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The 2021 to 2023 Revisions of the Income and Expenditure Accounts

Introduction

This article presents revisions to the Gross Domestic Product (GDP) by Income and by Expenditure Accounts (IEA) for the 2021-to-2023 period. The updated estimates were reflected in the [2023 Provincial and Territorial Economic Accounts estimates](#), released on November 7, 2024.

Along with the [new data released for the third quarter of 2024](#), updated GDP estimates are also being released for the first and second quarters of 2024. However, in accordance with standard revision practice, these estimates will continue to be updated in upcoming cycles, and therefore, are excluded from the analysis in this article.

Revision process

GDP estimates by IEA are subject to several types of revisions that take place with each quarterly release depending on the availability of data and the practicality of implementation. The first-quarter release includes revisions to all quarters of the previous year; the second-quarter release revises only the first quarter of the same year; the third-quarter release (the annual revision) includes revisions to all quarters going back three years; and the fourth-quarter release includes revisions to all quarters of the same year. For more information on the revision cycle for GDP, including an explanation of the open period and the vintages, see [Revisions to Canada's GDP](#).

Occasionally, substantial changes that are made to incorporate new concepts or methods for example, integration of new System of National Accounts (SNA) concepts result in comprehensive revisions and can occur with the annual revision.

Sources of revision

Revisions to the 2021 to 2023 GDP estimates by IEA stem from a number of sources; notably, the following: new data from the 2021 Supply and Use Tables (SUTs); several updated data sources for 2022 and 2023; changes to the estimation of Financial Intermediation Services Indirectly Measured (FISIM); and new estimates of income and expenditures of temporary foreign workers in Canada.

New Supply-Use Tables

The newly released IEA estimates are benchmarked to the SUTs for the 2021 reference year. The SUTs integrate data from a wide range of sources into a balanced 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.

Updated data sources

Updates to the 2022 and 2023 reference years reflect the incorporation of to several new or updated data sources, including but not limited to the Annual Survey of Manufacturing and Logging, the Annual Survey of Research and Development in Canadian Industry, the Annual Wholesale Trade Survey, the Annual Retail Trade Survey, Government Finance Statistics, and various administrative data, such as T2 corporate filings and T1 personal and unincorporated business filings. Wages and salaries were updated to reflect the final T4 employment income filings for 2022 and preliminary T4 data for 2023. Results from the Annual Capital and Repair Expenditure Survey, Actual, were incorporated for 2022, and 2023 was revised to incorporate major project updates from the upcoming Actual 2023 release in February 2024. [Appendix A](#) contains the timeline for data source integration into the IEA by major component, using the first quarter of 2021 as an example.

Changes to FISIM estimation methodology

Financial intermediation services indirectly measured (FISIM) is a measure of the value of services provided by deposit-taking or lending institutions of connecting savers to borrowers by accepting deposits and making loans. Financial institutions do not explicitly charge for FISIM as compared to actual financial charges such as service fees on deposit accounts and debit cards and so FISIM must be indirectly measured.

In the Canadian System of Macroeconomic Accounts, FISIM is measured by calculating net interest income attributable to deposit and loans. However, this net interest did not properly account for certain interest-bearing liabilities (i.e., obligations under repurchase agreements) and non-interest-bearing assets (i.e., gold, and other items in transit) that were unrelated to the loan assets and deposit liabilities held by financial institutions. On a net basis, these items resulted in the inclusion of more interest expense relative to interest revenue and, consequently, lower estimates of FISIM.

This situation was exacerbated by the rapid rise in interest rates observed since 2022 and the growth in the level of these non-deposit liabilities and non-loan assets over the same period. Altogether, the impact on observed trends began in the fourth quarter of 2022. The increasing divergence between actual financial conditions and the existing measurement approach required a thorough evaluation of our methodologies to ensure accurate and meaningful reporting of financial services. As a result of this evaluation, starting in the fourth quarter of 2022, gross operating surplus of financial corporations, household final consumption expenditure, and exports were upwardly revised to reflect the improved estimates of FISIM.

New estimates of the income and expenditures of temporary foreign workers in Canada

Starting with the 2022 reference year, new methodology has been introduced to better capture the income and expenditures of temporary foreign workers in Canada, which are classified as business travel receipts in the System of National Accounts framework. This new methodology has resulted in upward revisions for both 2022 and 2023. With the recent significant growth in the number of temporary foreign workers in Canada, estimates of their income and expenditures were identified as an area of under coverage. These revisions attempt to remedy this under coverage through a revised methodology that incorporates recent findings from Statistics Canada studies, as well as improved use of administrative work permit data from Immigration, Refugees, and Citizenship Canada. Further detail on revisions to travel services are available in a paper released on November 12, 2024 in [Latest Developments in the Canadian Economic Accounts](#).

