

# **A new presentation for the quarterly National Accounts**

The Canadian System of National Accounts 2012 (CSNA2012)

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## **The Canadian System of National Accounts 2012 (CSNA2012)**

Macroeconomic data for Canada, including Canada's National Accounts (gross domestic product (GDP), saving and net worth), Balance of International Payments (current and capital account surplus or deficit and International Investment Position) and Government Financial Statistics (government deficit and debt) are based on international standards. These international standards are set on a coordinated basis by international organizations including the United Nations, the Organisation for Economic Cooperation and Development (OECD), the International Monetary Fund (IMF), the World Bank and Eurostat, with input from experts around the world. Canada has always played an important role in the development and updating of these standards as they have transformed from the crude guidelines of the early to mid 20<sup>th</sup> century to the fully articulated standards that exist today.

The purpose of this document is to introduce a new presentation of the quarterly National Accounts (Income and Expenditure Accounts (IEA), Financial Flow Accounts (FFA) and National Balance Sheet Accounts (NBSA)) that will be published with the conversion of the Canadian National Accounts to the latest international standard—System of National Accounts 2008 ([SNA2008](#)).

With the publication of the last international standard, System of National Accounts 1993 (SNA93), a push for countries around the world to implement national accounting standards began. Following the Asian Financial Crisis of 1998, the IMF began a program of assessment of countries' practices in terms of quality, timeliness and completeness of macroeconomic data. As a result, macroeconomic data have become more comparable and accessible across the world. Recent economic events have heightened the importance of good macroeconomic information to be used in the coordination of monetary and fiscal policy around the globe.

When Canada implemented the SNA1993, in 1997, the suggested articulation of ac-

counts and variables was only partially adopted. The focus at the time was on making GDP and its components consistent with the standards. Since no other country had converted—even the international databases at OECD and IMF were not articulated—there was no consistent presentation to follow. Subsequently, the OECD and Eurostat have converted to SNA93, implementing a very specific presentation based on what is known as the “sequence of accounts” (explained later in the document). Canada currently submits the official National Accounts data to the OECD on this basis.

The proposed Canadian presentation, to be published in October 2012, is more in line with the international system and the OECD database. This new presentation will add some important variables and concepts and will include institutional sectors that have never been published in Canada. The new presentation and variables relate largely to the articulation of income, how it arises from productive activity (income-based GDP), how it is channelled to the various agents of the economy, and, how it is used for consumption or saving. The new institutional sector breakdown will result in a clearer picture of the macroeconomic profile of Canadian households. While this new presentation has no impact on the measurement or concept of GDP, saving or net worth, it will have an impact on the measurement of disposable income and bring that measure in line with measures used by the OECD and other countries.

## **Section 1: The current presentation of the quarterly National Accounts (Income and Expenditure, Financial Flow and Balance Sheet accounts) in the CSNA**

The current version of the national Income and Expenditure, Financial and Wealth accounts are comprised of five different tables or accounts. The starting point is the **aggregate income-based GDP and expenditure-based GDP tables**. These tables provide a measure of GDP from two different perspectives. The first (income-based GDP) is a measure of the incomes arising as a result of labour and capital used in the production of goods and services by domestic (resident) producers, for the given accounting. The second (expenditure-based GDP) is a measure of final expenditures on the goods and services produced for the same accounting period.

The second set of accounts—the **Income and Outlay Accounts**—tracks the sources and uses of incomes for four broad groupings of economic agents. The economic agents are grouped into “sectors” based on the similarity of the role they play in the macroeconomic system. For example, households are the consumers in the economy and the providers of labour services; businesses are the producers; governments are the provider of public services and play the role of redistribution through taxation,

transfers of income and provision of public services; and the rest of the world records all of the transactions of the economy with economic agents abroad, the most significant being trade in goods and services. The sectors published by the National Accounts differ slightly from the “pure” sectors based on the role of the agents because not all transactions in the economy can be traced back to one singular role or function. For example, unincorporated businesses’ incomes and expenditures often cross both household and business transaction purposes, and are consequently grouped with households for presenting sources and uses of incomes—but are grouped with corporations as businesses for the tracking of productivity. The groupings can also differ due to data limitations, in particular the availability of data on transactions between agents. The four sectors currently in the published Income and Expenditure Accounts are persons and unincorporated businesses,<sup>1</sup> corporations, governments and non-residents. In addition to these four main sectors of the economy, there are Income and Outlay Accounts and Capital Account detail for the government sub-sectors.

