largely from the revised household final consumption expenditure and business gross fixed capital formation.

In 2017, the level of nominal GDP was revised down by \$0.4 billion, largely because of a downward revision of household final consumption expenditure. The relatively larger downward adjustment to the 2016 GDP caused a 0.1 percentage point upward revision to the growth rate in 2017.

In 2018, the level of nominal GDP was revised up by \$4.8 billion, resulting largely from higher household final consumption expenditure and increased governments' gross fixed capital formation. Consequently, the 2018 growth rate underwent a 0.2 percentage point upward revision.

The absolute revision to the growth rate—the difference between the revised average growth rate and the published average growth rate—was 0.1 percentage point for the 2016 to 2018 period.

Table 1
Revisions to the growth in nominal gross domestic product, annual

	Revised annual nominal GDP	Previously-published annual nominal GDP	Revision	Revised growth in annual GDP	Previously-published growth in annual GDP	Absolute revision to the growth in annual GDP
	billions of dollars			percent		percentage point
2016	2,025.54	2,028.22	-2.69	1.76	1.90	0.14
2017	2,141.11	2,141.51	-0.40	5.71	5.59	0.12
2018	2,223.86	2,219.06	4.80	3.86	3.62	0.24
2016 to 2018 average	2,130.17	2,129.60	0.57	3.78	3.70	0.08

Source: Statistics Canada, "The 2016 to 2018 revisions of the Income and Expenditure Accounts", *Latest Developments in the Canadian Economic Accounts* (13-605-X), 2019.

On a quarterly basis, the revisions to the growth rates of nominal GDP resulted in little change relative to the previous estimates. The magnitude of the revisions for the 12 quarters covered by the revision period (2016 to 2018) ranged between an upward revision of 0.2 percentage point and a downward revision of 0.2 percentage point. These revisions are consistent with historical averages. Throughout the period, the quarterly trend remained similar to the trend based on the previously published estimates.

Table 2
Revisions to the growth in nominal gross domestic product, quarterly

	Revised average growth in quarterly GDP	Previously-published average growth in quarterly GDP	Mean absolute revision to the growth in quarterly GDP
	percent		percentage point
2016	0.93	0.97	0.04
2017	1.38	1.29	0.09
2018	0.54	0.51	0.03
2016 to 2018 average	0.95	0.92	0.03

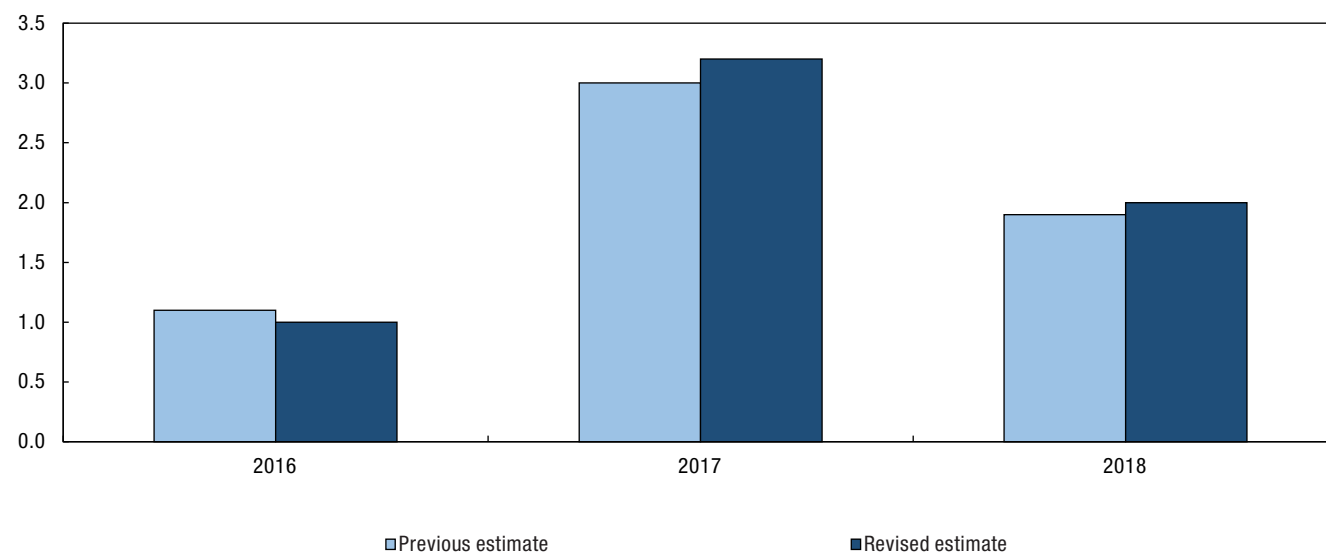
Source: Statistics Canada, "The 2016 to 2018 revisions of the Income and Expenditure Accounts", *Latest Developments in the Canadian Economic Accounts* (13-605-X), 2019.