Revisions to growth of nominal gross domestic product

Table 1
Revisions to growth of nominal GDP, annual

	Revised nominal GDP	Previously published	Revision	Revised average growth in annual GDP	Previously published average growth in annual GDP	Mean absolute revision to the growth in annual GDP
	billions of dollars			percentage			percentage points
2021 to 2023	2,773.52	2,740.85	32.67	9.85	9.31	0.54
2021	2,535.82	2,517.12	18.70	14.20	13.36	0.84
2022	2,850.94	2,813.29	37.65	12.43	11.77	0.66
2023	2,933.81	2,892.14	41.67	2.91	2.80	0.11

Source: Statistics Canada.

With the incorporation of new benchmark data from the Supply and Use Tables, the level of nominal GDP was revised up by \$18.7 billion in 2021. The nominal GDP growth rate was revised up 0.84 percentage points. Upward revisions to business non-farm inventories, household final consumption expenditures and exports were partly offset by downward revisions in business capital investment.

In 2022, nominal GDP was revised up by \$37.7 billion, and the growth rate by 0.66 percentage points. Upward revisions in household final consumption expenditures, exports, and business non-farm inventories were moderated by a downward revision to government capital investment.

In 2023, the revised nominal GDP growth rate (+2.9%) was stronger than the previously published +2.8%; nominal GDP was revised up by \$41.7 billion. Large upward revisions in household final consumption expenditure, exports and business capital investment outpaced a small downward revision to inventories.

The absolute revision to the growth rate—the difference between the revised average growth rate and the previously published average growth rate—was 0.54 percentage points for the 2021-to-2023 period.

Table 2
Revisions to growth of nominal GDP, quarterly

	Revised average growth in quarterly GDP	Previously published average growth in quarterly GDP	Mean absolute revision to the growth in quarterly GDP
	percentage			percentage points
2021 to 2023	2.13	2.00	0.13
2021	3.36	3.15	0.21
2022	1.91	1.87	0.04
2023	1.12	0.98	0.14

Source: Statistics Canada.

On a quarterly basis, the absolute revision to the growth rate was 0.13 percentage points for the 2021-to-2023 period, with 2021 recording the largest upward revision of 0.21 percentage points. Throughout the period, the revised and previously published quarterly trends remained similar.

Revisions to growth of real gross domestic product

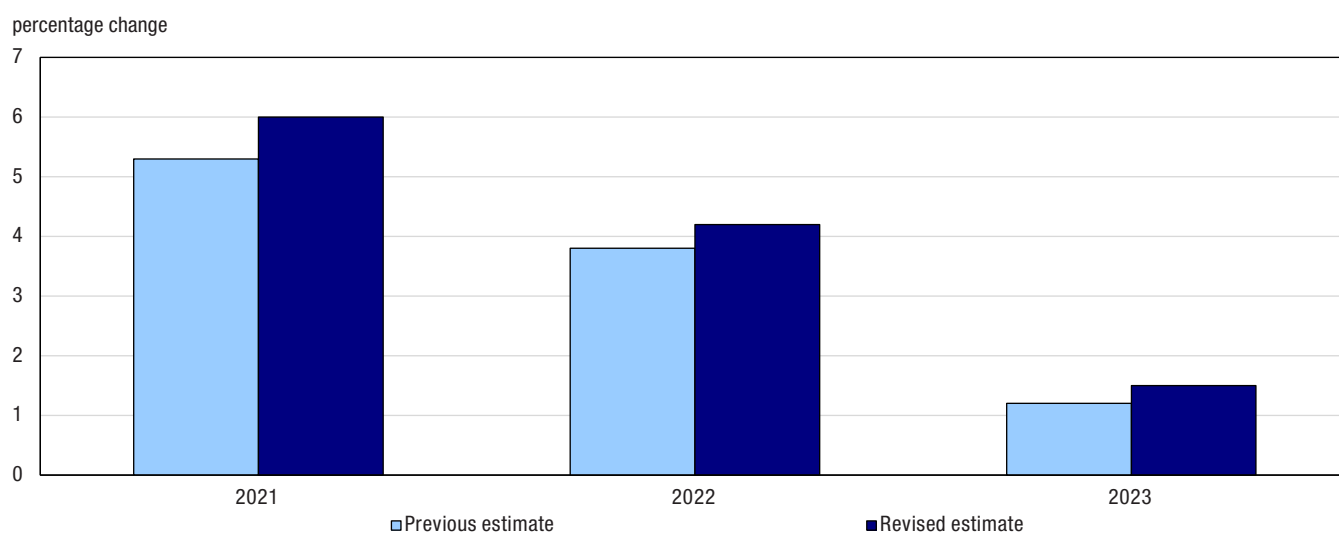
Table 3
Revisions to growth of real GDP, annual

	Revised average growth in annual real GDP	Previously published average growth in annual real GDP	Mean absolute revision to the growth in annual real GDP
	percentage		percentage points
2021 to 2023	3.89	3.45	0.44
2021	5.95	5.29	0.66
2022	4.19	3.82	0.37
2023	1.53	1.25	0.28

Source: Statistics Canada.