The Income and Outlay Account records income arising from participation in economic production (wages and salaries, net income from business operations), from returns on investment of assets (interest, dividends, royalties or rent from land) and current transfers from other sectors, ( Employment insurance or Canada Pension Plan benefits or welfare payments) and outlays (final expenditures on goods and services, interest on loans and transfers to other sectors, such as income taxes paid to government) for each sector. The difference between income and outlay produces an estimate of each sector's saving. With the Income and Outlay Accounts, it is possible to determine whether or not a sector saves during a period, that is, whether the current income of a group exceeds its current outlays.

The third account is the **capital account** which highlights the sources of funds available for investment—the gross saving (saving from the Income and Outlay Account plus capital consumption allowances) of the sector—and capital transfers. The sector’s investment in fixed assets, inventories and capital transfers to other sectors are the uses. (Capital transfers refer to the transfer of existing wealth in the form of financial or produced assets from one agent to another. This differs from the transfer of income earned in the current period, recorded in the Income and Outlay Account.) The difference between a sector’s gross saving and investment is net lending or net borrowing —i.e., the funds it requires to finance its investment or the funds it can make available to other sectors to finance their investment.

The **Financial Flow Accounts**, the fourth account, focuses on the financial transac-

tions underlying the economic activity. They help explain how the net lending or net borrowing by the sector is affected through transactions in financial instruments. All economic activity in the income and outlay and capital accounts have mirror transactions in the financial account. For example, a payment of wages and salaries by a corporation to a person would show up as a bank deposit on the asset side of the household and a rundown of cash in the corporate sector's financial account. The purchase of a new house in the capital account would show up on the liability side of the financial account of the household as the incurrance a new mortgage liability, and the acquisition of a new asset on the side of the mortgage lender. This account records acquisitions less disposals of financial instruments on the changes-in-assets side of the account and incurrance of debt and repayments on the liability side of the account. The sum of changes in assets and changes in liabilities is conceptually equal to the net lending or net borrowing recorded in the capital account and is referred to as net financial investment.

The importance of the financial system to the economy was highlighted by the recent financial crisis of 2008 and the ensuing recession. It is through the financial account that phenomena like the build up of asset-backed securities or the tightening of liquidity become evident. It also showed the injections of liquidity by governments through central banks to help ease the credit shortage. From a statistical standpoint, the balance in the financial account provides a second estimate of each sector's net lending or net borrowing and serves as a quality check on the data, the same way that measurement of GDP from both the income and expenditure approaches help assure the quality of the measure of growth in the economy.

The fifth and final account is the quarterly **National Balance Sheet Account**, which provides the wealth dimension to the system of accounts. The accounts to this point have all represented the flows of incomes, outlays and financial transactions in the current period. The NBSA, however, measures the stock of non-financial assets (buildings, machinery and equipment and land), financial assets, and liabilities. Net worth is the principal balancing item in this account (assets less liabilities). Many other useful aggregates are calculated using the balance sheet data. For example, the difference between financial assets and liabilities provides a stock measure of net debt, often referred to in analysing the government sector's indebtedness resulting from surplus or deficit balances. Also, debt-to-equity ratios from this account are useful in analysing the financial health of the corporate sector, as are ratios of household indebtedness to income and net worth.

Due to the complexity of the financial system in the modern economy, the sector detail in the FFA and NBSA is extensive, with about 30 distinct sub-sectors<sup>2</sup>.

In the current presentation of the quarterly National Accounts, a crucial account is missing but is implied in the data; that is the account showing revaluation of existing assets as well as volume changes in assets that arise due to natural or spurious events. This account would record all capital gains or losses (realized and unrealized) arising in the specified period from the holding of assets. Capital gains or losses are included in the stock valuation of the assets (valued at current market prices) but are not shown explicitly as a flow anywhere in the current Canadian system. In economic measurement systems, capital gains are not considered as “income” because they do not arise from any productive activity, but rather from holding the asset as the price fluctuates. Also, other asset changes that do not arise from economic activity would be recorded in this account. These would include things like destruction of assets due to a natural disaster (such as fires, floods, tornadoes and other storms) or discovery of previously existing but unknown assets like off-shore oil reserves, diamond or other mineral deposits. The fact that this account is not presented means that the change in net worth from the balance sheet from one period to another is not fully articulated by the system.

In addition, in the current system, many income variables are presented on a net basis and therefore some major transactions in the economy are not fully expressed. This treatment does not help users understand or observe all aspects of key economic developments. For example, unincorporated business income is presented on a “net income” basis, making it impossible to observe the extent that these businesses make payments on debt out of current income. This net treatment also means that information on mortgage payments by households is implicit in the data system and not available for users to analyse their significance, relative to other uses of incomes. Net treatments masks important information that is useful in interpreting current economic events.