Revisions to the growth rate of real GDP

The growth rate of real GDP was revised down by 0.1 percentage point in 2016; the growth rates were revised up by 0.2 percentage point in 2017, and by 0.1 percentage point in 2018. These revisions moved in tandem with revisions in nominal GDP growth rates, reflecting a stable GDP implicit price index for the period.

Chart 1
Revisions to the growth of real gross domestic product, annual

annual % change, chained (2012) dollars



Source: Statistics Canada, "The 2016 to 2018 revisions to the Income and Expenditure Accounts", *Latest Developments in the Canadian Economic Accounts*, (13-605-X), 2019.

The mean absolute percentage point revision to the annual average growth rate of real GDP for the 2016 to 2018 period was 0.1 (Table 3).

Table 3
Revisions to the growth in real gross domestic product, annual

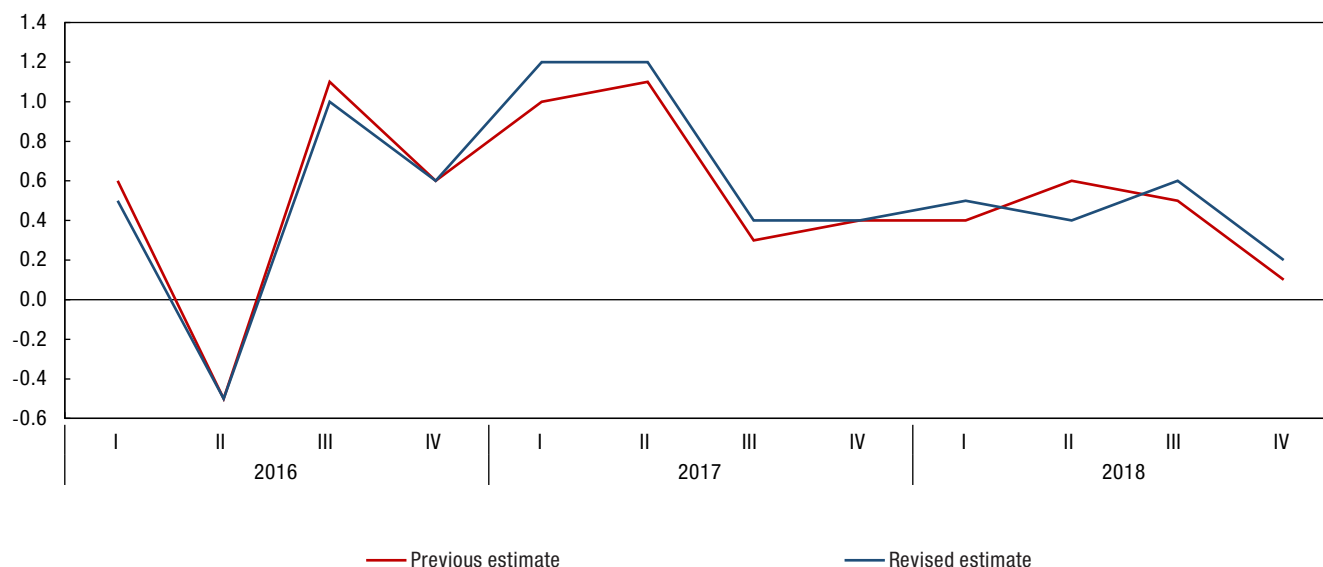
	Revised growth in annual real GDP	Previously-published growth in annual real GDP	Absolute revision to the growth in annual real GDP
	percent		percentage point
2016	1.00	1.11	0.11
2017	3.17	2.98	0.19
2018	2.01	1.88	0.13
2016 to 2018 average	2.06	1.99	0.07

Source: Statistics Canada, "The 2016 to 2018 revisions of the Income and Expenditure Accounts", *Latest Developments in the Canadian Economic Accounts* (13-605-X), 2019.

On a quarterly basis, the movement of real GDP between 2016 and 2018 differed slightly from the previously-published estimates (Chart 2).

Chart 2
Revisions to the growth of real gross domestic product, quarterly

quarterly % change, chained (2012) dollars



Source: Statistics Canada, "The 2016 to 2018 revisions to the Income and Expenditure Accounts", *Latest Developments in the Canadian Economic Accounts*, (13-605-X), 2019.

