Catalogue no. 13-606-G
ISBN 978-0-660-28537-5

User Guide: Canadian System of Macroeconomic Accounts

Chapter 1 Introduction and overview

Release date: May 31, 2016

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.

This publication contains nine chapters to reflect the most of the macroeconomic accounts. Some chapters (1, 2, 3, 4, 6, 7 and 9) were updated on February 22, 2021 to fix some references. For more information on Satellite accounts and Natural resource accounts, please refer to Canadian System of Macroeconomic Accounts (13-607-X).

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.

User Guide: Canadian System of Macroeconomic Accounts

Chapter 1 Introduction and overview

The economy is central to the lives and wellbeing of Canadians. Its trends describe the constantly changing work, business and institutional environment within which people live their daily lives and the shifting array of goods and services that are both produced and consumed by them. Its temporary ups and downs over the course of the economic cycle are closely associated with people's hopes and despondencies. Statistics Canada provides detailed information about all aspects of the economy in Canada's national accounts.

As might be expected from its title, this *Guide to the Canadian System of Macroeconomic Accounts* provides a comprehensive description and explanation of the structure and concepts of Canada's macroeconomic accounts. The system has grown and evolved greatly since its development began in the 1920s. It has become a large and sophisticated database of time series information depicting virtually all aspects of Canada's national and provincial/territorial economies. This *Guide* aims both to sketch the wide-ranging framework for these accounts and to clarify the concepts and terminology underpinning them.

Chapter 2 of the *Guide* offers a short summary of the history of Canada's macroeconomic accounts. That history is well researched and described in a book by Professor Duncan McDowall of Carleton University called *The Sum of the Satisfactions: Canada in the Age of National Accounting* (McGill-Queen's University Press, 2008) and this chapter draws heavily from that source. Canada has always aligned its economic accounts quite closely with the international standard for national accounting and the chapter also connects the Canadian chronicle to the post-war evolution of the international *System of National Accounts.*

Chapter 3 presents the key concepts constituting the substance of the economic accounts. The vital distinction between stocks—such as Canada's national wealth—and flows—such as quarterly gross domestic product—is emphasized. The decomposition of value aggregates into separate price and volume components is briefly described, with a fuller treatment in Chapter 7. Production, distribution, consumption and accumulation, the four basic types of economic activity that are identified in the accounts, are explained as are the concepts of economic territory and residence.

Classification systems—the skeleton of the economic accounts—are also addressed in Chapter 3. In particular, the classification of institutional units—the agents of economic activity such as households, corporations and governments—gets prime attention. Also discussed are the classifications adopted in the accounts to describe industries (such as motor vehicle manufacturing and telecommunications), products (such as food and education services), financial instruments (such as government bonds and corporate equities) and expenditures by function (such as government expenditures on social protection and non-profit institution expenditures on environmental protection).

Finally, the accounting rules and structure of the accounts are also outlined in Chapter 3. By 'rules' is meant the way in which economic transactions are recorded, how they are valued, the timing of those transactions—typically on an accrual basis—and the manner in which transactions between Canada and other countries are dealt with in the system. In addition, the chapter sketches the cascading sequence of institutional accounts that together make up the international standard system of national accounts. The sequence begins with the production account and continues with accounts for the generation of income, the allocation and secondary distribution of income, the use of disposable income, real and financial investment, revaluation of assets, other changes in the volume of assets and ultimately the national balance sheet accounts. In essence, the purpose is to account for the change in wealth from one period to the next by tracing through from production activity to the income associated with that production, to the distribution of that income to the various players in the economy and ultimately to the use of that income to consume in the current period and save/invest for the future.

Chapter 4 describes the supply and use accounts—by far the most detailed available depiction of Canada's economic structure. It begins with a discussion of some key concepts embodied in these accounts—output, intermediate consumption, gross value added, compensation of employees, operating surplus of corporations, mixed income of unincorporated businesses, taxes and subsidies on products and production, and basic prices versus purchasers' prices. The chapter also discusses three specific accounts that are derivable from the sequence

of institutional accounts—the goods and services account, the production account by industry and the generation of income account by industry.