Finally, the income and outlay approach to recording the sources and uses of income means that the account goes directly to recording the saving of the sectors without the intermediate step of calculating disposable income first. Disposable income has been calculated as an addendum item to the account on the same basis as it has been since the inception of the Canadian accounts in the 1950s. The international standards record a different measure of disposable income and consequently the disposable income on the OECD database for Canada is different than the measure currently published in the IEA.

## **Section 2: New presentation, terminology and concepts**

## New presentation

With the implementation of SNA 2008 in the Canadian System of National Accounts, the presentation of the Income and Expenditure Accounts, Financial Flow Accounts and Balance Sheet Accounts will more closely align with international standards. These changes will increase international comparability, increase the number of variables published, and better articulate how income arises from economic production, flows across sectors and is ultimately used for investment or saving. The new presentation will be based on the “sequence of accounts” approach that will use a sequence of inter-related accounts with balancing items carried down from one account to the next account in the sequence, as an opening entry. This approach highlights an increased number of variables as well as measuring the income flows for more sectors of the economy.

The sequence of accounts outlined in the System of National Accounts 2008 is as follows:

1. Production Account (value-added)
2. Generation of Income Account (gross domestic product)
3. Allocation of Primary Income Account (gross national income)
4. Secondary distribution of Income Account (disposable income)
5. Use of Disposable Income Account (net saving)
6. Capital Account (net lending)
7. Financial Account (net financial investment)
8. Other Changes in Assets Account (net revaluation of assets)
9. Balance Sheet Account (net worth)

**1. Production Account:** The value of output is recorded, intermediate consumption (goods and services used up in the transformation of inputs to outputs) are subtracted to arrive at the balancing entry for this account—*value added*. The sum of value added across domestic institutional sectors is equal to the *gross domestic product at basic prices* for the economy.

**2. Generation of Income Account:** In the course of production, the primary inputs, labour and capital, produce income. Wages, salaries and supplementary income and gross operating surplus are recorded for each sector. The *sum of the primary incomes* equals *value added* for each sector and the *sum of all primary incomes across sectors* equals *gross domestic product*. *Indirect taxes less subsidies on products* are added to arrive at *gross domestic product at market prices*.

**3. Distribution of Primary Income Account:** Primary income is redistributed from users of capital to the owners of capital as payment of interest and dividends through financial claims or rents and royalties on use of real property. Consolidation across sectors (including the non-resident sector) after accounting for redistribution of primary income, equals *gross national income*, and after subtraction of consumption of fixed capital, equals *net national income*. Through this account the aggregates transition from a concept of income from domestic producers to income of residents of Canada.

**4. Secondary Distribution of Income Account:** This account takes the income of domestic residents by sector and records the transfers of current income from one sector to another. This includes transfers such as taxes on incomes paid to governments or donations to non-profit institutions, payments of welfare to individuals, and subsidies to businesses. Transfers refer to transactions for which there is no *quid pro quo*. The balancing entry on this account is *disposable income*.

**5. Use of Income Account:** This account shows how disposable income is used for consumption or savings. The balancing entry of this account is *net saving*.

**6. Capital Account:** This account records the values of the non-financial assets that are acquired, or disposed of, by resident institutional units by engaging in transactions and shows the change in net worth due to saving and capital transfers. Net saving from the Use of Income Account is the starting point of this account, as a source of funds for capital accumulation. Consumption of fixed capital and net capital transfers are added to arrive at total funds available for investment. Fixed capital formation on tangible and intangible assets is recorded as the use of funds, to arrive at the *net lending or borrowing* position of the sector. The sum of net lending or borrowing across sectors balances to zero.

**7. Financial Accumulation Account:** Transactions in financial assets and liabilities are recorded for each of the institutional sectors. The balance of net changes in financial assets less net changes in financial liabilities is *net financial investment*, and is equal to the *net lending or borrowing* of the capital accumulation accounts.

**8. Other Changes in Volume of Assets Account:** This account records holding gains and losses on financial and non-financial assets by institutional sectors. It also records destruction of assets due to extraordinary events. Depletion and new discoveries of non-produced assets are also part of this account. It records any change in the value of assets which is not due to a "transaction".

**9. Balance Sheet Account:** Closing stocks are recorded here for financial assets and liabilities as well as tangible and intangible non-financial assets. *Net worth* is calculated as the balancing entry for the balance sheet of each sector, summing to national net worth across the sectors. *National net worth* is equal to *national net wealth*—the sum of the stock of all tangible and intangible fixed assets at market price.