In 2016, real GDP estimates on a quarterly basis underwent slight downward revisions as a result of the annual downward revision. The revised estimates closely followed the previous estimates in each quarter.

In 2017, real GDP growth rates were revised up in the first three quarters: 0.2 percentage point in the first quarter, and 0.1 percentage point in the next two quarters. The growth rate remained unchanged in the fourth quarter.

A 0.2 percentage point downward revision in the second quarter of 2018 was offset by 0.1 percentage point upward revision in each of the remaining quarters. Overall, the mean absolute revision to the quarterly growth rate of real GDP for the entire period was negligible.

Table 4
Revisions to the growth in real gross domestic product, quarterly

	Revised average growth in quarterly real GDP	Previously-published average growth in quarterly real GDP	Mean absolute revision to the growth in quarterly real GDP
	percent		percentage point
2016	0.41	0.45	0.04
2017	0.78	0.71	0.07
2018	0.45	0.40	0.05
2016 to 2018 average	0.55	0.52	0.03

Source: Statistics Canada, "The 2016 to 2018 revisions of the Income and Expenditure Accounts", *Latest Developments in the Canadian Economic Accounts* (13-605-X), 2019.

Revisions to the level of annual nominal GDP

For the period from 2016 to 2018, the revisions to the GDP by income and by expenditure accounts were mainly attributable to the new supply and use benchmarks for the 2016 reference year and to the incorporation of updated source data in subsequent years.

Overall, relative to the previously estimated nominal GDP, the average yearly upward revision was \$0.6 billion for the 2016 to 2018 period. The downward revision in 2016 in the amount of \$2.7 billion was largely due to a drop in household spending and business investment. The downward revision in 2017 was \$0.4 billion, and in 2018, the nominal GDP was revised up by \$4.8 billion.

In each of these years, revisions were made to various components of GDP. The main contributors on the income side were gross operating surplus, gross mixed income, and taxes. On the expenditure side, the main contributors were gross fixed capital formation and exports of goods and services. In 2016, the supply and use tables utilized the detailed information in the annual business surveys and the final estimates of the Capital and Repairs Expenditure Survey. In 2018, the contributing components to the upward revisions were general government expenditure, gross fixed capital formation, and net trade.

Revisions to the components of GDP by income account

In 2016, gross operating surplus underwent a \$1.1 billion upward revision, and taxes-less-subsidies on products and imports were revised down by \$0.8 billion. In 2017, gross mixed income was revised up by \$2.2 billion, and taxes-less-subsidies on products and imports were revised down by \$1.5 billion. In 2018, gross operating surplus was revised up \$6.5 billion, and taxes-less-subsidies on products and imports were revised down by \$3.3 billion.

These large revisions are mainly due to the new supply and use system benchmarks in 2016, and the incorporation of compensation of employees and operating surplus estimates for corporations based on tax data from the Canada Revenue Agency.

Table 5
Revisions to income-based gross domestic product components

	Revised average level	Previously-published average level	Average revision
	millions of dollars		
2016			
Compensation of employees	1,026,483	1,026,483	0
Gross operating surplus	526,024	524,953	1,071
Gross mixed income	244,403	244,722	-319
Taxes less subsidies on production	90,516	90,686	-170
Taxes less subsidies on products and imports	139,429	140,222	-793
GDP at market prices	2,025,535	2,028,223	-2,688
2017			
Compensation of employees	1,069,956	1,070,831	-875
Gross operating surplus	573,257	572,951	306
Gross mixed income	256,757	254,554	2,203
Taxes less subsidies on production	95,563	96,024	-461
Taxes less subsidies on products and imports	145,647	147,101	-1,454
GDP at market prices	2,141,107	2,141,508	-401
2018			
Compensation of employees	1,120,520	1,119,903	617
Gross operating surplus	590,510	583,967	6,543
Gross mixed income	265,147	265,036	111
Taxes less subsidies on production	98,698	98,493	205
Taxes less subsidies on products and imports	148,921	152,208	-3,287
GDP at market prices	2,223,856	2,219,061	4,795
2016 to 2018 average			
Compensation of employees	1,072,320	1,072,406	-86
Gross operating surplus	563,264	560,624	2,640
Gross mixed income	255,436	254,771	665
Taxes less subsidies on production	94,926	95,068	-142
Taxes less subsidies on products and imports	144,666	146,510	-1,845
GDP at market prices	2,130,166	2,129,597	569

Source: Statistics Canada, "The 2016 to 2018 revisions of the Income and Expenditure Accounts", *Latest Developments in the Canadian Economic Accounts* (13-605-X), 2019.