The mean absolute percentage-point revision to the annual average growth rate of real GDP for the 2021-to-2023 period was 0.44. The revision was lowest in 2023 (+0.28 percentage points) and highest in 2021 (+0.66 percentage points). The growth rate was revised up (+0.37 percentage points) in 2022.

Chart 1
Revisions to real gross domestic product by year, chained (2017) dollars



Source: Statistics Canada. Table 36-10-0004-01. International transactions in services, travel by category and geographical area, annual (x 1,000,000).

Based on chained dollars, the growth rate of real GDP was revised up 0.70 percentage points in 2021: up 0.40 percentage points in 2022 and up by 0.30 percentage points in 2023.

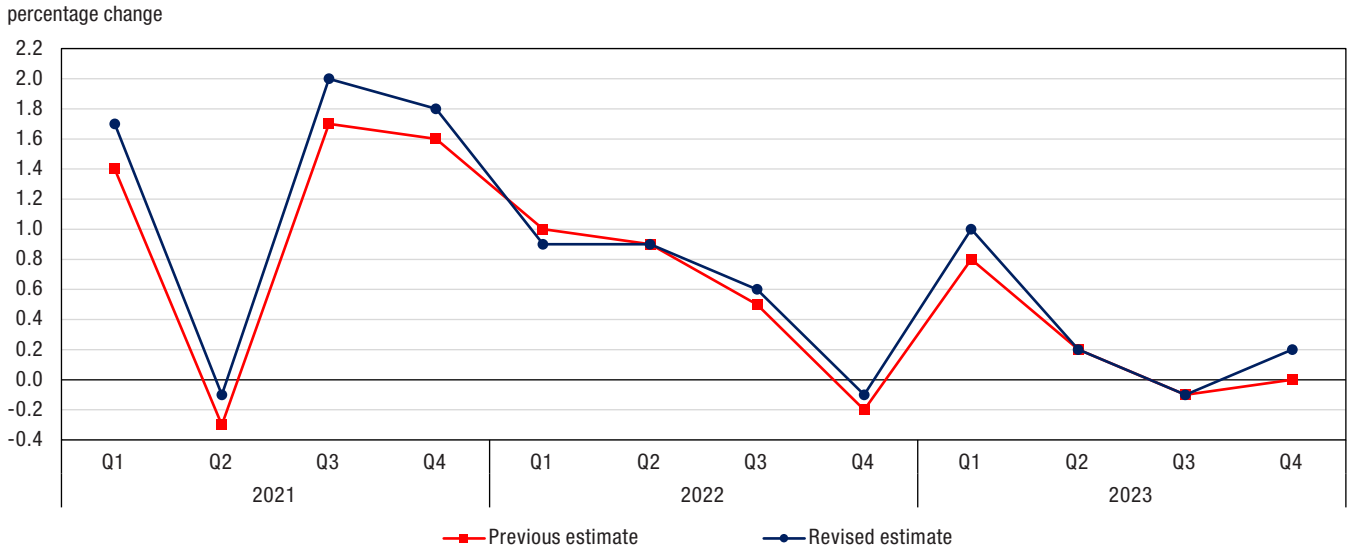
Table 4
Revisions to growth of real GDP, quarterly

	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
	percentage		percentage points
2021 to 2023	0.74	0.63	0.11
2021	1.35	1.10	0.25
2022	0.56	0.54	0.02
2023	0.30	0.24	0.06

Source: Statistics Canada.

The mean absolute percentage-point revision to the annual average growth rate of quarterly real GDP for the 2021-to-2023 period was 0.11. The largest revision was in 2021 (+0.25 percentage points) and the smallest in 2022 (+0.02 percentage points). The growth rate was revised up (+0.06 percentage points) in 2023.

Chart 2
Revisions to real gross domestic product by quarter, chained (2017) dollars



Source: Statistics Canada, Latest Developments in the Canadian Economic Accounts, catalogue number 13-605-X.