The advantage of using the full sequence of accounts in the articulation of the generation of income and its allocation is that it better highlights what the sources of income are for households, governments and businesses, as well as how the income is used for consumption or saving, and how it is re-routed to other sectors through the borrowing and lending process.

In order to fully present this flow of accounts in a way that is advantageous to users and comparable to international data systems such as the OECD database on National Accounts, some new terminology and income concepts will be introduced and more institutional sectors will be measured.

### **New terminology and concepts**

This section will briefly present the new terminology and concepts that will be introduced in the CSNA2012 sequence of accounts.

The major terminology changes are the replacement of the terms “wages, salaries and supplementary labour income” with “**compensation of employees**” and the replacement of the term “capital consumption allowances” with the term “**consumption of fixed capital**”.

For **compensation of employees**, the concept does not change but the new terminology is more reflective of the contents of the variable. Compensation of employees is the total remuneration, in cash or in kind, payable by a producer to an employee in return for work done (SNA2008, paragraph 7.5). It includes all regular wages and salary payments, overtime, premiums, bonuses, stock options and back payments as well as benefits such as dental and health plans provided by the employer, employer contributions to social security schemes such as employment insurance and Canada and Quebec pension plans, contributions to employer-sponsored pension plans, provision of taxable benefits such as low-interest loans, subsidized parking, housing allowances etcetera.<sup>3</sup> The split of compensation into wages and salaries and supplementary labour compensation will be available in the data tables.

For **consumption of fixed capital**, the concept is also unchanged. It represents the decline in the value of the stock of produced fixed assets owned or used by producers



change in the value of the stock of produced fixed assets owned or used by producers, due to normal obsolescence, physical deterioration or normal accidental damage. It is similar to business accounting recording of depreciation. It does not include degradation or depletion of non-produced assets such as mineral deposits, forests or land (SNA2008 paragraphs 6.240 and 6.241). The change in terminology at this time signals the change in valuation of all elements of consumption of fixed capital to the replacement cost method. (The previous capital consumption allowance was a mixture of valuations depending on the sector and data source.)

The featured new concepts are **gross and net operating surplus**, **gross and net mixed income**, **primary incomes** and **property income** paid and received.

**Gross operating surplus** represents the return to capital employed in the production process before deducting any interest charges on financial liabilities, or rent payable on land or natural resources required to carry out the production process (SNA2008, paragraph 7.12). This means that operating surplus is invariant whether natural resources or land are rented or owned by the producer and invariant whether the assets used by the producer are financed out of own-account or borrowed funds. Gross operating surplus as a concept has always been used in the Input-Output Tables for the Canadian economy. The concept will now be applied consistently for both the Input-Output Tables and the Income and Expenditure Accounts. Net operating surplus refers to gross operating surplus less consumption of fixed capital of corporations. Gross operating surplus of governments is equal to the consumption of fixed capital owned by governments.

**Gross mixed income** refers to the operating income of unincorporated businesses which includes both the remuneration of the labour services of the owner as well as the return to capital (SNA2008, paragraph 7.12). Since no accounting information is available to disentangle the labour element from the return to capital, this is recorded as *mixed* income. **Net mixed income** refers to gross mixed income less consumption of fixed capital for unincorporated businesses.

Compensation of employees, gross operating surplus and gross mixed income are referred to as **primary incomes** because they are incomes that accrue due to the involvement of labour and capital in the production process (SNA2008, paragraph 7.2).

### **Relationship of new variables to gross domestic product**

Presenting income-based GDP using these new concepts does not change GDP or its measurement. The use of the new variables will serve to better articulate the sources and uses of income in the economy and facilitate analysis of important issues. The

new income-based GDP will be the sum of compensation of employees, net operating surplus of corporations, net mixed income of unincorporated businesses, consumption of fixed capital and taxes less subsidies on products and imports. This is equivalent to the previous income-based GDP which summed labour income, corporate profits, interest and miscellaneous investment income, inventory valuation adjustment, capital consumption allowances and taxes less subsidies on products and imports.

In the new presentation, interest and miscellaneous investment income is allocated to operating surplus and mixed income of businesses as these are now measured before payments of interest or rent. Inventory valuation adjustment is an adjustment for valuation differences in inventories between business accounting and national accounting. It will be implicit in the calculation of operating surplus and mixed income and not shown explicitly in the accounts. In order to facilitate the transition to the new concepts of operating surplus, reconciliation tables between these measures and business accounting measures such as operating profits will be made available so that users can better understand the conceptual, methodological and statistical differences between the two.