Revisions to the components of GDP by expenditure account

Table 6 summarizes the revisions to the main components of the GDP by expenditure account. From 2016 to 2018, major upward revisions occurred in governments' final consumption expenditure, in governments' gross fixed capital formation, and in exports. The upward revisions were partly offset by downward revisions in household spending and business gross fixed capital formation. The net upward revision for the period was \$0.6 billion.

In 2016, household final consumption expenditure was revised down by \$3.1 billion, and business gross fixed capital formation by \$4.5 billion. An upward revision of exports by \$5.7 billion was largely offset by a \$4.7 billion upward estimate of imports. Consequently, GDP was revised down by \$2.7 billion.

In 2017, large downward revisions occurred in household final consumption expenditure (-\$3.2 billion), and in business gross fixed capital formation (-\$1.1 billion). These were partly offset by a \$1.3 billion upward revision in governments' final consumption expenditure and a \$1.9 billion upward revision in governments' gross fixed capital formation. A \$7.8 billion upward revision in exports was partly offset by a \$5.5 billion upward revision in imports. Overall, GDP was revised down by \$0.4 billion in 2017.

In 2018, a \$3.1 billion upward revision in governments' final consumption expenditure was partly offset by a \$2.4 billion downward revision in household final consumption expenditure. Similarly, a \$7.3 billion upward revision in exports was moderated by a \$3.9 billion upward revision in imports. A \$3.4 billion upward revision in governments' gross fixed capital formation contributed to the \$4.8 billion upward revision in GDP in 2018.

Table 6
Revisions to expenditure-based gross domestic product components

	Revised average level	Previously-published average level	Average revision
	millions of dollars		
2016			
Household final consumption expenditure	1,153,668	1,156,810	-3,142
Government final consumption expenditure	426,335	426,282	53
Non-profit institutions serving households' final consumption expenditure	30,951	30,975	-24
Business gross fixed capital formation	382,196	386,668	-4,472
Government gross fixed capital formation	76,854	75,064	1,790
Non-profit institutions serving households' gross fixed capital formation	2,212	2,905	-693
Inventories	-228	-606	378
Exports	638,095	632,438	5,657
Imports	685,868	681,156	4,712
Gross domestic product at market prices	2,025,535	2,028,223	-2,688
2017			
Household final consumption expenditure	1,208,438	1,211,648	-3,210
Government final consumption expenditure	444,149	442,831	1,318
Non-profit institutions serving households' final consumption expenditure	31,976	32,490	-514
Business gross fixed capital formation	401,686	402,774	-1,088
Government gross fixed capital formation	82,784	80,872	1,912
Non-profit institutions serving households' gross fixed capital formation	2,290	3,077	-787
Inventories	17,088	17,515	-427
Exports	672,533	664,772	7,761
Imports	719,909	714,424	5,485
Gross domestic product at market prices	2,141,107	2,141,508	-401
2018			
Household final consumption expenditure	1,255,327	1,257,675	-2,348
Government final consumption expenditure	465,792	462,662	3,130
Non-profit institutions serving households' final consumption expenditure	33,207	34,028	-821
Business gross fixed capital formation	409,835	410,214	-379
Government gross fixed capital formation	89,087	85,685	3,402
Non-profit institutions serving households' gross fixed capital formation	2,325	3,094	-769
Inventories	11,904	12,136	-232
Exports	713,351	706,029	7,322
Imports	756,913	753,008	3,905
Gross domestic product at market prices	2,223,856	2,219,061	4,795
2016 to 2018 average			
Household final consumption expenditure	1,205,811	1,208,711	-2,900
Government final consumption expenditure	445,425	443,925	1,500
Non-profit institutions serving households' final consumption expenditure	32,045	32,498	-453
Business gross fixed capital formation	397,906	399,885	-1,980
Government gross fixed capital formation	82,908	80,540	2,368
Non-profit institutions serving households' gross fixed capital formation	2,276	3,025	-750
Inventories	9,588	9,682	-94
Exports	674,660	667,746	6,913
Imports	720,897	716,196	4,701
Gross domestic product at market prices	2,130,166	2,129,597	569

Source: Statistics Canada, "The 2016 to 2018 revisions of the Income and Expenditure Accounts", *Latest Developments in the Canadian Economic Accounts* (13-605-X), 2019.