Appendix A

Revisions due to different vintages of source data

Table A.1
GDP by income components, example reference period first quarter of 2021

	Initial quarterly estimate	First annual revision	Second annual revision	Third annual revision	Fourth annual revision
Release	2021Q1 (May 2021)	2021Q3 (November 2021)	2022Q3 (November 2022)	2023Q3 (November 2023)	2024Q3 (November 2024)
General notes	Incorporation of monthly surveys	Revisions to monthly surveys	...	Incorporation of annual surveys	Incorporation of Supply-use table
Compensation of employees	Survey of Employment, Payroll and Hours (SEPH), Labour Force Survey (LFS), Employment and Social Development Canada data	...	T4 preliminary (RY2021) for provincial/territorial (PT) aggregates	T4 final (RY2021) by PT and by industry	SUT industry refinements (RY2021)
Gross operating surplus	Quarterly Survey of Financial Statements (QSFS), Regulatory data (for banks); GFS for Government Business Enterprises	...	Third party data	Annual Financial and Taxation Statistics	SUT benchmark
Gross mixed income:	SEPH, LFS, Monthly Retail Trade Survey, Monthly Survey of Manufacturing, gross output by industry	...	Tax data (T1 and T5013)	Tax data updates	SUT benchmark
Rent portion	Consumer Price Index, Stock in units	...	...	...	...
Farm portion	Farm cash receipts	Crop data	...	...	SUT benchmark
Taxes less subsidies ¹	Government Finance Statistics (GFS): preliminary/modelled	Updated GFS: late filers, Public Accounts (PA)	Revised GFS: late PA, local government first estimate	Revised GFS: local government updates	SUT benchmark

... not applicable

1. Indigenous general governments are estimated using Financial Statements, the estimates are refined as more statements become available

Source: Statistics Canada, "The 2021 to 2023 revisions of the Income and Expenditure Accounts", *Latest Developments in the Canadian Economic Accounts* (13-605-X), 2024.

Table A.2
GDP by expenditure components, example reference period first quarter of 2021

	Initial quarterly estimate	First annual revision	Second annual revision	Third annual revision	Fourth annual revision
Release	2021Q1 (May 2021)	2021Q3 (November 2021)	2022Q3 (November 2022)	2023Q3 (November 2023)	2024Q3 (November 2024)
General notes	Incorporation of monthly surveys	Revisions to monthly surveys	...	Incorporation of annual surveys	Incorporation of Supply-use table
Household Final consumption expenditure:					
Goods	Monthly retail trade (MRTS), New motor vehicle survey, trade in goods, vehicle registrations	Retail commodity survey	...	Survey of Household Spending (SHS) ¹	SUT benchmark by product
Services	GST remittances, trade in services, Canadian Radio-television and Telecommunications Commission, monthly GDP by industry	...	...	SHS; Food services & drinking places; accommodation services	SUT benchmark by product
Government Final Consumption	Government Finance Statistics (GFS): preliminary/modelled	Updated GFS: late filers, Public Accounts (PA)	Revised GFS: late PA, local government first estimate	Revised GFS: local government updates	SUT benchmark
NPISH Final Consumption	Forecast	...	...	Tax data (T3010 and Non-Profit Organizations)	...
Business Capital Investment:					
Residential: new, renovations, ownership transfer costs	Labour estimates, Investment in Building Construction (IBC), CMHC, Wholesale/retail sales, Survey of Building Permits, Canadian Real Estate Association (CREA)	...	...	SHS ¹	...
Non-residential buildings	IBC, CREA	Annual Capital and Repair Expenditures (CAPEX) intentions	CAPEX preliminary	CAPEX actual	SUT benchmark by asset
Non-residential engineering	Quarterly Oil and Gas CAPEX, labour indicators, drilling and rigging activities, financial reports				
Machinery and equipment	Imports, inventories, Monthly Survey of Manufacturing (MSM)				
Intellectual Property Products	Labour estimates, Research and development intentions, imports, drilling and rigging activities	...	Gross Domestic Expenditures on Research and Development	Research and Development in Canadian Industry	
Government capital investment	Similar to business for first vintage, by asset	CAPEX intentions: provincial government	CAPEX preliminary: provincial government; GFS: federal	CAPEX actual: provincial; GFS local government; Provincial housing corporations	
Change in inventories:					
Non-farm	MSM, MRTS, Monthly Wholesale Trade, energy surveys, QSFs	...	...	Annual Survey of Manufacturing and Logging, Annual Wholesale Trade Survey, Annual Census of Mines, Annual Retail Trade Survey	SUT benchmark
Farm	Farm cash receipts	Crop data	...	...	SUT benchmark
International trade:					
Goods	Canadian International Merchandise Trade, Canadian Energy Regulator	...	...	...	SUT benchmark
Services	Preliminary Balance of Payments (BOP) surveys	BOP commercial services surveys	Tourism/education surveys	...	

... not applicable

1. For reference years that SHS is available

Source: Statistics Canada, "The 2021 to 2023 revisions of the Income and Expenditure Accounts", *Latest Developments in the Canadian Economic Accounts* (13-605-X), 2024.