The way in which the supply and use accounts are constructed is also explained in Chapter 4. Particular focus is placed on the measurement of output, both in general and for the exceptional cases of wholesale and retail trade, financial services and non-market goods and services. The measurement of intermediate consumption, gross value added and final demand is also considered, as is the process for balancing supply and use in the statistical tables. The decomposition of the supply and use accounts into price and volume components is also described briefly in this chapter, with a fuller treatment in Chapter 7.

The detailed supply and use accounts—which are available separately for each province and territory providing considerable detail by product class, by industry and by final demand category—are produced annually with a lag of just under three years. To meet the need for statistics on production by industry that are released with a shorter time lag, monthly estimates of GDP are produced at the national level with a lag of two months and annual estimates of GDP by province and territory are prepared with a lag of under one year. These more timely estimates are also explained in Chapter 4.

Chapter 4 closes with a discussion of the various ways in which the supply and use accounts are used by Canadians. The main uses include structural analysis and productivity studies, input-output modelling, data confrontation and benchmarking within the system of accounts as a whole. Since 1997 the supply and use accounts have also been used extensively in the federal-provincial revenue allocation formula that is associated with the harmonized sales tax.

Chapter 5 describes the quarterly income and expenditure accounts, which are derived from the fundamental national accounts identity stating that the total supply of goods and services at market prices must equal the total use of goods and services at market prices. The components of income- and expenditure-based gross domestic product at market prices are defined and explained. In addition, the current and capital account components of the sequence of accounts are discussed for each of the six main institutional sectors—households, non-profit institutions serving households, non-financial corporations, financial corporations, general government and non-residents.

The annual provincial and territorial income and expenditure accounts are also considered. There is a brief discussion in the chapter of the final expenditure estimates at constant prices, although a fuller discussion of deflation and the price-volume decomposition is left for Chapter 7. Also discussed is the relationship between the supply and use accounts, discussed in Chapter 4, and the income and expenditure accounts. Chapter 5 closes with a review of the main uses and users of the quarterly accounts.

Chapter 6 is focussed on the accumulation accounts—including the capital accounts, the financial accounts, the revaluation of assets accounts and the other changes in the volume of assets accounts. Basic concepts reflected in these accounts are presented and the financial intermediation system is discussed. Together these accounts provide a complete explanation of the difference between the balance sheets at the opening of an accounting period and the corresponding balance sheets at the end of the period. All of the accounts are broken down by institutional sector and together the accounts reveal how the net borrowing of some sectors is effectively the net lending of other sectors.

The various financial instrument categories for which information is provided in these accounts are defined and explained. These include official international reserves, currency and deposits, debt securities, loans, equity and investment funds, life insurance and pensions, and other accounts receivable. The chapter ends with a consideration of some analytical uses of the financial accounts.

The topic of price and volume indexes is the focus of **Chapter 7**. These statistics decompose changes in product-based aggregates measured at current prices into two components, one reflecting the influence of price changes and the other the effect of quantity and quality changes, referred to collectively as volume changes.

The Laspeyres, Paasche and Fisher price and volume index number formulas are explained and contrasted. Also discussed are the topics of index number substitution bias, chained indexes, index additivity and consistency, elementary versus compound price and volume indexes and the calculation of contributions to the change of an index.

The broad application of the three index number formulas in the supply and use accounts and the income and expenditure accounts is examined. Particular focus is centred on the use of index numbers in the estimation of capital stock statistics using the "perpetual inventory model", on the definition and measurement of real gross domestic income and the terms of trade, and on the use of spatial index numbers to measure "purchasing power parities" that facilitate real income comparisons across countries or other regions.

Chapter 8 explains Canada's balance of payments (BOP) and international investment position (IIP) accounts. The former is a statement summarizing all manner of economic transactions between residents of Canada and non-residents during a specified accounting period. It has two main components: (i) the current and capital accounts and (ii) the financial account. The BOP paints a picture of Canada's economic relationships with non-residents from the perspective of Canadian residents, a picture that is the mirror image of the portrayal of the non-resident sector in the income and expenditure accounts. The IIP is a statistical statement showing, at a point in time, the value and composition of financial assets of residents of Canada's economy that are claims on non-residents plus liabilities of residents to non-residents. It is a subset of the national balance sheet, discussed in Chapter 6.