**Property income** is another concept which has not been used explicitly in the CSNA. It represents income that accrues to the owners of financial assets or natural resources including land, when the owner of these assets puts them at the disposal of other economic agents for use (SNA2008, paragraph 7.107). Income received for the use of financial assets is called investment income (a concept previously used in the CSNA) and the income received from the use of natural resources is called rent.<sup>4</sup> Investment income includes interest and dividends, for example, while rent includes royalties and stumpage fees as well as rent paid on land.

Property income is articulated as an allocation of primary income when income that is generated in the production process (operating surplus or mixed income) is allocated to the ultimate owners of the financial capital or natural resources through payments of interest, dividends, resource royalties or rent. For example, if an individual is an owner of a large tract of land which they lease to an unincorporated farmer for production of crops, the farmer pays for the use of the land out of mixed income and this becomes the property income of the land owner. Royalties paid to governments by energy producers out of operating surplus for the use of natural resources are another example of property income. In the case of financial assets, when a bank lends to a household for the purchase of a house, the mortgage interest is property income paid from the household to the financial institution.

All sectors of the economy receive property income and pay property income. Households receive property income as investment income on savings (registered retirement savings plans (RRSPs), mutual funds, etc.) and pay interest on mortgages and consumer credit. Similarly, corporations, governments and non-residents pay and receive property income, but the sources and uses are quite different by sector. The net of property income paid or received across the domestic economy is the net amount of property income received or paid to or from non-residents.

The following table demonstrates how the sources and uses of property income balance across the sectors of the economy. In this example there are the four aggregate sectors: households, governments, corporations and non-residents. The example shows the flows of the following property income transactions:

1. Governments pay \$100 of interest to households because households are holding government bonds in their savings portfolios.
2. Corporations pay \$150 of dividends to households who hold equity of corporations in their portfolios.
3. Corporations pay \$100 of dividends to foreign holders of equity.
4. Corporations pay \$200 of royalties to governments for use of mineral resources.
5. Corporations pay \$100 interest to Canadian households who hold term and cash deposits in Canadian banks.
6. Corporations pay \$100 in interest to foreigners who hold corporate bonds issued by Canadian companies.
7. Households pay \$100 to corporations as interest on mortgage debt.
8. Foreigners pay \$50 of interest to Canadian households who are holding foreign issued bonds in their portfolios.
9. Foreign corporations pay \$50 in dividends to Canadian corporations holding equity in them.

The following table demonstrates how the sources and uses of property income balance across the sectors of the economy

	Households	Governments	Corporations	Domestic economy	Non-residents
<b>Property income received</b>					
<b>Interest</b>	250 (1,5,8)		100 (7)	350	100 (6)
<b>Dividends</b>	150 (2)		50 (9)	200	100 (3)
<b>Rent</b>		200 (4)		200	
<b>Property income paid</b>					
<b>Interest</b>	100 (7)	100 (1)	200 (5,6)	400	50 (8)
<b>Dividends</b>			250 (2,3)	250	50 (9)
<b>Rent</b>			200 (4)	200	
<b>Net received less</b>					

paid                                    300                                    100                                    -500                                    -100                                    100

### **Section 3: The new institutional sectors for CSNA2012**

In the current CSNA there are three main resident institutional sectors: the persons and unincorporated businesses sector, the corporate sector, and the government sector. While the CSNA provides detail by level of government for that sector, the two other sectors are only presented in aggregate form which results in a number of highly important flows being netted out within the high level sectors. Some important institutions are part of the aggregate and little information is available to understand their economic importance or interaction with the other sectors.

An example of the 'netting issue' is the inclusion of large collective investment schemes, credit unions, life insurance companies, aboriginal general governments and non-profit institutions serving households in the highly aggregate household sector. The inclusion of these entities in the household sector means that transactions between households and these organizations are netted out in the sector aggregates. This is an analytical limitation of the system because it masks the importance of these organizations to the economy, and their interaction with the household sector.

Both the SNA93 and the SNA2008 recommend that a country's National Accounts distinguish *five* resident institutional sectors: non-financial corporations, financial corporations, general government, non-profit institutions serving households (NPISH), and households. This five-sector approach will be adopted for CSNA2012 and, along with the articulation of the full sequence of the accounts, will provide a much enhanced analytical framework.

The corporate sector will be split, with transactions of non-financial corporations identified separately from those of financial corporations. This will mean that the transactions between all of the sectors of the economy with financial institutions will become explicit and will highlight the role and importance of the financial sector to the economy.

Non-profit institutions serving households will be articulated as a separate sector. Credit unions, life insurance companies, collective investment schemes and fraternal organizations will be moved to the financial corporation sector. An Aboriginal general government sub-sector will be included under the general government sector. The result of the articulation of the extra sector accounts and moving of entities to the more appropriate sector is the creation of a *household* sector that better reflects the economic transactions of households with the rest of the economy. This is an important step forward for the CSNA. The Canadian measures will be compatible with the

...ant step forward for the CSNA. The Canadian measures will be compatible with the international community and it will be easier to link these data to household survey information, and therefore facilitate reconciliation between distributions of household income, consumption and saving, based on survey and administrative records with the macroeconomic estimates.

The creation of an Aboriginal general government sector account is an important step forward in identifying this sector's importance and the role it plays within the Canadian economy. While data limitations impact the amount of detail that will be made available for the Aboriginal general government sector account at this time, it does not change, in any substantial fashion, the usefulness of the data for economic analysis. Statistics Canada is committed to continuing to develop data sources to better elaborate the sector and improve the overall quality of the information.

#### **Section 4: The CSNA2012 sequence of accounts**

The table below represents the version of the sequence of accounts to be implemented in the Canadian National Accounts, the key variables of each account and the so-called "balancing entries" which represent the main macroeconomic indicators. The final column presents the relationship of the sequence of accounts to the tables to be published by Statistics Canada. The accounts listed from Allocation of Primary income Account to the Balance Sheet Account will be available for each of the institutional sectors outlined in Section 4.

#### **Table 1 Sequence of accounts CSNA 2012**

##### **The introduction of the *Goods and Services Account* in the sequence of accounts**

The production account corresponds broadly to the operating account of a business firm. This account measures the total output of the economy (e.g., sales made by a business plus any taxes levied on the product) on the supply side of the account.<sup>5</sup> The account then shows the inputs used to generate the output.<sup>6</sup> The balancing item (the difference between output (resources) and intermediate inputs (uses) is **value-added**. The sum of value-added across all industries is GDP, and equals the sum of primary incomes. The CSNA produces a single production account for the entire economy (but no separate production account for each institutional sector): the annual Input-Output Tables. The production account is broken down into considerable industry detail and includes total output, input and value added for 239 industries in its most detailed form. The annual Input-Output Tables also produce a full *Goods and Services Account* which is not shown in the sequence of accounts but is derived using

services account, which is not shown in the sequence of accounts but is derived using all of the transactions related to goods and services from the sequence of accounts (SNA2008, paragraph 16.23). It is produced in considerable detail for about 484 classes of goods and services in the CSNA. The **goods and services account** details *the supply and use of goods and services* to the economy as outlined below:

**Output plus imports plus taxes less subsidies on products**

*Equals*

**Intermediate consumption plus final consumption plus capital formation plus exports**

The complete production account is available on an annual basis using the detailed data available from annual surveys and other annual administrative data (e.g., tax records, government accounts). The detail needed to produce this account on a quarterly basis is not available but the supply and use equation above can be transformed to produce the familiar Income and Expenditure Accounts GDP tables. The supply and use equation can be re-written as follows:

**(1) Outputs less intermediate consumption plus taxes less subsidies on products**

*Equals*

**(2) Final consumption plus capital formation plus exports minus imports**

*Since, output less intermediate consumption equals value-added, and*

**(3) Value-added equals compensation of employees plus gross operating surplus plus mixed income**

*Then, identity (1), (2) and (3) can be re-arranged as follows:*

**(4) Compensation of employees plus gross operating surplus plus mixed income plus taxes less subsidies on products**

*Equals*

**(5) Final consumption expenditure plus gross fixed capital formation plus exports less imports**

The line (4) corresponds to the measure of income-based GDP and the line (5) corresponds to the expenditure-based GDP of the quarterly Income and Expenditure Accounts. While the complete production account and goods and services accounts will

counts. While the complete production account and goods and services accounts will continue to be compiled on an annual basis, the expenditure-based GDP will be the quarterly version of the Goods and Services Account. Expenditure-based GDP and income-based GDP will continue to be “balanced” using the statistical discrepancy to produce one official estimate of GDP at market prices, which is an average of the two estimates. Monthly GDP by industry in volume terms continues to be the only version of value-added available on an infra-annual basis.

## **Section 5: Advantages of new sequence of accounts**

There are many advantages in presenting the Canadian National Accounts as a ‘sequence of accounts’. Among them, greater articulation of how income is generated, allocated and used by the various sectors of the economy, closer alignment with international standards, and filling in of the gaps in the sequence of accounts.

### **Clearer articulation of income generation and use**

In recent years, Statistics Canada has placed more emphasis on gross national income (GNI) and real gross national income as a macroeconomic indicator. Since the Canadian economy is an open economy with significant cross-border flows of investment income, GNI is more reflective of income available for use by residents of Canada.