The chapter describes the components of the current account. One of these is transactions in goods and services—exports and imports. Another is cross-border primary income flows such as compensation earned by residents of Canada who are employed in another country or earned by non-residents while they are working in Canada. Cross-border interest payments, distributions of income of corporations, reinvested corporate earnings and rent (the latter term referring to income flows for putting natural resources at the disposal of another institutional unit, such as royalties on extracted sub-soil assets or payments for fishing, forestry and grazing rights) are other categories of primary income flows. Finally, the current account also includes cross-border secondary income flows such as taxes, nonlife insurance premiums and claims, development assistance transfers and other international cooperation flows.

The chapter also explains the capital account, which includes capital transfers—such as grants from one country to another that are tied to specific investment projects, or forgiveness of international loan liabilities—and acquisitions net of disposals of non-produced nonfinancial assets such as land sold to embassies and sales of leases and licenses.

Also described in the chapter is the financial account, which displays cross-border financial flows related to direct investment, portfolio investment, financial derivatives including employee stock options, other investment flows and official reserves. Both the net acquisition of financial assets and the net incurrence of liabilities, by financial instrument category, are recorded.

Net cross-border flows in Canada's current and capital accounts can be positive or negative, indicating either net lending to the rest of the world or net borrowing from the rest of the world. The financial account shows how this net lending or borrowing is reflected in the acquisition and disposal of financial assets and liabilities.

Finally, **Chapter 9** describes the government finance statistics (GFS) program, which records the revenues, expenditures, surplus or deficit, financial assets, liabilities and net financial worth of governments in Canada. These statistics constitute the government sector component of the CSMA and they are compiled from the general ledger accounting records of the governments. Five institutional subsectors are described: the federal government, provincial and territorial governments, local governments, aboriginal governments and social security funds. The provincial and territorial sub-sector is further divided into provincial and territorial governments, education institutions (colleges and universities) and health and social services institutions. The GFS program also records statistics for government business enterprises.

Three GFS accounting statements are described and explained in the chapter: the statement of operations, the statement of other economic flows and the balance sheet. The first of these provides a summary of a sector's nonfinancial and financial transactions in an accounting period as well as the associated net operating balance and change in net worth due to those transactions. The net operating balance minus the net acquisition of nonfinancial assets is conceptually equal to the net acquisition of financial assets minus the net incurrence of liabilities and is the net lending or borrowing of the sector. The second statement, the statement of other economic flows, records flows that also change a sector's net worth but are not tied to transactions. They include holding gains or losses—reflecting passive changes in the value of assets and liabilities due to changes in their market values—and other changes in the volume of assets and liabilities—which include recognition and de-recognition of economic assets,

other changes in the quantity or quality of economic assets and changes in classification. Finally, the third statement, the balance sheet, records the value of the stock of assets and liabilities of the government sector and the sector's resulting net worth, by instrument category. This statement is, in effect, the government sector component of the national balance sheet, described in Chapter 6.

The one closely related topic that is not covered in this volume is that of satellite accounts. The 'satellite accounts' idea was introduced in the 1993 version of the international SNA standard with the following words (paragraph 1.41): "However … flexibility may be taken a stage further by developing satellite accounts that are closely linked to the main system but are not bound to employ exactly the same concepts or restricted to data expressed in monetary terms. Satellite accounts are intended for special purposes such as monitoring the community's health or the state of environment. They may also be used to explore new methodologies and to work out new accounting procedures that, when fully developed and accepted, may become absorbed into the main system in the course of time, in the way that input-output analysis, for example, has been integrated into the system." Such accounts have been developed in Canada, and in several other countries, to provide special focus on the environment, natural resources, tourism, culture, unpaid household work, the pension system and a variety of other topics. They are the means by which the established international economic accounting system can be applied to other areas where there are often no direct market valuation data to be drawn upon or where additional product, industry or geographical detail can be provided without overburdening the main accounts. Separate documentation for each of the available satellite accounts can be found on the Statistics Canada web site.

That is the outline of this guide. The purpose of the volume, as noted, is to explain Canada's now rather large and complex system of macroeconomic accounts. The system continues to move forward over time to keep up with the evolving international standard for national accounts and to meet the changing needs of Canadian society.