A major advantage of articulating the full sequence of accounts is that the relationship of gross domestic product to gross national income will be more apparent. While GDP is the income generated by Canadian resident producers in the process of production, GNI is the income accruing to Canadian residents. GNI is equal to GDP plus all primary income received from non-residents less primary income paid to non-residents, the biggest difference being the net of property incomes receivable and payable. GDP will be the so-called “balancing entry” of the Generation of Income Account (number 2 in the sequence above) and GNI will be the balancing entry of the Allocation of Primary Income Account (number 3 in the sequence above). The following table demonstrates how GNI is derived from the allocation of primary incomes when netted across the sectors of the domestic economy.

 **Table 2 Reconciliation of GDP and GNI, millions of dollars, 2010**

### **Alignment to international standards**

Another advantage of these accounts is alignment of aggregate income measures with international standards. As a consequence of fully articulating the flows of primary incomes through the secondary distribution of income account, it was evident that the disposable income variables published for the Canadian economy (personal

that the disposable income variables published for the Canadian economy (personal disposable income and national disposable income) were different from the international standards, and consequently different from that published on the OECD database. Currently, disposable income of the household sector is calculated as total income less taxes and social contributions paid to governments. As per the SNA2008, disposable income should be calculated as income adjusted for net transfers and property income paid and received. The CSNA will adopt this accounting treatment and, as such, household disposable income will change by the amount of interest on consumer credit payable, and transfers payable abroad by households.

The following table shows the transition from the previously published personal disposable income measurement to the new one. Since the measure of saving is the same in both the old and new accounts, the saving rate is slightly higher when calculated using the new disposable income concept.

### **Table 3 Reconciliation of current disposable income and SNA2008 disposable income, 2010**

Another advantage of the new sequence is the articulation of property income flows. Most of the information was previously available except the total of property income payable by the persons and unincorporated businesses (PUIB) sector. This was the case because incomes were presented on a net basis, (net income of unincorporated business and net rent from owner occupied dwellings, corporate profits, for example). Interest payments by businesses and mortgage interest payments were implicit in the CSNA. By articulating all the property income flows as demonstrated in the aggregate table below (based on the old sector breakdown as published in 2010), the debt burden of households will be available as well as that for non-financial corporations. It will be easier for analysts to assess the financial health of the various economic sectors of the economy.

### **Table 4 Property income receivable by sector, millions of dollars, 2010**

#### **Additional accounts fill in data gaps**

The addition of the Other Changes in Assets Account is a major step forward for the CSNA. Analysing the financial stability of the sectors of the economy is important to understanding the current economic climate. Recently there has been much discussion around the financial health of households relating to questions such as, “Is the rising debt of households sustainable?”, or, “Is there enough saving to finance the retirement of the baby boomer cohort?”, or, “Is there a housing bubble?” In the accounts as they are currently published, the net worth of the PUIB sector has risen



65% or \$2.2 trillion dollars from the period 2001 to 2010. Over the same time period, the cumulative saving of the PUIB sector was only \$270 billion, with an average saving rate out of earned income of 3.5%. It is clear that revaluations of financial and real property assets and liabilities have played a large role in the accumulation of wealth of households. Yet, this information has been lacking in the publication of the macro-economic accounts. The new Other Changes in Assets Account will help provide a more complete set of information on the accumulation of wealth and net worth of all sectors of the economy.

## Conclusion

The revision of the CSNA is a complex project including structural, presentational, conceptual and statistical changes. This note presented the new sequence of accounts, terminology changes, and new concepts and variables to help users prepare for the new datasets when they become available. Subsequent documents will be made available describing and quantifying conceptual and statistical changes to further help with the transition. Any question or comments are welcome via email to [csna-info-scnc@statcan.gc.ca](mailto:csna-info-scnc@statcan.gc.ca).

## Appendix: New tables for the quarterly National Accounts

The full list of tables for the quarterly CSNA2012 can be accessed at: <http://www.statcan.gc.ca/nea-cen/hr2012-rh2012/data-donnees/publications/tables-tableaux/iea-crd/tab-eng.htm>. The following provides a brief description of the main components of the tables.

### Expenditure-based GDP (Goods and Services Account)

Because of the new sector detail becoming available as described in Section 4, and the [conceptual changes](#) to capital formation to conform with SNA2008 the new expenditure-based GDP table includes the following changes:

1. A series called *final non-profit institutions serving households' consumption expenditure* has been added to the main expenditures based GDP table. This represents the net (of sales of goods and services) expenditures of NPISH on wages and salaries and other operating expenses such as rent, utilities and office supplies. In the current version of the CSNA these expenditures are combined with expenditures on goods and services by households. They are now shown separately.
2. A new aggregate called *final consumption expenditure* will be published, which

represents the sum of final expenditures of households, governments and non-profit institutions serving households. A detailed table of household expenditures on goods and services will also be released. The table will contain information on 33 household expenditure categories.

3. The new aggregate series *gross fixed capital formation* will be released, which represents the total investment flows for a given period for businesses (corporations and unincorporated businesses), governments and NPISH. A detailed table on investment by asset type by sector will also be provided. The level of detail will differ depending on the sector. More detail will be provided for the business sector and less detail for the non-profit institutions serving household sector.
4. An additional investment category has been added to the main expenditures table called *intellectual property products*. This series includes investment made by businesses in the area of research and development, software and mineral exploration.
5. A value for total inventories is provided in the table. This represents the investment in inventories by business, governments and NPISH. Inventory detail will be provided for the business sector (both farm and non-farm inventories) in the supplementary tables.
6. While the presentation of international trade flows on the main table has not changed there is a considerable increase in the amount of the detail published in the supplementary tables compared to the current version of the CSNA.

### **Income-based GDP (Generation of Income Account)**

The familiar income-based GDP table will now include the terminology and income concepts of gross operating surplus and mixed income described in Section 3. The following are notable changes:

1. Wages, salaries and supplementary income is replaced by compensation of employees.
2. Gross operating surplus, net operating surplus and consumption of fixed capital are presented separately for non-financial and financial corporations. In order to facilitate the transition to the new concepts of operating surplus, reconciliation tables between these measures and business accounting measures such as operating profits will be made available so that users can better understand the conceptual, methodological and statistical differences between the two.
3. Gross and net mixed income for all unincorporated businesses including imputed rent is presented in aggregate for this account. The detail of mixed income of farm, non-farm and owner occupied housing will be available in the current account of the household sector in the allocation of Primary Income Account (see

Current Account, below).

## **Current and Capital Accounts (Allocation of Primary Income, Secondary Distribution of Income, Use of Disposable Income Accounts and Capital Account)**

The Allocation of Primary Income, Secondary Distribution of Income and Use of Disposable Income Accounts will be merged into one account referred to as the Current Account. The Current Account and all of the subsequent accounts will be published for all six of the institutional sector groupings: households, non-profit institutions serving households, financial corporations, non-financial corporations, government and non-residents. The structure of the Current Account clearly articulates the three separate sets of accounts in order to articulate the calculation of sector income, disposable income and saving. The purpose of these accounts is to show how income generated in the production process is allocated and then used by the sectors of the economy.

### **Capital Account**

There is little change between the current presentation of the capital account and the CSNA2012 presentation of the capital account. A new macro-economic aggregate, that has always been implicit in the account in the past, will be made explicit the CSNA2012 release. The variable *changes in net worth due to saving and capital transfers* will be compiled for each sector. The balancing item of the capital account is net lending or net borrowing which shows the amount a sector must borrow to finance its capital investment or the amount it can lend to other sectors to finance their use.

### **Financial Account, Other Changes in Assets Account and Balance Sheet Accounts**

While there is little change planned to the *structure* of the financial flow accounts and balance sheet accounts, considerable detail will be added to the categories of assets and liabilities presented for both flows and stocks. In addition to this, an Other Changes in Assets Account will be presented.

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## **Notes**

1. **This** sector currently comprises households including unincorporated businesses, non-profit institutions serving households, aboriginal general governments, credit unions, life insurance companies, fraternal organizations and collective investment schemes. This is an example of where data limitations have prevented the full articulation of the household sector separate from other sectors with

ed the full articulation of the household sector separate from other sectors with similar non-profit motives.

2. **For** the quarterly National Accounts, the non-resident sector is the mirror image of the Canadian International Balance of Payments, as it records all cross-border transactions from the point of view of non-residents, whereas the balance of payments records all transactions with non-residents from the point of view of Canadian residents
3. **Compensation** of employees does not include all payments of labour services as in the case of unincorporated businesses where the net income includes remuneration of the owner's labour services *and* returns to capital employed.
4. **Rent is different from rental income.** Rental income accrues when an economic agent acquires and maintains produced assets and creates a business by renting those assets to others for income. This rental income is primary income because the entrepreneur is providing rental services of machinery, cars or building space, for example. Rent occurs when an owner derives income from a naturally occurring asset such as land or other natural resources (SNA2008, paragraphs 7.153 and 7.158).
5. **Within** the SNA this is referred to as the resources side of the account.
6. **Within** the SNA this is referred to as the uses side of the account.